

ASU Bulletin

General Catalog 2000-2001



Arizona State University



*General Catalog
2000-2001*





Arizona State University

2000–2001 General Catalog

All colleges, schools, divisions, and departments establish certain academic requirements that must be met before a degree is granted. Advisors, directors, department chairs, and deans are available to help the student understand these requirements, but the student is responsible for fulfilling them. At the end of a student's course of study, if requirements for graduation have not been satisfied the degree is not granted. For this reason, it is important for all students to acquaint themselves with all regulations, to be informed throughout their college careers and to be responsible for completing requirements. Courses, programs, and requirements described in the catalog may be suspended, deleted, restricted, supplemented, or changed in any other manner, at any time, at the sole discretion of the university and the Arizona Board of Regents. The catalog does not establish a contractual relationship but summarizes the total requirements the student must currently meet before qualifying for a faculty recommendation to the Arizona Board of Regents to award a degree.

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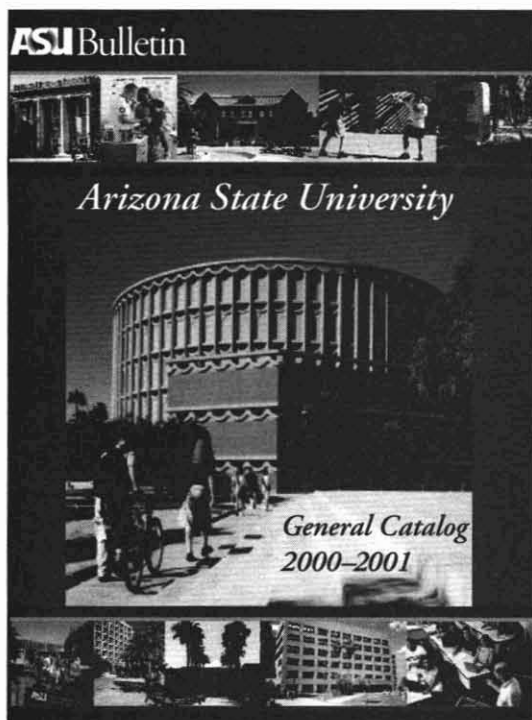
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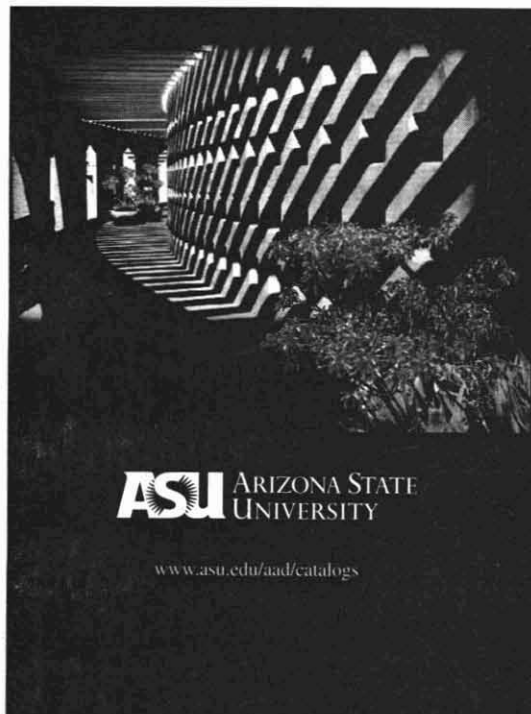
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On the Front Cover / The Music Building, photographed by John MacIsaac, amid glimpses of the ASU Main campus and students. Photos clockwise from bottom right by (1) Doug Crouch; (2) Frank Chuang; (4, 9) John MacIsaac; (5) Michael Martin; and (7) Dave Tevis; all others by H. Val Peterson.



On the Back Cover / The Galvin Playhouse and the African aloe, as photographed by H. Val Peterson, are featured in one of a series of limited edition posters available at the ASU Bookstore. Proceeds support the ASU Arboretum.

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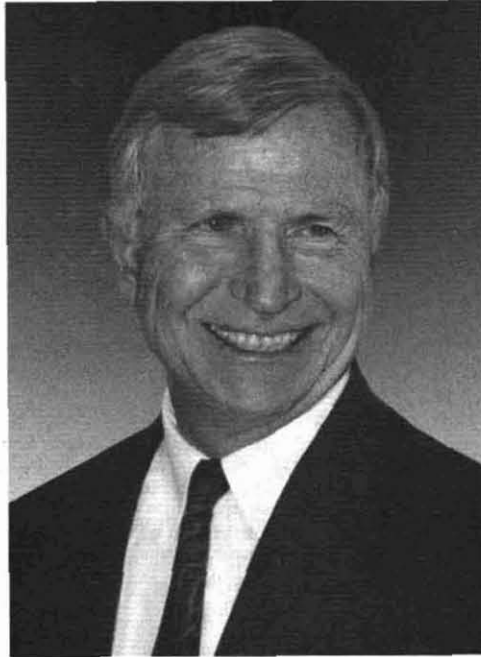
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President Lattie F. Coor

Tim Trumble photo

Dear ASU Students and Prospective Students:

It is my personal pleasure to introduce the Arizona State University 2000–2001 *General Catalog*. It is intended to put a great deal of important information at your fingertips and serve as a guide through your university experience.

The catalog compiles a rather imposing list of programs, courses, requirements, and services. We hope it is organized in a manner that makes it easy to find the information most applicable to you and your course of studies.

While the catalog will answer many of your questions, nothing will substitute for the guidance your advisor can provide. I strongly encourage you to work closely with an advisor to plan your academic program.

On behalf of Arizona State University, I wish you a challenging and fulfilling experience as you work to achieve your goals.

Sincerely,

A handwritten signature in black ink, appearing to read "Lattie F. Coor". The signature is fluid and cursive, with the first name being the most prominent.

Lattie F. Coor
President

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ACC	Accountancy	156	COE	College of Education ¹	
ADE	Architectural Design and Technology Studios	127	COM	Communication	464
AES	Aerospace Studies	344	CON	Construction	204
AET	Aeronautical Engineering Technology	598	CPP	College of Public Programs	461
AFH	African American Studies	345	CPY	Counseling Psychology	
AFR	African American Studies	345	CRJ	Criminal Justice ²	
AFS	African American Studies	346	CSE	Computer Science and Engineering	233
AGB	Agribusiness	570	CSH	Chicana and Chicano Studies	361
AIS	American Indian Studies	461	CSS	Chicana and Chicano Studies	361
AJS	Administration of Justice ²		DAH	Dance History	282
AMS	American Studies ²		DAN	Dance	282
AMT	Aeronautical Management Technology	583	DCI	Curriculum and Instruction	185
ANP	Environmental Analysis and Programming	127	DSC	Design	136
APA	Asian Pacific American Studies	462	ECD	Early Childhood Education	185
APH	Architectural Philosophy and History	128	ECE	Engineering Core	209
ARA	Art Auxiliary	273	ECN	Economics	158
ARB	Arabic	394	EDA	Educational Administration and Supervision	
ARE	Art Education	274	EDP	Educational Psychology	192
ARP	Architecture Professional Studies	128	EED	Elementary Education	186
ARS	Art History	274	EEE	Electrical Engineering	238
ART	Art	273	EET	Electronics Engineering Technology	589
ASB	Anthropology	347	EMC	Educational Media and Computers	187
ASC	Applied Science Core	576	ENG	English	364
ASE	Analysis and Systems	208	EPD	Environmental Design and Planning ¹	
ASM	Anthropology	349	EPE	Exercise Science/Physical Education	369
AST	Astronomy	420	ERS	Environmental Resources	572
ATE	Architectural Technology	128	ETC	Engineering Technology Core	580
AVC	Architectural Communication	129	ETH	Ethnic Studies ²	
BCH	Biochemistry	358	ETM	Environmental Technology Management	594
BIO	Biology	352	FAS	Family Studies	373
BIS	Bachelor of Interdisciplinary Studies	116, 576	FIN	Finance	161
BLE	Bilingual Education	184	FLA	Foreign Languages	393
BME	Bioengineering	212	FON	Food and Nutrition	577
BUE	Business Education	185	FRD	Family Resources and Human Development	374
BUS	Business Administration	172	FRE	French	394
CCS	Chicana and Chicano Studies	361	FSM	Fire Service Management	595
CDE	Child Development	373	GCU	Cultural Geography	376
CED	Counselor Education	192	GER	German	396
CEE	Civil and Environmental Engineering	227	GLB	Global Business ²	
CET	Computer Engineering Technology	588	GLG	Geology	380
CFA	College of Fine Arts	268	GPH	Physical Geography	378
CGC	Computer Graphic Communications	593	GRA	Graphic Design	136
CHE	Chemical Engineering	220	GRK	Ancient Greek	396
CHI	Chinese	394	GRN	Gerontology	307
CHM	Chemistry	358	HCR	Health Care Related	453
CHP	Community Health Practice ¹		HEB	Hebrew	396
CIS	Computer Information Systems	157	HED	Higher and Postsecondary Education	
CLS	Clinical Laboratory Sciences/Medical Technology	410	HEE	Home Economics Education	374
			HES	Health Science	371
			HIS	History	382

HON	Honors	326	NOR	Norwegian	398
HPS	History and Philosophy of Science	416	NUR	Nursing	453
HRM	Human Resources Management ²		OPM	Operations and Production Management	168
HSA	Health Services Administration	162	PAF	Public Affairs	474
HUD	Housing and Urban Development	144	PGS	Psychology	432
HUM	Humanities	386	PHI	Philosophy	416
IAP	Interdisciplinary Arts and Performance ²		PHS	Physical Sciences	420
IAS	Integrative Studies		PHY	Physics	420
IBS	International Business Studies	164	PLA	Landscape Architecture	144
IDN	Indonesian	397	PLB	Plant Biology	424
IED	Indian Education	187	POL	Politics ²	
IEE	Industrial Engineering	244	POR	Portuguese	398
IMC	Information and Management Core	595	POS	Political Science	428
IND	Industrial Design	137	PSY	Psychology	433
INT	Interior Design	137	PUB	Scholarly Publishing ¹	
IPO	International Program Overseas	61	PUP	Urban and Environmental Planning	145
ISM	Information Systems Management ²		QBA	Quantitative Business Analysis	160, 168
ITA	Italian	397	RDG	Reading Education	188
ITM	Industrial Technology Management	595	REA	Real Estate	172
JAC	Joint Admission Continuous Enrollment	562	REC	Recreation	477
JPN	Japanese	397	REL	Religious Studies	435
JRN	Journalism	468	RUS	Russian	398
JUS	Justice Studies	472	SBS	Social and Behavioral Sciences ²	
KOR	Korean	398	SCA	Scandinavian	399
LAT	Latin	398	SCM	Supply Chain Management	172
LAW	Law ¹		SED	Secondary Education	189
LES	Legal and Ethical Studies	172	SEM	Science and Engineering of Materials ¹	
LIA	Liberal Arts and Sciences	342	SHS	Speech and Hearing Science	441
LIN	Linguistics ¹		SOC	Sociology	438
LIS	Library Science	188	SPA	Spanish	399
LNT	Learning and Instructional Technology ¹		SPE	Special Education	189
LSC	Life Sciences ²		SPF	Social and Philosophical Foundations	191
MAE	Mechanical and Aerospace Engineering	250	STE	Society, Values, and Technology	209
MAT	Mathematics	406	STP	Statistics and Probability	409
MBB	Molecular Biosciences/Biotechnology	415	SWE	Swedish	401
MCB	Molecular and Cellular Biology ¹		SWG	Social Work ¹	
MCE	Multicultural Education	188	SWU	Social Work	482
MCO	Mass Communication	469	TCM	Telecommunication	469
MET	Manufacturing Engineering Technology	599	THA	Thai	401
MGT	Management	167	THE	Theatre	300
MHL	Music History/Literature	292	THP	Theatre Performance and Production	301
MIC	Microbiology	411	TRC	Transportation Systems Certificate ¹	
MIS	Military Science	413	TWC	Technical Writing and Communication	577
MKT	Marketing	169	UET	Microelectronics Engineering Technology	590
MSE	Materials Science and Engineering	221	UNI	University	114
MTC	Music Theory and Composition	292	VTN	Vietnamese	401
MTE	Mathematics Education	408	WAC	Writing Across the Curriculum	368
MUE	Music Education	293	WSH	Women's Studies	444
MUP	Music Performance	294	WST	Women's Studies	444
MUS	Music	297			

¹ See the *Graduate Catalog*.² See the *ASU West Catalog*.

Academic Organization

Organized under ASU Main, ASU East, ASU West, and ASU Extended Campus are colleges, schools, departments, and other administrative units whose faculty offer courses.

ASU Main

College of Architecture and Environmental Design

School of Architecture
School of Design
School of Planning and Landscape Architecture

College of Business

Department of Economics
Department of Finance
Department of Management
Department of Marketing
Department of Supply Chain Management
School of Accountancy and Information Management
School of Health Administration and Policy

College of Education

Division of Curriculum and Instruction
Division of Educational Leadership and Policy Studies
Division of Psychology in Education

College of Engineering and Applied Sciences

Del E. Webb School of Construction
School of Engineering
Department of Bioengineering
Department of Chemical and Materials Engineering
Department of Civil and Environmental Engineering
Department of Computer Science and Engineering
Department of Electrical Engineering
Department of Industrial Engineering
Department of Mechanical and Aerospace Engineering

College of Extended Education

College of Fine Arts

Department of Dance
Department of Theatre
School of Art
School of Music

College of Law

College of Liberal Arts and Sciences

African American Studies Program
Department of Aerospace Studies
Department of Anthropology
Department of Biology

Department of Chemistry and Biochemistry
Department of Chicana and Chicano Studies
Department of English
Department of Exercise Science and Physical Education
Department of Family Resources and Human Development
Department of Geography
Department of Geology
Department of History
Department of Languages and Literatures
Department of Mathematics
Department of Microbiology
Department of Military Science
Department of Philosophy
Department of Physics and Astronomy
Department of Plant Biology
Department of Political Science
Department of Psychology
Department of Religious Studies
Department of Sociology
Department of Speech and Hearing Science
Interdisciplinary Humanities Program
Women's Studies Program

College of Nursing

College of Public Programs

Department of Recreation Management and Tourism
Hugh Downs School of Human Communication
School of Justice Studies
School of Public Affairs
School of Social Work
Walter Cronkite School of Journalism and Telecommunication

Division of Undergraduate Academic Services

Bachelor of Interdisciplinary Studies
University Success Courses
Writing Across the Curriculum

Graduate College

Craig and Barbara Barrett Honors College

ASU East

College of Technology and Applied Sciences

Department of Aeronautical Management Technology

Department of Electronics and Computer Engineering Technology
Department of Information and Management Technology
Department of Manufacturing and Aeronautical Engineering Technology

East College

Morrison School of Agribusiness and Resource Management

ASU West

College of Arts and Sciences

Department of American Studies
Department of Integrative Studies
Department of Interdisciplinary Arts and Performance
Department of Life Sciences
Department of Social and Behavioral Sciences
Ethnic Studies Program
Women's Studies Program

College of Education

Graduate Programs
Postbaccalaureate Programs for Teacher Certification
Undergraduate Professional Teacher Preparation

College of Human Services

Department of Administration of Justice
Department of Communication Studies
Department of Recreation and Tourism Management
Department of Social Work
Gerontology Program
Nursing ASU Main Program

Division of Collaborative Programs

Applied Science Program
Center for Writing Across the Curriculum
Craig and Barbara Barrett Honors College
Research Consulting Center
University College Center

School of Management

Accountancy
Business Administration
Global Business

ASU Extended Campus

College of Extended Education

ASU Baccalaureate Degrees

Baccalaureate degrees, majors, and concentrations offered at ASU Main, ASU East, and ASU West are shown in the "ASU Baccalaureate Degrees" table below, which points to the primary page where more information can be found. The table shows only officially approved concentrations; other informal areas of study may also be available. Where indicated, the approved area of study is called an "emphasis" or some other name in place of "concentration." For graduate degrees, see the "ASU Graduate Degrees" table, page 317.

ASU Baccalaureate Degrees

Degree/Major	Concentration	Campus	Page
Bachelor of Applied Science (B.A.S.)			
Applied Science	Aviation maintenance management technology, aviation management technology, computer systems administration, consumer products technology, digital media management, digital publishing, emergency management, fire service management, food retailing, instrumentation, microcomputer systems, municipal operations management, operations management, production technology, resource team specialist, semiconductor technology, software technology applications, technical graphics	East	569
	All minors available at ASU West, individualized concentration	West	610
Bachelor of Arts (B.A.)			
African American Studies	Humanities/arts, politics and society, social and behavioral sciences	Main	345
American Studies	Emphases: American cultures, American lives, American systems, writing	West	610
Anthropology	—	Main	346
Art	Art history, studio art	Main	268
Asian Languages (Chinese/Japanese)	—	Main	388
Broadcasting	Emphases: broadcast journalism, business management	Main	467
Chemistry	—	Main	355
Chicana and Chicano Studies	Humanities cultural sciences, social sciences policy	Main	360
Communication	—	Main	463
Communication Studies	Emphases: communication and culture; communication and organizations; communication and relationships; rhetoric, philosophy, and media studies	West	610
Economics	—	Main	158, 362
English	Linguistics, literature	Main West	363 610
French	—	Main	389
Geography	Meteorology climatology, urban studies	Main	374
German	—	Main	390
History	—	Main West	381 610
Humanities	—	Main	386
Integrated Studies	—	Main	339
Integrative Studies	All minors available at ASU West, individualized concentration	West	610
Interdisciplinary Arts and Performance	Media, music, performance studies, theater performance, visual art	West	610
Italian	—	Main	390
Journalism	Emphases: news editorial, public relations, visual journalism	Main	467
Mathematics	—	Main	402
Music	—	Main	285

¹ Applications for this program are not being accepted at this time

² This major requires more than 120 semester hours to complete

³ This program is administered by ASU Main

ASU Baccalaureate Degrees (continued)

Degree/Major	Concentration	Campus	Page
Philosophy	Ethics, history and philosophy of science	Main	415
Political Science		Main	426
Politics	—	West	610
Psychology		Main	431
		West	610
Religious Studies	—	Main	435
Russian		Main	390
Social and Behavioral Sciences	Emphases: interdisciplinary behavioral sciences, interdisciplinary social sciences	West	610
Sociology		Main	437
		West	610
Spanish	—	Main	390
		West	610
Theatre		Main	298
Women's Studies		Main	443
		West	610
Bachelor of Arts in Education (B.A.E.)			
Early Childhood Education		Main	179
Elementary Education		East	574
	Bilingual education/English as a second language	West	610
	Option: middle school education		
	Bilingual education/English as a second language	Main	180
Secondary Education	Academic specializations: biological sciences, business education, chemistry, Chinese, ¹ economics, English, family resources and human development (home economics), ¹ French, geography, German, history, Japanese, journalism, mathematics, mathematics/chemistry, mathematics/physics, physical education, physics, physics/chemistry, political science, Russian, ¹ social studies, Spanish	Main	180
	Academic specializations: biological sciences, English, history, mathematics, social studies	West	610
	Option: middle school education		
Selected Studies in Education ¹		Main	181
Special Education		Main	181
		West	610
Bachelor of Fine Arts (B.F.A.)			
Art	Art education, ceramics, drawing, fibers, intermedia, metals, painting, photography, printmaking, sculpture	Main	269
Dance	Choreography, dance education, dance studies, performance	Main	280
Theatre	Theatre education	Main	298
Bachelor of Interdisciplinary Studies (B.I.S.)			
Interdisciplinary Studies	See "Approved Concentrations," page 115.	Main	115
	See "Approved Concentrations," page 576.	East	576
Bachelor of Music (B.M.)			
Music Education	Choral-general, instrumental, string	Main	285
Music Therapy		Main	286
Performance	Guitar, jazz, keyboard, music theatre, orchestral instrument, piano accompanying, voice	Main	287
Theory and Composition	Composition, theory	Main	291
Bachelor of Science (B.S.)			
Accountancy		Main	155
		West	610
Administration of Justice	—	West	610
Aeronautical Engineering Technology ²		East	597

¹ Applications for this program are not being accepted at this time.

² This major requires more than 120 semester hours to complete.

³ This program is administered by ASU Main.

ASU Baccalaureate Degrees (continued)

Degree/Major	Concentration	Campus	Page
Aeronautical Management Technology ²	Airway science flight management, airway science management	East	581
Agribusiness	Agribusiness finance, food and agribusiness marketing, food science, general agribusiness, golf facilities management, international agribusiness, management of agribusiness, preveterinary medicine, professional golf management, resource management	East	565
Applied Psychology	—	East	573
Biochemistry	—	Main	355
Biology	Biology and society	Main	350
Business Administration	—	East	574
Chemistry	—	Main	356
Clinical Laboratory Sciences	—	Main	410
Communication	—	Main	463
Communication Studies	Emphases: communication and culture; communication and organizations; communication and relationships; rhetoric, philosophy, and media studies	West	610
Computer Engineering Technology ²	Computer engineering technology, software engineering technology, software technology	East	586
Computer Information Systems	—	Main	155
Computer Science ²	—	Main	230, 361
Conservation Biology	—	Main	351
Construction ²	General building construction, heavy construction, residential construction, specialty construction	Main	202
Economics	—	Main	158, 362
Electronics Engineering Technology ²	Electronic systems, microelectronics, telecommunications	East	585
Engineering Interdisciplinary Studies ¹	—	Main	197
Environmental Resources	Ecology, watershed ecology, wildlife habitat management	East	567
Exercise Science/Physical Education	Exercise and wellness, exercise science, physical education	Main	368
Family Resources and Human Development	Family resources and human development in business, human nutrition—dietetics Family studies/child development	East Main	574 372
Finance	—	Main	160
Geography	Meteorology-climatology, urban studies	Main	375
Geology	—	Main	379
Global Business	Financial management, human resources management, information systems management, international studies, marketing	West	610
Industrial Technology	Environmental technology management, industrial technology management, information technology	East	590
Integrated Studies	—	Main	339
Justice Studies	—	Main	471
Life Sciences	Emphases: cell biology and physiology, ecology and organismal biology, human biology and environment	West	610
Management	—	Main	164
Manufacturing Engineering Technology ²	Manufacturing engineering technology, mechanical engineering technology	East	597
Marketing	—	Main	169
Mathematics	Computational mathematical sciences	Main	403
Microbiology	—	Main	409

¹ Applications for this program are not being accepted at this time.² This major requires more than 120 semester hours to complete³ This program is administered by ASU Main.

ASU Baccalaureate Degrees (continued)

Degree/Major	Concentration	Campus	Page
Molecular Biosciences/ Biotechnology		Main	414
Multimedia Writing and Technical Communication		East	576
Physics	Emphasis: astronomy Options: I, II	Main	417
Plant Biology	Environmental science and ecology, plant biochemistry and molecular biology, urban horticulture	Main	422
Political Science	Public policy advocacy and lobbying, public policy analysis	Main	427
Politics		West	610
Psychology	—	Main	431
		West	610
Real Estate		Main	171
Recreation	Recreation management, tourism	Main	475
Recreation and Tourism Management		West	610
Social and Behavioral Sciences	Emphases: interdisciplinary behavioral sciences, interdiscipli nary social sciences	West	610
Sociology		West	610
Speech and Hearing Science		Main	440
Supply Chain Management		Main	171
Women's Studies	—	Main	443
		West	610
Bachelor of Science in Design (B.S.D.)			
Architectural Studies	—	Main	122
Design Science ¹		Main	130
Graphic Design	—	Main	130
Housing and Urban Development		Main	138
Industrial Design		Main	130
Interior Design ²		Main	130
Bachelor of Science in Engineering (B.S.E.)²			
Aerospace Engineering ²		Main	246
Bioengineering ²	—	Main	210
Chemical Engineering ²		Main	214
Civil Engineering ²	Construction engineering, environmental engineering	Main	224
Computer Systems Engineering ²		Main	231
Electrical Engineering ²		Main	236
Engineering Special Studies ²	Premedical engineering	Main	254
Industrial Engineering ²		Main	241
Materials Science and Engineering ²		Main	218
Mechanical Engineering ²		Main	248
Bachelor of Science in Landscape Architecture (B.S.L.A.)			
Landscape Architecture		Main	139
Bachelor of Science in Nursing (B.S.N.)			
Nursing		Main	449
		West ³	610
Bachelor of Science in Planning (B.S.P.)			
Urban Planning	—	Main	138
Bachelor of Social Work (B.S.W.)			
Social Work	—	Main	479
		West	610

Applications for this program are not being accepted at this time

¹ This major requires more than 120 semester hours to complete

³ This program is administered by ASU Main

University Calendar

April 2000

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May 2000

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27	28	29	30	31		

June 2000

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25	26	27	28	29	30	

July 2000

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23	24	25	26	27	28	29
30	31					

August 2000

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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

2000

Check the 2000 *Summer Sessions Bulletin* for details and to confirm these dates.

Mon., Jan. 31

Registration and drop add for first five week session and eight-week session

Wed., May 31

Mon., Jan. 31

Registration and drop add for second five week session

Wed., July 5

Tues., Apr. 25

Final tuition payment deadline for all summer sessions (For students who register after April 25, fees are due daily.)

Mon, May 29

Memorial Day Holiday

Tues., May 30

Instruction begins for first five week session and eight-week session

Tues., June 6

Unrestricted withdrawal deadline for first five-week session

Tues., June 6

Unrestricted withdrawal deadline for eight-week session

Fri., June 16

Restricted course withdrawal deadline for first five-week session and eight week session

Fri., June 23

Restricted complete withdrawal deadline for first five week session

Thurs., June 29

First five week session ends

Tues., July 4

Classes are excused for Independence Day

Wed, July 5

Instruction begins for second five week session

Fri., July 7

August graduation filing deadline (must be met to have name appear in commencement program)

Mon., July 10

Unrestricted withdrawal deadline for second five week session

Fri., July 14

Restricted complete withdrawal deadline for eight-week session

Fri., July 21

Eight week session ends

Fri., July 21

Restricted course withdrawal deadline for second five week session

Fri., July 28

Restricted complete withdrawal deadline for second five week session

Fri., Aug. 4

Second five week session ends

Fri., Aug. 4

Commencement

2000

Fall Semester

Check the fall 2000 *Schedule of Classes* for details and to confirm these dates.

Mon., Apr 3

Preregistration

Tues., Apr. 11

Mon., Apr 24–

Drop add

Fri., Aug. 25

Wed., Apr. 26–

Registration

Fri., Aug. 25

Tues., Aug. 1

Final tuition payment deadline for fall 2000 (For students who register after Aug. 1, fees are due daily.)

Wed., Aug. 16

Residence halls open

Thurs., Aug. 17

Experiencing ASU: Orientation 2000 activities

Sun., Aug. 20

Thurs., Aug. 17

New Faculty and Academic Professional Orientation and Reception

Mon, Aug 21

Instruction begins

Mon., Sept. 4

Classes are excused for Labor Day

September 2000

S	M	T	W	T	F	S
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October 2000

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November 2000

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December 2000

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31						

January 2001

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February 2001

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Fri., Sept. 15	Unrestricted withdrawal deadline
Mon., Oct. 2	Winter session (College of Extended Education [CEE]) registration begins
Fri., Oct. 20	December graduation filing deadline (must be met to have name appear in commencement program)
Fri., Oct. 27	Restricted course withdrawal deadline
Fri., Nov. 10	Classes are excused for Veterans Day
Thurs., Nov. 23	Classes are excused for Thanksgiving recess
Fri., Nov. 24	
Thurs., Nov. 30	Restricted complete withdrawal deadline
Tues., Dec. 5	Instruction ends
Wed., Dec. 6	Reading day
Thurs., Dec. 7	Final examinations
Sat., Dec. 9;	
Mon., Dec. 11	
Wed., Dec. 13	
Thurs., Dec. 14	Commencement (4 P.M.)
Fri., Dec. 15	Some residence halls close for semester break
Sat., Dec. 16	Midyear recess begins
Wed., Dec. 27	Winter Session (CEE) instruction begins
2001	
Spring Semester	
Check the spring 2001 <i>Schedule of Classes</i> for details and to confirm these dates.	
Mon., Oct. 23	Preregistration
Tues., Oct., 31, 2000	
Mon., Nov. 13, 2000–	Drop add
Fri., Jan. 19, 2001	
Wed., Nov. 15, 2000–	Registration
Fri., Jan. 19, 2001	
Tues., Dec. 12, 2000	Final tuition payment deadline for spring 2001 (For students who register after Dec. 12, fees are due daily.)
Mon., Jan. 1, 2001	Winter session classes are excused for New Year's Day
Wed., Jan. 10	Residence halls open
Thurs., Jan. 11	Orientation and advising for new transfer students
Fri., Jan. 12	Orientation and advising for new freshmen
Fri., Jan. 12	Winter session (CEE) instruction ends
Mon., Jan. 15	Classes are excused for Martin Luther King Jr. Day
Tues., Jan. 16	Instruction begins
Fri., Feb. 9	Unrestricted withdrawal deadline
Sun., Mar. 11	Classes are excused for spring recess
Sun., Mar. 18	
Fri., Mar. 23	May graduation filing deadline (must be met to have name appear in commencement program)
Fri., Mar. 30	Restricted course withdrawal deadline
Fri., Mar. 30	Mid-semester scholarship reports due in the Office of the Registrar
Thurs., Apr. 26	Restricted complete withdrawal deadline
Tues., May 1	Instruction ends
Wed., May 2	Reading day

March 2001

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April 2001

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May 2001

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June 2001

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17	18	19	20	21	22	23
24	25	26	27	28	29	30

July 2001

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29	30	31				

August 2001

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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Thurs , May 3
 Sat., May 5;
 Mon., May 7
 Wed., May 9

Final examinations

Thurs., May 10
 Fri., May 11

Commencement
 Residence halls close

2001

Summer Sessions

Check the 2001 *Summer Sessions Bulletin* for details and to confirm these dates

Mon , Jan. 29
 Wed., May 30

Registration and drop/add for first five week session and eight-week session

Mon., Jan. 29
 Tues., July 3

Registration and drop/add for second five-week session

Tues , May 1

Final tuition payment deadline for all summer sessions (For students who register after May 1, fees are due daily.)

Mon , May 28

Memorial Day Holiday

Tues , May 29

Instruction begins for first five week session and eight week session

Tues., June 5

Unrestricted withdrawal deadline for first five week session

Tues., June 5

Unrestricted withdrawal deadline for eight-week session

Fri., June 15

Restricted course withdrawal deadline for first five week session and eight week session

Fri , June 22

Restricted complete withdrawal deadline for first five week session

Fri , June 29

First five-week session ends

Mon., July 2

Instruction begins for second five-week session

Wed., July 4

Classes are excused for Independence Day

Fri., July 6

August graduation filing deadline (must be met to have name appear in commencement program)

Mon., July 9

Unrestricted withdrawal deadline for second five-week session

Fri., July 13

Restricted complete withdrawal deadline for eight week session

Fri., July 20

Eight week session ends

Fri , July 20

Restricted course withdrawal deadline for second five-week session

Fri., July 27

Restricted complete withdrawal deadline for second five week session

Fri., Aug. 3

Second five week session ends

Fri., Aug. 3

Commencement

Frequently Asked Questions

How do I apply to ASU Main?

Complete an application and have all required transcripts and test scores sent directly to Undergraduate Admissions. See "Undergraduate Admission," page 62.

How do I apply to ASU East?

Complete an application and have all required transcripts and test scores sent directly to Undergraduate Admissions. See "Undergraduate Admission," page 62. For more information, call 480 727 3278.

How do I apply to ASU West?

Contact the Admissions and Records Office at ASU West. See "Admission and Advising," page 609. For more information, call 602/543 8203.

What is the ASU Extended Campus?

The ASU Extended Campus offers courses and degrees evenings and weekends, by television, the Internet, at on and off campus sites, and through Independent Learning. See "ASU Extended Campus," page 26, and "College of Extended Education," page 256, or call 480 965 9696 for information and a course catalog.

What if I am a transfer student?

Upon admission, note the number of semester hours on your Certificate of Admission. When registering, consult your department advisor to determine how transfer credits fit into the curriculum (see "Academic Advising," page 73). Have you met the First Year Composition requirement? (See "First Year Composition Requirement," page 83.) If you have completed 87 or more semester hours, file a program of study or declaration of graduation (see "Declaration of Graduation," page 85, and "Program of Study Requirements," page 85).

What if I have a disability or am a veteran?

If you have a disability and will be requesting academic accommodations, see "Disability Resources for Students (DRS)," page 43, and "Applicants with Disabilities," page 68. Veteran students using GI benefits, see "Veterans Services," page 40.

How do I get financial aid?

In addition to applying for admission, complete the Free Application for Federal Student Aid (FAFSA) by February 15. If you meet financial aid program criteria, you later receive an award notification. See "Student Financial Assistance," page 40, and "Financial Aid," page 57.

How do I find a place to live and purchase a meal plan?

Apply early (eight to 10 months in advance of the semester). See "Residential Life," page 40, for information on student housing. Meal plans may be purchased in advance for ASU Main or upon arrival on campus. For more information about Main campus options, call Residential Life at 480

965 3515, and Campus Dining Services at 480/965 3464.

For ASU East housing, call 480/727 1700, or see "Campus and Student Services," page 562, in the "ASU East" section, for more information on dining and housing.

What about orientation?

Attend ASU Main orientation, where questions regarding advising, class registration, student IDs, on campus housing, and other pertinent topics are answered. See "Orientation," page 68. Information regarding ASU East orientation can be obtained by calling 480/727-1041.

How do I get an ID, and what about parking?

See "Proof of Identification," page 74, about obtaining an ASU student ID card. If you are planning to park at ASU Main, purchase a parking decal. See "Parking Decals," page 49. Parking on ASU East campus is free. ASU East students may obtain student ID cards at the Oasis in the Center Building.

What about placement examinations and university testing requirements?

See "Placement Examinations," page 72, and "University Testing Requirements," page 72.

Before I register for classes, how do I get an advisor?

Call the college of your major to schedule an appointment with an academic advisor. See "Academic Advising," page 73. For ASU East Academic Advising, see "Advising," page 562.

When and how do I register?

See the *Schedule of Classes* for registration procedures and dates or access registration information online at www.asu.edu/registrar. Remember that you must first provide proof of measles immunity to Student Health. See "Immunization Requirements," page 68.

Once I am registered and ready to go, how can I ensure my success at ASU?

Consider enrolling in UNI 100 Academic Success at the University. See "Division of Undergraduate Academic Services," page 114.

What's left to do now that the business is taken care of?

Become involved in the university by getting to know professors, joining student organizations, and taking advantage of the many cultural, recreational, and social opportunities. For more information on ASU Main campus life, call Student Life at 480/965 6547, REACH at 480/965 2255, or ASASU at 480/965 3161; for ASU East, call 480/727 3278. Investigate the challenges and advantages of the University Honors College. See the "University Honors College," page 323.

Academic Definitions

Academic Renewal. Under certain circumstances an undergraduate who has been readmitted to the university after an absence of at least five years may have the former record treated in the same manner as transfer credits. See “Academic Renewal,” page 73.

Advanced Placement. Students who have taken an advanced placement course of the College Entrance Examination Board (CEEB) in their secondary school and who have taken an Advanced Placement Examination of CEEB may receive university credit. See “Advanced Placement,” page 70.

AECP. The American English and Culture Program (AECP) features an intensive course of study designed for adult international students who desire to become proficient in English as a second language. See “American English and Culture Program,” pages 67 and 261.

ASU East. ASU East is located at the former Williams Air Force Base. See “ASU East,” page 559.

ASU Extended Campus. The ASU Extended Campus offers courses evenings and weekends, by television, the Internet, at on and off campus sites, and through Independent Learning. See “ASU Extended Campus,” page 26.

ASU Main. ASU Main is the principal campus of ASU, located in Tempe. See “ASU Main,” page 26.

ASU West. ASU West is the Phoenix branch campus of ASU, established in 1984 by the Arizona Legislature to serve the educational needs of residents in western Maricopa County. See “ASU West,” page 608.

Audit Enrollment. A student who audits a course attends regularly scheduled class sessions but earns no credit. See “Audit Enrollment,” page 76

Buckley Amendment. See “Family Educational Rights and Privacy Act” in this section.

CLEP. As part of the College Level Examination Program (CLEP), students who have taken a College Level Examination of the College Entrance Examination Board may receive university credit. See “College Level Examination Program (CLEP),” page 70.

Comprehensive Exam. A comprehensive examination is intended to permit a student to establish academic credit in a field in which the student has gained experience or competence equivalent to an established university course. See “Comprehensive Examinations,” page 70.

Concentration. A concentration is a selection of courses within a major.

Cooperative Education. Cooperative Education is any educational program that requires alternating classroom and work experience in government or industry. The work experience exists for its educational value. See “Cooperative Programs,” page 75

Corequisite. A requirement to be met *while* taking one course, such as taking another particular course, is a corequisite. See also “Prerequisite” in this section.

Course Prefix. A course prefix is a three letter designation assigned by each instruction unit. The “Course Prefix Index,” page 6, provides a comprehensive list. See also “Cross Listing” in this section.

Credit Enrollment. One semester hour represents a minimum of one 50 minute class exercise per week per semester. A minimum of 120 semester hours is required for graduation with a baccalaureate degree. To obtain credit, a student must be properly registered and pay fees for the course.

Cross-Listing. One course may have more than one course prefix and may be offered by more than one department. Some instruction units require students to enroll in a course under a certain prefix to receive credit properly. Catalog course descriptions indicate courses that are cross-listed.

Cum Laude. An undergraduate student with a minimum of 60 semester hours of course work at ASU and a cumulative GPA of 3.40–3.59 graduates *cum laude*. See “Graduation with Academic Recognition,” page 86. See also “Magna Cum Laude” and “Summa Cum Laude” in this section.

Declaration of Graduation. See “Program of Study” in this section.

Drop/Add. Drop add is a process in which a student who has registered for courses for a semester or summer session may drop or add courses through the first week of classes in a semester or the first two days of a summer session. See “Drop Add,” page 77.

Family Educational Rights and Privacy Act. The Family Educational Rights and Privacy Act of 1974, or Buckley Amendment, sets forth the requirements governing the protection of the privacy of the education records of students who are or have been in attendance at ASU. See “Student Records,” page 80

Freshman. A student who has earned 24 or fewer hours is a freshman.

General Studies Requirement. This is a requirement of all undergraduates. See “Meeting the General Studies Requirement,” page 87.

GPA. The ASU grade point average (GPA) is obtained by dividing the total number of ASU grade points earned by the number of ASU semester hours graded. Grade point averages are rounded to the nearest hundredth of a grade point. See “Grade Point Average,” page 78.

Grade Points. For the purpose of computing the GPA, grade points are assigned to each of the grades for each semester hour as follows: “A,” four points; “B,” three points; “C,” two points; “D,” one point; and “E,” zero points

Graduate Catalog. The *Graduate Catalog* describes the procedures and requirements for enrollment in the Graduate College. See “Graduate College,” page 304.

Graduate-Level Courses. Courses numbered 500–799 are designed for graduate students. However, an upper-division undergraduate student may enroll in graduate courses with the approval of his or her advisor, the course instructor, the department chair, and the dean of the college or school in which the course is offered. See “Course Numbering System,” page 60.

Incomplete. A mark of “I” (incomplete) is given by the instructor only when a student who is otherwise doing acceptable work is unable to complete a course because of illness or other conditions beyond the student’s control. See “Grading System,” page 76.

International Baccalaureate. Students who have taken a higher-level examination through the International Baccalaureate program may receive university credit. See “International Baccalaureate Diploma/Certificate,” page 70.

Junior. A student who has earned 56–86 hours is a junior.

Lower-Division Courses. Courses numbered 100–299 are designed primarily for freshmen and sophomores. See “Course Numbering System,” page 60.

Magna Cum Laude. A student with a minimum of 60 semester hours of course work at ASU and a cumulative GPA of 3.60–3.79 graduates *magna cum laude*. See also “Cum Laude” and “Summa Cum Laude” in this section.

Major. A major is a specialized group of courses contained within the program of study. Refer to college and school sections for specific descriptions and requirements.

Minor. A minor is a specialized group of courses contained within the program of study available from some instruction units. See “Minors,” page 110, and refer to college and school sections for specific descriptions and requirements.

Nonresident Tuition. This term refers to the charge assessed to nonresident students, as established in Arizona Board of Regents’ Policy 4 102. See also “Resident Tuition” in this section.

Omnibus Course. An omnibus course is offered on an experimental or tutorial basis when the course content is new or periodically changes. See “Omnibus Courses,” page 60.

Pass/Fail Enrollment. A mark of “P” (pass) or “E” (fail) may be assigned for this grading option. This grading method may be used at the option of individual colleges and schools within the university. See “Pass/Fail Enrollment,” page 76.

Placement Examination. A proficiency examination is given to waive a course requirement, validate certain transfer credits in professional programs, or determine a student’s ability in a field where competence is an important consideration. See “Placement Examinations,” page 72.

Prerequisite. A requirement to be met *before* registering for one course, such as completing another particular course, is a prerequisite. See also “Corequisite” in this section.

Probation. A student’s college assumes responsibility for enforcing academic standards and may place any student on probation who has failed to maintain good standing. A student on academic probation is required to observe any rules or limitations the college may impose as a condition for retention. See “Probation,” page 80.

Program of Study. The complete array of courses included in the study leading to a degree make up a student’s program of study. A student must file an Undergraduate Program of Study or a Declaration of Graduation for graduation within the semester the student earns his or her 87th hour. See “Declaration of Graduation,” page 85.

Resident Tuition. This term refers to the charge assessed to resident students who register for classes at ASU. See also “Nonresident Tuition” in this section.

Restricted Complete Withdrawal. From the fifth week to the transaction deadline for a semester and from the seventh day to the transaction deadline for a summer session, students may withdraw from all courses but receive a mark of “W” only from courses in which the instructor certifies that they are passing at the time of the withdrawal. See “Restricted Withdrawal,” page 77.

Restricted Course Withdrawal. From the fifth week to the end of the 10th week of a semester and from the seventh day to the end of the third week of a summer session, students may withdraw with a mark of “W” only from courses in which the instructor certifies that they are passing at the time of withdrawal. See “Restricted Withdrawal,” page 77.

Senior. A student who has earned 87 or more hours of credit is a senior.

Sophomore. A student who has earned 25–55 hours of credit is a sophomore.

Summa Cum Laude. A student with a minimum of 60 semester hours of course work at ASU and a cumulative GPA of 3.80–4.00 graduates *summa cum laude*. See “Graduation with Academic Recognition,” page 86. See also “Cum Laude” and “Magna Cum Laude” in this section.

TOEFL. The Test of English as a Foreign Language (TOEFL) is taken by students whose native language is not English. See “TOEFL,” page 67, and “AECF” in this section.

Transcript. An official transcript lists in chronological order all courses taken at ASU. It includes all grades received. It is signed and dated by the Registrar and displays the embossed seal of the university. Unofficial transcripts include all information shown on the official transcript, plus information concerning changes, additions, etc., to the record. See “Transcripts,” page 79.

Unrestricted Course Withdrawal. During the first four weeks of a semester or the first six days of a summer session, a student may withdraw from any course with a mark of “W.” See “Unrestricted Course Withdrawal,” page 77.

Upper-Division Courses. Courses numbered 300–499 are designed primarily for juniors, seniors, and other advanced students. See “Course Numbering System,” page 60.

Accreditation and Affiliation

Arizona State University Main is accredited by the North Central Association (NCA) Commission on Institutions of Higher Education. Arizona State University East is recognized by the NCA as a full service campus and is accredited under the ASU Main umbrella. Programs in the various colleges, schools, divisions, and departments are accredited by, affiliated with, or members of national bodies as described in the "Academic Accreditation at ASU Main and East" table, on this page, "Academic Affiliation" table, page 20, and "Academic Membership" table, page 21. Some programs in the College of Education are approved by the State Board of Education (Arizona) and the National Association of School Psychologists.

ASU West. ASU West is separately accredited by the NCA Commission on Institutions of Higher Education. Professional programs in the various academic areas are accredited by national bodies as described in the "Academic Accreditation at ASU West" table, page 20.

Academic Accreditation at ASU Main and East

Unit or Program	Accredited By
Agribusiness and Resource Management, Morrison School of	
B.S., Agribusiness with a concentration in Professional Golf Management	Professional Golfer's Association of America
College of Architecture and Environmental Design	
B.S.D., Interior Design	Foundation for Interior Design Education Research
B.S.L.A.	Landscape Architectural Accreditation Board
M.Arch.	National Architectural Accrediting Board
M.E.P.	Planning Accreditation Board
College of Business	
All programs	AACSB The International Association for Management Education
School of Accountancy and Information Management	AACSB The International Association for Management Education
School of Health Administration and Policy	Accrediting Commission on Education for Health Services Administration
College of Education	
M.C., Counseling	Council for Accreditation of Counseling and Related Educational Programs
Ph.D., Counseling Psychology, Ph.D., Educational Psychology with a concentration in school psychology	American Psychological Association
College of Engineering and Applied Sciences	
B.S., Computer Science	Computer Science Accreditation Commission of the Computing Sciences Accreditation Board
B.S., Construction	American Council for Construction Education
B.S.E., Aerospace Engineering; B.S.E., Bioengineering; B.S.E., Chemical Engineering; B.S.E., Civil Engineering; B.S.E., Computer Systems Engineering, B.S.E., Electrical Engineering; B.S.E., Industrial Engineering, B.S.E., Materials Science and Engineering; B.S.E., Mechanical Engineering	Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc.
College of Fine Arts	
Department of Theatre	National Association of Schools of Theatre
School of Music	National Association of Schools of Music
College of Law	
J.D.	American Bar Association
College of Liberal Arts and Sciences	
B.S., Clinical Laboratory Sciences	National Accrediting Agency for Clinical Laboratory Sciences
M.S., Communication Disorders	American Speech-Language Hearing Association
Ph.D., Psychology with a concentration in clinical psychology	American Psychological Association

Academic Accreditation at ASU Main and East (continued)

Unit or Program	Accredited By
College of Nursing B.S.N., M.S., Nursing	Arizona Nurses Association (American Nurses Credentialing Center's Commission on Accreditation) Arizona State Board of Nursing Commission on Collegiate Nursing Education (approved) National League for Nursing
College of Public Programs B.S., Recreation	Council on Accreditation of the National Recreation and Park Association
B.S.W., M.S.W., School of Social Work M.P.A.	Council on Social Work Education National Association of Schools of Public Affairs and Administration
Walter Cronkite School of Journalism and Telecommunication	Accrediting Council on Education in Journalism and Mass Communications
College of Technology and Applied Sciences B.S., Aeronautical Engineering Technology; B.S., Electronics Engineering Technology; B.S., Manufacturing Engineering Technology	Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc
East College B.S., Family Resources and Human Development with a concentration in human nutrition dietetics; M.S., Family Resources and Human Development with a concentration in general family resources and human development (dietetic internship)	American Dietetic Association

Academic Accreditation at ASU West

Unit or Program	Accredited By
College of Human Services Department of Recreation and Tourism Management	National Recreation and Park Association/American Association for Leisure and Recreation
Department of Social Work	Council on Social Work Education
School of Management All programs	American Assembly of Collegiate Schools of Business

Academic Affiliation

Unit or Program	Affiliated With
College of Architecture and Environmental Design School of Architecture	American Institute of Architects, Central Arizona and Rio Salado Chapters Architectural Research Centers Consortium Association of Collegiate Schools of Architecture Association for Computer Aided Design in Architecture
School of Design	American Society of Interior Designers Human Factors and Ergonomics Society Industrial Designers Society of America Interior Design Educators Council International Interior Design Association Society of Environmental Graphic Designers
School of Planning and Landscape Architecture	American Planning Association American Society of Landscape Architects Association of Collegiate Schools of Planning Council of Educators in Landscape Architecture

Academic Affiliation (continued)

Unit or Program	Affiliated With
College of Education	American Association of Colleges for Teacher Education American Educational Research Association University Council for Educational Administration
Morrison School of Agribusiness and Resource Management B.S., M.S., Environmental Resources	Society for Range Management Soil and Water Conservation Society Wildlife Society

Academic Membership

Unit or Program	Membership With
College of Education	American Association of Colleges for Teacher Education University Council for Educational Administration
College of Law	Association of American Law Schools
College of Liberal Arts and Sciences	
Department of Anthropology	American Anthropological Association Council for Museum Anthropology
Department of Biology	American Institute of Biological Sciences American Society of Naturalists American Society of Zoologists Animal Behaviorists' Society Sigma Psi
Department of Chemistry and Biochemistry	American Association for the Advancement of Science American Chemical Society American Society for Advancement of Science
Department of Exercise Science and Physical Education	American Alliance for Health, Physical Education, Recreation and Dance American College of Sports Medicine American Physical Society Arizona Society of Medical Technology Committee on Allied Health Education National Association for Physical Education in Higher Education North American Society for Sports History North American Society for Sports Psychology and Physical Activity
Department of Geography	Association of American Geographers
Department of Geology	American Association of Petroleum Geologists American Geophysical Union American Institute of Professional Geologists Geological Society of America Mineralogical Society of America Society of Economic Paleontologists and Mineralogists
Department of History	American Association for State and Local History American Association of Museums American Historical Association Institute of Historical Research
Department of Languages and Literatures	American Council on Teaching Foreign Language International Studies Association Modern Language Association
Department of Mathematics	American Mathematical Society Mathematical Association of America Rocky Mountain Mathematics Consortium Society for Industrial and Applied Mathematics
Department of Microbiology	American Society of Microbiology
Department of Military Science	Association of U.S. Army
M.S., Ph.D., Molecular and Cellular Biology	American Society of Medical Technology

Academic Membership (continued)

Unit or Program	Membership With
Department of Philosophy	American Philosophical Association
Department of Physics and Astronomy	Acoustical Society of America American Association of Physicists in Medicine American Association of Physics Teachers American Astronomical Society American Crystallographic Association American Physical Society American Vacuum Society International Astronomical Union Materials Research Society Optical Society of America
Department of Plant Biology	American Institute of Biological Sciences American Society of Cell Biology American Society of Horticultural Science American Society for Photobiology American Society of Plant Physiologists American Society of Plant Taxonomy Arizona-Nevada Academy of Science Botanical Society of America Botanical Society of Japan California Botanical Society Ecological Society of America International Association of Landscape Ecology International Association of Plant Taxonomy International Association for Study of Plant Succulents International Association of Wood Anatomists International Organization of Paleobotany International Photosynthesis Society International Phycological Society International Society of Arboriculture International Society of Ecological Modeling International Society of Plant Molecular Biology International Society of Plant Propagators International Union of Woody Plant Physiologists Microscopy Society of America Mycological Society of America Phycological Society of America Phytochemical Society of North America Sigma Xi Society of Wetlands Scientists Society of Ecological Restoration Society for Economic Botany Soil Science Society of America Southwestern Association of Naturalists
Department of Political Science	American Political Science Association Inter-University Consortium for Political and Social Research
Department of Psychology	American Society of Clinical Psychologists
Department of Sociology	American Sociological Association
Women's Studies Program	Association for Women in Science National Women's Studies Association
College of Nursing	American Association of Colleges of Nursing Western Institute of Nursing

Academic Membership (continued)

Unit or Program	Membership With
College of Public Programs Department of Recreation Management and Tourism	American Humanics, Inc. Arizona American Indian Tourism Association Arizona Heritage Alliance Arizona Park and Recreation Association Arizona State Therapeutic Association Association for Research on Nonprofit and Voluntary Action Association for Volunteer Administration National Park and Recreation Association Travel Tourism Research Association
Hugh Downs School of Human Communication	National Communication Association Western States Communication Association
School of Justice Studies	Arizona Justice Educators Association of Criminal Justice Doctoral Programs National Academic Advising
School of Public Affairs	Onati International Institute for the Sociology of Law National Association of Schools of Public Affairs and Administration
School of Social Work	Baccalaureate Program Directors Association Council on Social Work Education National Association of Social Workers
Walter Cronkite School of Journalism and Telecommunication	Association of Schools of Journalism and Mass Communication Broadcast Education Association
East College Graduate College University Honors College	American Dietetic Association Council of Graduate Schools National Collegiate Honors Council



Aloes in planters surround the Nelson Fine Arts Center.

H. Val Peterson photo

General Information

MISSION

Arizona State University has emerged as a leading national and international research and teaching institution with a primary focus on Maricopa County, Arizona's dominant population center. This rapidly growing, multicampus public research university offers programs from the baccalaureate through the doctorate for approximately 49,700 full time and part time students through ASU Main in Tempe; ASU West in northwest Phoenix; a major educational center in downtown Phoenix; ASU East, located at the Williams Campus (formerly Williams Air Force Base) in southwest Mesa; and other instructional, research, and public service sites throughout Maricopa County. ASU is a modern university that applies its research capabilities to the rapidly evolving needs of Maricopa County and the state.

Arizona State University's goal is to become a world class university in a multicampus setting, one of the very best public universities in the nation. Its mission is to provide outstanding programs in instruction, research, and creative activity, to promote and support economic development, and to provide service appropriate for the nation, the state of Arizona, and the state's major metropolitan area. To fulfill its mission, ASU places special emphasis on the core disciplines and offers a full range of degree programs baccalaureate through doctorate. To become competitive with the very best public universities, ASU recognizes that it must offer quality programs at all degree levels in a broad range of fundamental fields of inquiry. ASU will continue to dedicate itself to superior instruction; to excellent student performance; to original research, creative endeavor, and scholarly achievement; and to outstanding public service and economic development activities. As a result of this dedication, ASU was awarded the prestigious Research I university status in 1994, recognizing ASU as a premier research institution.

ORGANIZATION

Arizona State University is part of a university system governed by the Arizona Board of Regents, a body with perpetual succession under the constitution and laws of Arizona. The board consists of eight citizens appointed by the governor of the state for terms of eight years, and one student regent serving for one year with the elected governor and state superintendent of public instruction as members ex officio.

The regents select and appoint the president of the university, who is the liaison between the Arizona Board of Regents and the institution. The president is aided in the administrative work of the institution by the senior vice president and provost, other provosts, vice presidents, deans, directors, department chairs, faculty, and other officers. Refer to "Administrative Personnel," page 551.

The academic units develop and implement the teaching, research, and service programs of the university, aided by the university libraries, museums, and other services.

The faculty and students of the university play an important role in educational policy, with an Academic Senate,

joint university committees and boards, and the Associated Students serving the needs of a large institution.

EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION

It is the policy of ASU to provide equal opportunity through affirmative action in employment and educational programs and activities. Discrimination is prohibited on the basis of race, color, religion, national origin, citizenship, sex, sexual orientation, age, disability, special disabled veteran, other eligible veteran, or Vietnam era veteran status. Equal employment opportunity includes but is not limited to recruitment, hiring, promotion, termination, compensation, benefits, transfers, university sponsored training, education, tuition assistance, and social and recreational programs.

ASU is committed to taking affirmative action in increasing opportunities at all levels of employment and to increasing participation in programs and activities by all faculty, staff, and students. Affirmative action is directed toward minority persons, women, special disabled veterans, other eligible veterans, Vietnam era veterans, and persons with disabilities.

University Policy Prohibiting Discriminatory Harassment

Harassment Prohibited. Subject to the limiting provisions of "Freedom of Speech and Academic Freedom" specified below, it is a violation of university policy for any university employee or student to subject any person to harassment on university property or at a university sponsored activity.

Harassment Defined. Actions constitute harassment if (1) they substantially interfere with another's educational or employment opportunities, peaceful enjoyment of residence, physical security, and (2) they are taken with a general intent to engage in the actions and with the knowledge that the actions are likely to substantially interfere with a protected interest identified above. Such intent and knowledge may be inferred from all the circumstances.

Freedom of Speech and Academic Freedom. Neither this nor any other university policy is violated by actions that amount to expression protected by the state or federal constitutions or by related principles of academic freedom. This limitation is further described in the ASU First Amendment Guidelines, the current version of which supplements this policy and is available in the Office of the General Counsel.

Relationship to the Work of the Campus Environment Team. If harassment is discriminatory, it falls within the education, monitoring, reporting, and referral functions of the Campus Environment Team. Harassment is discriminatory if taken with the purpose or effect of differentiating on the basis of another person's race, sex, color, national origin, religion, age, sexual orientation, disability, or Vietnam era veteran status.

INTERGROUP RELATIONS CENTER

The only center of its kind on a college campus, the Intergroup Relations Center (IRC) works with students, staff, and faculty to promote positive intergroup relations, to prepare students for living in a diverse democracy, to create greater understanding between the different groups that exist at ASU, and to provide faculty, staff, and students opportunities to explore the rich diversity that is part of the ASU campus community. Through structured interaction programs, including intergroup dialogues, storycircles, retreats, and institutes and via educational and training workshops, the IRC utilizes diversity as a valuable tool and asset to complete its work. The educational work of the center encompasses gender, race ethnicity, sexual orientation, age, disability status, nationality, adult reentry, and other salient social identities found at ASU.

Some of the programs and initiatives offered by the IRC include Voices of Discovery, a six-week student intergroup dialogue program which brings together small groups of African Americans and White/EuroAmericans, males and females, American Indians and White/EuroAmericans, Latinos and White/EuroAmericans; Gay, Lesbian, Bisexual, and Heterosexuals as well as other groups to interact with and learn about each other; Leadership 2000, an annual four day, off campus retreat bringing 80 students from many different backgrounds together to explore their own and others' diversity, Allies in Action, a diverse group of students working together to improve intergroup relations on the campus; and Intergroup Relations Theatre and Music programs, using the arts to interactively involve, entertain, and educate participants about issues of diversity. The Center also offers programs for faculty and staff addressing issues of diversity in the workplace and the classroom.

The IRC also offers custom designed programs, consultation and intergroup conflict mediation services for the ASU community and works with a wide range of campus offices, academic departments, and student groups in fulfilling its mission to promote positive intergroup relations.

The Intergroup Relations Center is located in SSV 278 and can be reached at 480 965-1574 and through its Web site www.asu.edu/provost/intergroup.

HISTORY OF ARIZONA STATE UNIVERSITY

On February 26, 1885, House Bill 164, "An Act to Establish a Normal School in the Territory of Arizona," was introduced in the 13th Legislative Assembly of Arizona Territory by John Samuel Armstrong. The bill, strongly supported by Charles Trumbull Hayden of Tempe, passed the House on March 6 and the Council on March 11 and was signed by Governor F.A. Tritle on March 12, 1885, thereby founding the institution known today as Arizona State University. Under the supervision of Principal Hiram Bradford Farmer, instruction was instituted on February 8, 1886, when 33 students met in a single room on land donated by George and Martha Wilson of Tempe.

The institution began with the broad obligation to provide "instruction of persons... in the art of teaching and in all the various branches that pertain to good common school education; also, to give instruction in the mechanical arts and in husbandry and agricultural chemistry, the fundamental law of the United States, and in what regards the rights and duties of citizens."

With the growth of the state, especially the surrounding Phoenix metropolitan area, the school has carried forward this charter, accompanied by successive changes in scope, name, and governance.

The Early Years. For the first 14 years, the school was governed by six principals. At the turn of the century and with another new name, Normal School of Arizona, President Arthur John Matthews brought a 30-year tenure of progress to the school.

He assisted in changing the school to an all college student status; the Normal School had enlisted high school students who had no other secondary educational facilities in Arizona. He embarked on a building schedule that included the state's first dormitories. Of the 18 buildings constructed while Matthews was president, six are still in use. His legacy of an "evergreen campus," with the import of many shrubs and trees and the planting of Palm Walk, continues to this day: the main campus is a nationally recognized arboretum.

Matthews also saw to it that the Normal School was accredited outside the state. His service on national education organization boards was conducive to this recognition. The school remained a teacher's college in fact and theory during Matthews' tenure, although the struggle to attain status as a university was ongoing.

An extraordinary event occurred March 20, 1911, when former President Theodore Roosevelt visited the Tempe school and spoke from the steps of Old Main. He had dedicated the Roosevelt Dam the day before and was impressed with Arizona. He noted that construction of the dam would benefit central Arizona's growth and that of the Normal School. It would be another year before the territory became a state.

During the Great Depression, Ralph W. Swetman was hired as president for a three-year term. This was a time of uncertainty for educational institutions. Although enrollment increased due to the depression, many faculty were terminated and faculty salaries were cut. The North Central Association became the accrediting agency for Arizona State Teachers College.

The Gammage Years. In 1933, Grady Gammage, then president of Arizona State Teachers College at Flagstaff, became president of Arizona State Teachers College at Tempe, a tenure that would last for nearly 28 years.

The Graduate Division was created in 1937 and the first master's program was established the same year.

On March 8, 1945, the three state institutions of higher learning came under the authority of one Arizona Board of Regents, which oversees ASU today.

The phenomenal growth of the college began after the end of World War II. Dr. Gammage had foreseen that the G.I. Bill of Rights would flood campuses everywhere with returning veterans. Many of the veterans who had received military training in Arizona had fallen in love with the state and vowed to return after the war. The numbers within one year were staggering: in the fall semester of 1945, 553 students were enrolled; over the weekend semester break in January 1946, enrollment increased 110 percent to 1,163 students. Successive semesters saw continuing increased enrollment.

Like his predecessor, Dr. Gammage oversaw the construction of a number of buildings. His greatest dream, that

of a great auditorium, came five years after his death. He laid the groundwork for it with Frank Lloyd Wright, who designed what is now the university's hallmark building, Grady Gammage Memorial Auditorium, built in 1964.

Years of Growth and Stature. During the 1960s, with the presidency of Dr. G. Homer Durham, Arizona State University began its academic rise with the establishment of several new colleges (the College of Fine Arts, the College of Law, the College of Nursing, and the School of Social Work) and the reorganization of what became the College of Liberal Arts and Sciences and the College of Engineering and Applied Sciences. Perhaps most important, the university gained the authority to award the Doctor of Philosophy and other doctoral degrees.

The next three presidents—Harry K. Newburn, 1969–71, John W. Schwada, 1971–81, and J. Russell Nelson, 1981–89—and Interim President Richard Peck, 1989, led the university to increased academic stature, expansion of the campuses, and rising enrollment. With approximately 49,000 students, ASU is the fourth largest university in the nation.

On January 1, 1990, Dr. Lattie F. Coor, a native Arizonan, became 15th in the institution's succession of principals and presidents. He has highlighted undergraduate education, research, cultural diversity, and economic development as the "four pillars" of the university's agenda. He has taken steps in these areas by further defining the role of ASU West and by initiating the establishment of ASU East.

In 1996, "The University for the Next Century" initiative, involving campus and community members, developed a set of general goals to guide the university at the turn of the millennium. By making selective investments in people, programs, and new practices, ASU will be a prototype of the major metropolitan research university of the future that is technologically sophisticated in linking its students, faculty, staff, and alumni to the larger issues of society.

Research I Status. ASU was named a Research I university by the Carnegie Foundation for the Advancement of Teaching in early 1994. Nationally, 88 universities have been granted this status, indicating successful garnering of support for research projects and educating future scientists.

Athletics

The original nickname for the Normal School of Arizona athletic teams was the Owls. Athletics other than Sunday hikes and lawn tennis were not part of the early curriculum.

During President Matthews' tenure, some team competition began. The Tempe Bulldogs saw some interesting and rough competition with the University of Arizona Wildcats. In the 1940s, the college's teams became the Sun Devils.

In 1979, the university joined the Pacific 10 Conference. In 1987, ASU became the first Arizona football team to play in the Rose Bowl, defeating the University of Michigan Wolverines 22–15. ASU made its second appearance in 1997 against Ohio State.

In 1999 ASU finished 12th nationally in the Sears Roebuck Cup, which recognizes the top athletic programs in the country. Eight teams finished in the top 20 nationally with three teams posting top five finishes. Men's golf finished fifth, gymnastics took fourth, while women's golf placed second nationally.

UNIVERSITY CAMPUSES AND SITES

ASU Main. ASU Main is located near the heart of metropolitan Phoenix in the city of Tempe (population 160,000). Nearby are the municipalities that make up the fast-growing Valley of the Sun: Chandler, Gilbert, Glendale, Mesa, Scottsdale, and other communities.

ASU Main comprises more than 700 acres and offers outstanding physical facilities to support the university's educational programs. Buildings are modern and attractively designed.

Broad pedestrian malls laid out in an easy-to-follow grid plan, bicycle lanes connecting all parts of the university, and spacious lawns and subtropical landscaping characterize a campus serving the physical, aesthetic, and educational needs of students, faculty, and staff.

ASU East. The university's third campus, ASU East, opened at the Williams Campus in the fall of 1996. More than 1,500 students are enrolled in degree programs offered by the College of Technology and Applied Sciences, the Morrison School of Agribusiness and Resource Management, and East College.

ASU East has joined with Chandler Gilbert Community College (CGCC) in the Partnership in Baccalaureate Education that allows students to graduate in four years with an ASU baccalaureate degree earned entirely at the Williams Campus, at some savings in tuition.

The campus includes excellent educational facilities and unique residential opportunities, including a choice of traditional residence halls or two- to five-bedroom homes.

ASU East is a student-centered campus that offers many of the features of a small college in a rural area while providing access to the resources of a major research university and the amenities of a large metropolitan area. A shuttle service provides transportation between ASU East and ASU Main. The 600-acre ASU East campus is easily accessible via major interstate routes. For more information, see "ASU East," page 559.

ASU West. ASU West, an upper division, nonresidential campus of ASU, was established by the Arizona Legislature in 1984 to provide greater access to higher education for residents of the rapidly growing northwestern area of metropolitan Maricopa County. ASU West offers 29 baccalaureate degree programs and six master's degree programs, plus specialized minors and programs leading to professional certificates in the Colleges of Arts and Sciences, Education and Human Services, the School of Management, and the Division of Collaborative Programs.

Completed in 1991, the ASU West campus occupies more than 300 acres between 43rd and 51st Avenues on West Thunderbird Road in Phoenix. Easily accessed via the interstate routes of I-10 and I-17, facilities are state-of-the-art and consist of seven principle buildings (600,000 square feet) surrounded by a beautifully landscaped, natural environment.

For more information, see "ASU West," page 608. For complete information and course listings, see the *ASU West 2000–2001 Catalog*.

ASU Extended Campus. The ASU Extended Campus (www.asu.edu/xed) goes beyond the boundaries of the university's three physical campuses to provide access to academic credit and degree programs for working adults.

through flexible schedules, a vast network of off campus sites; classes scheduled days, evenings, and weekends; plus innovative delivery technologies, including television, the Internet, and independent learning. The ASU Extended Campus offers programs in partnership with the campuses and colleges of ASU, including a variety of professional continuing education programs. The ASU Downtown Center is the anchor location of the Extended Campus. Lifelong learning opportunities are offered to students of all ages throughout Maricopa County and Arizona through the Extended Campus.

ASU Downtown Center. Located in downtown Phoenix, 502 E. Monroe, the ASU Downtown Center offers a variety of daytime and evening courses of interest to employees in private businesses and government agencies and to individuals seeking personal growth and enrichment. These courses are scheduled at a variety of convenient times and offered through various modes of delivery. In addition, computer technology classes are taught during daytime, evening, and weekend hours, and computer certificates are offered. Professional continuing education, certificate programs, and lecture series are also available. Access to ASU library information and resources, the ASU mainframe, and the Internet is available through the center's computer lab.

ASU Research Park. The mission of the ASU Research Park (researchpark.asu.edu) is to enhance Arizona's high value research-based economic development and to build the university's capacity to educate and advance knowledge. To this end, the Research Park serves to attract new corporate and regional headquarters and research and development firms to Arizona headquarters and firms that broaden the base for potential research among ASU departments, interact with graduate students, consult with university faculty, cosponsor seminars on research topics, and provide employment opportunities for ASU graduates.

The Research Park has numerous major tenants, including ASM Lithography, Avnet CMG, Bright Horizons Family Solutions, Inc., Cytac Fiberite, Iridium, Lakeside Technology Center, Motorola Flat Panel Display, Motorola University, National Association for Purchasing Management, PKS Information Services, Transamerica Research Center, VLSI Technology, and Walgreens Healthcare Plus. There is also a 50,000-square foot multitenant building developed by Transamerica Corporation, and the Lakeside Technology Center, a 44,000 square-foot multitenant building developed by the park itself. The Research Park contributes to ASU's standing as a major research university.

Camp Tontozona. Located in the famed Mogollon Rim country near Kohl's Ranch, northeast of Payson, this continuing education facility of the university serves the needs of academic departments conducting teaching and research in mountain terrain. The camp is also available to faculty, staff, graduate students, and alumni for family use. For more information, call 480/965-6851.

Deer Valley Rock Art Center. Deer Valley Rock Art Center, located two miles west of the Black Canyon Freeway on Deer Valley Road, is operated by the ASU Department of Anthropology in consultation with the Hopi, Yavapai, and Gila River Indian tribes. It includes more than 1,500 petroglyphs that cover the eastern slope of Hedgpeth Hills. For more information, call 623/582 8007.

The Arboretum. The Arboretum at Arizona State University is a flourishing oasis of plants from around the world. This virtual outdoor classroom includes 329 species/varieties of trees and other woody ornamental and herbaceous plants from diverse geographic regions as well as the Sonoran Desert. It contains one of the best collections of palms and conifers in the desert Southwest and a growing collection of native Southwestern plants. The Arboretum's date palm collection has received international recognition.

The Arboretum began with Arthur J. Matthews. By the time Matthews' 30 year presidency was finished, nearly 1,500 trees of 57 varieties and more than 5,700 feet of hedges were planted. One of his most enduring landscape projects was the planting of Mexican Fan Palms along Palm Walk in 1916, which extends from University Drive south to the Student Recreation Complex.

Several Arboretum walking tours are designated by types of plant collections throughout the campus, as well as a tour of the campus historical district.

UNIVERSITY LIBRARIES AND COLLECTIONS

The collections of the university's libraries comprise more than 3 million volumes, approximately 6.8 million microform units, and more than 36,000 periodical and serial subscriptions. Computer access to commercially and locally produced databases and the ability to borrow research materials from other libraries enhance local resources. ASU is a member of the Association of Research Libraries and the Center for Research Libraries.

For telephone numbers, see the "ASU Main Directory," page 490. For more information, access the Web site at www.asu.edu/lib.

Charles Trumbull Hayden Library. The Charles Trumbull Hayden Library, designed by Weaver and Drover in 1966, houses the largest multidisciplinary collection. In addition to the open stack areas, separate collections and service areas include Access for Disability Accommodations, Current Periodicals and Microforms; Government Documents; Interlibrary Loan and Document Delivery Services; Labriola National American Indian Data Center; Library Instruction, Systems, and Technology (L.I.S.T.); Reference, Reserve; Special Collections; and Archives and Manuscripts, which includes the Arizona Collection, the Chicano Research Collection, and the Visual Literacy Collection.

Special collections includes the Child Drama Collection, and collections of materials by and about William S. Burroughs, the Press of Thomas Bird Mosher, and the Patten Herbal Collection. Archives and Manuscripts holds the papers of several major Arizona political figures, including Senator Carl Hayden, with historic materials about Arizona, Chicano, and Indian affairs. For more information, access the Web site at www.asu.edu/lib/hayden.

Architecture and Environmental Design Library. A branch of the University Libraries, located in the College of Architecture and Environmental Design/North building, contains collections pertinent to areas of study within the college, the Materials Resource Center, and the Architectural Drawings Collection. For more information, access the Web site at www.asu.edu/caed/AEDlibrary.

Arizona Historical Foundation. Under a cooperative agreement with ASU, the Arizona Historical Foundation houses a library of several thousand volumes, manuscript collections, maps, and photographs, and a large collection of audio visual materials. Housed in the Charles Trumbull Hayden Library, the collection's focus is on the history of Arizona and the Southwest. For more information, access the Web site at www.asu.edu/lib/ahf

Fletcher Library. Located at the ASU West campus, Fletcher Library utilizes a range of electronic systems, from compact discs to telecommunications networks, to provide access to resources and delivery of materials. Its holdings include more than 310,000 volumes, 3,000 serial subscriptions, and 1.4 million microforms selected to complement ASU West course offerings

Law Library. The John J. Ross William C. Blakley Law Library is located on McAllister Avenue. See "Law Building and Law Library," page 328, for more information.

Music Library. A large collection of music scores, recordings, books, music reference materials, and listening facilities for individuals and groups are located on the third floor of the Music Building, West Wing. For more information, access the Web site at www.asu.edu/lib/music.

Daniel E. Noble Science and Engineering Library. The Daniel E. Noble Science and Engineering Library houses books, journals, and microforms in the sciences, engineering, and nursing, the Map Collection; and the U.S. Patent and Trademark Depository. For more information, access the Web site at www.asu.edu/lib/noble

University Archives. The University Archives collection (1885 present) of university theses and dissertations, administrative records of the university, historical photographs and personal papers of faculty, staff, and alumni as well as student, faculty, and official university publications are available for use at the Luhrs Reading Room in Hayden Library. The historic University Archives Building on Tyler Mall is the home of the 1907 Gallery, which hosts exhibits of historical photographs from the collections of the Department of Archives and Manuscripts. For more information, access the Web site at www.asu.edu/lib/archives/archives.htm

Video Resources. Located in ECA 100, Video Resources supports a variety of educational media services, including reserve videotapes of all ASU courses broadcast on cable television and ITFS, video viewing study carrels, and a studio facility for students and faculty. In addition, Video Resources houses thousands of video titles in the ASU Media circulating collection that may be checked out for three days. Special Collections include the WorldFest Video Archive, Horizon, C SPAN Booknotes, and C SPAN I and II. Patrons with a current university ID may check out any available videotape for three days. Interlibrary loans and video booking may be scheduled by calling 480 965-7564. For more information, call 480 965-5046, or access the Web site at www.asu.edu/lib/video.

PERFORMING AND FINE ARTS FACILITIES

ASU Art Museum. The ASU Art Museum serves students and scholars within and beyond the university and as a cul-

tural resource for the Phoenix Metropolitan area. Additionally, the museum serves a public beyond the immediate area through traveling exhibitions and publications that not only document the exhibitions but also offer critical insight into the museum's areas of concentration.

Exhibitions, education programs, and publications are both interdisciplinary and educational and designed to engage viewers with art that is relevant to their lives. New technologies in the content of art and in the approaches to reaching new audiences are eagerly and openly adopted.

Collections and exhibitions focus on contemporary art, particularly new media and new methods of presentation; art by Latin American artists; art from the Southwest; prints, both historic and contemporary, and crafts, emphasizing American ceramics. The museum was founded by a gift of historic American paintings, which are on continuous display, including works by Gilbert Stuart, Albert Pinkham Ryder, Winslow Homer, Georgia O'Keeffe, and Romare Bearden. The contemporary art holdings include works by Nam June Paik, Lorna Simpson, Vernon Fisher, Sue Coc, and Enrique Chagoya. Exhibitions and collections are housed in galleries and study rooms in two facilities: the international award winning Nelson Fine Arts Center and Matthews Center in the middle of campus.

Educational programs include artist residencies and dialogues with classes, student docent program, internships and research assistantships, lectures and symposia, in-gallery materials, special curricula based school programs, school and public tours. For information on upcoming exhibitions and programs, call 480 965 2787.

ASU Downtown Center Gallery and The Galleria. The Gallery, located on the first floor of the ASU Downtown Center, is a partnership with the Joint Urban Design Program from the College of Architecture and Environmental Design. The Gallery features special rotating exhibits, including architectural models, computer imaging projects, and other unique exhibits accessible for public view. For information on upcoming exhibitions and programs, call 480 965 3046.

The Galleria, located on the second floor of the ASU Downtown Center, features work by ASU faculty, staff, students, and local artists. The Galleria is a member of Artlink First Friday's and the Phoenix Art Detour. Open Monday through Saturday, 8 A.M. - 5 P.M., the Galleria features new and different works each month. For information on current or upcoming exhibitions, call 480 965 3046.

Computing Commons Gallery. One of the unique features of the Computing Commons building is the gallery located off the main lobby in the northwest corner of the building. This unique gallery is designed for showcasing technology based artwork, supporting display of online computer art and holograms, as well as more traditional two dimensional graphic presentations. The millennium is an exciting time for the arts, as technology based tools and techniques open new avenues for creativity, exemplified by the exhibits in the Computing Commons Gallery.

Dance Studio Theatre. Located in the Physical Education Building East, the Dance Studio Theatre is a 6,000 square foot dance studio that also serves as a proscenium style performance space. The 300 seat theatre is devoted to informal

and formal showcases of student and faculty choreographic work.

Drama City. Housed in a 50-year-old former church, Drama City is the primary performance venue for the Institute for Studies in the Arts. The space is a black box, 60 by 30 feet with fixed lighting positions and flexible control stations. The area can seat up to 100 and is equipped for performance or installation pieces. The facility also houses a wide range of technology for performance and presentation including video projection, automated luminaires, and a unique computerized control system for integrated media usage.

Gallery of Design. Housed in the College of Architecture and Environmental Design, the Gallery of Design features traveling exhibitions on design and urban issues.

Paul V. Galvin Playhouse. Built to stage the largest productions of the ASU Theatre, the Paul V. Galvin Playhouse is a 496-seat proscenium-stage theatre set at the east end of the Nelson Fine Arts Center. The Department of Theatre's annual season of 12 to 15 plays also includes productions in the Lyceum and Prism theatres and the Fine Arts Center Studios.

Grady Gammage Memorial Auditorium. A versatile center for the performing arts designed by Frank Lloyd Wright and named for the late President Grady Gammage, Grady Gammage Memorial Auditorium seats 3,000 and has won wide acclaim for its design and acoustics. In addition to the great hall and related facilities—including the Aeolian Skinner organ contributed by Hugh W. and Barbara V. Long—the building contains classrooms and workshops for the College of Fine Arts.

The Intelligent Stage. The Intelligent Stage is a production and performance facility designed to explore the possibilities of interactive stage performance. The facility includes a sprung floor; 30 dimmers and a four channel sound system, a composer workstation; workstations for designing interactive MIDI performances; and a movement sensing, image processing workstation. All are networked together for multi-machine performance and production. Resident artists and technologists provide design and logistical support for projects in the facility.

Katzin Concert Hall. Located in the new music building expansion, the Katzin Concert Hall seats 350 people. Primarily used for solo and chamber music recitals, the hall houses a nine-foot Hamburg concert Steinway piano. The acoustics are enhanced by the maple-paneled stage and the multifaceted walls and ceiling.

Louise Lincoln Kerr Cultural Center. Located in Scottsdale, the Louise Lincoln Kerr Cultural Center offers cultural events, especially in the performing arts, to the community.

Lyceum Theatre. A small but technically sophisticated 164 seat proscenium theatre, the Lyceum Theatre is a theatre laboratory devoted to the work of student playwrights, directors, and actors.

Music Theatre. As part of the music complex, the Music Theatre, modeled after the Wagnerian Theatre in Bayreuth, Germany, rises five stories and seats an audience of 500.

This theatre is the home of many opera and musical productions.

J. Russell and Bonita Nelson Fine Arts Center. Designed by Albuquerque architect Antoine Predock, the J. Russell and Bonita Nelson Fine Arts Center is a spectacular, 119,000 square foot village like aggregate of buildings that includes five galleries of the ASU Art Museum, the Paul V. Galvin Playhouse, the University Dance Laboratory, seven specialized theatre and dance studios, a video studio, and a variety of scenic outdoor features, including courtyards, fountains, pools, and a 50 by-100-foot projection wall designed for outdoor video.

Northlight Gallery. The Northlight Gallery is dedicated to museum quality exhibitions of historical and contemporary photography. Located in Matthews Hall, it is open during the academic year.

Organ Hall. Located in the new music building expansion, the Organ Hall houses the Fritts Organ. This tracker-action pipe organ is designed to capture the qualities of baroque European organs. The hall is designed to complement the organ with a barrel vaulted ceiling and wooden benches to seat 175 persons.

Prism Theatre. The Prism Theatre is an alternative black box space devoted to multiethnic, experimental works and second stage productions.

Recital Hall. Located on the fifth floor of the music building, the Recital Hall is an intimate 125 seat facility that opens onto a rooftop courtyard.

Sundome Center for the Performing Arts. As America's largest single level theatre, the Sundome Center for the Performing Arts in Sun City West has 7,169 seats. The theatre is equipped with sophisticated and state of the art lighting systems, and a single span roof affords each seat a clear view. As one of Arizona's premier entertainment venues, the Sundome provides a varied array of top entertainment from Las Vegas concerts to classical ballets to celebrity lectures.

Television Station KAET. KAET, Channel 8, is the university's PBS station. Studios of the award winning station are located in the Stauffer Communication Arts Building. To operate 24 hours a day, KAET employs more than 50 ASU students and interns. To learn more about KAET TV, access its Web site at www.kaet.asu.edu or call 480 965 3506.

University Dance Laboratory. A flexible performance space within the Nelson Fine Arts Center, the University Dance Laboratory is designed specifically for experimental dance productions. Along with the Dance Studio Theatre in the Physical Education Building East, the University Dance Laboratory is used by the Department of Dance for experimental performances.

Harry Wood Gallery. Housed in the Art Building (ART 120), the Harry Wood Gallery provides temporary exhibitions of the visual arts during the academic year.

COMPUTING FACILITIES AND SERVICES

Computers are fundamental tools for learning, instruction, and research in every college and department at ASU. The Information Technology (IT) department provides a variety of computing equipment and services available for

use by students, faculty, and staff. IT also provides program ming, statistical, graphics, and other applications for micro computers and mainframe computing systems. University wide e lectronic mail and the library's online catalog are accessible through a high-speed campus network and from off campus via the Internet

A wide range of information on campus activities and related topics is available online at the ASU Web site www.asu.edu. This site contains a wide variety of informa tion from various colleges, departments, and organizations, including currently approved courses, the Schedule of Classes, the *General* and *Graduate Catalogs*, a telephone and electronic mail directory, the athletic calendar of events, application forms, and financial aid information.

IT provides several service centers, described below, for the ASU academic community.

Computing Commons. The Computing Commons build ing (CPCOM) provides a "technology hub" that draws together students, faculty, and staff from all disciplines on campus in an environment conducive to maximum creative interaction. The building and its facilities have drawn national recognition and acclaim as a model for the support of instruction and research in a technology based environ ment. The Computing Commons houses a 225 workstation computing site, nine electronic classrooms, a Visualization Center, the Customer Assistance Center, a computer store, and the technology-based gallery described under Perform ing and Fine Arts Facilities.

Computing Sites. In addition to the Computing Commons Atrium, there are four additional computing sites located on the ASU Main Campus, available for ASU faculty, staff and students with an ASURITE UserID. Site configurations and hours of operation vary; current information is available on the Web at www.asu.edu/it/tyi sites

ASU Downtown Center Computer Lab. The ASU Down town Center offers an alternative to the computer labs at ASU Main. This facility features four Pentium II 400s, 12 Pentium 120s, and four Macintosh 636CDs all loaded with Microsoft Office, Netscape, and other software. A high speed laser printer and a color flatbed scanner are available, and faculty may use the ceiling mounted com puter projection system. The ASU Downtown Center is located in downtown Phoenix. It is a unique educational, applied research, and community service facility designed to address the multifaceted urban opportunities of the cen tral Phoenix community. For more information, call 480 965 3046, or access the Web site at www.asu.edu/xed/dtccplab.

Computer Accounts. Computer Accounts, located on the first floor of the Computing Commons in room 105, assists users with account access issues including lost passwords, disk space quotas, accounts for non ASURITE services (including mainframe computer access), and other account related services. Most computing services are accessible through the standard ASURITE UserID and password, available from self subscription workstations located in a variety of on campus locations or online (accessible from ASU addresses only) at www.asu.edu/selfsub. More infor mation about Computer Accounts is available on the Web at www.asu.edu/computeraccounts

Customer Assistance Center. The Customer Assistance Center, located in CPCOM 202, offers a library of reference manuals, computing periodicals, and other information con cerning computing systems and software. Self paced train ing is available for various software applications running under the Windows, Macintosh or Unix operating systems. The Customer Assistance Center also distributes communi cation, virus protection, and other site licensed software as well as site specific documentation in a "print on demand" format. Print on demand is also available on the Web at www.asu.edu/quicklook. More information about the Cus tomer Assistance Center is available from the Web site at www.asu.edu/cacenter.

Help Desk/Consulting. The IT Help Desk provides ASU students, faculty, and staff with centralized systems infor mation and first level assistance in resolving computing problems. Services are available by telephone at 480 965 6500, and on the Web at www.asu.edu/helpdesk, and by walk-in to the Customer Assistance Center, CPCOM 202. The IT Help Desk assists with data recovery and repair; AFS filespace and permissions for Web sites; communica tion, e-mail, and virus protection software; and computing and equipment problem referral

Instructional Support (IS). Instruction Support serves as a development center for the use of technology in the design and delivery of instruction. Staffed with students, faculty, and researchers skilled in the areas of system design, graphics, interactive software, networked delivery, and digital video, the innovation driven group pushes the development of instruction to the limits of currently available technology. From this perspective, IT/IS fosters technological innovation by serving as a research and development unit, a production group, and a training facility.

IT/IS collaborates with faculty in the coordination of cross-disciplinary research and production projects relating to the integration of technology with education. Through partnerships with faculty and groups outside ASU, grant writing teams are able to leverage support not otherwise available to a single academic unit or faculty member. Central to effective support services is the establishment of a partnership among the various support units within the uni versity. IT/IS coordinates the efforts of these groups, which include the College of Extended Education, University Libraries, Disability Resources for Students, and the Office of Research and Creative Activities, to provide faculty with a wide array of instruction support services.

IT/IS offers consultation sessions tailored toward enhanc ing the instructional use of technology by the university teaching community. Sessions range from an introduction to technology in education through advanced and customized approaches for instructors in specific programs.

More information about IT/IS is available from the Web site at is.asu.edu.

Instruction Support (IS) Lab. The IS Lab provides an environment in which faculty may seek and receive one on one, guided, or independent support for course development and delivery. Expert staff work closely with faculty to refine and develop their skills and confidence in the design and delivery of instruction through a variety of technology sup ported means, both synchronous and asynchronous. Located

in CPCOM 213, the IS Lab provides faculty, university professionals, and graduate students with a unique opportunity to integrate technology with instruction. The IS Lab sponsors workshops and demonstrations, and serves as a dynamic clearinghouse of information and referrals for effective integration of technology with education.

Research Support. Research Support provides processing and operations assistance to faculty, staff, and student researchers engaged in scientific and creative endeavors. Processing support involves consulting in the use of software tools and program coding directly related to projects or specific research; operations activities support the overall workflow in university computing facilities, include consulting for computation, statistics, visualization and GIS platforms in conjunction with software package installation and use, media conversion, and product evaluation.

A variety of computation facilities are provided in support of research and creative endeavors within the ASU community, ranging from individual workstations to SMP/MPP servers and mainframes. Extended computer capabilities are available through access to national computing centers. More information is available at www.asu.edu/it/fyi/ research on the Web.

Geographic Information Systems (GIS) Lab and Visualization Center. The GIS Lab and Visualization Center both seek to establish partnerships with faculty, staff, and students to acquire, create, and enhance research and creative endeavors through the effective use of visualization and GIS technologies.

The GIS Lab is located in CPCOM 235. Its staff assist researchers with hardware, software, and data to facilitate the creation of geographic information systems for spatial analysis, query, and display. The lab supports research from various disciplines and provides additional resources to students who are enrolled in classes for GIS instruction, serving as a focal point for GIS users to meet and share information and technical expertise.

The Visualization Center, also located in CPCOM 235, offers faculty, staff, and graduate students the hardware and application software resources and services for the high-level graphics and visualization used in research. Researchers receive assistance ranging from interactive viewing of scientific data to visualization in the liberal and the performing arts and other endeavors. The center serves as a focal point for developing technologies in software, hardware, and communications.

More information on the GIS Lab and Visualization Center is available on the Internet at www.asu.edu/gislab and www.asu.edu/it/fyi/visvc.

ALUMNI ASSOCIATION

Founded in 1894, the Alumni Association is a volunteer organization committed to serve and unite alumni for the purpose of advancing the interests of ASU and its alumni. The association provides a variety of services for ASU alumni as well as a series of events scheduled around the country.

With more than 200,000 alumni living in the United States and throughout the world, the association plays an important role as the university's primary support organization. Comprising more than 40 groups, the campus, college, club, and chapter organizations (4Cs) of the association pro-

vide opportunities for all alumni to stay involved with the part of ASU that interests them most.

Members of the ASU Alumni Association Board of Directors are elected each spring. The association's professional staff is led by Executive Director Susan Clouse Dolbert.

For information about the association or its board of directors, call 1 800 ALUMNUS or 480 965 ALUM.

PROGRAM ASSESSMENT AND THE OFFICE OF UNIVERSITY EVALUATION

The Office of University Evaluation is a research and service facility that focuses on assessing and improving the effectiveness of the university's academic and support programs. The office conducts, coordinates, and manages research designed to measure the degree to which courses, curricula, and academic programs impart knowledge and skills to students as well as the quality of support provided to students. The results of these studies, or assessments, are used to enhance both the support provided to students and the intellectual integrity of an ASU education.

In order for the university to assess and improve its programs, periodic measurement of student experiences, perceptions, and intellectual growth must be obtained. When asked by the university, students are expected to participate in one or more evaluative procedures, such as the ASU Report Card. These evaluative procedures are designed to assess the efficacy of the total university experience, including teaching and learning and support programs and are not used in individual grading. The information obtained is one of the means used to improve the quality of the educational experience for this and future generations of ASU students.

For more information, call the office at 480/965-9291, or contact them via e-mail at oue@asu.edu. The Office of University Evaluation's Web site is www.asu.edu/oue.

RESEARCH CENTERS, INSTITUTES, AND LABORATORIES

These units serve the university's mission in research. They are overseen by eight of the colleges, the vice provost for Research, and ASU East.

Center for Research on Education in Science, Mathematics, Engineering, and Technology. The Center for Research on Education in Science, Mathematics, Engineering, and Technology (CRESMET), an alliance of the ASU Colleges of Education, Engineering and Applied Sciences, and Liberal Arts and Sciences, was initiated in 1999, growing out of what was previously the Center for Innovation in Engineering Education. The mission of the center is to bring together individuals, programs, and organizations interested in improving K-20 science, mathematics, engineering, and technology education to research, develop, and assess educational theories, curricula, courses, and administrative policies that impact science, mathematics, engineering, and technology education. The center also encourages and supports wide-scale sharing and implementation of effective approaches to producing a more scientifically and technologically literate populace and more capable science, mathematics, engineering, and technology majors.

Research. CRESMET pursues research and development that demonstrates coherent, consistent, and conceptual

powerful mathematics, science, engineering, and technology education from kindergarten through college (K-20).

Partnering CRESMET supports collaborations across the traditional boundaries of university, community, business, and local education agencies.

Sharing CRESMET establishes communication avenues for intellectual and material products proven effective in supporting powerful learning in science, mathematics, engineering, and technology fields.

For more information, contact the director, Center for Research on Education in Science, Mathematics, Engineering, and Technology, ECG 303, 480 965 5350, or access the center's Web site at www.eas.asu.edu/~cresmet

College of Architecture and Environmental Design

Herberger Center for Design Excellence. The Herberger Center for Design Excellence is the research, outreach, and publication arm of the College of Architecture and Environmental Design. The center facilitates and promotes research, scholarship, and creative activity among the faculty and students of the college in the fields of architecture, interior design, industrial design, graphic design, landscape architecture and urban design, and environmental planning.

The center works closely with the faculty to publish books, working papers, and conference proceedings that promote scholarship in the planning and design disciplines. In keeping with its outreach mission, the Herberger Center also publishes reports, newsletters, and books that help to inform debate on key design and planning issues in the desert southwest.

The Joint Urban Design Program (JUDP), based in downtown Phoenix, is the center's outreach arm. It facilitates interaction among college faculty, students, and the broader community, and offers design as a way to further dialogue and address urban issues. The JUDP conducts intensive workshops, community-based charrettes that help neighborhoods, groups, and other city stakeholders focus on concerns and strategies to respond to critical needs. Student groups and faculty work with the JUDP to identify real world problems that they address in studio projects. For more information, contact 480 965 6693, or access the Web site at www.asu.edu/CAED

College of Business

Arizona Real Estate Center. The Arizona Real Estate Center (AREC), established in 1980, serves a multifunction research and educational role to foster better understanding of the real estate sector of the Arizona economy. Housing, commercial real estate, and construction activity data for Arizona and Maricopa County are collected by the center and are utilized for a variety of ongoing projects, including the calculation of affordability indexes and the computation of housing appreciation figures for the metropolitan Phoenix area. The center's annual outlook series provides a public forum for prominent members of the real estate industry to present their perceptions of market conditions.

For more information, call 480 965 5440 or write

ARIZONA REAL ESTATE CENTER
660 S MILL AVE, SUITE 300
PO BOX 22160
TEMPE AZ 85281-3656

The center's Web site is www.cob.asu.edu/seid/arec

Bank One Economic Outlook Center. The Bank One Economic Outlook Center (EOC), established in 1985, specializes in economic forecasts of Arizona and the Western states. The center publishes the *Bank One Arizona Blue Chip Economic Forecast* (monthly), *Greater Phoenix Blue Chip Economic Forecast* (quarterly), *Western Blue Chip Economic Forecast* (10 issues per year), and *Blue Chip Job Growth Update* (monthly), an update of current job growth in the United States. The center also publishes *Mexico Consensus Economic Forecast* (quarterly), a forecast and source of historical data on the Mexican economy.

For more information, call 480 965 5543 or write

BANK ONE ECONOMIC OUTLOOK CENTER
660 S MILL AVE, SUITE 300
PO BOX 22160
TEMPE AZ 85281 3656

The center's Web site is www.cob.asu.edu/seid/eoc.

Center for the Advancement of Small Business. The Center for the Advancement of Small Business (CASB) is the 21st century leader in business education, practice, and research that provides high quality, relevant programs and information services focused on small business since 1994. The center enables students and existing small and medium sized businesses to participate, contribute, and compete in the global economy.

The center provides students from all disciplines with programs and resources that prepare them for positions of leadership in small and medium size businesses, and aids small and medium size businesses in the continuous improvement of their human resources and business practices. CASB also engages in applied research on entrepreneurship and the emerging changes and trends in small business.

For more information, contact the director, Center for the Advancement of Small Business, BAC 111, 480 965 3962. The center's Web site is www.cob.asu.edu/seid/casb

Center for Advanced Purchasing Studies. The Center for Advanced Purchasing Studies (CAPS) was established in November 1986 by a national affiliation agreement between the ASU College of Business and the National Association of Purchasing Management (NAPM). It is the first and only program of its kind in the nation and is located in the Arizona State University Research Park, about eight miles south of the main ASU campus. CAPS conducts in-depth research into the problems facing the purchasing profession today and, through its studies, seeks to improve purchasing effectiveness and efficiency and the overall state of purchasing readiness.

For more information, call 480 752 2277, or write

CENTER FOR ADVANCED PURCHASING
STUDIES
ASU RESEARCH PARK
2055 E CENTENNIAL CIRCLE
PO BOX 22160
TEMPE AZ 85285 2160

Center for Business Research. The Center for Business Research (CBR) has been a consistent source of information on the Arizona and metropolitan Phoenix economies since 1951. Both the business community and the public have had access to the economic indicators produced by the ongoing

projects of the center, including quarterly net migration estimates for Arizona and Maricopa County. The center also conducts projects under the sponsorship of private and public agencies. Recent examples include the economic impact of Super Bowl XXX, a study of seasonal migration to Arizona, and an analysis of the state's hospital industry. A monthly publication of the center, *AZB Arizona Business*, plays a major role in disseminating to the public the economic information compiled by the research centers of the Seidman Institute. The staff within the center is available to respond to inquiries and to provide available data.

For more information, call 480 965 3961 or write

CENTER FOR BUSINESS RESEARCH
660 S MILL AVE, SUITE 300
PO BOX 22160
TEMPE AZ 85281-3656

The center's Web site is www.cob.asu.edu/seid/cbr

Center for Services Marketing and Management. The Center for Services Marketing and Management (SMM Center) is a leading university based hub devoted to the study of services marketing and management since 1985. The SMM Center addresses how any company can improve internal service processes and use service and customer satisfaction as a competitive advantage. The center is cross industry in nature, encouraging firms to share the best ideas and practices for adaptation across industries. Though grounded in marketing, the center's work is also cross-functional, integrating concepts and techniques from marketing, operations, human resources, and management.

The center's areas of expertise include customer retention and loyalty; service quality, service delivery; professional services such as healthcare, accounting and consulting services; customer satisfaction, services strategy, service culture; and service recovery. A leader in the business and academic communities, the SMM Center's work advances the knowledge base in the field and provides applicable frameworks, concepts, and tools.

The center offers its partner firms top flight executive education in services through the annual "Activating Your Firm's Service Culture" symposium, the annual "Services Marketing and Management" institute program, the annual "Information Technology Services Marketing" course, and provides customized executive education programs and research projects which are tailored to and conducted for charter member firms.

The center also actively supports the College of Business' M.B.A. program that offers a certification in Services Marketing and Management. The services track infuses strong company-based experience and encourages summer internships.

For more information, contact the director, Center for Services Marketing and Management, BAC 440, 480 965-6201.

Center for the Study of Finance. The Center for the Study of Finance (CSF), established in 1986, serves the national financial, policy making, and academic communities through research, publications, conferences, and educational programs. The focus of such activities is on the changing nature of the domestic and international financial system with such specific areas as the interaction between financial markets, deposit insurance reform, the deregulation

of financial institutions, the financing of mergers and acquisitions, and the effect of government policy on financial markets receiving recent attention.

For more information, call 480 965 5362 or write

CENTER FOR THE STUDY OF FINANCE
660 S MILL AVE, SUITE 300
TEMPE AZ 85281-3656

L. William Seidman Research Institute. The mission of the L. William Seidman Research Institute is to encourage and support applied business research by serving as a public access point to the College of Business. Specific goals include transferring new knowledge to the public; supporting faculty and student research; encouraging the development of educational programs grounded in business research; and conducting high quality, applied business research.

The institute encourages research activity by providing research support services to the faculty, staff, and students of the college. This includes facilitating grant preparation and assistance in grant administration. Its research centers act as the focal point for involving faculty and students in applied research on important issues identified by the business community.

The institute also serves an important role in the broader educational mission of the College of Business by disseminating the findings of research conducted by the faculty, students, and research center staff, as well as the results of business research from other sources around the world. This is accomplished through a variety of mechanisms: newsletters and research reports; seminars and conferences; internet Web pages; media interviews and press releases, and by responding to inquiries from businesses, public officials, and the community. For more information, call 480 965 5362 or write

L. WILLIAM SEIDMAN RESEARCH INSTITUTE
660 S MILL AVE, SUITE 300
PO BOX 22160
TEMPE AZ 85281-3656

The institute's Web site is www.cob.asu.edu/seid.

Manufacturing Institute. See "Manufacturing Institute," page 34, for information about this joint venture of the College of Business and the College of Engineering and Applied Sciences

College of Education

Center for Bilingual Education and Research. The Center for Bilingual Education and Research (CBER) was created in 1980 to conduct policy relevant research in bilingualism, bilingual education, and language policy in education. The center's scope of work is driven by a need to merge several related topics into a single articulated conversation. English Spanish biliteracy, promoting the role of public education to strengthen communities; and enabling binational collaboration among educators on both sides of the U.S.-Mexico border. The long-term vision is to help develop a new pedagogy tailored to the needs of the bicultural region the center serves. The integration of these themes shapes the scope of work for CBEB in these areas.

1 Within the broad scope of educational policy research, CBEB focuses on scholarly inquiry that

contributes to informed and enlightened discourse on language policy for schools and society, especially on the harmonious coexistence of English, the national language; and Spanish, the second most used language in our society.

2. Life in the American Southwest is bicultural and increasingly binational. In this Pan American context, bilingualism will gain in importance. Equally important will be the collective ability of residents on both sides of the border to work harmoniously in pursuit of a common destiny that will be ever more intertwined. Schools must help children and youth develop skills and predispositions to face this challenge.
3. Mexico and the United States are becoming more interdependent. In this context, Mexican educators should have opportunities to contribute to improving education for Mexican immigrant children in U.S. schools. To enable this, schools must create pilot projects and an infrastructure for collaboration among institutions and individuals on both sides of the U.S.-Mexico border.

For more information, contact the director, Center for Bilingual Education and Research, ED 440, 480/965-7134, or access the Web site at www.asu.edu/educ/cber.

Center for Indian Education. The Center for Indian Education is an interdisciplinary research and service center established in 1959. It promotes studies in American Indian policy and administration that contribute to scholarship and effective practices in education, professional training, and tribal capacity building. It is structured to foster relations between the university and sovereign tribes and to provide training and technical assistance for community programs. The center publishes the *Journal of American Indian Education* and sponsors workshops and colloquia that bring together scholars and tribal community leaders.

The center provides leadership through a group of American Indian faculty and is organized on the basis of scholarly expertise of the faculty. In addition to College of Education faculty, responsibilities are shared by faculty from the School of Social Work, the School of Justice Studies, the College of Liberal Arts and Sciences, and the College of Law. Areas currently studied include administrative leadership, policy analysis, bilingual education, health and welfare policy, justice studies, and program development in professional studies.

For more information, contact the director, Center for Indian Education, ED 444, 480 965 6292, or access the Web site at www.asu.edu/educ/cie.

CRESMET. See "Center for Research on Education in Science, Mathematics, Engineering, and Technology," page 31, for information about this joint venture of the Colleges of Education, Engineering and Applied Sciences, and Liberal Arts and Sciences.

College of Engineering and Applied Sciences

Center for Low-Power Electronics. The technical areas of focus include

1. basic materials, alternative materials, and their fabrication,

2. device design optimization;
3. design of digital, analog, and hybrid low power circuits, and
4. power based physical design for single and multi chip VLSI systems.

For more information, contact the director, Center for Low Power Electronics, ENGR 115, 480 965 8654.

Center for Research in Engineering and Applied Sciences. The Center for Research in Engineering and Applied Sciences supports the faculty and students in the knowledge creation and discovery mission of the university. The center provides research support services for all research in the college as well as interfacing with the research offices of the university and other colleges. The center also supports the state's economic development through collaborative research partnerships with, and technology transfer to, industry. Specialized and interdisciplinary efforts are in place in such areas as acoustics, air pollution, applied mechanics, artificial intelligence, automated manufacturing, bioengineering, communications, computational microelectronics, computer aided design and manufacturing, computer integrated manufacturing, computer science, control systems, data and information systems, electrical characterization, environmental resources and control, environmentally benign manufacturing, expert systems, fluid mechanics, fuels and combustion, materials, mass transfer, metallurgy, photovoltaics, plasma, plastics, power systems, analyses, robotics, semiconductor materials and fabrication, semiconductor processing, signal processing, soil mechanics, solar thermal energy, solid state electronics and systems design and analysis, telecommunications, thermodynamics, transportation infrastructure, turbines, very large scale integrated circuits, waste management, and water resources.

For more information, contact the director, Center for Research in Engineering and Applied Sciences, ECG 136, 480 965-1725, or access the center's Web site at www.eas.asu.edu/research.

Center for Solid-State Electronics Research. CSSER focuses on research in the areas of semiconductors crystal growth, both by bulk and epitaxial techniques, device characterization and modeling, defect behavior in semiconductors material characterization; processing; fine line lithography; surface analysis; and transport. Major programs address semiconductor device modeling, transport theory, optoelectronics, ferroelectrics, semiconductor processing, microwave devices, and ultra submicron devices. New programs address synthetic neural systems and their impact on VLSI design. Research in the specially designed facilities includes various aspects of submicron dimension devices.

For more information, contact the director, Center for Solid State Electronics Research, ENGR 115, 480/965 3708, or access the center's Web site at ceaspub.eas.asu.edu/csser

Manufacturing Institute. The Manufacturing Institute is a joint venture of the College of Business and the College of Engineering and Applied Sciences, established to enhance manufacturing research and industrial collaboration at the interface between the two colleges. The mission of the institute involves integrating aspects of manufacturing in both the business and engineering areas, and helping to fulfill the university's goal of becoming one of the leading educational

and research institutions in both manufacturing enterprise and manufacturing process technology issues. The institute has two academic codirectors, one each from the College of Business and the College of Engineering and Applied Sciences, and has active industry involvement.

For more information, contact one of the directors, Manufacturing Institute, GWC 402, 480/965 3709, or access the institute's Web site at mi.asu.edu/mi

Center for System Science and Engineering Research. The Center for System Science and Engineering Research has established four focus areas: nonlinear dynamical systems, control theory and its applications, mathematical neuroscience, and scientific computing and interdisciplinary systems engineering. The center is jointly sponsored by the College of Engineering and Applied Sciences and the College of Liberal Arts and Sciences. Its main goals are the creation and enhancement of interdisciplinary and cooperative research, graduate education, and public service programs in the areas of systems science, applied mathematics, and computation.

For more information, contact the SSERC director, GWC 606, 480/965 8382, or access the center's Web site at www.eas.asu.edu/sserc

CRESMET. See "Center for Research on Education in Science, Mathematics, Engineering, and Technology," page 31, for information about this joint venture of the Colleges of Education, Engineering and Applied Sciences, and Liberal Arts and Sciences.

Telecommunications Research Center. Telecommunications play a vital role in home, commercial, entertainment, educational, scientific, and military systems. The Telecommunications Research Center focuses its interests and activities in research and educational programs. The approach is to conduct basic and applied research, develop technologies, and provide education programs in all major areas of telecommunications, from signal generation to reception. The targeted areas of excellence are antennas, propagation, and scattering; microwave circuits, devices, and measurements; optical communications, signal processing; broadband switching; and communication systems. Ultramodern laboratories and computational facilities are associated with the center.

For more information, contact the director, Telecommunications Research Center, GWC 411, 480 965 5311, or access the center's Web site at emcl1.eas.asu.edu.

College of Fine Arts

Institute for Studies in the Arts. The Institute for Studies in the Arts (ISA) in the College of Fine Arts serves as a research laboratory for the development of new art forms, new ideas and concepts, and innovative technologies for artistic expression, a network for communication among creative scholars both within and outside the arts; and a resource base for the documentation, evaluation, and dissemination of research in the arts. ISA addresses the needs of a variety of populations through technical and monetary support and sponsorship for research projects, performances, exhibitions, and symposia.

ISA facilities include an experimental media performance space with an adjacent technology prototyping and applications studio in Drama City, the "Intelligent Stage," an inter-

active and tele performance studio with state of the art digital audio and video production and post-production facilities in Matthews Center; a Technology Development Studio for the development of prototype technologies and their application to aesthetic research; and comprehensive archives that document the history of research initiatives supported by the ISA.

ISA is open to a wide range of proposals from faculty, graduate and undergraduate students, and visiting artists, provided such proposals address the ISA mission of experimentation and innovation in the arts. For more information, contact the Institute for Studies in the Arts, MCENT 224, 480 965-9438, or visit the ISA Web site isa.asu.edu.

College of Law

Center for the Study of Law, Science, and Technology. Located in the College of Law, the center conducts research, edits *Jurimetrics*, *The Journal of Law, Science and Technology* in cooperation with the American Bar Association Section on Science and Technology, and sponsors seminars, workshops, and conferences. Through these activities, the center seeks to contribute to the formulation and improvement of law and public policy affecting science and technology in the legal system. Current areas of research include communications and telecommunications law, computer related law, forensic science and statistics, legal issues and biotechnology, law and medicine, and law and social science.

For more information, contact the director, Center for the Study of Law, Science, and Technology, LAW 201, 480/965 2124.

College of Liberal Arts and Sciences

Arizona Center for Medieval and Renaissance Studies (ACMRS). The Arizona Center is a research unit serving affiliate scholars from ASU, Northern Arizona University, and the University of Arizona. It represents a variety of disciplines, including history, literature, philosophy, religion, language, music, art, and science. ACMRS enriches academic offerings in medieval and renaissance studies by sponsoring one or two visiting professors each year. Graduate research assistantships are also available through the center.

Significant opportunities for the study of the Middle Ages and the Renaissance exist at ASU. Hayden Library has an extensive microfilm collection and many rare books in medieval and renaissance studies. ACMRS also sponsors a lecture series each semester covering a variety of topics.

Other programs include an annual conference, a public symposium, a summer study abroad program at the University of Cambridge (United Kingdom), and student exchange programs with the University of Copenhagen (Denmark) and the University of Kalmar (Sweden).

Since 1996, ACMRS has published *Medieval and Renaissance Texts and Studies (MRTS)*, a major series of editions, translations, and reference works. In collaboration with the University of Massachusetts at Dartmouth and the Medieval and Renaissance Committee of the University of Michigan, ACMRS sponsors and coedits *Mediterranean Studies*, an annual interdisciplinary journal publishing articles on all aspects of the Mediterranean region. ACMRS also sponsors a book series titled "Arizona Studies in the Middle Ages and the Renaissance," published by Brepols (Belgium).

ACMRS also partners with the Renaissance Society of America and the University of Toronto in "Iter," a massive, retrospective, online medieval and renaissance bibliography covering all languages and disciplines, and is the official site of the Medieval Academy of America's online data project offering information on medieval centers, programs, committees, and regional associations in North America.

For more information, contact the director, Arizona Center for Medieval and Renaissance Studies, SS 224, 480 965 5900, or access the Web site at www.asu.edu/clas/acmrs.

Cancer Research Institute. Significant advances in the treatment of human cancer and other serious medical problems depend upon scientists well trained in organic chemistry, biochemistry, and biology. The Cancer Research Institute provides graduate students with the specialized training necessary for research in the discovery and development of effective anticancer drugs. Among various activities, laboratory personnel are pursuing a unique program concerned with isolation, structural identification, and synthesis of naturally occurring anticancer agents from marine animals, plants, and marine microorganisms.

For more information, contact the director, Cancer Research Institute, CRI 209, 480 965 3351

Center for Asian Studies. Through its East Asian and Southeast Asian studies programs, the center serves as research coordinator for Asian studies' faculty and graduate students in a variety of disciplines. The center sponsors colloquia and research conferences. It also publishes two scholarly *Monograph Series* and a newsletter on Southeast Asian studies, *Suvannabhumi*, which have an international readership. Graduate students may apply for research assistantships in the center and its program.

The center administers student exchange programs with a number of universities in Asia. The center also sponsors a graduate student colloquium and film series on Asian topics. A reading room is located in the center office suite offering a variety of Asian and English language publications and newspapers from and about Asia.

For more information, contact the director, Center for Asian Studies, WHALL 105, 480 965 7184.

Center for Meteorite Studies. The nation's largest university collection of extraterrestrial materials is available for research in the Center for Meteorite Studies. Teaching and research on meteorites, meteorite craters, and related areas of space and planetary science are accomplished through the regular academic units in cooperation with the center.

For more information, contact the director, Center for Meteorite Studies, PS C151, 480 965-6511

Center for Solid-State Science. The Center for Solid State Science is a research unit within the College of Liberal Arts and Sciences.

The membership comprises faculty and academic professional researchers and research support personnel, most of whom hold simultaneous appointments in affiliated academic units. The Center for Solid State Science is the ASU focal point for interdisciplinary research on the properties and structures of condensed phases of matter at the interfaces between solid state chemistry and physics, earth and planetary science, and materials science and engineering. It

also supports interdisciplinary approaches to science and engineering educational outreach activities.

The center provides an administrative home for large, multidisciplinary, block funded research projects. These include the NSF supported Materials Research Science and Engineering Center (MRSEC) and the Interactive Nano Visualization for Science and Engineering Education (IN VSEE) project. To support these activities, members of the center operate modern and sophisticated research facilities and organize regular research colloquia and symposia.

Principal topical areas of research in the center include studies of structure and reactivity of surfaces and interfaces, electronic materials, advanced ceramics and glasses, synthesis of new materials, high pressure research, development of techniques in high resolution electron microscopy and micro structural and chemical analysis, development of visualization techniques at different scales of magnification for science education and community outreach.

The research facilities of the center include the Center for High Resolution Electron Microscopy (CHREM) and the Goldwater Materials Science Laboratories (GMSL).

CHREM. The center operates several ultra high resolution and ultra high vacuum electron microscopes and supports microscopy methods, and instrumentation development, including holography, position and time resolved nanospectroscopy and energy filtered imaging and diffraction. The center provides high resolution capability for a large external group from other universities and industry

GMSL. These facilities include

- 1 the Materials Facility (MF), which provides a wide range of synthesis and processing capabilities for preparation of specimen materials. MF also provides thermal analysis for study of solid state reactions and Auger and X ray photoelectron spectroscopy for analysis of surface compositions and electronic structure of surfaces;
- 2 the Materials Science Electron Microscopy Laboratory (MSEML), which provides state of the art electron microscopes for analysis of microstructures, including imaging and diffraction, and high spatial resolution chemical analysis using energy dispersive X-ray and electron energy loss micro spectroscopy,
- 3 the Ion Beam Analysis of Materials (IBeAM) facility, which provides compositional and structural determination of the surface and near surface regions (0–2mm) of solids by ion beam analysis where elemental composition and depth distribution information are needed. Channeling experiments are used to determine crystal perfection and site occupancy;
- 4 the Secondary Ion Mass Spectrometry (SIMS) laboratory, which provides depth profile and point composition analysis with very high chemical sensitivity, on the order of one part per billion, including isotopic analysis for many materials. SIMS is also used as a chemical microscope, to image elemental distributions on specimen surfaces,
- 5 the Scanning Probe Microscopy Laboratory (SPM), which provides facilities for nanoscale viewing of solid surfaces using scanning tunneling microscopy (STM), atomic force microscopy (AFM) and related techniques. The SPM laboratory serves as a focus

- for undergraduate research training programs, and educational and outreach activities;
6. the Facility for High-Pressure Research, which provides facilities for synthesis of new materials and for geochemistry geophysics studies at up to 25 Gpa (250,000 atmospheres) and temperatures greater than 2000 °C. These facilities are complemented by diamond anvil cells capable of in situ studies at up to one million atmospheres. This laboratory provides a focus for core research projects within the MRSEC;
 7. the Goldwater Materials Visualization Facility (GMVF), which consists of a battery of linked work stations for remote operation of instruments and data collection, capture of images in real time, and advanced computing and simulation of materials. The GMVF is used in research and in undergraduate and graduate education, as well as in educational and community outreach; and
 8. other specialized laboratories under development include high resolution X ray diffraction for thin film characterization, optical spectroscopy, and nuclear magnetic resonance spectroscopy for solid state studies and research on materials under extreme conditions.

These facilities provide the primary teaching and research resources used by students in the Science and Engineering of Materials interdisciplinary Ph.D. program and the undergraduate option for Materials Synthesis and Processing. They are also used extensively by students in disciplinary programs from affiliated departments.

For more information, contact the Director, Center for Solid State Science, PS A213, 480 965 4544.

Center for the Study of Early Events in Photosynthesis. The ASU Center for the Study of Early Events in Photosynthesis was established in 1988 as part of a joint grant program of the Department of Energy, the National Science Foundation, and the Department of Agriculture. In 1990 it was designated a Regents Center of the University. Since September of 1995, it has been funded by the Office of the Vice President for Research and Creative Activities and the Dean of the College of Liberal Arts and Sciences. The center consists of about 90 students, postdoctoral associates, and research scientists led by 12 faculty members in the Department of Chemistry and Biochemistry and the Department of Plant Biology. These research groups share a common goal: understanding the process of photosynthesis, which is responsible for producing all of our food and filling the vast majority of our energy and fiber needs. The impetus for development of the center was the premise that photosynthesis is a complex problem that will only yield to an investigation using a wide variety of approaches and techniques. Thus, the center serves as an infrastructure supporting individual ASU scientists and fostering multidisciplinary cooperative research projects.

The ultimate objective of the research is the elucidation of the basic principles governing the biochemical and biophysical processes of photosynthetic energy storage. This goal is being realized via investigation of the early events of photosynthesis, including: light absorption and excitation transfer in photosynthetic antennas; the mechanism of primary photochemistry in plant and bacterial systems; secondary electron transfer processes; structure and assembly

of photosynthetic antennas, reaction centers, and electron transfer proteins, pigment protein interactions; artificial and biomimetic photosynthetic solar energy conversion systems, and mechanisms of biological electron transfer reactions.

The center is equipped with state of the art instrumentation which allows students to do frontier research in a broad range of disciplines. Equipment includes a variety of pulsed lasers for measurements with time resolution ranging from sub picoseconds to seconds; a 500 MHz NMR instrument; an EPR spectrometer; a protein X-ray facility; spectrophotometers; fluorimeters; a protein sequencer; and an amino acid analyzer.

The center sponsors a weekly Photosynthesis Seminar Series and brings in visiting scientists from around the world to carry out collaborative research. Undergraduate, graduate and postdoctoral training programs in the Department of Chemistry and Biochemistry and the Department of Plant Biology are central components of the activities of the center.

For more information, contact the director, Center for the Study of Early Events in Photosynthesis, PS D207, 480 965 1963.

CRESMET. See "Center for Research on Education in Science, Mathematics, Engineering, and Technology," page 31, for information about this joint venture of the Colleges of Education, Engineering and Applied Sciences, and Liberal Arts and Sciences.

Exercise and Sport Research Institute. The Exercise and Sport Research Institute (ESRI) is an interdisciplinary research unit located in the Department of Exercise Science and Physical Education and serves, in part, as a research facility for the interdisciplinary doctoral program in exercise science. Faculty and graduate students within ESRI investigate a wide range of topics concerning physical activity, including different age cohorts, levels of health, levels of ability and fitness; and levels and types of training, and physical and emotional stresses, nutrition, and genetic backgrounds. Where applicable, these aspects are studied using an interdisciplinary approach. ESRI is affiliated with a number of clinical and research institutions in the Phoenix area.

ESRI houses numerous specialized research laboratories. *Biomechanics* applies the laws of mechanics to the study of human movement. Current research examines kinematic and kinetic determinants of locomotion patterns in walking, running, cycling, and swimming; neuromusculoskeletal modeling and computer simulation of locomotion in clinical and sport applications; ergonomics; and mechanisms underlying upper extremity repetitive strain injuries. *Exercise physiology* is the study of physiologic systems (cardiovascular, respiratory, muscular, endocrine, metabolic) under conditions of stress, particularly exercise stress. Both acute exercise responses and chronic adaptations resulting from exercise training are considered in relation to health and performance and are investigated in three specialized labs. The *Exercise Metabolism Lab* focuses on how dietary nutrients influence resting and exercise metabolism, with a special emphasis on diabetes; the *Exercise Biochemistry Lab* examines subcellular systems involved in the provision and regulation of energy transfer during exercise; and the *Exercise Endocrinology Lab* studies interrelationships of exercise and training with stress, hormones, neurotransmitters, and the immune system. Research in the *Motor Control*

Lab investigates how movement is regulated and controlled via the nervous system in normal and pathological populations. Special emphases include motor deficits attributed to basal ganglia dysfunction and upper extremity coordination, particularly finger and hand posture, in reaching and prehensile movements. *Motor development* studies how human movement is generated and evolves throughout the lifespan. Current research focuses on learning and development of bimanual coordination. Timing and coordination of perceptual motor skills are measured in normal developing children, persons with Down syndrome, and adults to investigate cerebral asymmetries and specificity of learning. The *Sport and Exercise Psychology Lab* examines the relationship between psychological constructs and physical activity, and the influence of participation in physical activity on psychological phenomenon. Current research is designed to examine the influence of physical activity, fitness, and particular sport practices on psychophysiological mechanisms and cognitive functioning; the effect of psychological skills for performance enhancement; motivational aspects of physical activity across the lifespan; and the effects of exercise on mental health.

For more information, contact the Director, Exercise and Sport Research Institute, PEBE 159, 480 965 3913.

Hispanic Research Center. The Hispanic Research Center (HRC) at ASU is an interdisciplinary unit, dedicated to research and creative activities, that is university wide but administered through the College of Liberal Arts and Sciences. The HRC performs basic and applied research on a broad range of topics related to Hispanic populations, disseminates research findings to the academic community and the public, engages in creative activities and makes them available generally, and provides public service in areas of importance to Hispanics.

Faculty, staff, and advanced graduate students organize into working groups to develop a broad range of specific projects and lines of inquiry within the general categories of Hispanic entrepreneurship, science and technology, information and data compilation and dissemination, the Hispanic polity, and the arts. Ongoing activities of the HRC, primarily funded by external grants, include the Arizona Hispanic Business Survey, the *Bilingual Review Press*, the Coalition to Increase Minority Degrees, the Community Art and Research Outreach (CARO), Chicana and Chicano Space: Art Education Web site, Project 1000, and the Western Alliance to Expand Student Opportunities.

CARO sponsors creative activities and action research in collaboration with community based organizations and ASU faculty.

For more information, contact the director, Hispanic Research Center, CFS 104, 480 965 3990, or access the Web site at www.asu.edu/clas/hrc.

Institute of Human Origins. The Institute of Human Origins (IHO), founded in 1981 by Donald Johanson, became part of the College of Liberal Arts and Sciences in 1997. IHO is a multidisciplinary research organization dedicated to the recovery and analysis of the fossil evidence for human evolution and the establishment of a chronological framework for human evolutionary events. IHO's scientists carry out field research at sites in Africa, the Middle East, and Asia. IHO houses the largest collection of *Australopithecus afarensis* casts (including "Lucy," a 3.2 million year

old human ancestor) in the world as well as an extensive collection of other fossil hominid casts. IHO's library contains more than 3,000 volumes, numerous journals, video tapes, audiotapes, and slides related to human evolution and fossil sites. IHO produces periodic newsletters, offers lecture series, conducts tours and workshops, and supports numerous informal science education outreach projects.

For more information, visit the Institute of Human Origins, SS 103, or call 480 727 6580, or access the Web site at www.asu.edu/clas/iho.

Joan and David Lincoln Center for Applied Ethics. The Joan and David Lincoln Center for Applied Ethics (LCAE) is a university wide center for applied ethics that is administratively housed in the College of Liberal Arts and Sciences. Its mission is:

1. to develop and coordinate a strong focus on theoretical and applied ethics across intellectual disciplines and professional programs within the university,
2. to support teaching and creative research in ethics, and
3. to foster collaboration between the university and its varied publics to address major ethical challenges facing contemporary society.

For more information, contact the director, Joan and David Lincoln Center for Applied Ethics, SS109, 480 965 3391

Latin American Studies Center. Arizona maintains an ever growing interest in Latin America that draws upon an extensive experience of historical and geographical ties. The Latin American Studies Center is the focal point for these interests at ASU. Through its program, the center serves the university community and maintains strong ties with various Latin American organizations in the state and the nation. Principal activities are coordinating Latin American studies at the undergraduate and graduate levels; sponsoring student exchange programs, organizing events featuring Latin American arts and culture, numerous seminars, and research conferences; publishing a wide range of professional materials; and undertaking and facilitating research about the region.

The center administers student exchange programs with the Catholic University of Bolivia and three Mexican universities—the Autonomous University of Guadalajara, the Autonomous University of Nuevo Leon, and the University of Sonora. Each spring several ASU students are selected to attend courses at the Latin American universities while Bolivian and Mexican students attend ASU.

The center is a member of the American Modern Language Association, Consortium of U.S. Research Programs for Mexico, Consortium for Latin American Studies Association, Pacific Coast Council on Latin American Studies, Rocky Mountain Council for Latin American Studies, Consortium of Latin American Studies Programs, and Conference on Latin American History.

The center directly encourages research, not only through its research conferences, but also through close coordination with the Latin American collection of Hayden Library and networking with Latin American universities.

For more information, contact the director, Latin American Studies Center, SS 213, 480 965 5127.

College of Public Programs

Center for Nonprofit Leadership and Management. The mission of the Center for Nonprofit Leadership and Management (CNLM) is "to improve the quality of life in communities by enhancing the performance of nonprofit organizations." Varied strategies accomplish this mission and include coordination of educational offerings, selected technical assistance to nonprofits, support for research projects for faculty and students, and the convening of nonprofit leaders and managers through a variety of training opportunities. The center supports the activities of three complementary nonprofit management education programs: the ASU American Humanics program (undergraduate certificate), the Nonprofit Management Institute (extended education certificate), and a graduate certificate in nonprofit leadership and management currently under consideration for approval. For more information call 480 965-0607.

Center for Urban Inquiry. The Center for Urban Inquiry focuses on civic involvement. The center's mission is to examine the unique features of the new urban West in the United States, particularly intersections of growth and development with citizen activism and community building. By harnessing the unique resources of the university, the center engages in partnerships with urban citizens, including youths, to increase awareness, promote inclusion, and address needs. Center programs include seed grants to students working in teams in pursuit of urban research and community service; service learning that involves students in community building; technical assistance to neighborhood organizations, schools, and hospitals; and the production of works that appeal broadly to urban audiences, including performances, exhibits, and videos.

Morrison Institute for Public Policy. Established in 1981 by the Morrison family of Gilbert, Arizona, as a unit within the School of Public Affairs, the Institute conducts research on public policy matters, informs policy makers and the public about issues of importance, and advises leaders on choices and actions. Morrison Institute offers a variety of services to public and private sector clients and pursues its own research agenda. Services include policy research, program evaluation, and public outreach. The institute's interests, research, and publications span such areas as education, urban growth, human services, workforce development, economic development, and arts and culture.

For more information, call 480 965-4525, visit the Web site at www.asu.edu/copp/morrison, or write

MORRISON INSTITUTE FOR PUBLIC POLICY
ARIZONA STATE UNIVERSITY
PO BOX 874405
TEMPE AZ 85287-4405

Vice Provost for Research

Center for Environmental Studies. Established in 1974, the primary mission of the center is to facilitate collaborations among faculty researchers and to aid decision making about environmental issues. Through its collaborations, both with ASU faculty and partners from government, business, and the educational community, the center advances the identification of key local and global environmental issues and collects reliable information to be used by scholars, policy makers, and the general public.

The center is also home to the Central Arizona Phoenix Long Term Ecological Research (CAP LTER) project, only one of two urban sites in the NSF-funded LTER network. The CAP LTER project focuses on an arid land ecosystem profoundly influenced, even defined, by the presence and activities of humans, and involves more than 50 associated faculty from biology, ecology, engineering, geography, geology, sociology, urban planning, and anthropology.

The center also facilitates applied environmental research projects undertaken by the Southwest Center for Environmental Research and Policy (SCERP), a consortium of five U.S. and four Mexican universities. SCERP develops a research agenda for the study of air and water quality, hazardous waste problems, environmental health issues and growth management questions in the border region.

The center manages the Sierra Ancha Research Station, located at an elevation of 5,000 feet in the desert pine forest transition. The station offers research potential in biology, geology, anthropology, physical geography, and resource management. Research space and living accommodations are also available for academic, research, and community organizations. For more information, contact the director, Center for Environmental Studies, Tempe Center (University and Mill), 480 965 2975, or access the center's Web site at www.asu.edu/ces.

ASU East

Center for Agribusiness Policy Studies. The Center for Agribusiness Policy Studies carries out research and development relating to agribusiness, rural development, multiple use of scarce resources, and public policy. The center addresses regional, national, and international development in the context of global and competitive markets for agricultural products and inputs. For more information, contact the director of the Center for Agribusiness Policy Studies at 480 727 1249.

Student Services

The university is committed to the belief that an education involves more than attending class. While the assimilation of information is a central part of the university experience, learning about others, about independence and leadership, and about living in a complex society are equally important. Student Affairs' services and developmental programs reflect this philosophy.

UNDERGRADUATE ADMISSIONS

For many undergraduates, the first introduction to ASU is through the recruitment and admission programs of Undergraduate Admissions. Personal contact with prospective students through high school and community college visits and through student visits on campus are some of the approaches that provide information about the academic programs and support services available at ASU. A primary goal of Undergraduate Admissions is to identify, inform, motivate, recruit, and enroll students from ethnic groups underrepresented at ASU. Orientation programs ease the students' and parents' transition to the ASU campus. Undergraduate Admissions also coordinates and supports the ASU Parents Association. For more information, call 480 965 7788 or visit the Web site at www.asu.edu/admissions

STUDENT FINANCIAL ASSISTANCE

Pursuing a college education is an important life decision as well as a major financial investment. The cost of a college education can be a real concern for many students and their families. The ASU Student Financial Assistance Office is committed to helping students within the limits of available funds, meet college costs. Options range from merit scholarships to financial aid awards, grants, loans, and employment.

Approximately two thirds of the full time students at ASU rely on some form of financial assistance to meet their educational expenses. For more information, call 480 965 3355, or visit the Web site at www.asu.edu/ta.

REGISTRAR

Management of the registration system and maintenance of academic records are the primary responsibilities of the Office of the Registrar. InTouch, the ASU touch tone telephone system for registration and fee payment, and the online registration system, accessible at any registrar site, including one at ASU West, ease the enrollment process and make ASU a national leader in the use of computerized registration. The Student Information System stores academic records and improves the quality of data used in academic advising. The Office of the Registrar coordinates applications for graduation and undergraduate readmission, course changes and scheduling, transcript services, applications for residency, and verification of enrollment. Additional information is available on the Web at www.asu.edu/registrar or by phone at 480 968 5988

Veterans Services

This office offers complete educational services for U.S. veterans and their eligible dependents. Counseling about admissions, registration, and veterans benefits is available. Veterans programs provide service by advising all interested veterans and dependents about educational benefits and their optimum use. Students must apply each semester to receive veterans benefits. The program also assists veteran students in obtaining suitable paid tutors, when needed, using their federal benefits. Students receiving veterans educational benefits are not eligible to receive pay for audited courses. Veterans must achieve satisfactory GPAs and semester hours progress toward their academic programs for continued educational benefits, as stated under "Satisfactory Academic Progress," page 80. The university must report this progress to the Department of Veterans Affairs each term. Failure to maintain the minimum GPA established by the university and or the veteran's college may result in academic probation or disqualification. Although veterans may be eligible for educational benefits while on academic probation, benefits could be affected by a continuing probation status. The Veterans Services Section is located in SSV 148. For more information, call 480 965 7723

RESIDENTIAL LIFE

Living in one of the ASU Main residence halls provides students the opportunity to make the most of their college experience. Special residential communities for freshmen, honors students, students participating in fraternities and sororities, and students in particular academic areas offer opportunities to enrich campus life. Students benefit from the activities of residential communities, including halls that feature apartment style or single rooms.

The Freshman Year Experience program (see "Student Development," page 41) provides a unique environment of classrooms, live in tutors, academic advisors, and other support services designed to help freshmen develop skills for success.

Students are encouraged to apply for housing early, at least eight to 10 months in advance of the semester for which they are applying. While applications are accepted at any time, assignment to a residence hall is not made until a student is admitted to the university. Requests for specially modified rooms for students with disabilities should be noted on the application.

ASU Main residence hall application information may be obtained by calling 480 965 3515 or writing

RESIDENTIAL LIFE
ARIZONA STATE UNIVERSITY
PO BOX 870212
TEMPE AZ 85287 0212

Information about ASU Main voluntary meal plans may be obtained by calling 480 965 3464 or writing

CAMPUS DINING
ARIZONA STATE UNIVERSITY
PO BOX 871101
TEMPE AZ 85287-1101

Information about ASU Main living/learning communities may be obtained by calling 480/965-9600 or writing

COCURRICULAR PROGRAMS
ARIZONA STATE UNIVERSITY
PO BOX 870212
TEMPE AZ 85287-0212

ASU East Housing

ASU East housing includes residence halls as well as two- to five-bedroom homes. For more information, see "Williams Campus Housing and Residential Life," page 562, or call 480/727-1700.

STUDENT DEVELOPMENT

ASU students experience success through active involvement in learning and within their community. Student Development enhances student learning through academic support services and programs and encourages student involvement in the community through participation in cocurricular programs, clubs, organizations, leadership opportunities, and service. These programs and services, as well as those within Student Affairs, are supported by Student Development with data collection, research, and evaluation, ensuring a successful ASU experience for students.

Freshman Year Experience

A student's freshman year is a time to learn new ideas, meet new people, and grow as an educated citizen ready to contribute to the community. The Freshman Year Experience (FYE) helps freshmen achieve academic success by coordinating services and programs in settings designed just for the freshman student. Services provided include: UNI 100 classes, academic advisors in the halls, computer labs, live-in tutors with tutoring offered five nights a week, staff trained to support students in achieving academic success, and special floors for engineering and prebusiness majors.

FYE is for all freshmen regardless of where the student lives. ASU has designated several residence halls as FYE service sites: Palo Verde East and West, Manzanita, McClintock, Mariposa, and Sonora residences provide various FYE services. The Off-Campus FYE Student Center is located on the first-floor student lounge of McClintock Hall. A freshman can choose to live in one of the halls and have direct access to FYE programs or opt to live off-campus or in another residence hall and still use those services. For more information, call 480/965-6947, or visit the Web site at www.asu.edu/vpsa/fye.

Student Organization Resource Center

The Student Organization Resource Center provides opportunities for students to get involved with established campus organizations and helps students start new organizations. The center maintains a list of all registered groups, schedules mall activities, and provides a resource desk where students can get information on student activities and leadership opportunities. The REACH information desk is in the Student Organization Resource Center located on the third floor of the Memorial Union. For more information,



Interior of the Student Services Building

John MacIsaac photo

call the center at 480/965-2249 or REACH at 480/965-2255, or visit the Web site at www.asu.edu/clubs.

Learning Resource Center

The Learning Resource Center (LRC) provides ASU students with academic support through tutoring, Supplemental Instruction™ (SI), peer advising, and computer-assisted instruction. The LRC tutoring program is certified by the College Reading and Learning Association, a national academic organization that establishes standards for tutoring in approximately 100 ASU courses. SI targets traditionally challenging courses and offers students enrolled in those courses the opportunity to meet with an SI leader, a student who already has successfully completed the course, for study-skills sessions that pertain to the material in the course. The LRC offers SI jointly with the Division of Undergraduate Academic Services.

The LRC peer advising program consists of undergraduate and graduate students who provide individual and group sessions on general academic skills and college adjustment/survival skills such as note-taking, time management, dealing with test anxiety, and organizational skills. Computer-assisted instruction is open to all ASU students, staff, and faculty in the LRC Macintosh and IBM-compatible computer labs.

For more information, contact the LRC at 480/965-6254, or visit the Web site at www.asu.edu/vpsa/lrc.

Student Leadership Programs

Student Leadership Programs serves as a resource to students interested in leadership development. Resources include a leadership library and information about the ASU Leadership Development Model and other campus, local, and national leadership programs. Staff are available for presentations; workshop facilitation; and advising, guidance, and coordination of efforts in leadership development. For more information, call 480/965-2249, or visit the Web site at www.asu.edu/vpsa/slp.

Child and Family Services

Child and Family Services (CFS) provides resource and referral services to students, faculty, and staff. Information about the Campus Children's Center (480/921 2737), Child Development Laboratory (480/965 7267), Child Study Laboratory (480/965 5320), and the College of Education Pre school (480/965 2510) may be obtained at CFS or by calling the programs directly. CFS maintains a child care referral database and coordinates workshops and discussion groups on child and elder care issues. Educational materials and listings of additional on and off campus activities, programs, and services for children and their families are available at the CFS office, MU 14C. Appointments are recommended.

For more information, call 480/965 9515, or visit the Web site at www.asu.edu/vpsa/family.

Fraternities and Sororities

Involvement in a fraternity or sorority can be one of the most rewarding aspects of a student's college experience. Nineteen fraternities and 13 sororities provide opportunities for leadership development, academic success, campus involvement, community service, social interaction, brotherhood/sisterhood, and intramural participation. These organizations are governed by the Interfraternity Council and the Panhellenic Council. The National Panhellenic Council offers six predominantly African American organizations for involvement with community service, cultural learning, and a deep sense of tradition. The Hispanic Greek Council, three fraternities and two sororities, offers Hispanic students an opportunity to work on service projects, give back to the Latina/Latino culture, and network within the Hispanic community. In addition to the benefits of lifelong membership, many of the fraternities and sororities have chapter houses or residence hall floors that provide a rewarding living/learning option for their members. For more information, call Greek Life at 480/965-2249, or visit the Web site at www.asu.edu/vpsa/greeklife.

The Office of Cocurricular Programs

The Office of Cocurricular Programs (CCP) works to enhance the ASU undergraduate educational experience by maximizing faculty and student interaction outside of the traditional classroom setting. There are three components to the office that help facilitate this process: academic partnerships, residential programming, and learning communities seminar courses.

Campuswide Programming.

Student/Faculty Retreat. This annual event gives students and faculty an opportunity to come together and share intellectual dialogue in a retreat/camp style setting. Through small lectures, interactive experiences, and social activities,

students and faculty can begin to break down the barriers often present in the traditional classroom setting.

Student and Faculty Dinners/Lunches. A few times a semester, students come together with faculty in an informal setting (a residence hall or a restaurant) to share a meal and dialogue about a specific topic.

Last Lecture Series. During the spring semester of every year, students are asked to nominate and recognize outstanding teaching faculty. These faculty are awarded with the opportunity to give their "last lecture," i.e., the lecture they would choose to give were they to know it was their last ever.

Residential Programming

Within all of the residence halls, CCP staff, along with the resident assistants, have been charged with providing programming around the three themes of leadership, diversity, and service/civic responsibility. Many of these programs also include faculty involvement. Examples of programs include

1. *Classic Film Colloquia*, three films based on the same theme shown in a social environment (McClintock Residence Hall Courtyard) with the intent of dialogue and interaction between students and faculty, followed by faculty and student discussion of the meaning of the film and how it relates to the film series;
2. Coffee Talks, monthly small group discussions on topics ranging from religion to race relations, with coffee and snacks provided by Tempe's local coffee shops; and
3. Open Mic Night, an event occurring two or three times a semester in which students can share their talents (e.g., poetry, reading, singing, playing of instruments) with fellow residents.

CCP also consults with resident assistants on program ideas, faculty involvement, and advertising/marketing as well as financial resources for the purchase of food and necessary materials.

Leadership Development Classes. A series of leadership development classes are offered to provide students an opportunity through class activities, discussions, and experiences to understand leadership theories and models, to develop leadership skills, and to apply leadership knowledge through service and internships. CED 294 ST: Foundations of Leadership focuses on the basic principles of leadership and current writing on the topic, particularly on college campuses. A one hour credit class, CED 394 ST: Special Topics in Leadership offers small group seminars with a faculty member and 10 to 12 students and often covers areas of interest such as ethics in leadership, multiculturalism and leadership, or leadership and gender differences. A capstone course, CED 484 Leadership Internship applies leadership skills through internships. In this course, students serve as facilitators for the Foundations in Leadership Discussion Section leaders, provide service and leadership in special groups projects, or serve as student government interns. For more information, access the Web site at www.asu.edu/vpsa/slp/Classes.

Community Service Program

The Community Service Program strives to engage students, faculty, and staff in meaningful cocurricular service. Through the integration of academic studies with public service, the campus community is provided with intentional avenues to serve the basic and greater societal needs of Valley communities. By engaging students in worthwhile service while promoting a lifelong commitment to citizenship and social justice, the Community Service Program not only augments curricular learning but also affords students the key opportunity to turn learning into social action.

Short-Term Service Projects. The Community Service Program collaborates with Valley wide agencies and campus entities to provide meaningful episodic service events such as Christmas in April, the Fall Service Plunge, and the Martin Luther King Jr. Day of Service. Current information can be found in updated listings in the office and on the Web site on a weekly basis.

Cocurricular Service Learning Opportunity Clearinghouse. A detailed clearinghouse of information from more than 400 social service and nonprofit agencies across the Valley of the Sun offers information about internships, post-graduation opportunities, and long term service. Students can use this resource to design a service experience that complements their academic, personal, and professional goals.

Cocurricular Service Learning in the Classroom. The Community Service Program works with faculty and instructors on campus to successfully integrate cocurricular service learning into the classroom setting. Information regarding courses that integrate cocurricular service learning is available for students, and the resources are open to students as they seek to meet course requirements.

Workshops and Skill-Building. Throughout the year, the Community Service Program offers workshops and presentations around service related topics to develop strong campus leaders and exceptional civic leaders for the future. Topics may include servant leadership, volunteer management, event planning, and reflection. Workshop series information is available in the office.

For more information, please visit the Community Service Program located in the Memorial Union, access the Web site at www.asu.edu/vpsa/community or call 480 965-9843 or -9511.

STUDENT LIFE

Student Life strives to enhance student learning and student achievement by fostering a positive, inclusive campus environment; by providing services to meet the needs of a diverse student body; and by empowering students to advocate for their needs and interests through the development of leadership and life skills. Opportunities for leadership and community involvement help students prepare for their roles as responsible citizens. Students learn and sharpen their leadership skills through their involvement in student activities, workshops, community service, and student government.

Adult Reentry Program. The Adult Reentry Program provides students age 25 and older with a variety of services designed to help them meet their academic, personal, and

professional goals. The Adult Reentry Program offers orientation, preenrollment assistance, workshops, support/net working groups, resource and referral information, peer mentoring, and leadership scholarship opportunities. For more information, call 480 965 2252.

Associated Students of Arizona State University (ASASU). ASASU is the student government of the university and the official representative of the student body in matters of university governance and budgeting. Through paid, volunteer, or elected positions, students can become active, contributing members of ASASU. Students can select from a wide variety of activities, some of which include College Councils and the Student Senate, Student Legal Assistance and Safety Escort services, and Homecoming and Mardi Gras event committees. ASASU encourages students to call 480 965 3161 for more information on specific opportunities.

Disability Resources for Students (DRS). Disability Resources for Students (DRS) ensures that qualified students with disabilities are provided with reasonable and effective accommodations upon request. DRS facilitates equal access to educational and cocurricular programs, campus activities, and career employment opportunities for qualified students with disabilities by offering a wide range of academic support services that include, but are not limited to academic and career consultation; campus and community program coordination and/or referrals, supplemental readers in coordination with Recording for the Blind and Dyslexic, an in class note taking program; nonstandard academic testing accommodations; specialized equipment for specific disabilities the Hewlett Packard Adaptive Technology Center; American Sign Language or oral interpreters, TTY access including campus pay phones, educational materials, e.g., braille alternative print production, large print, raised line charts and graphs; a braille campus map; campus mobility services, and the Access Employment Program. (Although students are responsible for their own personal care attendants, DRS does provide an Attendant Management Training Program for students with disabilities.) Also, a U.S. Department of Education TRIO Student Support Services Grant allows DRS to incorporate a unique academic enhancement model into the disability support services program for 270 selected students with disabilities who meet TRIO eligibility requirements.

Some classroom accommodations, such as braille, audio tapes, interpreting services, enlarged print, and lab material conversions, require an extended preparation time, i.e., one semester. To ensure the availability of accommodations from the first day of class, students are required to preregister for classes and notify the appropriate DRS program coordinator immediately upon submitting a Course Request Preregistration form. Although DRS attempts to provide requested appropriate accommodations for students who miss preregistration, such accommodations cannot be guaranteed, and effective alternatives may be necessary. *Note.* Disability documentation is required, and information regarding disabilities is confidential. For more information, call 480 965 1234 (voice) or 9000 (TTY), or visit the DRS Web site at www.asu.edu/drs.

Educational Opportunity Center. This community outreach service focuses on low-income individuals. The center

has a main office at 1000 East Apache Boulevard, Suite 118 in Tempe and satellite offices around Maricopa County. It offers vocational testing and guidance as well as assistance in application for admission, scholarships, and financial assistance at a postsecondary institution suited to particular individuals' needs. Services are free, partially funded by the U.S. Department of Education. For more information, call 480 894 8451.

Hispanic Mother Daughter Program. Understanding the University Experience: The Hispanic Mother Daughter program (HMDP) involves Hispanic girls and their mothers in preparation for the college experience. HMDP has three components: a college component, a high school component, and an eighth grade component. For more information, call 480 965 5316.

International Student Programs. The International Student Office (ISO) is responsible for the administration and coordination of the ASU international student program. Principal ISO responsibilities and services include initial orientation, counseling, and advising of international students; visa administration; and support of campus and community activities that promote international awareness and enrich the educational experiences of ASU students. The ISO is located in SSV 265. For more information, call 480 965 7451.

Multicultural Advancement Program (MAP). MAP is built upon a student development model providing cultural and academic support services to the university's diverse student populations. MAP counselors provide support through programs, workshops, summer institutes, academic classes, personal and educational counseling, and sponsorship of student organizations. The MAP office is located in SSV 394. Students may schedule an appointment with a MAP counselor by phone at 480 965 6060 or in person.

Student Advocacy and Assistance. Student Advocacy and Assistance guides students in resolving educational, personal, and other campus impediments toward successful completion of their academic goals. Student Advocacy and Assistance links students with appropriate university and community resources, agencies and individuals; collaborates with faculty and staff in the best interest of the students; and follows through to bring efficient closure to student concerns. For more information, call 480 965-6547.

Student Community Development. The primary focus of Student Community Development (SCD) is to promote the development of safe, healthy, dynamic communities by developing, identifying, and implementing support programs and resources necessary to ensure student learning and student achievement. SCD facilitates and directs the Student Community Council, Student Coalitions, University Partners Program, Cultural Diversity Community, MAP, Hispanic Mother Daughter Program, and the Native American Achievement Program. SCD is located in SSV 394. For more information, call 480 965-6060.

Student Judicial Affairs. Student Judicial Affairs reviews the conduct of both individual students and student organizations in relation to standards set forth by the Arizona Board of Regents. Referrals for student conduct issues are accepted from faculty, staff, students, or observers. To maintain an appropriate campus climate for teaching and learn-

ing, the Judicial Affairs Designee reviews reports of alleged student misconduct and determines sanctions for wrongdoing. For more information, call 480 965-6547.

Student Legal Assistance. Student Legal Assistance counsels and advises students regarding their legal rights and responsibilities. This service is offered free of charge to enrolled ASU students. Notary services are also available. Services provided include auto related issues, criminal matters, debt, domestic relations, wills, towing and traffic violations, landlord/tenant issues, and miscellaneous issues. For more information, call 480 965 6307.

Upward Bound Program. This program is designed to increase the academic skills and motivational levels of participants (low income, potential first generation college students) to the extent that they will complete high school and enter postsecondary institutions. The year-round program includes summer residential components funded by the U.S. Department of Education. For more information, call 480 965-6483.

Veterans Upward Bound. This program is designed for veterans who wish to pursue postsecondary education but whose life experiences did not adequately prepare them for the educational requirements of today. College preparation instruction in writing, reading, mathematics, general science, study skills, and computer literacy are provided to suit each veteran's individual needs. Veterans lacking a high school diploma can also prepare for obtaining their General Education Development (better known by its acronym, GED) while participating in Veterans Upward Bound. Interest inventory assessments and career advising are also available. All services are free, funded by the U.S. Department of Education. For more information, call 480 965 3944.

COUNSELING AND CONSULTATION

Counseling and Consultation provides confidential counseling services to all ASU students. The psychologists, counselors, psychiatrists, and social workers on staff help students with almost any type of problem or issue related to adjusting to college life. The staff is particularly committed to helping students of color and nontraditional students adjust to campus life.

Counseling and Consultation offers counseling groups for career exploration, relationship difficulties, substance abuse, stress management, depression, assertiveness, eating disorders, family problems, and other common student issues. Individual therapy and couples counseling are offered on a short term basis. Counseling and Consultation also provides emergency counseling to students experiencing an emotional crisis.

A career interest testing program is available to both students and nonstudents. Other services available to the ASU community include consultation and outreach services to faculty and staff, academic instruction, research, a master's level practicum training program, and an APA approved clinical internship program for doctoral students in counseling and clinical psychology. Students may schedule an initial counseling appointment either by phone (480 965 6146) or in person. After an initial personal consultation and four free individual sessions, students are charged \$10 per session. Counseling and Consultation is located in SSV 334.

Testing Support Services. Testing Support Services (TSS) offers workshops to help students prepare for the following graduate entrance exams: The Graduate Record Exam (GRE), the Graduate Management Admissions Test (GMAT), the Law School Admission Test (LSAT), and the Medical College Admissions Test (MCAT). In addition, students may select individual tutoring sessions for these exams. Students may get information about test preparation workshops by phone (480 965 6777) or in person. The TSS office is located in SSV 382.

STUDENT HEALTH

Services. Student Health offers fully accredited outpatient health care to all students enrolled at ASU. The professional staff, consisting of physicians, nurse practitioners, registered nurses, psychiatrists, social workers, counselors, dietitians, and health educators, has special interest and training in college health care. Consultant physicians in dermatology, orthopedics, and other specialties are on site and are available by referral from a member of the Student Health professional staff.

Additional services include comprehensive women's health care, immunizations, travel clinic, a wart clinic, and an allergy clinic for students needing periodic injections. The pharmacy at Student Health provides many prescription and over the counter medications. Radiology and laboratory services are also available.

A notarized parental "consent to treat" form is required before a student under 18 can receive treatment at Student Health. A copy of the parental consent form may be obtained from Student Health's Web site at www.asu.edu/health.

For information about Student Health Services at ASU East, call 602 222 6568.

Health Education. Student Health provides educational programs on nutrition, stress management, alcohol and other drug use and abuse, sexuality and sexually transmitted diseases, including the Human Immunodeficiency Virus (HIV). Peer education programs provide students an opportunity to gain experience in health education and to enhance presentation skills. Services and educational brochures are available at Student Health and at various locations throughout the campus.

Hours. Students are strongly encouraged to schedule appointments to minimize waiting time and to allow students the opportunity to establish a relationship with one clinician. Appointments are available by calling 480 965 3349. Patients with urgent health care problems may be seen at Student Health's Acute Care Clinic on a same day basis. The clinic opens at 9 A.M. Tuesdays and Thursdays and 8 A.M. other weekdays. It closes at 5 P.M.

Fees. Full time students are not charged for primary care visits at Student Health. Part time students are charged a visit fee. There are charges for consultant visits, continuing mental health visits, radiological procedures, laboratory procedures, medications, certain special or surgical procedures, and certain health education services. Patients receiving medical treatment off campus, such as consultations, emergency care, and hospitalization, are responsible for any resulting charges.

Insurance. While *Student Health* provides comprehensive ambulatory care, it is not a substitute for health insurance. Medical insurance coverage is strongly recommended for all students and is required for international students. Eligible students and dependents may enroll in health insurance coverage arranged by ASU. Dependents must complete an application and may require underwriting approval by the insurance carrier. The coverage assists students in paying for laboratory and radiology procedures, off campus consultations, hospitalization, surgery, emergency, and after hours care. Students may purchase health insurance through InTouch, the ASU touch-tone telephone registration system, or at any registrar site. For more information, call the Student Health insurance office at 480 965 2411.

STUDENT MEDIA

The activities of Student Media are most visible in the *State Press*. The campus newspaper, one of the largest daily newspapers in Arizona, is published five days a week by ASU students who make editorial decisions with the support of an experienced university staff director.

The *State Press* provides students with on-the-job training in newswriting, photography, editing, advertising, and production work. The *State Press* also addresses the many informational needs of the university community, not only through stories about the campus, and local and national events, but through paid advertisements by area merchants, campus groups, and university faculty, students, and staff. The Web Devil is Student Media's online news center and community guide, including complete listings of restaurants, hotels, apartments, transportation, campus maps, and fun places to go within the community surrounding ASU. Access the Web site at www.statepress.com.

Student Media publishes *Hayden's Ferry Review* twice a year. This award winning national literary and art magazine brings together in one publication the finest contemporary literature and art by established and emerging writers and artists. Access the Web site at www.statepress.com/hfr.

Student Media provides complete prepress services to the university community. For more information, call 480 965 7572.

MEMORIAL UNION

The Memorial Union (MU) is the student union on campus serving as the campus community center for students, faculty, and staff. There are many opportunities for involvement and leadership through volunteerism and/or employment within the MU. Student government, student organizations, and various volunteer groups are also located throughout the building.

The MU sponsors a student programming board that advises and supports student volunteers in developing and planning cocurricular activities. Special programs of note are Education and Wellness and Arts and Entertainment, to name a few.

Also offered in the MU is a wide variety of student employment opportunities in the following areas: building management, administrative support, computer services, event and meeting services, information desk services, maintenance, and Sparky's Den services.

The MU features a computer lab and workroom; study and group work areas; multiuse meeting rooms; Sparky's

Den: the recreation center, with bowling, billiards, and video games; and an art gallery

Services provided include event and meeting services, catering, a card and gift shop, a credit union and various ATMs (automated teller machines), a post office, dry cleaning, a music store, hair salon, and a travel agency. For more information about any of these services or to explore employment or volunteerism, call the Information Desk at 480 965-5728, or visit www.asu.edu/vpsa/mu on the Web.

CAREER SERVICES

Career Services provides advising for individual career planning concerns and offers information about numerous career fields and permanent positions. Students are encouraged to use the Career Development Center throughout their academic careers. A computerized career planning system assists students in evaluating and making career choices. Career Services offers workshops and classroom presentations on career planning, interviewing skills, résumé writing, and a myriad of additional career related topics. Advisors are available to assist students on an individual basis in career planning and employment.

Hundreds of employers from business, industry, government, social service agencies, health organizations, and educational institutions come to ASU to interview students seeking permanent positions and career related summer, intern, and co-op employment. Career Services facilitates these interviews for both employers and students to meet each group's needs and interests. In addition, career and job fairs are scheduled throughout the year.

The agency's services support students' career development throughout their college experience, and Career Services encourages participation in programs as early as the student's freshman year. The offices are located in SSV 329 and 330. For more information, call 480 965 2350.

STUDENT RECREATION COMPLEX AND RECREATIONAL SPORTS

The Student Recreation Complex (SRC) is the place to become involved and meet people with similar interests in an active lifestyle. Student Affairs' Recreational Sports is one of the largest programs of its kind in the country, serving more than 20,000 students annually. Programs offered include intramural sports, informal recreation, fitness, aquatic and sports skills classes, outdoor recreation, children and family programs, sport clubs, adaptive recreation for individuals with long or short term disabilities, a wellness center, safety education, experiential learning, and special events.

Located on the south end of Palm Walk, the SRC is one of the finest student recreation facilities in the United States. Features include a variety of resistance and cardiorespiratory equipment, a 9,000 square foot weight room, three large gymnasiums, 14 indoor racquetball courts and one squash court, martial arts, aerobics and sport club rooms, outdoor equipment rental, and an adaptive weight area. Outdoor facilities include a lighted, multiuse complex with four fields, a .43 mile perimeter walking and jogging path, four sand volleyball courts, 14 tennis courts, and a 70 meter swimming pool with two movable bulkheads that allow the pool to be divided into three parts for simultaneous multiuse programming.

For more information, stop by for a tour or call 480 965-8900.

ARIZONA PREVENTION RESOURCE CENTER

The Arizona Prevention Resource Center (APRC) is a partnership among ASU, the Governor's Division of Drug Policy, the Arizona Department of Education, and the Arizona Department of Health Services.

The APRC serves as a centralized source for individuals, schools, and communities throughout Arizona to support, enhance, and initiate programs focused on the prevention of the use of tobacco products and the use and abuse of alcohol and other drugs, gangs and violence; and other areas, such as health promotion, domestic violence, and dropout prevention. The APRC operates in the following program areas

1. clearinghouse to provide accurate, timely, and personalized prevention information and materials through in house collection, access to national sources, and linkages between prevention programs in Arizona;
2. training and technical assistance to provide high quality, responsive training and technical assistance for organizations and individuals undertaking prevention programs in local communities and schools;
3. evaluation and research to coordinate and provide leadership for a statewide evaluation strategy for alcohol and other drug prevention programs, to produce an annual inventory of substance abuse prevention, education, and treatment programs in Arizona, to design and conduct contracted evaluations of community-based prevention programs; and to promote quality and accountability in all aspects of APRC operations; and
4. planning and special projects—to promote effective collaboration between prevention and treatment program leadership, to broaden the funding base for prevention programs, and to develop and strengthen partnerships.

For more information, call 480 727 2772, visit the Web site at www.asu.edu/aprc, or write

ARIZONA PREVENTION RESOURCE CENTER
ARIZONA STATE UNIVERSITY
PO BOX 872208
TEMPE AZ 85287-2208

Information can also be obtained by fax (480 727 5400 or 1 800 432 2772, toll-free in Arizona, TTY) or at 641 East Van Buren, Suite B2, in Phoenix.

The Arizona Drug and Gang Prevention Resource Center (ADGPRC), located with the APRC, provides similar information and technical assistance for communities to help them focus strategically on drug and gang prevention issues.

The ADGPRC can be contacted at 480 727 5015 or toll free at 1 888 432 2347, or visit the Web site at www.asu.edu/adgprc.

INTERCOLLEGIATE ATHLETICS

The university is a member of the National Collegiate Athletic Association, Division I, and the Pacific 10 Conference. The university has 21 varsity intercollegiate sports and

more than 500 participants. Intercollegiate athletics at ASU are governed by a board of faculty, students, and staff under the regulations of the Arizona Board of Regents, the NCAA, the Pacific-10 Conference, and the university. Policies are administered by Intercollegiate Athletics. All athletic grants-in-aid and scholarships are administered in coordination with Intercollegiate Athletics.

RELIGIOUS ACTIVITIES

Various religious centers representing most major religious groups are available near ASU Main and provide students with opportunities to participate in programs of religious worship and to meet other students through social activities. For more information, call the Campus Interfaith Council at Danforth Chapel, 480/965-3570.

OTHER OPPORTUNITIES FOR STUDENT INVOLVEMENT

Dance. The Department of Dance and Dance Arizona Repertory Theatre, a student touring outreach company, present 12 to 14 faculty- and/or student-directed concerts a year. Interested students should attend open auditions, held at the

start of each semester. For more information, call 480/965-5029.

Forensics. The ASU Forensic squad, associated with Pi Kappa Delta, national forensic honorary association, travels to trophy tournaments across the country. For more information, call the director of Forensics, at 480/965-4855.

Communication Activities: Performances. Participants write, compile, and perform scripts for presentation in diverse on- and off-campus settings through the Hugh Downs School of Human Communication. For more information, call 480/965-4111 or 480/965-5061.

Music. Performing organizations with the School of Music provide opportunities for involvement and credit, including bands, Lyric Opera Theatre, symphony orchestra, and university choral organizations. For more information, call the School of Music at 480/965-3371.

Theatre. The University Theatre presents four to six faculty-directed productions and eight to 14 student-directed productions a year. Audition information is available from the Department of Theatre, GHALL 232, 480/965-5359.



The Student Services Building main lobby provides quiet space and is a starting point for campus tours.

Michael Martin photo

Fees, Deposits, and Other Charges

The Arizona Board of Regents reserves the right to change fees and charges without notice. The current semester *Schedule of Classes* generally reflects up-to date fee amounts.

The following fees apply to both credit and noncredit (audit) registrations and are subject to change

DEFINITIONS

Resident tuition refers to the charge assessed to all resident students who register for classes at ASU. *Nonresident tuition* refers to the charge assessed to nonresident students, as established in Arizona Board of Regents' Policy 4 102

ACADEMIC YEAR TUITION

The resident and nonresident tuition for fall and spring semesters is shown in the "1999-2000 Resident and Nonresident Tuition" table, on this page. The amounts listed are per semester hour each academic term. For more information on classification for fee status, see "Residency Classification Procedures and Policies," page 51

Students registered for seven or more hours are considered full time for tuition payment purposes. See "Enrollment Verification Guidelines," page 75.

Note: The rate for one hour is charged if the student is registered for only a zero hour class

Graduate College Differential Fees. Certain graduate programs assess an additional differential fee. These fees differ according to college and/or program. Contact your program advisor for details on these fees

Off-Campus and Independent Learning Courses. For information on fees for off campus and independent learning courses, see "Distance Learning Technology," page 260

Summer Sessions Fees. The 2000 registration fee per semester hour is \$115 except for law students. The registration fee per semester hour for law students is \$259. For more information, see "Summer Sessions," page 484, and the *Summer Sessions Bulletin*.

OTHER FEES, DEPOSITS, AND CHARGES

Special Class Fees and Deposits. Certain university classes require payment of fees or deposits for materials, breakage, and rentals. These fees and deposits are listed in the *Schedule of Classes* for each semester. See the "Special Class Fees and Deposits for ASU Main and ASU East" table, page 53

Student Recreation Complex Fee. All students (except university employees) who take at least one class at ASU Main must pay a mandatory Student Recreation Complex fee. Full-time (seven or more hours) students are charged \$25 per semester. Part-time students pay \$12 per semester, and summer students pay \$2 per semester hour. See the current semester *Schedule of Classes* for more information.

Financial Aid Trust Fee. All students must pay a financial aid trust fee. Full-time students (enrolled for seven or more

1999-2000 Resident and Nonresident Tuition

Hours	Resident*	Nonresident*
1	\$ 115 00	\$ 389.00
2	230 00	778.00
3	345 00	1,167 00
4	460 00	1,556 00
5	575.00	1,945.00
6	690 00	2,334 00
7	1,094.00	2,723 00
8	1,094 00	3,112.00
9	1,094 00	3,501 00
10	1,094.00	3,890.00
11	1,094 00	4,279 00
12 or more	1,094 00	4,670.00

* Tuition is subject to change for 2000-2001. In addition to tuition, students are charged other fees (e.g., the Student Recreation Complex fee and financial aid trust fee).

hours) are charged no more than 1 percent of the current tuition. The fee for students enrolled six or fewer hours is half that charged full-time students. The total summer sessions fee does not exceed the amount for a full-time student. Fees collected from students are matched by the State of Arizona and used to create a Financial Aid Trust Fund, from which student grants are awarded under the usual financial aid eligibility criteria used by the ASU Student Financial Assistance office

Arizona Students' Association (ASA) Fee. The ASA is a nonprofit lobbying organization that represents Arizona's public university students to the Arizona Board of Regents, State Legislature, and U.S. Congress. During 1997, students at the state universities voted to change the mechanism for funding the ASA. A \$1 fee is charged to each student each semester. Any refunds for this fee are provided through the ASA Central Office.

Late Registration. The fee assessed on registrations on or after the first day of each session is \$35. A \$35 late fee is also assessed on registration payments received after the fee payment deadline but processed before the class enrollment purge.

Admission Application. The nonrefundable fee for nonresident undergraduate degree applications is \$40.

Transcripts. The Office of the Registrar releases official transcripts *only upon the written request of the student*. The request must include the following information:

1. the student's name and former name(s),
2. the student ID number;
3. the date of birth,
4. the dates of attendance,
5. a return address;

6. specific address to mail transcript;
7. student's signature; and
8. fees; see below for fees.

The Request for Official Transcript form is available online at www.asu.edu registrar forms.

The Office of the Registrar does not issue a transcript if the student has a financial records hold. The student must supply a specific address if the transcript is to be mailed.

The fee for an official transcript for a student not enrolled is \$5 for the first copy. Additional copies ordered at the same time are \$1 each. The fee is \$1 per copy for a student enrolled for a current or future semester.

Unofficial transcripts may be requested in person at the Office of the Registrar, any registrar site, or by mail or fax (480 965 2295) if a signed release is enclosed. There is no charge for an unofficial transcript.

All in person transcript requests require presentation of photo identification. Requests are not accepted from third parties without a written release from the student. For information on parental access to records, see "Access to Records," page 81.

Copies of Education Records Other Than ASU Transcripts. For fewer than six pages, there is no charge. For six to 10 pages, the total charge is \$2. For 11 to 15 pages, the total charge is \$3. Copies of additional pages cost \$1 per each five pages copied.

Comprehensive Examination. This fee is paid by all students seeking to establish credit by examination and is \$50 per semester hour.

Private Music Instruction. The fee for one half hour of instruction weekly is \$40. The fee for one hour of instruction weekly is \$60. The fee for more than one hour of instruction weekly—for music majors only—is \$60.

Musical Instrument Rental Charge. The charge for use of university-owned musical instruments is \$25. Consult the School of Music for specific information.

Binding and Microfilm Fees. The binding fee for a thesis or dissertation is \$17 per copy. This fee is subject to change. Additional charges may be required depending on the size and nature of the document. The dissertation microfilming fee is \$50, and is subject to change.

Sun Card/ID Card. The replacement fee is \$10.

Parking Decals. A parking decal must be purchased, in person or by using the Park Smart touch tone telephone system 480 921 PARK (7275), for motor vehicles parked on campus except in areas where metered parking or visitor lots are available. Photo identification is required. Annual decals range from \$50 to \$129 for controlled access parking. Decals are sold on a first come, first served basis. For more decal sales information, call 480 965 6124 or visit the Web site at www.asu.edu dps pts.

Each vehicle registered at ASU Parking and Transit Services must comply with Arizona emission standards (A.R.S. § 15-1627G) during the entire registration period. The fee for this emission inspection is \$25 to \$35 per vehicle.

Everyone is encouraged to support travel reduction measures by using mass transit, the university shuttle bus, car pooling, bicycling, or walking whenever possible.

Parking Violations. Due to a high demand for parking, regulations are strictly enforced. Fines range from \$10 to \$100. Appeals to parking citations may be filed within 14 calendar days to Parking and Transit Services and, after payment, may be further appealed to the Parking Citation Appeals Board. Unpaid parking citations are delinquent financial obligations subject to the provisions of the "Delinquent Financial Obligations," page 51. The vehicle of any person owing three or more unpaid parking citations or \$100 in unpaid parking citations is subject to impoundment. An \$85 minimum fee is assessed if impoundment is required. For more information, call 480 965-4527.

Returned Checks. Checks returned by a bank are assessed a \$15 service charge with repayment needed within five business days of notification. A second \$12 service charge is made if the returned check is not repaid within this five-day period. Repayment of a returned check must typically be in cash.

The university may have arrangements with its bank to redeposit automatically for a second time checks for which there are insufficient funds. No service charge is assessed by ASU until a check is returned to ASU; however, the payer may be assessed a service charge by the payer's financial institution.

Students paying registration fees and tuition with a check that is subsequently not honored by a financial institution are subject to involuntary withdrawal from the university if repayment is not made. All students involuntarily withdrawn are charged tuition and/or registration fees according to the standard refund schedule as of the involuntary withdrawal date, as determined by the university.

On-Campus Housing. The cost of ASU Main housing varies. In 1999-2000 the typical cost was \$2,780 per academic year. Meal plans are purchased separately. For more information, see "Residential Life," page 40, or call 480 965-3515.

TRANSPORTATION

To reduce air pollution and traffic congestion, students are encouraged to travel to and from campus by means other than automobile. Nearby on campus parking is limited and tightly controlled.

Alternative transportation modes are used by thousands of ASU students. ASU is served by a Phoenix area regional transit service; monthly and reduced fare semester passes are available on campus. In addition, an inexpensive express shuttle runs between ASU Main in Tempe and ASU West in northwest Phoenix; another shuttle runs among ASU Main, Mesa Community College, and ASU East in Mesa; and a Free Local Area Shuttle (FLASH) is available around the periphery of ASU Main.

Bicycle ridership at ASU is estimated to be more than 15,000 students daily. Ample racks in many locations enable the parking and securing of bicycles. Bicycle use is restricted only in those areas of campus where pedestrian traffic is sufficiently heavy to make such use a hazard. The Bike Co-op Repair Service provides assistance with bicycle maintenance.

Also, careful class scheduling, when possible, can reduce a student's transportation needs. For more information on commute alternatives, call 480 965 1072.

PAYMENT METHODS AND DEADLINES

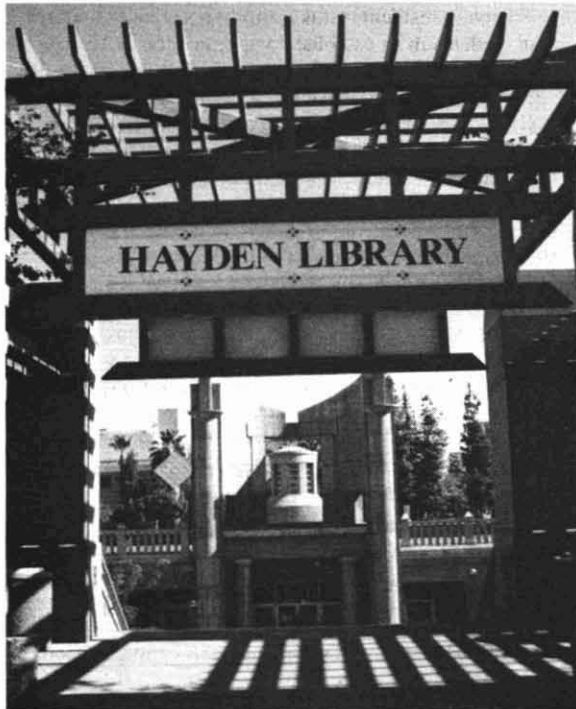
InTouch. The InTouch system, at 480/350-1500, allows students to register for classes, to drop/add, and to make fee payment from any touch-tone phone. Students paying fees with available financial aid, debit cards, Visa, or MasterCard must use the InTouch system. Refer to the *Schedule of Classes* for available dates and times and more information about the InTouch system.

Debit/Credit Cards. ASU accepts debit cards, Visa, and MasterCard. Debit/credit card payments through InTouch are processed online with the bank. See the *Schedule of Classes* for information about using debit/credit cards by mail or campus payment boxes.

Check. Checks payable for the exact amount of charges and without a restrictive endorsement are generally acceptable, except for students on check use suspension due to a previously returned check.

Financial Aid. Students receiving financial aid may use their expected aid, except Federal Work-Study, to pay university charges, including tuition and fees. Students who wish to do so must follow specified procedures. See the current semester *Schedule of Classes* for more information.

Veterans Deferred Payment. The Veterans Readjustment Assistance Act allows veterans to apply for deferred payment of registration fees, books, materials and supplies required for courses. To assist eligible students, a Veteran Promissory Note may be issued deferring payment during their first semester of benefits. Contact the Veterans Services Section at SSV 148 or call 480/965-7723 for information on meeting the necessary requirements. The university may deny this privilege with previous delinquent obligations.



Stairwell of the Hayden Library

H. Val Peterson photo

Payment Deadlines. Fees must be paid by the deadline dates and times indicated or the registration is voided. A fee payment deadline is printed on all Schedule/Billing Statements and in the *Schedule of Classes*.

REFUNDS

Academic Year Resident and Nonresident Tuition. Students withdrawing from school or individual classes receive a refund as described in the "Fall and Spring Withdrawal Refunds" table:

Fall and Spring Withdrawal Refunds

Withdrawal Date	Refund
Before first day of the semester	100%*
One through 7 calendar days	80%
8 through 14 calendar days	60%
15 through 21 calendar days	40%
22 through 28 calendar days	20%
After the 28th calendar day	No refund

* A \$35 processing fee is subtracted per session.

The university provides a prorated refund for first-time students receiving financial aid; therefore, the refund schedule is the minimum amount refundable to these students.

Withdrawal occurs on the calendar day that withdrawal is requested, either in person at a registrar site or by phone using InTouch, the ASU touch-tone telephone system for registration and fee payment. Students withdrawing for medical or other extenuating circumstances must contact their college for refunds that may be available under these circumstances.

Summer Sessions Fees. Students withdrawing from any summer session or individual classes receive a refund as described in the "Summer Sessions Withdrawal Refunds" table. *Refunds are based on the session days and not the class meeting dates for any particular class.*

Summer Sessions Withdrawal Refunds

Withdrawal Date	Refund
Before first day of session	100%*
First and second days of session	80%
Third day of session	60%
Fourth day of session	40%
Fifth day of session	20%
After fifth day of session	No refund

* A \$35 processing fee is subtracted per session.

Special Class Fees and Deposits. After the first week of classes, refunds, if any, are determined only by the department or school offering the course. Refund determination is based on withdrawal date, type of activity, and costs already assessed by the department or school.

Private Music Instruction. If a student must drop a music course because of illness or other emergency beyond the student's control, not more than half of the instruction charge may be refunded, as determined by the School of Music.

Late Registration. This fee is not refundable.

Student Recreation Complex Fee. This fee is refundable only upon complete withdrawal in percentage increments per the refund schedule

Financial Aid Trust Fee. This fee is not refundable.

Official Transcripts. Overpayments by mail of \$5 or less are only refunded by specific request.

Graduation Fee. Overpayments by mail of \$5 or less are refunded only by specific request.

Residence Halls. Refunds to students departing from ASU Main residence halls before the end of the academic year are computed on the following basis.

Charges and Deposits. Housing payments and deposits are refunded as prescribed by the Residential Life License Agreement that students sign when they apply for residence hall accommodations. Students should refer to this document and the *Schedule of Charges and Deadlines* for specific information on refunds.

Other University Charges. Other university charges are normally not refundable, except for individual circumstances.

Payment of Refunds. Refunds require student identification and are made payable only to the student for the net amounts due the university. When the last day of a refund period falls on a weekend or holiday, a withdrawal form must be submitted to one of the registrar sites during operating hours on the workday preceding the weekend or holiday. Refunds are normally paid by check, payable to the student, and are mailed to the student's local address.

Parking Decal Refunds. Prorated refunds are available through the last business day in April.

Forfeiture of Refunds. Refunds are subject to forfeiture unless obtained within 90 days of the last class day of the semester for which the fees were originally paid.

DELINQUENT FINANCIAL OBLIGATIONS

Arizona Board of Regents' Policy 4 103B, which applies to ASU, states the following:

1. Each university shall establish procedures to collect outstanding obligations owed by students and former students.
2. Each university shall maintain a system to record all delinquent financial obligations owed to that university by students and former students.
3. Students with delinquent obligations shall not be allowed to register for classes, purchase parking decals, receive cash refunds, or obtain transcripts, diplomas, or certificates of program completion. The university may allow students to register for classes, obtain transcripts, diplomas, or certificates of program completion if the delinquent obligation is \$25 or less
4. Unpaid obligations shall remain a matter of record until students and former students satisfy their financial obligations or until satisfactory arrangements for repayment are made with the university.

5. The university may write off delinquent financial obligations of students according to accepted accounting principles and after appropriate collection efforts. No such write-off shall operate to relieve the student of liability for the obligation nor shall such write-off entitle the student to release of any transcripts, diplomas, certificates of program completion, or to register for further university classes until such obligation is actually paid.

6. Each university shall include this policy in its bulletin or catalog.

A late charge of \$12 is assessed for any balances due the university not paid within 30 days of the initial due date, with a second \$12 late charge assessed if these amounts are not paid within 30 days of the first late charge, and a third \$12 late charge is assessed if these charges are not paid within 60 days of the first late charge. Procedures to be followed for disputed charges are available from the Accounts Receivable Section of the Business Services Office, located in ADM A109.

RESIDENCY CLASSIFICATION PROCEDURES AND POLICIES

The Arizona Board of Regents is required by law to establish uniform guidelines and criteria for classifying students' residency to determine those students who must pay nonresident tuition. The following is a summary of the general guidelines used to determine residency for tuition purposes. All of the evidence is weighed under the presumption that a nonresident student's presence in Arizona is primarily for the purpose of education and not to establish domicile and that decisions of an individual about the intent to establish domicile are generally made after the completion of an education and not before.

To obtain resident status for tuition purposes, independent students must establish their residence in Arizona at least one year immediately before the last day of regular registration for the semester in which they propose to attend ASU. Arizona residence is generally established when individuals are physically present in the state with the intention of making Arizona their permanent home.

Mere physical presence in Arizona for one year does not automatically establish residency for tuition purposes. Adult students and emancipated minors must combine physical presence in Arizona for one year with objective evidence of their intent to make Arizona their permanent home. If these steps are delayed, the one-year period is extended until both presence and intent have been demonstrated for one full year. In addition to physical presence and intent, the student must demonstrate financial independence for the two tax years immediately preceding the request for resident classification. The student must demonstrate objective evidence of self support and that he or she was not claimed as an income tax deduction by his or her parents or any other individual for two years. An adult student is defined as being at least 18 years of age at the beginning of the domicile year. For a complete definition of an emancipated minor, refer to the Arizona Board of Regents' residency classification policies, available in the Residency Classification Section, SSV 146.

No person is considered to have gained or lost resident status merely by attending an out of state educational institution.

Aliens. Students who are aliens are subject to the same requirements for resident status as are U.S. citizens. In establishing domicile, aliens must not hold a visa that prohibits establishing domicile in Arizona.

Refugees. Refugees may qualify as resident students by virtue of having been granted refugee status in accordance with all applicable laws of the United States and having met all other requirements for residence in Arizona.

Exceptions to the General Residency Rule

Students may be eligible for resident status for tuition purposes if they can meet one of the following criteria on or before the last day of regular registration.

Legal Dependents. If a student and his or her parents are domiciled in Arizona and have not met the one year residency requirement but the parents are entitled to claim the student as a dependent for federal and state tax purposes, the student may be eligible for resident status for tuition purposes.

Transferred Employees. If students are domiciled in Arizona and have not met the one year residency requirement but are employees or spouses of employees who have been transferred to Arizona by their employers for employment purposes, the students may be eligible for resident status for tuition purposes.

Members of the Military. If students are not domiciled in Arizona but are members of the U.S. Armed Forces stationed in Arizona or are the spouses or dependent children of a member as defined in A.R.S. § 43-1001), the students may be eligible for resident status for tuition purposes. If military service is concluded while they are enrolled, students do not lose resident status while they are continuously enrolled in a degree program. If individuals are domiciled in Arizona immediately before becoming members of the U.S. Armed Forces, they do not lose resident status because of their absence while on active duty with the military as long as they maintain Arizona affiliations and file Arizona state tax.

A student who is a member of an Arizona National Guard or Arizona Reserve unit may be eligible for resident status for tuition purposes. A student may also be eligible if he or she has been honorably discharged from the armed forces of the United States, has declared Arizona as his or her legal

residence one year before discharge, and has taken the other appropriate actions, including filing an Arizona income tax return. A student who is the spouse or dependent of a member of the armed forces who has claimed Arizona as his or her legal residence and filed Arizona income tax for one year before enrollment may be eligible for resident status for tuition purposes.

Native Americans. Students who are members of a Native American tribe whose reservation lies both in Arizona and an adjacent state and who are residents of that reservation may be eligible for resident status for tuition purposes.

Procedures for Establishing Residency Status

All students are responsible for obtaining residency classification for tuition purposes before registering and paying their fees. This procedure requires students to complete and file a domicile affidavit form. This form is required of all new and returning students as part of the admission or readmission process. Students classified as nonresidents who believe they may qualify for resident status must file a petition with the Residency Classification Section. This petition must be filed by the last day of regular registration. A student seeking resident status must also file supporting documentation necessary to provide a basis for resident classification (source[s] of support, driver's license, voter's registration, vehicle registration, etc.). Students whose residency petitions are in process at the fee payment deadline are responsible for paying nonresident tuition and fees. However, an appropriate refund is issued if residency is later granted for that semester.

Any student found to have made a false or misleading statement concerning residency or tuition status is subject to dismissal from the university.

Failure to file a timely written petition for reclassification of residency status for tuition purposes constitutes a waiver of the student's right to apply for the given semester. Petition deadlines are published each semester in the *Schedule of Classes*. Extensions to the deadlines are not permitted.

Residency classification is an extremely complex issue. The information presented here is a summary and does not address each individual's situation; therefore, students are encouraged to make a personal visit to the Residency Classification Section to discuss their individual circumstances as soon as possible. Guidelines for determination of residency for tuition purposes are subject to review and change without notice. For more information, call the Residency Classification Section at 480-965-7712 or refer to www.asu.edu/registrar/residency on the Web.

Special Class Fees and Deposits for ASU Main and ASU East

Special Fees¹

AAD 599 Thesis	\$175.00
ADE 321 Architectural Studio I.....	175.00
ADE 322 Architectural Studio II	175.00
ADE 421 Architectural Studio III	175.00
ADE 422 Architectural Studio IV	175.00
ADE 510 Foundation Architectural Studio	175.00
ADE 511 Core Architectural Studio I	175.00
ADE 512 Core Architectural Studio II	175.00
ADE 521 Advanced Architectural Studio I.....	175.00
ADE 522 Advanced Architectural Studio II	175.00
ADE 621 Advanced Architectural Studio III	175.00
ADE 622 Advanced Architectural Studio IV	175.00
AMT 280 Aerospace Structures, Materials, and Systems	10.00
AMT 322 Commercial/Instrument Ground School II	100.00
ANP 500 Research Methods	175.00
ANP 599 Thesis	175.00
ART 115 Three Dimensional Design	10.00
ART 201 Photography I	25.00
ART 214 Life Drawing I	25.00
ART 227 Watercolor I.....	45.00
ART 231 Sculpture I.....	40.00
ART 253 Introduction to Printmaking	30.00
ART 260 Ceramics for Nonmajors	25.00
ART 261 Ceramic Survey	25.00
ART 272 Jewelry I.....	25.00
ART 274 Wood I.....	25.00
ART 276 Fibers I.....	25.00
ART 294 ST: Fibers/Nonmajors	25.00
ART 301 Photography II	25.00
ART 304 Advanced Photography	25.00
ART 305 Color Photography I.....	30.00
ART 314 Life Drawing II	25.00
ART 315 Life Drawing III	25.00
ART 325 Figure Painting	25.00
ART 327 Watercolor II	45.00
ART 331 Sculpture II	40.00
ART 332 Sculpture III	40.00
ART 333 Foundry Casting Methods	40.00
ART 351 Intaglio I	40.00
ART 352 Lithography I	40.00
ART 354 Screen Printing I	35.00
ART 355 Photo Process for Printmaking I	25.00
ART 360 Ceramic Throwing	25.00
ART 364 Ceramic Handbuilding I.....	25.00
ART 365 Ceramic Handbuilding II	25.00
ART 372 Jewelry II.....	15.00
ART 373 Metalworking I.....	15.00
ART 374 Wood II	25.00
ART 376 Fibers: Loom Techniques.....	25.00
ART 377 Surface Design	25.00
ART 394 ST: Carving	25.00
ART 394 ST Ceramics	15.00
ART 394 ST: Fibers Design for Nonmajors	25.00
ART 394 ST: Relief Printmaking	35.00
ART 394 ST: Turning	25.00
ART 401 Nonsilver Photography	30.00
ART 403 Senior Photographic Projects	25.00
ART 404 Portrait Photography	25.00
ART 405 Advanced Color Photography	35.00
ART 407 View Camera	25.00
ART 414 Advanced Life Drawing	25.00
ART 415 Art Anatomy.....	20.00
ART 425 Advanced Figure Painting	25.00

Special Fees¹ (continued)

ART 427 Advanced Watermedia.....	45.00
ART 431 Special Problems in Sculpture	40.00
ART 432 Neon Sculpture.....	45.00
ART 436 Architectural Sculpture	40.00
ART 437 Film Animation	25.00
ART 438 Experimental Systems in Sculpture.....	40.00
ART 446 3D Computer Imaging and Animation	35.00
ART 448 Computer Animation I	20.00
ART 449 Computer Animation II	40.00
ART 450 Computer Animation III	40.00
ART 451 Advanced Intaglio	40.00
ART 452 Advanced Lithography	40.00
ART 454 Advanced Screen Printing.....	35.00
ART 455 Advanced Photo Processes for Printmaking	30.00
ART 456 Fine Printing and Bookmaking I	30.00
ART 457 Fine Printing and Bookmaking II.....	30.00
ART 458 Papermaking	20.00
ART 459 Monoprinting.....	20.00
ART 460 Ceramic Clay	25.00
ART 463 Ceramic Glaze	25.00
ART 466 Special Problems in Ceramics.....	25.00
ART 472 Advanced Jewelry	15.00
ART 473 Advanced Metalworking	15.00
ART 474 Advanced Wood	25.00
ART 476 Fibers: Multiple Harness Weaving	25.00
ART 477 Printed Textiles.....	30.00
ART 494 ST: Advanced Sculpture	20.00
ART 494 ST: Carving	25.00
ART 494 ST: Ceramics Printmaking	30.00
ART 494 ST: Experimental Paper.....	25.00
ART 494 ST Experimental Printmaking	30.00
ART 494 ST: Fibers and Surface	25.00
ART 494 ST: Film Post Production	40.00
ART 494 ST: Foundry Casting Methods.....	40.00
ART 494 ST: Print Textiles	25.00
ART 494 ST Relief Printmaking	35.00
ART 494 ST Turning	25.00
ART 494 ST Vapor Glazes	15.00
ART 498 PS: Landscape Photography: Theory	25.00
ART 551 Intaglio Projects	40.00
ART 594 Conference and Workshop: Carving	25.00
ART 594 Conference and Workshop: Turning.....	25.00
ART 598 ST Advanced Color Photography	35.00
ART 598 ST Advanced Photo Process for Printmaking	30.00
ART 598 ST: Advanced Screen Printing.....	35.00
ART 598 ST: Advanced Sculpture	20.00
ART 598 ST: Architectural Sculpture	40.00
ART 598 ST: Art Anatomy.....	20.00
ART 598 ST: Ceramic Clay	25.00
ART 598 ST: Ceramic Glaze	25.00
ART 598 ST: Ceramics Printmaking	30.00
ART 598 ST: Dimensional Animation	25.00
ART 598 ST: Experimental Paper.....	25.00
ART 598 ST: Experimental Printmaking	30.00
ART 598 ST Experimental Systems in Sculpture	40.00
ART 598 ST Fibers and Surface	25.00
ART 598 ST Figure Painting	25.00
ART 598 ST: Film Post Production	40.00
ART 598 ST: Fine Printing and Bookmaking I.....	30.00
ART 598 ST: Fine Printing and Bookmaking II	30.00
ART 598 ST: Foundry Casting Methods	40.00
ART 598 ST: Jewelry Metalworking	15.00
ART 598 ST: Life Drawing	20.00

¹ For information on refunds see "Refunds," page 50 For ASU West classes, see the *ASU West Catalog*

² Fees are variable and paid directly to the contractor for rental of aircraft.

Special Class Fees and Deposits for ASU Main and ASU East (continued)

Special Fees¹ (continued)

ART 598 ST: Lithography	40.00
ART 598 ST: Monoprinting	20.00
ART 598 ST: Neon Sculpture	45.00
ART 598 ST Nonsilver Photography	30.00
ART 598 ST: Papermaking	20.00
ART 598 ST: Photo Processes for Printmaking I	25.00
ART 598 ST: Portraiture Photography	25.00
ART 598 ST: Print Textiles	25.00
ART 598 ST: Printed Textiles	30.00
ART 598 ST: Relief Printmaking	35.00
ART 598 ST: Screen Printing	35.00
ART 598 ST Special Problems in Ceramics	25.00
ART 598 ST Special Problems in Sculpture	40.00
ART 598 ST: View Camera	25.00
ART 598 ST Watercolor	45.00
ART 598 ST: Wood	25.00
ART 621 Studio Problems: Ceramics	25.00
ART 621 Studio Problems: Jewelry Metalworking	15.00
ART 621 Studio Problems: Printmaking	25.00
ATE 562 Experimental Evaluation	175.00
ATE 599 Thesis	175.00
BIO 182 General Biology	10.00
BIO 193 The Nature of Biological Science	10.00
BIO 202 Human Anatomy and Physiology II	10.00
BIO 301 Field Natural History	25.00
BIO 321 Introductory Ecology Laboratory	20.00
BIO 352 Laboratory in Vertebrate Development Anatomy	10.00
BIO 360 Animal Physiology	20.00
BIO 370 Vertebrate Zoology	10.00
BIO 385 Comparative Invertebrate Zoology	10.00
BIO 386 General Entomology	15.00
BIO 410 Techniques in Wildlife Conservation Biology	45.00
BIO 426 Limnology	20.00
BIO 453 Animal Histology	5.00
BIO 471 Ornithology	15.00
BIO 472 Mammalogy	15.00
BIO 473 Ichthyology	15.00
BIO 474 Herpetology	15.00
BIO 502 Transmission Electron Microscopy	20.00
BIO 505 Scanning Electron Microscopy	20.00
BLE 478 Student Teaching in the Elementary School	25.00
BLE 496 Field Experience	10.00
CHI 101 Elementary Chinese	15.00
CHI 102 Elementary Chinese	15.00
CHI 107 Chinese for International Professions I	15.00
CHM 101 Introductory Chemistry	25.00
CHM 107 Chemistry and Society	25.00
CHM 113 General Chemistry	25.00
CHM 114 General Chemistry for Engineers	25.00
CHM 115 General Chemistry with Qualitative Analysis	25.00
CHM 116 General Chemistry	25.00
CHM 117 General Chemistry for Majors I	25.00
CHM 118 General Chemistry for Majors II	25.00
CHM 235 Elementary Organic Chemistry Laboratory	25.00
CHM 319 Organic Chemistry Laboratory for Majors I	25.00
CHM 320 Organic Chemistry Laboratory for Majors II	25.00
CHM 326 Analytical Chemistry Laboratory	25.00
CHM 335 General Organic Chemistry Laboratory	25.00
CHM 336 General Organic Chemistry Laboratory	25.00
CHM 343 Physical Chemistry Laboratory	25.00
CHM 424 Separation Science	25.00
CHM 431 Qualitative Organic Analysis	25.00
CHM 452 Inorganic Chemistry Laboratory	25.00

Special Fees¹ (continued)

CHM 480 Methods of Teaching Chemistry	25.00
CHM 593 Applied Project Glass Blowing	25.00
CLS 310 Principles of Clinical Chemistry I	25.00
CLS 320 Principles of Clinical Microbiology I	25.00
COM 484 Communication Internship	20.00
COM 584 Communication Internship	20.00
DCI 396 Field Experience I	10.00
DCI 397 Field Experience II	10.00
DSC 500 Research Methods	175.00
DSC 525 Design Methodologies	175.00
DSC 593 Applied Project	175.00
DSC 598 ST Facilities Planning II	175.00
DSC 599 Thesis	175.00
ECD 496 Field Experience	10.00
EDP 560 Individual Intellectual Assessment	12.50
EED 420 Science Methods, Management, and Assessment in the Elementary School	5.00
EED 478 Student Teaching in the Elementary School	25.00
EED 496 Field Experience	10.00
EED 578 Student Teaching in the Elementary School	25.00
EED 598 ST Using Math Manipulatives Elementary Schools	5.00
EED 598 ST Using Math Manipulatives/Middle Schools	5.00
EPD 700 Interdisciplinary Research Methods	175.00
EPD 710 Current Research in Design	175.00
EPD 712 Current Research in Planning	175.00
EPD 714 Current Research in History, Theory, and Criticism	175.00
EPE 105 Physical Education Activity Archery	15.00
EPE 105 Physical Education Activity Bowling	25.00
EPE 105 Physical Education Activity Fencing	45.00
EPE 105 Physical Education Activity Golf	45.00
EPE 105 Physical Education Activity Quest Boxing	30.00
EPE 105 Physical Education Activity (Rock Climbing)	35.00
EPE 110 Movement Analysis Laboratory Fencing	45.00
EPE 110 Movement Analysis Laboratory (Golf)	45.00
EPE 205 Physical Education Activity (Archery)	15.00
EPE 205 Physical Education Activity (Bowling)	25.00
EPE 205 Physical Education Activity (Golf)	45.00
EPE 305 Physical Education Activity Golf	45.00
EPE 335 Biomechanics	15.00
EPE 340 Physiology of Exercise	15.00
EPE 345 Motor and Developmental Learning	15.00
EPE 370 Advanced First Aid	15.00
EPE 505 Applied Exercise Physiology Techniques	15.00
FON 142 Applied Food Principles	35.00
FON 341 Introduction to Planning Therapeutic Diets	15.00
FON 442 Experimental Foods	15.00
FON 445 Quantity Food Production	15.00
FON 446 Human Nutrition Assessment Lecture Laboratory	25.00
FON 545 Recent Developments in Institutional Feeding	15.00
FON 598 ST Research Methods in Nutrition	15.00
FRE 101 Elementary French	15.00
FRE 102 Elementary French	15.00
FRE 107 French for International Professions I	15.00
FRE 111 Fundamentals of French	15.00
FRE 201 Intermediate French I	15.00
FRE 202 Intermediate French II	15.00
FRE 207 French for International Professions II	15.00
GER 101 Elementary German	15.00
GER 102 Elementary German	15.00
GER 111 Fundamentals of German	15.00

For information on refunds, see "Refunds," page 50. For ASU West classes, see the *ASU West Catalog*.

² Fees are variable and paid directly to the contractor for rental of aircraft.

Special Class Fees and Deposits for ASU Main and ASU East (continued)

Special Fees¹ (continued)

GER 201 Intermediate German	15 00
GER 202 Intermediate German	15 00
GLG 102 Introduction to Geology II (Historical)	20 00
GLG 103 Introduction to Geology I Laboratory	5 00
GLG 294 ST Geology of the Planets	10 00
GLG 310 Structural Geology	5 00
GLG 335 Paleontology	15 00
GLG 336 Invertebrate Paleontology	10 00
GLG 405 Geology of the Moon	10 00
GLG 406 Geology of Mars	10 00
GLG 420 Volcanology	35 00
GLG 424 Petrology	5 00
GLG 435 Sedimentology	15 00
GLG 441 Ore Deposits	20 00
GLG 455 Advanced Field Geology	35 00
GLG 456 Cordilleran Regional Geology	10 00
GLG 490 Topics in Geology Clastic Sedimentology and Petrology	20 00
GLG 490 Topics in Geology Moon	10 00
GLG 490 Topics in Geology Pyroclastic Rocks	25 00
GLG 490 Topics in Geology Remote Sensing	10 00
GLG 490 Topics in Geology: Volcano	25 00
GLG 510 Advanced Structural Geology	10 00
GLG 520 Advanced Physical Volcanology fall only	35 00
GLG 524 Advanced Igneous Petrology	20 00
GLG 591 Seminar: Volcanology	35 00
GLG 598 ST: Advanced Field Geology	35 00
GLG 598 ST: Clastic Sedimentology and Petrology	20 00
GLG 598 ST: Cordilleran Regional Geology	10 00
GLG 598 ST: Geology of Mars	10 00
GLG 598 ST: Ore Deposits	20 00
GLG 598 ST: Petrology Petrography	5 00
GLG 598 ST: Principles of Stratigraphy	20 00
GLG 598 ST: Sedimentology	15 00
GLG 598 ST: Volcanology	35 00
GPH 111 Introduction to Physical Geography	8 00
GPH 211 Landform Processes	15 00
GPH 418 Landforms of the Western United States	20 00
GPH 491 Geographic Field Methods	20 00
GRA 386 Visual Communication III	175 00
GRA 387 Visual Communication IV	175 00
GRA 481 Visual Communication V	175 00
GRA 482 Visual Communication VI	175 00
HEB 101 Elementary Modern Hebrew	15 00
HEB 102 Elementary Modern Hebrew	15 00
HEB 201 Intermediate Modern Hebrew	15 00
HEB 202 Intermediate Modern Hebrew	15 00
IDN 101 Elementary Indonesian I	15 00
IDN 102 Elementary Indonesian II	15 00
IDN 201 Intermediate Indonesian I	15 00
IDN 202 Intermediate Indonesian II	15 00
IND 360 Industrial Design III	175 00
IND 361 Industrial Design IV	175 00
IND 460 Design Project I	175 00
IND 461 Design Project II	175 00
INT 364 Interior Design Studio I	175 00
INT 365 Interior Design Studio II	175 00
INT 464 Interior Design Studio III	175 00
INT 465 Interior Design Studio IV	175 00
INT 466 Interior Design Studio V	175 00
INT 467 Interior Design Studio VI	175 00
ITA 101 Elementary Italian	15 00
ITA 102 Elementary Italian	15 00

Special Fees¹ (continued)

ITA 201 Intermediate Italian	15 00
ITA 202 Intermediate Italian	15 00
JPN 101 Elementary Japanese	15 00
JPN 102 Elementary Japanese	15 00
JPN 107 Japanese for International Professions I	15 00
JPN 201 Intermediate Japanese	15 00
JPN 202 Intermediate Japanese	15 00
JPN 207 Japanese for International Professions II	15 00
JUS 484 Internship	20 00
JUS 584 Internship	20 00
MIC 206 Microbiology Laboratory	10 00
MIC 302 Advanced Bacteriology Laboratory	25 00
MIC 421 Experimental Immunology	20 00
MIC 470 Bacterial Diversity and Systematics	25 00
MUP 111 Studio Instruction	60 00
MUP 121 Studio Instruction	40 00
MUP 127 Studio Instruction	60 00
MUP 311 Studio Instruction	60 00
MUP 321 Studio Instruction	40 00
MUP 327 Studio Instruction	60 00
MUP 511 Studio Instruction	60 00
MUP 521 Studio Instruction	40 00
MUP 527 Studio Instruction	60 00
MUP 727 Studio Instruction	60 00
NOR 101 Elementary Norwegian	15 00
NOR 102 Elementary Norwegian	15 00
NOR 201 Intermediate Norwegian	15 00
NOR 202 Intermediate Norwegian	15 00
NUR 341 Theory I: Health Integrity	50 00
NUR 342 Theory II: Health Integrity and Alterations	50 00
NUR 381 Nursing Practice I	40 00
NUR 382 Nursing Practice II	35 00
NUR 427 Community Health Nursing	10 00
NUR 428 Management of Clients in Health Care Settings	30 00
NUR 429 Community Health Nursing: Clinical	15 00
NUR 430 Home Health Care	15 00
NUR 441 Theory III: Health Integrity and Alterations	50 00
NUR 442 Theory IV: Health Integrity and Alterations	50 00
NUR 481 Nursing Practice III	30 00
NUR 559 Advanced Health Assessment	45 00
NUR 580 Advanced Nursing Practicum I, II	45 00
PLA 361 Landscape Architecture III	175 00
PLA 362 Landscape Architecture IV	175 00
PLA 461 Landscape Architecture V	175 00
PLA 462 Landscape Architecture VI	175 00
PLB 108 Concepts in Plant Biology	10 00
PLB 260 Plants in Cities Introduction to Urban Horticulture	20 00
PLB 300 Comparative Plant Diversity	25 00
PLB 308 Plant Physiology	30 00
PLB 310 The Flora of Arizona	20 00
PLB 340 Plant Cell Physiology	30 00
PLB 362 Landscape Plants I	25 00
PLB 363 Landscape Plants II	25 00
PLB 370 Environmental Landscape Management	25 00
PLB 404 Phycology	25 00
PLB 420 Plant Ecology Organisms and Populations	25 00
PLB 421 Plant Ecology Communities and Ecosystems	25 00
PLB 472 Greenhouse/Nursery Management	25 00
POR 101 Elementary Portuguese	15 00
POR 201 Intermediate Portuguese	15 00
PUP 361 Urban Planning III	175 00
PUP 362 Urban Planning IV	175 00

¹ For information on refunds, see "Refunds," page 50 For ASU West classes, see the *ASU West Catalog*.

² Fees are variable and paid directly to the contractor for rental of aircraft.

Special Class Fees and Deposits for ASU Main and ASU East (continued)

Special Fees¹ (continued)

PUP 461 Urban Planning V	175 00
PUP 462 Urban Planning VI	175 00
PUP 572 Planning Studio I: Data Inventory and Analysis	175 00
PUP 574 Planning Studio II: Options and Implementation	175 00
PUP 599 Thesis	175.00
REC 463 Senior Internship	20.00
RUS 101 Elementary Russian	15 00
RUS 102 Elementary Russian	15 00
RUS 201 Intermediate Russian	15 00
RUS 202 Intermediate Russian	15 00
RUS 211 Basic Russian Conversation	15.00
RUS 212 Basic Russian Conversation	15.00
SED 478 Student Teaching in Secondary Schools	25.00
SED 496 Field Experience	10.00
SED 578 Student Teaching in the Secondary Schools	25.00
SED 598 ST Using Math Manipulatives/Middle Schools	5.00
SPA 101 Elementary Spanish	15.00
SPA 102 Elementary Spanish	15 00
SPA 107 Spanish for International Professions I	15 00
SPA 111 Fundamentals of Spanish	15 00
SPA 201 Intermediate Spanish	15 00
SPA 202 Intermediate Spanish	15.00
SPA 207 Spanish for International Professions II	15 00
SPE 478 Student Teaching in Special Education	25.00
SPE 496 Field Experience	10.00
SPE 498 PS: Field Experience	10 00
SPE 578 Student Teaching in Special Education	25 00
SWE 101 Elementary Swedish	15 00
SWE 102 Elementary Swedish	15 00
SWE 201 Intermediate Swedish	15 00
SWE 202 Intermediate Swedish	15 00
THA 101 Elementary Thai I	15 00
THA 102 Elementary Thai II	15 00
THA 201 Intermediate Thai I	15 00
THA 202 Intermediate Thai II	15 00
THP 113 Techniques of Theatrical Makeup	5.00
THP 213 Introduction to Technical Theatre	40.00
THP 312 Puppetry with Children	10.00
THP 340 Scene Design	5.00
THP 345 Lighting Design	15.00
THP 440 Advanced Scene Design	5 00
THP 441 Scene Painting	20 00
THP 444 Drafting for the Stage	5 00
THP 445 Advanced Lighting Design	5 00
THP 506 Scenography	5.00
THP 512 Puppetry Workshop	10.00
UET 415 Electronic Manufacturing Engineering Principles	10.00
WST 294 ST: Women and Social Action	20.00

Deposits

ADE 321 Architectural Studio I	\$25 00
ADE 322 Architectural Studio II	25 00

Deposits (continued)

ADE 421 Architectural Studio III	25 00
ADE 422 Architectural Studio IV	25 00
ADE 510 Foundation Architectural Studio	25 00
ADE 511 Core Architectural Studio I	25.00
ADE 512 Core Architectural Studio II	25.00
ADE 521 Advanced Architectural Studio I	25.00
ADE 522 Advanced Architectural Studio II	25.00
ADE 621 Advanced Architectural Studio III	25 00
ADE 622 Advanced Architectural Studio IV	25 00
DSC 593 Applied Project	25 00
DSC 599 Thesis	25 00
GRA 283 Letter Form I	25 00
GRA 284 Visual Communication I	25 00
GRA 286 Visual Communication II	25 00
GRA 287 Letterform II	25 00
GRA 382 Graphic Representation	25 00
GRA 383 Typography I	25 00
GRA 385 Typography II	25 00
GRA 386 Visual Communication III	25 00
GRA 387 Visual Communication IV	25 00
GRA 481 Visual Communication V	25 00
GRA 482 Visual Communication VI	25 00
GRA 485 Graphic Design Workshop	25.00
IND 360 Industrial Design III	25.00
IND 361 Industrial Design IV	25 00
IND 460 Design Project I	25 00
IND 461 Design Project II	25 00
INT 364 Interior Design Studio I	25 00
INT 365 Interior Design Studio II	25 00
INT 464 Interior Design Studio III	25 00
INT 465 Interior Design Studio IV	25 00
INT 466 Interior Design Studio V	25 00
INT 467 Interior Design Studio VI	25 00
PLA 361 Landscape Architecture III	25 00
PLA 362 Landscape Architecture IV	25 00
PLA 461 Landscape Architecture V	25 00
PLA 462 Landscape Architecture VI	25 00
PUP 361 Urban Planning III	25.00
PUP 362 Urban Planning IV	25.00
PUP 461 Urban Planning V	25.00
PUP 462 Urban Planning VI	25.00
PUP 572 Planning Studio I: Data Inventory and Analysis	25 00
PUP 574 Planning Studio II: Options and Implementation	25 00

Class Fees Paid in Class or at Location Listed in *Schedule of Classes*

AET 300 Aircraft Design I	\$0-40 00
AMT 100 Flight Safety I-	
AMT 200 Flight Safety II ²	
AMT 300 Flight Safety III ²	
AMT 387 Multiengine Pilot Ground School	17.00/hour
AMT 400 Flight Safety IV ²	
EPE 105 Physical Education Activity (Scuba)	35.00
EPE 305 Physical Education Activity (Advanced Scuba)	35.00

For information on refunds, see "Refunds," page 50. For ASU West classes, see the *ASU West Catalog*.

- Fees are variable and paid directly to the contractor for rental of aircraft.

Financial Aid

The primary responsibility for financing a college education belongs to students and their families (see the "1999 2000 Typical Student Budgets" table, page 58). The Student Financial Assistance Office helps students, within the limits of available funds, meet college costs. Students must complete all applications in an accurate and timely manner and notify Student Financial Assistance of any changes in circumstances that may affect eligibility (e.g., loss of parent's income or change in residency classification). Financial assistance is available as scholarships, grants, loans, and employment. This aid has been made available collectively by the university, alumni, private foundations, civic groups, individuals, and state and federal governments.

To be considered for financial aid, all students must complete an application separate from the admission application. The Free Application for Federal Student Aid (FAFSA) should be completed in January or early February preceding the academic year the student anticipates attending ASU. The priority date for applying is February 15. Applications completed by this date are considered for all grant funds. Applications completed after this date are processed; however, they are considered late applications. Late applications are less likely to receive federal work study, grants, and scholarships due to funding limitations.

An Application Acknowledgement is sent to all applicants. This letter may indicate any additional items or documents needed to complete applications. These items may include copies of federal tax returns, proof of valid visa, and proof of registration with the Selective Service. Students receive a separate Financial Aid Notification. This letter informs them of the types and amounts of aid they are eligible to receive. Applicants should read carefully all correspondence received from Student Financial Assistance.

Students receiving aid from Student Financial Assistance are required to meet minimum standards of satisfactory academic progress. In addition to maintaining the minimum GPA defined for good academic standing, undergraduate students awarded on a full time basis must complete a minimum of 24 semester hours within the academic year. Failure to meet these standards results in the suspension of aid funds for subsequent semesters until the deficiency is satisfied.

Students can access personal information regarding financial aid through the Financial Aid Services Through Technology (FASTT) phone system at 480 968-4400 or on the FASTT Web site at www.asu.edu/fa. Students can access the following information:

1. documents still needed to complete a financial aid file;
2. award information, and
3. financial aid forms for printing.

TYPES OF FINANCIAL AID AND MAJOR PROGRAMS

More than 33,000 students receive financial aid resources that total more than \$255 million. There are four categories

of financial aid: scholarships, grants, loans, and employment.

Scholarships

There are two sources of scholarships at ASU: university funded scholarships and private donor scholarships. Many scholarships are offered on the basis of academic merit. However, financial need criteria may also be included in the selection of recipients. Other considerations are GPA, leadership qualities, and community service.

The Scholarship Office coordinates all scholarship programs. High school students should contact their high school counselors to determine the appropriate process for obtaining a variety of scholarships available to entering freshmen. Other undergraduate students may contact the Scholarship Office. In addition, many academic units provide scholarship funding and select students based on a variety of criteria, which include artistic talent, musical ability, and athletic performance.

New Scholarship Tax Credits. Students may be eligible for either the Hope Scholarship or the Lifetime Learning tax credits. Additional information about these tax credits is available on the Web at sbs.asu.edu.

Consult a personal tax advisor about qualifications for the Hope Scholarship and Lifetime Learning tax credits.

Private Donor Scholarships. More than 7,200 students at ASU receive private donor scholarships. Most of these scholarship funds are provided by employers, private individuals, organizations, and corporations. In most cases, the private donor specifies the criteria used by the Scholarship Office to identify candidates for a particular scholarship.

University Scholarships. More than 5,400 ASU students receive a scholarship from university sources that is generally in the value of tuition and/or fees. The largest source for university scholarships is the waiver program authorized by the Arizona Board of Regents. In addition, many scholarships are funded from a general endowment fund. Some of the typical areas targeted for these scholarships are top academic seniors in Arizona high schools, students who demonstrate leadership, students who demonstrate scholastic or scientific abilities, students with disabilities, and nontraditional students.

Grants

Like scholarships, grants are provided to students without repayment or service obligation. However, the criterion to receive a grant is generally a calculation of financial need. Students must complete the FAFSA. More than 14,000 ASU students receive some form of a grant.

Federal Pell Grant. The Federal Pell Grant program is funded by the federal government and is a basic financial resource to low and moderate income students. Eligibility is determined through the financial aid application process by the federal government. Under this program, the university converts entitlements to cash grant payments. The maximum award for 1999-2000 was \$3,125.

1999–2000 Typical Student Budgets

Item	Dependent			Independent	
	At-Home	On-Campus	Off Campus	On Campus	Off-Campus
Rent	\$ 980	\$ 3,010	\$ 3,785	\$ 3,010	\$ 4,950
Food	2,000	2,000	2,000	2,000	2,000
Personal	2,575	2,575	2,575	3,150	3,150
Total living¹	\$ 5,555	\$ 7,585	\$ 8,360	\$ 8,160	\$ 10,100
Resident tuition	\$ 2,188	\$ 2,188	\$ 2,188	\$ 2,188	\$ 2,188
Special fees	73	73	73	73	73
Books/supplies	700	700	700	700	700
Resident total	\$ 8,516	\$ 10,546	\$ 11,321	\$ 11,121	\$ 13,061
Additional tuition for nonresidents ²	\$ 7,152	\$ 7,152	\$ 7,152	\$ 7,152	\$ 7,152
Nonresident total	\$ 15,668	\$ 17,698	\$ 18,473	\$ 18,273	\$ 20,213

¹ Loan fees are not included in this amount.

² Actual amounts of nonresident tuition are shown in the "1999–2000 Resident and Nonresident Tuition" table, page 48.

Federal Supplemental Educational Opportunity Grant. Funds are received from the federal government by the university, which is required to match the funds. Student Financial Assistance then determines the eligibility of a student based on a specific calculation of exceptional financial need. Generally, recipients of the Federal Pell Grant are eligible to receive a Federal Supplemental Educational Opportunity Grant. The maximum grant for 1999–2000 was \$1,000.

Leveraging Educational Assistance Partnership (LEAP). This program is a three partner program of federal, state, and university funding. Students with a high financial need may receive this particular form of funding. It is restricted to residents of Arizona. The maximum grant for 1999–2000 was \$1,250.

Arizona Trust Fund. This grant source is provided in partnership between ASU students and the state legislature. These funds are provided primarily to resident and undergraduate students with a high financial need. The maximum grant for 1999–2000 was \$1,250.

University Grant. University Grants are generally reserved as the last financial aid program to be used to resolve a student's need. The maximum grant for 1999–2000 was \$2,000.

Loans

More than 18,000 students borrow approximately \$136 million annually. A variety of loan programs provide assistance to students and, in some cases, parents in the financing of a university education.

William D. Ford Direct Student Loan. Through the William D. Ford Direct Student Loan program, the federal government loans money to students based on the university's determination of the student's financial need and cost of education. Repayment begins after the student graduates, leaves school, or drops below half time enrollment. Under this program there are two loan types: subsidized and unsubsidized. With a subsidized Direct Student Loan, the federal government pays the interest on the loan principle

during the student's in-school status, grace, and other authorized periods of deferment. The school bases eligibility for a subsidized loan on the student's financial need which is determined by subtracting the expected family contribution from the cost of education. The school may determine the student to have eligibility for an unsubsidized Direct Student Loan. In this program, the federal government does not pay the interest during the student's in-school status, grace, or other authorized periods of deferment. As the student proceeds through school, interest will accrue and will be added once the student enters repayment. Otherwise, conditions and terms for the two programs are the same.

There is a variable interest rate that is adjusted every July 1. Interest cannot exceed 8.25 percent. The federal government provides several options for repayment once the student has left school. For students who are considered dependent based on their financial aid application, the following total annual loan limits for subsidized and unsubsidized apply: freshmen may borrow up to \$2,625 per year; sophomores, up to \$3,500 per year; and juniors and seniors, up to \$5,500 per year. For students who are considered independent, the following annual loan limits apply: freshmen may borrow up to \$6,625, of which only \$2,625 can be subsidized; sophomores, up to \$7,500 of which only \$3,500 can be subsidized; and juniors and seniors, up to \$10,500, of which only \$5,500 can be subsidized.

Federal Perkins Loan. The Federal Perkins Loan program is funded by the federal government; the school is the actual lender, and repayments after graduation are made to the university at a 5 percent interest rate. Like the subsidized Student Loan, no interest accrues on the Perkins Loan during the enrollment period. If funding is available, deferment and cancellation provisions may apply to graduates working in community service, qualifying law enforcement, and teaching occupations. Maximum awards were \$4,000 for 1999–2000.

Parent Loan for Undergraduate Students. Under the Parent Loan for Undergraduate Students (PLUS), parents may borrow money from the federal government on behalf of

their dependent students. With this loan, interest is not deferred and repayment begins 60 days after disbursement of the loan to the parent. The PLUS approval is based on the parent's credit history. If parents are determined ineligible for a PLUS and students need additional funds, they should contact the Student Financial Assistance office to determine their eligibility for an unsubsidized Direct Student Loan. There is a variable interest rate adjusted every July 1. Interest cannot exceed 9 percent. The maximum loan amount is determined by subtracting all other financial aid from the student's cost of education.

Employment

Approximately 7,000 students earn \$26 million from on-campus part-time student employment programs.

Federal Work-Study. Funds for this program are provided on a matching basis by the federal government and the university. Students employed under this program receive the same pay rates as other students being employed at the university. In this program, students must demonstrate a financial need. Employers are encouraged to hire needy students.

University Hourly. The university, with its own resources, hires many students on a part-time basis. Although the jobs are similar to those under the Federal Work-Study Program, the university provides the entire amount of the student's wage.

Part-Time Off-Campus. The university receives requests for assistance from many agencies and corporations throughout the area to help them recruit and hire students on a part-time basis. The referral service at the university provides opportunities for students not only to earn funds to support their education but to gain experience in the areas of their majors or career interests.

Taxability of Financial Aid Programs

Scholarships, grants, fellowships, and stipends (but not loan funds) are taxable income to the recipient, except for the portion of these funds used for tuition, registration, and other university fees, or books, supplies, and equipment required for the courses being taken. Special tax regulations also apply to nonresident alien students and may require withholding of taxes at the time of aid disbursements to these individuals. Information on the taxability of scholarships can be obtained from the following Internal Revenue Service (IRS) publications and forms: *Publication 4—Student's Guide to Federal Income Tax*; *Publication 519—U.S. Tax Guide for Aliens*; *Publication 520—Scholarships and Fellowships*; Form 1040EZ, and Instructions—Income Tax Return for Single and Joint Filers with no dependents; and Form 1040NR and Instructions—U.S. Nonresident Alien Income Tax Return.

These publications and forms can be obtained from the IRS at its toll-free number 1-800-829-FORM (3676). These publications and forms can also be accessed online at www.irs.ustreas.gov/prod/forms_pubs.



Cady Fountain

Michael Martin photo

Classification of Courses

COURSE INFORMATION

Information about all lower- and upper-division courses offered at ASU Main and ASU East appears in the *General Catalog*, available on the Web at www.asu.edu/aad/catalogs. Classes scheduled for the current or upcoming fall or spring semester are listed in the *Schedule of Classes*. Classes scheduled for the summer sessions are listed in the *Summer Sessions Bulletin*. The *Schedule of Classes* and *Summer Sessions Bulletin* are also available online at www.asu.edu/registrar/schedule. Information about all courses that apply toward graduate programs appears in the *Graduate Catalog*. Information about lower- and upper-division courses offered at ASU West appears in the *ASU West Catalog*.

See the "Course Prefix Index," page 6, for the location of all ASU courses by prefix.

COURSE NUMBERING SYSTEM

100–299 (Lower-Division) Courses. Lower-division courses are designed primarily for freshmen and sophomores. Certain classes are closed to freshmen who lack the designated prerequisites or whose majors are outside the unit offering the course. This information is available in the *General Catalog*, in the *Schedule of Classes*, or from the student's academic advisor.

300–499 (Upper-Division) Courses. Upper-division courses are designed primarily for juniors, seniors, and other advanced students. Prerequisites and other restrictions should be noted before registration. Courses at the 400 level apply to graduate degree requirements for individual programs of graduate study when approved by the Graduate College.

500–799 (Graduate-Level) Courses. Graduate-level courses are designed for graduate students. However, an upper-division undergraduate student may enroll in these courses with the approval of the student's advisor, the course instructor, the department chair, and the dean of the college in which the course is offered. If the course does not meet an undergraduate graduation requirement, it may be eligible for use in a future graduate program on the same basis as work taken by a nondegree graduate student. See "Reserving of Course Credit by Undergraduates," page 75.

Continuing Registration. Courses numbered 595, 695, and 795, Continuing Registration, carry one semester hour of credit; however, the student receives neither credit nor grade for the course.

Omnibus Courses. The omnibus numbers are used for courses offered on an experimental or tutorial basis or for courses in which the content is new or periodically changes. Academic units use their own prefixes before omnibus course numbers. The general nature of the work required for a particular omnibus course is consistent from unit to unit, but subject matter varies. Omnibus courses are often offered for a variable number of semester hours. See the appropriate academic unit in the *General Catalog* or major in the *Graduate Catalog* for the omnibus course listing under a subject area.

uate Catalog for the omnibus course listing under a subject area.

OMNIBUS UNDERGRADUATE COURSE DESCRIPTIONS

191 First-Year Seminar. 1-3

Small course emphasizing student faculty discussion/interaction. Strongly recommended for first-year students. Must have taken 25 or fewer semester hours. Consulting an academic advisor before enrolling is recommended.

194, 294, 394, 494 Special Topics. 1–4

Covers topics of immediate or special interest to a faculty member and students.

484 Internship. 1-12

Structured practical experience following a contract or plan supervised by faculty and practitioners.

498 Pro-Seminar. 1-7

Small-group study and research for advanced students within the major. Major status in the department or instructor approval is required.

499 Individualized Instruction. 1-3

Provides an opportunity for original study or investigation in the major or field of specialization on an individual and more autonomous basis. Neither a substitute for a catalog course nor a means of taking a catalog course on an individual basis. Requires application with an advance of regular registration with the student's advisor, the advisor's signature, and approval by both the instructor with whom the student works and the chair of the department offering the course. This course may be taken only by outstanding senior students who have completed at least one semester in residence and who have a cumulative GPA of 3.00 or higher in the major or field of specialization. A special class fee may be required.

First-Year Seminar. The First-Year Seminar series is specifically designed to meet the needs of the first-year student. Faculty volunteer to direct the seminars and choose course topics according to their own interests and areas of specialization. Class size is restricted so that, early in their college careers, students may interact directly with some of the best faculty the university has to offer.

Honors Courses. The courses listed as 298 and 492 Honors Directed Study, 493 Honors Thesis, 497 Honors Colloquium, and all courses with the HON prefix are reserved for students in the Craig and Barbara Barrett Honors College. These courses range in credit from one to six semester hours. Consulting with an honors advisor before enrolling is recommended.

OMNIBUS GRADUATE COURSE DESCRIPTIONS

500, 600, 700 Research Methods. 1-12

Course on research methods in a specific discipline.

580, 680, 780 Practicum. 1-12

Structured practical experience in a professional program supervised by a practitioner and/or faculty member with whom the student works closely.

583, 683, 783 Field Work. 1-12

Structured supervised field experience in a field of science or other discipline requiring experience in field techniques.

584, 684, 784 Internship. 1-12

Structured practical experience following a contract or plan supervised by faculty and practitioners.

590, 690, 790 Reading and Conference. 1-12

Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing syntheses of literature on a specified topic, writing literature review of a topic.

591, 691, 791 Seminar. (1–12)

A small class emphasizing discussion, presentations by students, and written research papers.

592, 692 Research. (1–12)

Independent study in which a student, under supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript.

593, 693, 793 Applied Project. (1–12)

Preparation of a supervised applied project that is a graduation requirement in some professional majors.

594 Conference and Workshop. (1–12)

Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals.

595, 695, 795 Continuing Registration. (1)

Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending thesis or dissertation, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned.

598 Special Topics. (1–4)

Topical courses not offered in regular course rotation—e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand.

599 Thesis. (1–12)

Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing.

792 Research. (1–15)

Independent study in which a student, under supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript.

799 Dissertation. (1–15)

Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing.

The preceding courses are described in announcements of the Graduate College and are also available in the respective departments. Under special circumstances, arrangements may be made at the dean's request, through the approval of the senior vice president and provost, to increase the standard semester hours of credit.

LAW 597, 697, and 797. The numbers 597, 697, and 797 have been reserved for the Visiting Student Program in the College of Law.

Prerequisites and Corequisites. Some requirements, known as prerequisites, must be met *before* registering for a course. Other requirements, called corequisites, must be met *while* taking a course. A student registering for a course should be able to show that prerequisites have been met and that corequisites will be met as stated in the catalog or *Schedule of Classes* or must otherwise satisfy the instructor that equivalent preparation has been completed.

International Program Courses. Courses with the prefix IPO numbered 495 and 595 are reserved for International Programs study abroad and exchange programs. For most programs, participating students register for 18 semester hours. Following completion of an international program, undergraduate students receive credit for the study completed, with a minimum of 12 semester hours and a maximum of 18 semester hours, graduates with a minimum of six semester hours and a maximum of 12 semester hours.

IPO courses numbered 495 and 595 are converted to ASU credit for recording courses taken abroad.

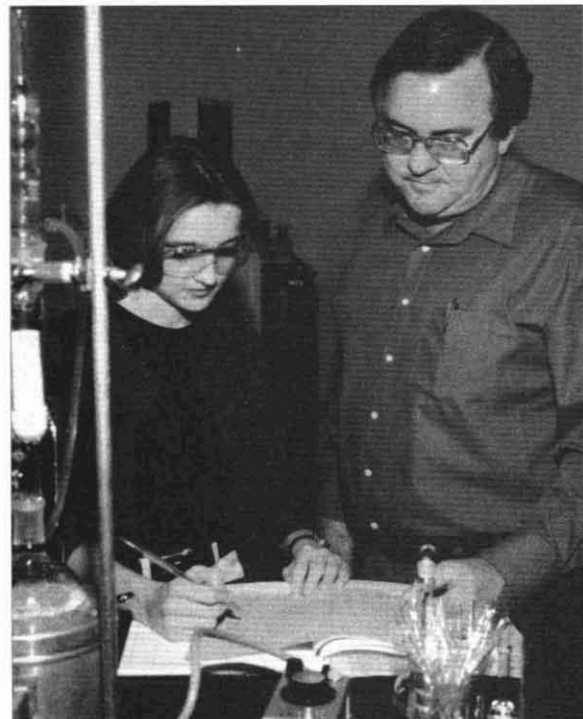
IPO courses numbered 494 and 598 may be taken for one semester hour. Students register for these courses under the title "Study Abroad." At the conclusion of the program and the transfer of overseas courses to the students' ASU records, a grade of "Y" is entered for the course.

For some special international programs, students register and receive credit for fewer semester hours.

Key to Course Listing Codes

Code	Definition
M	ASU Main and ASU East campus code*
W	ASU West campus code*
GLG	Example of a departmental prefix designation
410	Example of a course number
(3)	Example of course semester hours
F	Course offered fall only
S	Course offered spring only
SS	Course offered summer session only
F, S	Course offered both semesters
F 2000	Course offered every other year on semester indicated
A	Course offered once a year
N	Course not regularly offered

* Campus codes are not used in the catalogs but appear in the *Schedule of Classes* and the *Summer Sessions Bulletin*.



Though ASU is the third largest public university in the United States, its professors still find time for their students.

Tim Trumble photo

Undergraduate Enrollment

Arizona State University shares with other colleges and universities a tradition of service and academic excellence that is hundreds of years old. Its purpose is the exchange of knowledge and the pursuit of wisdom. What makes this university special is its commitment to providing a setting where faculty and students are challenged to exchange ideas and information within an atmosphere of intellectual honesty.

The university offers its students unique opportunities to enjoy both a rich cultural heritage and a diverse student population. Anyone giving evidence of suitable preparation, by way of acceptable academic credentials, is welcome to the university without regard to race, religious creed, or national origin.

Under the constitution and the laws of the State of Arizona, jurisdiction over ASU has been vested in the Arizona Board of Regents. The regents, in turn, grant broad legal authority to the president, the administration, and the faculty to regulate student life within reasonable limits.

By enrolling, a student voluntarily assumes certain obligations of conduct and performance. These obligations include acting with honesty, integrity, and fairness in all campus and community activities. They also include avoiding certain behaviors, such as the irresponsible use of alcohol; the use, possession, or distribution of illegal drugs; and verbal or physical assaults. Should a student advertently or inadvertently become involved in questionable campus-related actions or activities, the university will investigate the circumstances and will enforce its standards of conduct through prescribed procedures contained in the *Student Code of Conduct*.

Students are expected to become familiar with the *Student Code of Conduct*. Copies are available in the Office of Student Life. Both individuals and groups must adhere to these university standards of conduct. Violations of the *Student Code of Conduct* will subject the offenders to university disciplinary action.

The university further reserves the right to take necessary and appropriate action to protect the safety and welfare of the campus community and will cooperate with appropriate law enforcement agencies in their efforts to ensure a safe and secure environment.

STUDENT SERVICES AT ASU

Arizona State University is a richly diverse academic setting with more than 49,000 students. The ASU student may be a traditional 18- to 24-year-old, a recent high school graduate, a community college transfer, someone returning to college to pursue a degree, or a professional studying for an advanced degree or career change. The ASU student may live in residence halls, in on-campus housing for sororities or fraternities, or in one of the many communities in the metropolitan Phoenix area. Each of the 50 states and more than 100 countries have students enrolled at ASU.

The university is organized into several distinct administrative areas. Student Affairs, one of these areas, is responsible for the delivery of a variety of services and developmental programs in support of students' university needs and

educational pursuits. These programs and services are based upon human development research that advocates that a person develop culturally, emotionally, intellectually, morally, physically, psychologically, socially, and spiritually.

Special attention is given not only to the recruitment of a high-achieving, culturally diverse student body, but to the creation of an energetic campus environment that both catalyzes mature development and advances the academic endeavors of students.

Enrollment services to students begin with recruitment, admissions, student financial assistance, on-campus housing, and registration programs. Student Affairs encourages students to explore the facilities, services, and human resources available. ASU Main departments guiding students in their educational experience include Career Services, Counseling and Consultation, Educational Development, the Memorial Union, Recreational Sports, Residential Life, Student Development, Student Health, Student Life, and Student Media. Each of these areas provides specialized learning opportunities, contributing to an environment that fosters both personal and academic growth.

Undergraduate Admission

Arizona State University welcomes application for admission from anyone seeking to benefit from the university's broad spectrum of educational programs and services.

For information and application materials, prospective students may call 480-965-7788 or write

UNDERGRADUATE ADMISSIONS
ARIZONA STATE UNIVERSITY
PO BOX 870112
TEMPE AZ 85287-0112

With reasonable advance notice, Undergraduate Admissions arranges for a tour of ASU Main, a university information session, and, if desired, a meeting with an admissions counselor.

Requests for specific information relating to academic programs or student services should be addressed to the appropriate department, school, division, or college.

Admission Procedures for Freshman and Transfer Applicants

Individuals interested in admission to an undergraduate program at ASU need to have the following four items on file at Undergraduate Admissions (non-U.S. citizens should see "International Student Admissions," page 67, for additional requirements): the application, the fee, official transcripts, and test scores.

Application for Admission. Prospective students must complete and sign the Application for Undergraduate Admission. Like other state-supported colleges and universities, ASU distinguishes between resident and nonresident students with regard to tuition. Residents of Arizona are required to provide residency information, which is part of the admission application. Any student who does not provide residency information is classified as a nonresident for

tution purposes. For more information, call the Residency Classification Office at 480 965 7712.

Students who are admitted for a specific semester and do not enroll must submit a new application (and application fee for nonresident applicants) if they wish to apply for a subsequent semester. All documents are destroyed one year after the semester for which the student has applied if the student is not enrolled in a degree program. Any misrepresentation or falsification on the admission application, including failure to report any college or university attendance, is cause for cancellation of enrollment and any credit earned.

Application Fee. All applicants applying as nonresidents or residing outside Arizona must submit a \$40 nonrefundable application fee.

Official Transcripts. Applicants are responsible for requesting transcripts from each education institution attended. Official transcripts must be *mailed directly to Undergraduate Admissions by the records office of the issuing institution(s)*. ASU does not accept transcripts sent or carried by hand by the applicants themselves or transmitted by facsimile (fax) machine. High school transcripts must show GPA, and date of graduation. ASU requires an English translation of all foreign language transcripts.

American College Test (ACT) or Scholastic Aptitude Test (SAT). See "Freshman Applicants," on this page, to determine which test scores are needed. Undergraduate Admissions may investigate any test score that is inconsistent with a student's academic record or previous scores.

A report of the test scores should be sent to Undergraduate Admissions directly from

AMERICAN COLLEGE TESTING PROGRAM
PO BOX 168
IOWA CITY IA 52243 0168

or the

COLLEGE BOARD ADMISSIONS TESTING
PROGRAM
PO BOX 592-R
PRINCETON NJ 08542-0590

Application Time Line. ASU urges applicants to apply and to have their materials sent as soon as possible to enable university officials to make an early decision concerning the applicant's admission and to permit the student to take part in preregistration and orientation. Applicants should allow four weeks after all necessary items are received for an admission decision to be made.

Early Notification Date. Applicants whose files are complete (all necessary documentation has been received) by November 1 receive notification by December 1. Applicants whose files are complete by December 1 receive notification by January 15.

Admission Before Receipt of Final Transcript. Admission may be granted to high school seniors who submit a six semester or seven semester transcript that shows academic quality and rank in class in keeping with admission standards and who complete the steps in the undergraduate admission procedures. Admission is official when verification of high school graduation showing the final GPA and

the date of graduation has been received in the mail by Undergraduate Admissions directly from the high school. Final transcripts must be received a minimum of 45 days in advance of the start of the semester. An admission may be canceled if the final verification shows that the applicant has not met the university requirements for admission or that more than two deficiencies remain.

Transfer applicants enrolled in other colleges and universities may be considered for admission on the basis of meeting all admissions requirements, except for a final transcript of work in progress. This final transcript must be sent to Undergraduate Admissions directly from the issuing institution immediately after the work in progress has been completed. Transcripts carried by hand are not accepted. *Admission is official only after the final transcript has been received showing that the applicant has met the university admission requirements.* In the event the applicant does not qualify or has falsified application documents, admission and registration are canceled, and any registration fees paid are returned.

Undergraduate Admission Standards

The Arizona Board of Regents establishes undergraduate admission standards for the university in general. *Particular colleges, divisions, schools, or departments within the university may establish stricter standards, which are given in the respective sections of the catalog and should be noted by students planning to enroll in any of these programs.*

Freshman Applicants

Undergraduate Admissions requires freshman applicants' official high school records. To be eligible for admission to ASU, a freshman must have graduated from a recognized high school with satisfactory scholarship defined as meeting both the general aptitude and basic competency requirements shown in the "Basic Competency Requirements" table, page 64, and the "General Aptitude Requirements for Freshmen" table, page 65.

Applicants with a maximum of one deficiency in no more than two competency areas provided the competency areas are not both math and science may be admitted with conditions subject to removing the deficiencies within one calendar year of university enrollment. See "Basic Competencies" table, page 81, for an explanation of procedures to meet these competencies.

If the applicant is unable to meet these specific admission requirements, it is possible to file a letter of appeal with the Undergraduate Admissions Board:

UNDERGRADUATE ADMISSIONS BOARD
ARIZONA STATE UNIVERSITY
PO BOX 870112
TEMPE AZ 85287 0112

The decision of the board is final. The applicant must be able to meet at least one of the following criteria to be considered for appeal:

1. an upward grade trend during the high school career or an upward grade trend during the senior year;
2. positive recommendations from secondary school administrators, faculty, or counselors based on considerations such as academic potential, work experience, and leadership ability;

Basic Competency Requirements

High School Courses	Test Scores	College Courses
English Four years high school: English composition literature based	<i>or</i> Minimum test score: ACT English—21 ¹ or SAT I Verbal—530 (450) ²	<i>or</i> One transferable three-semester-hour college-level course in English composition
Fine Arts One unit of fine arts or a combination of two semesters of fine arts	<i>or</i> NA	<i>or</i> One transferable three-semester-hour fine arts course
Foreign Language Two years of the same foreign language	<i>or</i> NA	<i>or</i> One year of transferable college study in the same foreign language
Laboratory Science Three years high school, one each from three of the following: biology, chemistry, earth science, integrated sciences, and physics. An advanced level course may be substituted for one subject area.	<i>or</i> Two years high school lab science (biology, chemistry, earth science, physics) plus minimum SAT II: subject test score on one of the following: ² Biology Achievement—590 (550) Chemistry Achievement—600 (575) Physics Achievement—620 (590) ACT Science Reasoning—20 The test score may not be from any subject from which high school credit was earned	<i>or</i> Three transferable four-semester-hour college-level lab science courses in different subject areas. An advanced-level course may be substituted for one subject area.
Mathematics Four years high school: one year Algebra I, one year Geometry, one year Algebra II, and one year advanced mathematics	<i>or</i> Minimum test score: ACT Math 24 ¹ or SAT I Math—540 (500) ²	<i>or</i> One transferable three-semester-hour course in mathematics for which Algebra II is a prerequisite
Social Science Complete both A and B. A. One year high school American history B. One year high school social science (e.g., anthropology, European history, geography, government, world history)	<i>or</i> Minimum SAT II: subject test score on American History and Social Studies Achievement—560 (510) ² Minimum SAT II: subject score on World History Achievement 580 (545) ²	<i>or</i> One transferable three-semester-hour college-level American history course One transferable three-semester-hour college level social science course

The ACT scoring system has been modified. As a result, these scores are effective for tests taken in and after October of 1989. Equivalent scores for tests taken before October 1989 are 19 for English and 18 for math

² The SAT scoring system has been modified. As a result, these recentered scores are effective for tests taken on or after April 1, 1995. Equivalent scores for tests taken before April 1995 are in parentheses

- an average score of 50 or greater on the General Education Development (GED) examination; or
- completion of at least 12 semester hours of college freshman level academic studies (at a community college or at a university or both) with a GPA of 2.50 or higher on a 4.00 A scale in courses in English, social science, mathematics, physical or natural science, foreign languages, fine arts, or the humanities.

Transfer Applicants

Transfer applicants must submit official academic records from all colleges and universities attended. Transfer applicants under the age of 22 who have not completed an Arizona General Education Curriculum (AGEC) or associate's degree must submit official high school records and meet

basic competency requirements. Students who have not completed first semester freshman composition from a regionally accredited institution must also submit official SAT or ACT test scores.

Arizona Applicants. An Arizona applicant for transfer admission must have a cumulative GPA of 2.00 (4.00 = A) or higher in all work undertaken at previous institutions of higher learning. A minimum of 24 college or university transferable semester hours must have been earned to be considered a transfer applicant.

Arizona transfer applicants must have the respective minimum GPAs to be admitted to the professional programs in the following areas: computer science 2.50; construction 2.25; economics 2.50; engineering 2.50, and tech-

General Aptitude Requirements for Freshmen

Residency Classification	Class Rank	Composite Score					
		ACT ¹		SAT ²		GPA (4.00 A)	
Arizona Residents ³	top quarter	or	22	or	1040	or	3.00 competency GPA ⁴
Nonresidents ⁵	top quarter	or	24	or	1010	or	3.00 competency GPA

The ACT scoring system has been modified. As a result, these scores are effective for tests taken in and after October of 1989. Equivalent scores for tests taken before October 1989 are 21 for Arizona residents and 23 for nonresidents.

² The SAT scoring system has been modified. As a result, these recentered scores are effective for tests taken on or after April 1, 1995. Equivalent scores for tests taken before April 1995 are 930 for Arizona residents and 1010 for nonresidents.

³ Resident freshmen who carry a competency GPA from 2.50 to 2.99 or who rank in the top 26–50% of the graduating high school class may be admitted with conditions.

⁴ A GPA calculated on courses that are used to fulfill competency requirements.

⁵ All nonresident freshmen who believe they have had a strong high school background and who rank in the top 26–50% of their graduating classes or who carry a competency GPA from 2.50 to 2.99 may apply and are considered on a case-by-case basis. Based on the review, the applicants may be admitted with conditions, deferred until additional course work is completed, or denied.

nology 2.25. Other academic units may have different GPA requirements to enroll in junior or senior level courses.

Nonresident Applicants. A non-Arizona applicant for transfer admission must have a cumulative GPA of 2.50 or higher on a 4.00 A scale in all work undertaken at previous institutions of higher learning. Applicants who have at least a 2.00 on a 4.00 A scale and who believe that they have a strong academic record are considered on a case-by-case basis.

Transfer Credit

Credit is awarded for traditional course work successfully completed at institutions of higher learning as indicated by ASU and the Arizona Board of Regents. *Whether the specific credits can be applied toward a degree depends on the requirements of the department, division, school, or college in which the student is enrolled.* There are several qualifications:

1. Transfer credit is not given for courses in which the lowest passing grade ("D") or a failing grade was received.
2. While some courses successfully completed but evaluated on nontraditional grading systems (e.g., pass/fail) may be acceptable for transfer, colleges in the university may not accept such credits to fulfill graduation requirements.
3. Grades and honor points earned at other colleges and universities are considered for admission but are not included in computing the student's cumulative GPA at ASU.

The following types of credits cannot be transferred to ASU:

1. credits awarded by postsecondary institutions in the United States that lack candidate status or accreditation by a regional accrediting association;
2. credits awarded by postsecondary institutions for life experience;
3. credits awarded by postsecondary institutions for courses taken at noncollegiate institutions (e.g., governmental agencies, corporations, industrial firms);

4. credits awarded by postsecondary institutions for noncredit courses, workshops, and seminars offered by other postsecondary institutions as part of continuing education programs; and
5. credit for active service or courses that were taken through the military.

Acceptable academic credits earned at other institutions that are based on a different unit of credit than the one prescribed by the Arizona Board of Regents are subject to conversion before being transferred to ASU. Once a transfer course equivalency is determined, it stands unless the student changes majors and the course is required by the new major.

Veterans Exception. By Arizona statute, no failing grades received by a veteran at an Arizona university or community college before military service may be considered when determining admissibility. This exception applies only to veterans who

1. are honorably discharged,
2. have served in the armed forces of the United States for a minimum of two years; and
3. have previously enrolled at a university or community college in Arizona.

Military service records must be submitted, including form DD 214.

Community Colleges. A maximum of 64 semester hours are accepted as lower-division credit when transferred from community, junior, or two-year colleges.

Students Attending Arizona Community Colleges. To determine the equivalency of courses offered by Arizona community colleges and courses offered at ASU, a student should refer to the *Arizona Higher Education Course Equivalency Guide (CEG)* in consultation with an academic advisor. The CEG addresses only the acceptability of a course, not its applicability to any specific major, thus the need to consult with an advisor. Community college students who plan to transfer to ASU at the end of their first or second years are strongly advised to follow the ASU transfer guides when taking courses to meet the requirements of the curricula they select. ASU transfer guides are available

General Aptitude Requirements for College Transfers¹

Residency Classification	Transferable Semester Hours	GPA (4.00 A)	Materials Required
Arizona residents	1-23	2.00 college GPA plus general aptitude requirements for freshman plus competency requirements	Application, college and high school transcripts, and ACT or SAT scores
	24 or more	2.00 college GPA plus competency requirements	Application, college and high school transcripts, and ACT or SAT scores
Nonresidents ²	1-23	2.50 college GPA plus general aptitude requirements for freshman plus competency requirements	Application, college and high school transcripts, and ACT or SAT scores
	24 or more	2.50 college GPA plus competency requirements	Application, college and high school transcripts, and ACT or SAT scores

¹ Students 22 years of age or older and students who have completed an AGEC or associate's degree at the time of enrollment do not need to submit high school transcripts or test scores

² All nonresident transfers who have earned a 2.00–2.49 cumulative GPA are encouraged to apply and are considered on a case-by-case basis. Based on the review, the applicants may be admitted with conditions, deferred until additional course work is completed, or denied.

at www.asu.edu/provost/articulation. Provided college attendance has been continuous, students are permitted to follow the degree requirements specified in the ASU catalog in effect at the time they began community college work. See "Guidelines for Determination of Catalog Year," page 83.

Arizona General Education Curriculum (AGEC)

The Arizona public community colleges and universities have agreed upon a common structure for a general education core. This curriculum provides students attending any Arizona public community college with the opportunity to build a general education program that is transferable to any other state institution without loss of credit. This common agreement is called the Arizona General Education Curriculum (AGEC).

The AGEC is composed of 35 semester hours of lower division general education course work in which a student may prepare for transfer.

The AGEC has three forms: AGEC A, AGEC B, and AGEC S. Refer to www.abor.asu.edu/abor3/board/student/transfer/agec.html for a detailed description of each AGEC.

Community colleges are responsible for certifying completion of the AGEC on the official institutional transcripts.

Completion of the appropriate AGEC will fulfill university lower division general education requirements of the baccalaureate degree with which the AGEC articulates but may not apply to degrees articulated with the Transfer Guide Pathway TG XR. Students completing the AGEC will still be required to fulfill lower division program requirements and prerequisites within their college and major/minor area of study. To complete a degree program most efficiently, students should select courses to meet the AGEC requirements that will also fulfill program requirements in the college and major they intend to pursue upon transfer.

Completion of any AGEC guarantees admission to the university provided that a GPA of 2.00 (for Arizona residents) or 2.50 (for nonresidents) has been achieved. AGEC completion, however, does not guarantee admission to any specific university program. Majors in the professional fields (e.g., architecture, engineering, business, fine creative arts, or health professions) and sciences have significant

prerequisites and/or program requirements that must be completed before a student may be admitted to upper division course work. Community college students who are undecided about which of the universities they plan to attend or what program of study they intend to pursue are advised to explore educational options while they complete the AGEC. In all cases, students have the responsibility for selecting general education course work that is relevant to the requirements of their intended major and degree.

Students who complete both the AGEC and an approved associate's degree will be assigned junior class standing by the state universities. Junior class standing is based on the number of semester credits a student has earned and does not necessarily indicate the remaining number of semester credits needed to complete degree requirements. Course prerequisites, major requirements, and upper division requirements continue to be specified by each university. Appropriate sequencing of courses and timely completion of course prerequisites are essential to ensure efficient progress toward a baccalaureate degree. Students who have identified the university they plan to attend and/or a major area of study are advised to fulfill requirements and prerequisites identified by these programs through transfer guides and/or curriculum check sheets provided by the state universities. The AGEC does not replace articulation agreements developed to enhance the transfer process between specific institutions, e.g., Transfer Partnership Degrees. Nor does the AGEC eliminate the possibility that students who have identified the university they plan to attend and/or a major area of study will follow transfer guides provided by the state universities.

Upon completion of the AGEC, the community college will certify achievement of the block on the official institutional transcript.

The AGEC is reviewed and monitored each academic year by the subject area articulation task forces and the General Education Articulation Task Force (GEATF). The state-wide GEATF is composed of representatives from each Arizona community college and state university. The GEATF is responsible for monitoring the AGEC and reviewing related appeals.

Appeal Procedure. Transfer students who feel they have been unjustly denied credit for courses they have taken may appeal to the standards committee of the colleges in which they have enrolled. This procedure does not apply to community college transfer of credit greater than the 64 hour maximum. The decision of this committee is final.

An applicant for transfer admission whose academic record fails to meet ASU admission standards is denied admission. Such an applicant, however, may write a letter of appeal accompanied by three letters of recommendation to the Undergraduate Admissions Board for reconsideration of his or her application:

UNDERGRADUATE ADMISSIONS BOARD
ARIZONA STATE UNIVERSITY
PO BOX 870112
TEMPE AZ 85287-0112

The decision of this board is final

International Student Admissions

To comply with Immigration and Naturalization Services regulations, students who plan to attend ASU on an F-1 or J-1 visa must

1. have a minimum GPA of 3.00 (4.00 – A) from secondary school course work if a freshman applicant, or have a minimum GPA of 2.50 (4.00 – A) from college or university course work, if a transfer applicant;
2. meet basic competency requirements if attended four years of high school in the U.S.;
3. submit a financial statement not more than six months old from a financial institution assuring adequate resources to support themselves while in residence at the university;
4. have all required admissions materials and credentials reach Undergraduate Admissions by May 1 if applying for the fall semester or October 1 if applying for the spring semester (an English translation of all foreign language documents is required);
5. pay a nonrefundable application fee of \$40 in U.S. funds; and
6. meet all appropriate immigration standards and requirements.

Credit from a Foreign Institution. Transfer credits or advanced standing is granted for academic course work completed at foreign tertiary level institutions that are either recognized by the home government/Ministry of Education as a degree awarding institution or attached to a regionally accredited U.S. college or university as a Study Abroad Program. There are no advanced credits for the international affiliation programs overseas unless they comply with this general policy.

Nondegree International Applicants. All students with F-1 and J-1 visas must maintain full-time status while studying in the United States. Undergraduate full-time status is defined as a minimum of 12 semester hours. However, students with F-1 and J-1 visas may be permitted to take a maximum of six semester hours at ASU as a nondegree student while maintaining full-time status at other higher education institutions or the American English and Culture Program (AECPP) at ASU. Approval by the responsible office at

the other institution and/or AECPP is required to ensure the student maintains full-time status in compliance with applicable U.S. laws and regulations.

TOEFL. Applicants whose native language is not English (identified by the U.S. Department of State Bureau of Public Affairs) must provide evidence of English language proficiency as indicated by acceptable scores on the Test of English as a Foreign Language (TOEFL). A minimum TOEFL score of 500 (paper based) or 173 (computer based) is required for general admission to the university, and a minimum score of 550 (paper based) or 213 (computer based) is required for the professional programs in the School of Engineering, Del E. Webb School of Construction, and the College of Nursing. The following three exceptions apply:

1. Applicants who have completed their junior and senior years in a U.S. high school with a minimum 3.00 GPA may provide an SAT Verbal score of 580 or an ACT English subscore of 23 in place of a TOEFL score for the professional programs in the School of Engineering and the Del E. Webb School of Construction. Scores of 550 on the SAT Verbal or 23 on the English subscore place these applicants in the preprofessional programs. Applicants who have completed their junior and senior years at a U.S. high school with a GPA between 2.50 and 2.99 may provide a minimum TOEFL score of 550 (paper based) or 213 (computer based) or a minimum SAT score of 580 or a minimum ACT score of 23 to be admitted to the preprofessional programs.
2. Applicants who have completed a minimum of 48 semester hours of transfer credit at a U.S. college or university (including completion of two semesters of first-year composition, earning a minimum 2.50 cumulative GPA), may be admitted into the preprofessional programs without the TOEFL. Entrance into the professional programs in the School of Engineering and the Del E. Webb School of Construction requires a TOEFL score of 550 (paper based) or 213 (computer based), an SAT verbal score of 580, or an ACT English subscore of 23.
3. Applicants who have received a bachelor's degree from a college or university in the United States are exempt from the TOEFL. If these applicants meet the admission standards for the professional programs, exclusive of language tests, they are admitted to the professional program.

American English and Culture Program

The American English and Culture Program (AECPP) features an intensive course of study designed for adult international students who desire to become proficient in English as a second language for academic, professional, or personal reasons. Inquiries about the curriculum, fee schedule, and other topics should be addressed to

AMERICAN ENGLISH AND CULTURE PROGRAM,
DEPARTMENT 4
ARIZONA STATE UNIVERSITY
PO BOX 873504
TEMPE AZ 85287-3504

Acceptance into the American English and Culture Program is separate from admission to the university. For more information, see "American English and Culture Program," page 261.

Applicants with Disabilities

Some classroom accommodations, such as braille, audio tapes, interpreting services, enlarged print, and lab material conversions, require an extended preparation time (i.e., one semester). For this reason, applicants with disabilities are encouraged to contact Disability Resources for Students (DRS) upon application to the university to request information regarding disability documentation/eligibility requirements and deadlines to ensure accommodations for the beginning of the semester. (If students miss DRS deadlines, DRS attempts to provide, but cannot guarantee, appropriate accommodations. Effective alternatives may be necessary.) *Disability identification to DRS is confidential and cannot affect eligibility for admission.*

Call 480 965 1234 (voice) or 480 965 9000 (TTY). Access the Web site at www.asu.edu/drs, or write

DISABILITY RESOURCES FOR STUDENTS
ARIZONA STATE UNIVERSITY
PO BOX 873202
TEMPE AZ 85287-3202

Admission of Undergraduate Nondegree Applicants

Any high school graduate is invited to enroll for six or fewer semester hours per semester of undergraduate course work as a nondegree student. Students currently enrolled in high school and persons under the age of 18 may be admitted as nondegree students by submitting official ACT or SAT scores that meet the general aptitude requirements of the university. Persons admitted as nondegree students for a specific year and term must remain nondegree until the next semester.

Anyone interested in admission as a nondegree undergraduate student at ASU must submit to Undergraduate Admissions: (1) a Nondegree Undergraduate Application for Admission (including residency information) and (2) a \$40 nonrefundable application fee for applicants applying as nonresidents or residing outside Arizona. Applicants who are not high school graduates or who are younger than 18 must also submit ACT or SAT scores.

No more than 15 hours of completed nondegree work may be applied to a degree program. A nondegree student who decides to work toward a bachelor's degree must *apply for admission to a degree program* with Undergraduate Admissions and meet normal admission requirements.

Once registered in a regular degree program, a student is not permitted to register again in a nondegree status. Nondegree students are not eligible to receive most types of financial aid, nor are they eligible to receive certain benefits, such as veteran benefits.

Steps from Admission to Registration

Certificate of Admission. After being admitted, students receive a Certificate of Admission, an Immunization Verification form, and publications that contain information about orientation programs. International students additionally receive a Certificate of Eligibility (Form I 20 or IAP-66), which enables them to apply for the appropriate visa.

Upon receipt, students should check their admission information for accuracy and report any errors and changes to Undergraduate Admissions at 480 965 7788.

Orientation. University orientation programs for new students and their parents are provided at numerous times during the year, including the beginning of each semester. Each orientation program includes academic advising, campus tours, special events, and an introduction to university resources and procedures. Parent programs are also included. Newly admitted students are sent information preceding each orientation program. Students are strongly encouraged to attend orientation activities.

Immunization Requirements. Every newly admitted student born after December 31, 1956, must provide proof of measles rubella immunity to Student Health. *Students are not permitted to register until proof of immunity to measles rubella is on file with Student Health.*

The following proof of measles rubella immunity is considered adequate: (1) two vaccinations of MMR (measles, mumps, rubella), at least one of which must have been given after December 31, 1979; and (2) a copy of laboratory test results that show immunity to both measles and rubella.

Measles rubella immunity proof can be faxed to Student Health at 480 965 8914. Verification that Student Health received a student's proof of measles rubella immunity can be confirmed by going to www.asu.edu/registrar on the Web two working days after the information has been faxed to Student Health.

In addition, it is strongly recommended that students also be immunized against mumps, tetanus, hepatitis B, diphtheria, and meningitis. Special populations may need other vaccines. For more information on measles requirements, visit Student Health's Web site at www.asu.edu/health.

International Student Enrollment. International students must complete these additional steps.

Student Health Insurance. All F 1 or J 1 visa students must have insurance coverage against illness and accident before being permitted to register and the cost of insurance is automatically added to their registration billing. Insurance must be maintained throughout the student's enrollment in the university and may be obtained at the time of registration. *No privately acquired insurance is accepted in place of the ASU insurance.* However, students who have health insurance coverage through their government or sponsoring agency may qualify for an insurance waiver if that coverage has been preapproved by the university. No waivers may be granted after the first two weeks of classes. To find out if their sponsor is on the preapproved list, sponsored students and others who fall into this category are encouraged to contact Student Health at 480 965 3346 or visit the Student Health Web site at www.asu.edu/health.

All international students must report to the international student advisor in Student Life upon arrival on campus.

Special Programs for Advanced Placement and Credit

A maximum of 60 hours of credit are awarded for any or all programs, including ASU comprehensive and proficiency examinations. In these categories, only credit earned

Advanced Placement Credit

Examination	Score	Semester Hours	Equivalency
Art History	5 or 4	6	ARS 101, 102
	3	3	ARS 101 or 102
Art—Studio—Drawing	5	6	ART 111, 112
	4	3	ART 111
Art Studio General	5	6	ART 111, ¹ 112
	4	3	ART 112
Biology	5 or 4	8	BIO 181, 182
	3	4	BIO 181
Chemistry	5 or 4	9	CHM 113, 115
	3	4	CHM 113
Computer Science A	5 or 4	3	CSE 100
Computer Science AB	5 or 4	6	CSE 100, 200
Economics—Introductory Macroeconomics	5 or 4	3	ECN 111
Economics Introductory Microeconomics	5 or 4	3	ECN 112
English—Language and Composition	5 or 4	6	ENG 101, 114 eligible for ENG 102
English—Literature and Composition	5 or 4	6	ENG 101, 204 eligible for ENG 102
Environmental Science	5 or 4	3	PLB 322
French Language	5	14	FRE 201, 202, 311, 312
	4	11	FRE 201, 202, 311
	3	8	FRE 201, 202
French—Literature	5	18	FRE 111, 201, 202, 321, 322
	4	12	FRE 111, 201, 202
	3	8	FRE 201, 202
German Language	5	14	GER 201, 202, 311, 312
	4	11	GER 201, 202, 311
	3	8	GER 201, 202
German—Literature	5	15	GER 111, 201, 202, 314
	4	12	GER 111, 201, 202
	3	8	GER 201, 202
History American or European	5 or 4	6	HIS 103 and 104 <i>or</i> HIS 101 and 102
Latin—Language	5	16	LAT 101, 102, 201, 202
	4	12	LAT 101, 102, 201
	3	8	LAT 101, 102
Mathematics Calculus AB	5, 4, or 3	4	MAT 270
Mathematics—Calculus BC	5 or 4	8	MAT 270, 271
	3	4	MAT 270
Music	5 or 4	3	MTC 125
Physics B	5 or 4	6	PHY 111, 112
	3	3	PHY 111
Physics C—Electricity and Magnetism	5	4	Possibly PHY 131, with calculus course work, and/or PHY 132, with laboratory course work. ²
Physics C—Electricity and Magnetism	5 or 4	4	PHY 112. Possibly also PHY 114, with laboratory course work. ²
Physics C—Mechanics	5	4	Possibly PHY 121, with calculus course work, and/or PHY 122, with laboratory course work. ²
Physics C—Mechanics	5 or 4	4	PHY 111. Possibly also PHY 113, with laboratory course work. ²
Political Science American Government and Politics	5 or 4	3	POS 110
Political Science—Comparative Government and Politics	5 or 4	3	POS 150
Psychology	5 or 4	3	PGS 101

¹ ART 115 credit may be awarded in place of ART 111 based on the School of Art's evaluation of 3D art submitted as part of the AP portfolio.

² The department may recommend credit for the additional course with proof of appropriate accompanying course work.

Advanced Placement Credit (continued)

Examination	Score	Semester Hours	Equivalency
Spanish Language	5	14	SPA 201, 202, 311, 312
	4	11	SPA 201, 202, 311
	3	8	SPA 201, 202
Spanish Literature	5	15	SPA 111, 201, 202, 325
	4	12	SPA 111, 201, 202
	3	8	SPA 201, 202
Statistics	5 or 4	3	STP 226

¹ ART 115 credit may be awarded in place of ART 111 based on the School of Art's evaluation of 3D art submitted as part of the AP portfolio.

² The department may recommend credit for the additional course with proof of appropriate accompanying course work.

by comprehensive examination counts toward the resident credit requirement for graduation

Advanced Placement. Students who have taken an advanced placement (AP) course of the College Entrance Examination Board (CEEB) in their secondary school and who have taken an AP Examination of the CEEB may receive university credit. No credit is given for any examination with a score of 2 or 1. There is no limit to the number of AP credits that can be used to meet the General Studies requirement, including the requirements in natural sciences (SQ and SG), and literacy and critical inquiry (L).

When the scores are received by the university directly from the CEEB, credit is awarded as shown in the "Advanced Placement Credit" table, page 69.

College-Level Examination Program (CLEP). Students who have taken a College-Level Examination of the College Entrance Examination Board may receive university credit. The table of CLEP credit applies to all students enrolling in the university for the first time in August 1975 and any student enrolling thereafter. CLEP examination credit is *not* given where (1) it duplicates credit previously earned by the student at the university or accepted by the university for work done elsewhere or (2) it is more elementary than a course in which the student has already received credit. All examinations are given monthly by University Testing Services.

There is no limit to the number of CLEP credits that can be used to fulfill the General Studies requirement. The General Studies requirement in natural sciences (SQ and SG) and literacy and critical inquiry (L) are not satisfied by CLEP (see the "General Studies Courses" table, page 90).

General Examinations. To obtain credit or placement, students must receive a standard score of 500 or higher for the General Examinations, except for English Composition with Essay, on which students must receive a standard score of 610 (1978 scale) or 500 (1986 scale). *Students who have completed 60 semester hours of credit are not eligible to receive any credit for the CLEP General Examinations.*

Subject Examinations. A standard score of 50 (except College Algebra and Spanish) or higher must be received to obtain credit for any subject examination. The completion of 60 semester hours does not preclude eligibility for additional credit for subject examinations.

All equivalency is subject to future review and possible catalog change. For more information, call University Testing Services at 480/965-7146 or stop by EDB 301

International Baccalaureate Diploma/Certificate. Students who present an International Baccalaureate Diploma/Certificate may qualify for university credit, depending on the level of the examination and the grade received. Arizona State University grants credit for higher level courses only. A grade of 5 qualifies the student to receive credit for up to two introductory courses while a grade of 4 qualifies a student to receive credit for one introductory course. No credit is awarded for English as a Second Language (English B). Credit is awarded according to the "International Baccalaureate Diploma/Certificate Credit" table, page 72

Comprehensive Examinations. A comprehensive examination is intended to permit a student to establish academic credit in a field in which the student has gained experience or competence equivalent to an established university course. Applications are given only for courses listed in the current catalog and only for courses in which a comprehensive examination can serve as a satisfactory measure of accomplishment.

A number of restrictions apply. The student must be enrolled at ASU with *no more than 100 semester hours of credit* earned. The examinations must be taken during the first two semesters in residence in a degree program at the university. *No more than 60 semester hours of credit may be established* by comprehensive examinations (including AP, IB, and CLEP credit) and independent learning courses.

Comprehensive examinations may not be taken in any course in which the student has been given admission credit or transfer credit from any educational institution. Credit may not be received for an examination in an elementary level of a field in which the student has earned more advanced credit nor for a prerequisite for a course already completed.

The decision on the suitability of course material for a comprehensive examination, the development of a comprehensive examination, and the administration of an examination are strictly departmental functions. An application is for one course only. The student completes an application form with the number, title, and number of semester hours for the course. When completed, the application must be approved by the student's advisor and the chair of the department responsible for offering the course.

The student must then pay the stated fee for such examinations at Cashiering Services. The receipt must be taken to the departmental office.

The examination is prepared by the instructor who normally conducts the course, and it is comprehensive in nature

CLEP Credit

Examinations	Semester Hours	Equivalency
General		
English Composition	0	With essay qualifies for ENG 105.
Humanities	6	Elective credit
Mathematics	3	MAT 106
Natural Sciences	8	Elective credit
Social Sciences and History	6	Elective credit
Subject		
American Government	3	POS 110
American History—Early Colonization to 1877	3	HIS 103
American History 1865 to the Present	3	HIS 104
American Literature	6	ENG 241, 242
Analysis and Interpretation of Literature	3	Elective credit
Calculus with Elementary Functions	4	MAT 270
College Algebra (1993) (replaces College Algebra [1979])	3	MAT 117 (Students must score 46 or higher to receive credit.)
College Algebra and Trigonometry	3	MAT 170
College French	8	FRE 101, 102
College German	8	GER 101, 102
College Spanish	4	SPA 101 (Students must score 45 or higher to receive credit.)
College Spanish	8	SPA 101, 102 (Students must score 50 or higher to receive credit.)
College Spanish	12	SPA 101, 102, 201 (Students must score 55 or higher to receive credit.)
College Spanish	16	SPA 101, 102, 201, 202 (Students must score 60 or higher to receive credit.)
English Literature	3	Elective credit
Freshman College Composition (replaces College Composition and Freshman English)	0	With satisfactory essay qualifies for ENG 105.
General Biology	8	BIO 181, 182
General Chemistry	9	CHM 113, 115
Human Growth and Development	0	No credit
Information Systems and Computer Applications	3	Elective credit
Introduction to Educational Psychology	0	No credit
Introductory Accounting	6	Elective credit
Introductory Business Law	3	Elective credit
Introductory Psychology	3	PGS 101
Introductory Sociology	3	SOC 101
Principles of Macroeconomics (replaces Introductory Macroeconomics)	3	ECN 111 (Students must score 75 or higher to receive credit. College of Business students may not use this credit for the ECN 111 requirement.)
Principles of Management	0	No credit
Principles of Marketing	0	No credit
Principles of Microeconomics (replaces Introductory Microeconomics)	3	ECN 112 (Students must score 75 or higher to receive credit. College of Business students may not use this credit for the ECN 112 requirement.)
Trigonometry	0	No credit
Western Civilization Ancient Near East to 1648	6	HIS 100, 101
Western Civilization 1648 to the Present	3	HIS 102

and scope. The instructor and other experts designated by the chair grade the examination, using letter grades "A," "B," "C," "D," or "E." If the grade is "C" or higher, a mark of "Y" is entered on the student's permanent record; other wise, no entry is made. Credit by examination is indicated as such on the record. The student is notified by mail of the result of the examination. In cases of failure ("D" or "E"),

the student is not given an opportunity to repeat the examination.

A student pursuing a second baccalaureate degree may not receive credit by comprehensive examination, but, with prior approval of the college, the student may use the examination to waive a course requirement if a grade of "C" or higher is earned.

International Baccalaureate Diploma/Certificate Credit

Examination	Score	Semester Hours	Equivalency
Art/Design	7, 6, or 5	6	ART 111, 112
	4	3	ART 112
Biology	7, 6, or 5	8	BIO 181, 182
	4	4	BIO 181
Chemistry	7, 6, or 5	9	CHM 113, 115
	4	4	CHM 113
Economics	7, 6, or 5	6	ECN 111, 112
	4	3	ECN 111
English A	7, 6, or 5	6	ENG 101, 114
	4	3	ENG 114
English B	No credit		None
Foreign Language A or B*	7, 6, or 5	8	Foreign language 101, 102
	4	4	Foreign language 101
History American	7, 6, or 5	6	HIS 103, 104
	4	3	HIS 103
History European	7, 6, or 5	6	HIS 101, 102
	4	3	HIS 101
Mathematics	7, 6, 5, or 4	4	MAT 270
Physics	7, 6, or 5	8	PHY 111, 112, 113, 114
	4	4	PHY 111, 113

* No credit is awarded if the language is the student's native language

Proficiency Examinations. Proficiency examinations and auditions are given

1. to waive a course requirement,
2. to validate certain transfer credits in professional programs, and
3. to determine a student's ability in a field where competence is an important consideration.

Detailed information may be obtained from the dean's office of the college in which the student is registered.

UNIVERSITY TESTING REQUIREMENTS

All new, transfer, or readmitted undergraduate students who plan to enroll for seven or more semester hours must meet one of the following testing requirements. *Students who fail to meet at least one of these requirements will not be allowed to register for any course the following semester.*

1. Take the ACT English or SAT verbal examination and have scores submitted to ASU.
2. Receive a score of 4 or 5 for the advanced placement examination in English offered by the College Entrance Examination Board and have scores submitted to ASU.
3. Take the CLEP general examination in English, earning a score that qualifies for placement in ENG 105, and have scores submitted to ASU.
4. Have previously taken ENG 101, 102, 105, 107, or 108 at ASU and received a grade of "D" or higher. If the course was taken before 1980, contact the Recording Section, SSV 142, before registering for classes.
5. Transfer a course equivalent to ENG 101, 102, 105, 107, or 108 with a grade of "C" or higher. An official transcript showing the grade must be received at

ASU at least six weeks before registration. If a student transfers an equivalent composition course from a public community college or university in Arizona, the equivalency is automatically posted, and the student need not take further action. A student transferring a composition course from any other college or university must have the course evaluated for equivalency. See "First Year Composition Requirement," page 83, for more information.

Placement Examinations

English. New students and continuing, reentry, transfer, and nondegree students who have not taken any composition courses are placed in First Year Composition courses according to their scores on the ACT English or SAT Verbal tests.

Note: The ACT and SAT scoring systems have been modified. Shown in parentheses are equivalent ACT scores for tests taken before October 1989 and equivalent SAT scores for tests taken before April 1995.

Students who score 18 (16) or below on the ACT English test or 460 (380) or below on the SAT Verbal test must enroll in WAC 101, a basic writing course (see "Writing Across the Curriculum," page 368). Students who score between 19 (17) and 28 (24) on the ACT English test or between 470 (390) and 650 (580) on the SAT Verbal test are eligible to enroll in ENG 101. Students who score 29 (25) or higher on the ACT English test or 660 (590) or higher on the SAT Verbal test may take ENG 105 in place of ENG 101 and 102. Students who are accepted in the University Honors College are eligible to enroll in ENG 105 after being advised. Students may also qualify for ENG 105 by achieving appropriate scores on the CLEP General Examination in English Composition with Essay or the CLEP Subject Examination in College Composition with Essay. For more

information, go to University Testing Services, EDB 301, access the Web site at www.asu.edu/uts, or call 480 965 7146.

Foreign Language. For information regarding foreign language placement testing, see “Foreign Language Requirement,” and “Foreign Language Placement,” page 392, and “Special Programs for Advanced Placement and Credit,” page 68.

Mathematics. Placement examinations before registering in mathematics courses are not required at ASU. Students planning to register in mathematics courses should consult the self advising flowchart available at university advising offices and the Department of Mathematics offices in PS A211 and A216. The flowchart places emphasis on a student’s prior preparation and performance in mathematics. In most lower-division mathematics courses, an intensive review by the students is followed by a test during the first week of classes. Students not doing well on these tests are encouraged to enroll immediately in a less demanding mathematics course.

Academic Advising

Effective academic advising of students is an essential aspect of the educational experience at ASU. The university is committed to providing quality advising to continuing, first time, and transfer students. To achieve the highest quality advising, students, faculty, and staff must work to form a partnership. To ensure timely and accurate advising to their majors, each college has advisors to assist students in developing programs of study, assessing educational goals, and understanding rules, procedures, and curriculum requirements. In some colleges, these advisors are faculty members. In others, they are full time, professional advisors. In most instances, students have academic and career advising available from both faculty members and full time advisors. Students are encouraged to take advantage of the skill and knowledge of the advising professionals available to them. Most new students and many continuing students have mandatory advising as a condition of registration.

An additional unit, Cross College Advising Services (CAS), is a central advising, referral, and information facility whose staff is available to assist students in their academic careers at ASU. Emphasis is placed on advising services to first time, prospective, transfer, and visiting students and students in transition, such as those changing majors and those without majors. Bachelor of Interdisciplinary Studies majors (B.I.S. or pre B.I.S.) also receive academic advising in CAS. In addition to guidance in the exploration or selection of a major, CAS provides general academic information and referrals to all areas of student academic support. CAS is located in UASB 129. For more information, call 480 965-4464.

Students are strongly encouraged to seek academic advising at the earliest possible time and regularly throughout their academic careers, whether or not advising is mandatory in their particular programs. Advisors may be contacted at the locations and times shown in the “Academic Advising at ASU Main” table, page 74. See “Building Abbreviations,” page 626, for a list of building abbreviations and names.

Readmission to the University

Undergraduate students who have previously attended ASU but have not been enrolled at ASU for one semester or more are required to apply for readmission for the semester in which reenrollment is intended. Nonresident applicants must submit a nonrefundable \$40 application fee. If, meanwhile, the student has attended another accredited college or university, it is necessary for the student to have on file an official transcript of all academic work taken. Failure to report such attendance is considered misrepresentation and falsification of university records. In addition, it is considered cause for Records Hold action and withholding of further registration privileges. An applicant for readmission must meet the requirements for good standing. See “Retention and Academic Standards,” page 79, and the requirements of the college to which the application is being made. An applicant who has been denied readmission may appeal to the University Undergraduate Admissions Board. Nondegree applicants for readmission must have a minimum GPA of 2.00. If not, the applicant must apply to ASU through Undergraduate Admissions.

Conditional Readmission. A student completing academic work in progress at another institution may be granted conditional readmission. This conditional status remains effective until a final official transcript is received. The student is subject to Records Hold action, and additional registration privileges are withheld if this condition for readmission is not cleared by midsemester.

Academic Renewal

Academic renewal is a university policy administered for the purpose of recalculating the ASU cumulative GPA of undergraduate students who have been readmitted to a degree program after an absence of at least five continuous calendar years including summer sessions and who have completed in good standing a minimum of 12 college approved additional hours in residence within three semesters after reentry. Students may have the former academic record before the five year absence including transfer credits accepted in the same manner as if the credits were transfer credits. That is, earned hours are carried forward for up to 60 hours of credit in which a grade of “C” or higher was earned. The cumulative GPA is based only on credits earned subsequent to the student’s reentry. All graduation residency, academic recognition residency, and GPA requirements must be fulfilled after academic renewal.

A request for academic renewal follows this procedure:

1. Students interested in academic renewal must request the Application for Academic Renewal from the Readmission Section of the Office of the Registrar or the dean of the college offering the major.
2. The Application for Academic Renewal may be submitted immediately upon readmission but not later than the start of the third semester after readmission.
3. The Application for Academic Renewal is submitted by the student to the dean of the college offering the major.
4. The dean specifies in advance a minimum of 12 semester hours.

Academic Advising at ASU Main

College	Location	Telephone	Days	Hours ¹	Web Address
College of Architecture and Environmental Design	ARCH 141	480 965 3584	Mon. Fri.	8:30 A.M. noon, 1–4 P.M.	www.asu.edu/caed
College of Business	BA 123	480/965-4227	Wed. Other weekdays	9 A.M.–6:30 P.M. 9 A.M.–4:30 P.M.	www.cob.asu.edu/up/indexupo.cfm
College of Education	EDB 7	480 965-5555	Mon. Fri.	8 A.M.–5 P.M.	www.asu.edu/educosa
College of Engineering and Applied Sciences	ECG 100	480/965-3421	Mon.–Fri.	8:30 A.M.–noon, 1–5 P.M. ²	www.eas.asu.edu
College of Fine Arts	GHALL 127	480 965-4495	Mon. Fri.	8 A.M. noon, 1 5 P.M.	www.asu.edu/cfa
College of Law	LAW 101	480/965-1474	Mon.–Fri.	8 A.M.–5 P.M. ³	www.law.asu.edu
College of Liberal Arts and Sciences	SS 111	480 965 6506	Mon. Fri.	8:30 A.M. 5 P.M.	www.asu.edu/clas
College of Nursing	NUR 108	480/965-2987	Mon.–Fri.	8:30 A.M. 5 P.M.	www.asu.edu/nursing
College of Public Programs	WILSN 203	480 965-1034	Mon. Fri.	8:30 A.M. 5 P.M.	www.asu.edu/copp coppadv.html
Cross-College Advising Services	UASB 129	480/965-4464	Mon., Wed. Tues., Thurs., Fri.	9 A.M.–6:30 P.M. 9 A.M.–5 P.M.	www.asu.edu/duas/cas
Graduate College	WILSN lobby	480 965 3521	Mon. Fri.	8:30 A.M. 5 P.M. ²	www.asu.edu/graduate fr checklist.html
University Honors College	IRISH A121	480/965-2359	Mon.–Fri.	8 A.M. 5 P.M. ²	www.asu.edu/honors

¹ Arizona is on mountain standard time all year and does not observe daylight saving time.

² Walk ins are welcome, appointments are recommended.

³ Call for additional hours.

- When the approved credits are completed with a cumulative GPA of 2.50 or higher, and no grade lower than “C” in each course, the dean forwards the Application for Academic Renewal to the Office of the Registrar for processing.

Only students working toward their first undergraduate degree are eligible to apply for academic renewal, which may be effected only once during a student’s academic career. Academic renewal is transferable among colleges. All students with ASU GPAs below 2.00 are eligible to petition for academic renewal. Individual colleges may elect to entertain petitions for academic renewal from students with ASU GPAs above 2.00. College standards committees have final authorization on academic renewal petitions. Eligibility for graduation is based on the ASU cumulative GPA after academic renewal. However, a student’s complete record before and after academic renewal remains on the transcript and may be taken into consideration when a student applies for undergraduate professional or graduate programs.

Registration

All persons attending a class at ASU must be registered for that class. A student is considered to be registered when all registration fees have been paid in full.

Eligibility. Only eligible students may register for courses at ASU. An eligible student is either continuing from the previous semester or has been admitted or readmitted to the university. See “Undergraduate Admission,” page 62, and “Readmission to the University,” page 73.

Proof of Identification. To receive university services, photo identification must be presented. Each admitted or readmitted student who completes the registration process for a regular semester needs to obtain a student identification card. This photo identification card is valid for the duration of the student’s enrollment at ASU.

Photo IDs are issued throughout the semester at the Sun Card office located in the Memorial Union on Main Campus, and at the OASIS in the Center Building on East Campus. See the *Schedule of Classes* or refer to “Sun Card/ID Card,” page 49.

Registration Fees. Registration fees are due and must be paid in full at the time specified each semester in the *Schedule of Classes*. If any payment tendered is unauthorized, incomplete, or received after the due date, registration fees are considered not paid.

Schedule of Classes. The *Schedule of Classes*, published for the fall and spring semesters, and the *Summer Sessions Bulletin* are distributed without charge. These publications are available online at www.asu.edu/registrar/schedule. They list course offerings, dates, times, places, and procedures for registration, along with other important information relating to the term.

Course Loads. A minimum full time course load for an undergraduate student is 12 semester hours. The maximum course load for which a student may register is 18 semester hours (with the exception of a 19 hour maximum for students enrolled in the Colleges of Engineering and Applied Sciences or Architecture and Environmental Design). A student wishing to register for more than the maximum must

petition the standards committee of the college in which the student is enrolled and must obtain an approved override before registration. See "Summer Session Semester Hour Load," on this page, for summer course load information.

Reserving of Course Credit by Undergraduates. Seniors at ASU within 12 semester hours of graduation may enroll in a 400 level or graduate course and reserve the credit for possible use in a future graduate program. The course cannot be used to meet a baccalaureate graduation requirement. Before registration in the course, the student must submit a Graduate College Petition form requesting credit reservation. The form must be signed by the student's advisor, the head of the academic unit offering the class, and the dean of the Graduate College.

Permission to reserve a course does not guarantee admission to a graduate degree program or that the course may be used toward graduate degree requirements. A maximum of nine semester hours may be reserved, and only courses with an "A" or "B" grade are applicable. Reserved credit earned before admission to a graduate degree program is classified as nondegree credit. The maximum course load for a student enrolled in a reserved course is 15 semester hours during a regular semester and six hours during a summer session.

Summer Session Semester Hour Load. The summer session semester hour load limit is seven semester hours for each five week session and nine semester hours for the eight week session. The student may not exceed a total of 14 semester hours for any combination of sessions.

Concurrent Enrollment. Provided that the other university regulations concerning enrollment, graduation requirements, and transfer of credits are not violated, a student may enroll in classes at other institutions or in independent learning courses while enrolled at ASU. However, the student is urged to seek advising before concurrent enrollment to assure orderly progress toward a degree. If total credits exceed the maximum course load, prior permission must be granted by the college standards committee. See "Course Loads," page 74.

Attendance. The instructor has full authority to decide whether class attendance is required.

Enrollment Verification Guidelines. The registrar is responsible for verifying enrollment according to the gen-

eral guidelines in the "Enrollment Verification Guidelines" table, on this page. Independent learning courses are not considered for enrollment verification purposes.

Cooperative Programs

Cooperative Education. Cooperative education at ASU is any educational program that requires *alternating class room and work experience* in government or industry. The work experience exists for its educational value.

Full Time Status of Co op Students. A co-op student, during a work semester, is identified as both co op and full time by the university. In order to qualify, the student must have prescribed hours and GPA requirements.

Rights and Privileges of Co op Students. During their work semesters, co op students have the rights, privileges, and protections with regard to university matters accorded to full time students, except financial aid. They maintain catalog continuity and have student access to university facilities and events.

Financial Aid for Co-op Students. Co op students are not identified to lenders (including ASU) as being in loan repayment status. They have an "in school" full time enrollment status. Co op students do not receive any financial aid disbursement during their co op semesters, *nor are such awards transferred to another semester.* The student is responsible for notifying Student Financial Assistance as soon as plans for a co op term are made but no later than 10 days before the co op term begins. The department or school is responsible for notifying Student Financial Assistance of students approved for co-op terms

Traveling Scholar Program. The Traveling Scholar Program is a cooperative program between the state universities designed to enable students to take advantage of programs or special resources that are not available at their own institutions. Any undergraduate student with a GPA of at least 2.50 or graduate student with a GPA of at least 3.00 enrolled at ASU, Northern Arizona University, or University of Arizona may be designated a Traveling Scholar by prior mutual agreement of the appropriate academic authorities at both the sponsoring and hosting institutions. Contact the Registrar's Records Information Section for more information and the application form.

Enrollment Verification Guidelines

Term	Student	Full Time	Half Time	Less Than Half Time
Regular semester	Undergraduate	12 or more hours	6-11 hours	5 or fewer hours
	Graduate	9 or more hours	5-8 hours	4 or fewer hours
	Graduate assistant*	6 or more hours		
Five-week summer session	Undergraduate	4 or more hours	2 hours	1 hour
	Graduate	3 or more hours	2 hours	1 hour
	Graduate assistant*	2 or more hours	1 hour	—
Eight week summer session	Undergraduate	6 or more hours	3-5 hours	2 or fewer hours
	Graduate	5 or more hours	3-4 hours	2 or fewer hours

* For enrollment verification purposes, "graduate assistant" is a generic term that includes graduate assistants, teaching assistants, research assistants, graduate associates, teaching associates, and research associates

Grading System

DEFINITIONS

Unit of Credit

The Arizona Board of Regents has defined (May 26, 1979) a unit of credit for the institutions under its jurisdiction. A minimum of 45 hours of work by each student is required for each unit of credit. An hour of work represents a minimum of 50 minutes of class time often called a "contact hour" or 60 minutes of independent study work. For lecture discussion courses, this requirement equates to at least 15 contact hours and a minimum of 30 hours of work outside the classroom for each unit of credit. Even though the values of 15 and 30 may vary for different modes of instruction, the minimum total of 45 hours of work for each unit of credit is a constant. Since the unit of credit as defined by the Arizona Board of Regents is the cornerstone of academic degree programs at ASU, degrees granted by other institutions that are recognized by ASU should be based on a similar unit of credit.

Grades and Marks

All grades and marks appear on the permanent record and/or unofficial transcript.

They are indicated by the letters shown in the "Grades" table, below.

Grades		
Grade	Definition	Value
A	Excellent	4.00
B	Good	3.00
C	Average	2.00
D	Passing	1.00
E	Failure	0.00
I	Incomplete	
NR	No report	
P	Pass	---
RC*	Remedial credit	
RN*	Remedial no credit	
W	Withdrawal	
X	Audit	
Y	Satisfactory	

* This grade appears on only unofficial copies of ASU transcripts

Grading Options

Ordinarily a grade of "A," "B," "C," "D," or "E" is given upon completion of a course, unless a grading option of "audit" or "pass fail" is indicated at the time of registration. *Grading options cannot be changed after the close of the drop add period.*

Incomplete

A mark of "I" (incomplete) is given by the instructor only when a student who is otherwise doing acceptable work is unable to complete a course because of illness or other conditions beyond the student's control. The mark of "I" should be granted only when the student can complete the unfinished work with the same instructor. However, an incomplete ("I") may be completed with an instructor designated by the department chair if the original instructor later becomes incapacitated or is otherwise not on campus. The

student is required to arrange with the instructor for the completion of the course requirements. The arrangement is recorded on the Request for Grade of Incomplete form. The student has one calendar year from the date the mark of "I" is recorded to complete the course. If the student completes the course within the calendar year, the instructor must submit a Request for Grade of Incomplete Authorization for Change of Grade form to the Office of the Registrar, whether the student passed or failed the course. Marks of "I" are changed to a grade of "E" for purposes of evaluating graduation requirements for undergraduate students. Marks of "I" received in the fall 1983 semester or thereafter for undergraduate courses that have been on a student's record for more than one calendar year are automatically changed to a grade of "E." An undergraduate student does not re-register or pay fees for a course for which an incomplete "I" has been received in order to complete the course.

Students who receive a mark of "I" in courses at the 500 level or above have one calendar year to complete the course for a grade. After one calendar year, the mark of "I" becomes a permanent part of the transcript. To repeat the course for credit, a student must re-register and pay fees. The grade for the repeated course appears on the transcript but does not replace the permanent "I."

Satisfactory

A mark of "Y" (satisfactory) may be used at the option of individual colleges and schools within the university and is appropriate for internships, projects, readings and conferences, research, seminars, theses, and workshops. The "Y" is included in earned hours but is not computed in the GPA.

Credit Enrollment

The semester hour is the unit on which credit is computed. It represents one 50-minute class exercise per week per semester. To obtain credit, a student must be properly registered and must pay fees for the course.

Audit Enrollment

A student may choose to audit a course, in which case the student attends regularly scheduled class sessions, but no credit is earned. The student should obtain the instructor's approval before registering and paying the fees for the course. Selected courses may not be audited. Veteran students using education benefits should see "Veterans Services," page 40.

The mark of "X" is recorded for completion of an audited course, unless the instructor determines that the student's participation or attendance has been inadequate, in which case the mark of "W" (unrestricted withdrawal) may be recorded. This grading option may not be changed after the close of drop add. The "X" is not included in earned hours and is not computed in the GPA.

Pass/Fail Enrollment

A mark of "P" (pass) or "E" (fail) may be assigned for this grading option. This grading method may be used at the option of individual colleges and schools within the university. Consult the college dean's office for detailed information and restrictions before registration. "P" is included in earned hours but is not computed in the GPA.

Remedial Enrollment

A mark of "RC" (remedial credit) or "RN" (remedial no credit) may be assigned for this grading option. The course

appears on an unofficial ASU transcript but does not appear on the grade report or official ASU transcript and is not included in earned hours. Remedial hours are included in verification of enrollment for purposes of loan deferment and eligibility.

WITHDRAWALS

Instructor-Initiated Drop

An instructor may drop a student for nonattendance during the second week of classes in fall or spring semesters or the first four days of each summer session. Instructor initiated drops for nonattendance are signed by the dean or dean's designee. The college notifies students by mail. The student must contact the instructor before the end of the first week of classes if absences during that period cannot be avoided.

Drop/Add

Students registering for courses for a semester or summer session may drop or add courses through the first week of classes in a semester or the first two days of a summer session. See the *Schedule of Classes* or the *Summer Sessions Bulletin* for dates of drop/add periods. During this period, a student may drop one or more but not all scheduled courses without penalty. Courses that are dropped do not appear on the student's transcript and fees paid are fully refunded, depending on the student's remaining hours. A student who wishes to withdraw from all courses during the drop/add period must process an unrestricted withdrawal.

Unrestricted Course Withdrawal

During the first four weeks of a semester or the first six days of a summer session, a student may withdraw from any course with a mark of "W." See the *Schedule of Classes* or the *Summer Sessions Bulletin* for dates of the unrestricted withdrawal period.

Restricted Withdrawal

From the fifth week to the end of the 10th week of a semester and from the seventh day to the end of the third week of a summer session, students may withdraw with a mark of "W" from only courses in which the instructor certifies that they are passing at the time of the withdrawal. See the *Schedule of Classes* or the *Summer Sessions Bulletin* for dates of the restricted withdrawal period.

The number of restricted withdrawals with the mark of "W" is limited. One restricted withdrawal is assessed for each course withdrawn from, unless the student is withdrawing from all courses. A complete withdrawal results in the assessment of one restricted withdrawal against a student's limit. The number of withdrawals is a total of two for students during freshman, sophomore, junior, or senior standing; and a total of two for students during second undergraduate degree standing. Non-degree seeking graduate students are permitted to process an unlimited number of restricted withdrawals. Students must obtain a Restricted Withdrawal Request and obtain the signature of the instructor. The instructor has the option of assigning either a "W" or a failing grade of "E."

Students who have reached their restricted withdrawal limit are not allowed to process any additional restricted course withdrawals. However, students are allowed to process a restricted complete withdrawal even when they have reached the restricted withdrawal limit. The preceding limits

do not prevent students from processing a complete withdrawal from the university with marks of "W" or "E." Complete withdrawal counts as one withdrawal for purposes of applying the above limits. The preceding does not apply to audit enrollment or zero-hour labs and recitations.

Procedure for Restricted Withdrawal. A student seeking a restricted withdrawal needs to

1. obtain a withdrawal form from any registrar site;
2. obtain a signature and verification of grade from instructor(s); and
3. have the form processed at any registrar site.

Instructor-Initiated Withdrawal

An instructor may withdraw a student from a course with a mark of "W" or a grade of "E" only in cases of disruptive classroom behavior. A student may appeal an instructor initiated withdrawal to the standards committee of the college in which the course is offered. The decision of the committee is final. Restricted withdrawal limits do not apply to withdrawals initiated by an instructor.

Withdrawal from the University

To withdraw from *all* classes after having paid registration fees, a student must submit a request in person, withdraw using InTouch, or submit a signed request to the Office of the Registrar. The InTouch complete withdrawal option is only available through the first week of classes for a semester. During the unrestricted complete withdrawal period, a student may withdraw from all courses with marks of "W." During the restricted complete withdrawal period, a student may withdraw with marks of "W" only from courses that the instructors certify the student was passing at the time of withdrawal. See the *Schedule of Classes* or the *Summer Sessions Bulletin* for dates of the complete withdrawal periods. No one is permitted to withdraw from the university or to conduct any registration transaction in the last two weeks of the semester. The date of the complete withdrawal is always the date the withdrawal form or letter is received in the Office of the Registrar.

Medical/Compassionate Withdrawal

A medical/compassionate withdrawal request may be made in extraordinary cases where serious illness or injury (medical or another significant personal situation (compassionate) prevents a student from continuing in his or her classes, and where incompletes or other arrangements with the instructor are not possible. Usually, consideration is for complete withdrawal. All applications for withdrawal require thorough and credible documentation. Application for less than a complete withdrawal must be especially well documented to justify the selective nature of the medical/compassionate withdrawal request.

A student may request and be considered for a *medical* withdrawal when extraordinary circumstances, such as a serious illness or injury, prevent the student from continuing in classes. This policy covers both physical health and mental health difficulties.

A student may request and be considered for a *compassionate* withdrawal when extraordinary personal reasons, not related to the student's physical or mental health (for example, care of a seriously ill child or spouse, or a death in the student's immediate family), prevent the student from continuing in classes.

Each college has a dean's representative (medical/compassionate withdrawal designee) to review medical/compassionate withdrawal requests, according to that college's procedures. A student requesting a medical/compassionate withdrawal is referred to the dean's designee of the college of the major. A nondegree student is referred to the dean's designee of the college with which he or she is primarily affiliated. The dean's designee determines the appropriateness of the medical/compassionate withdrawal request and whether an administrative hold is indicated. Removal of the hold must be authorized by the designee before the student can register for a future semester or be readmitted to the university.

The medical compassionate withdrawal procedure results in a special note line on the unofficial transcript. Refunds are not given beyond six months past the close of the semester. Only one Request for Documented Medical Compassionate Withdrawal form needs to be filed with the college of the major, even if classes in more than one college are involved. Medical/compassionate withdrawal applications and supporting documents are retained and filed separately from the student's other records.

GRADE POINTS

For the purpose of computing the grade point average (GPA), grade points are assigned to each of the grades for each semester hour as follows: "A," four points, "B," three points, "C," two points, "D," one point, "E," zero points. GPAs are rounded to the nearest 100th of a grade point.

Grade Point Average

Grade points earned for a course are multiplied by the number of semester hours to produce honor points. For example, receiving an "A," which is assigned four grade points, in a three semester hour course would produce 12 honor points. The grade point average (GPA) is obtained by dividing the total number of honor points earned by the total number of semester hours graded "A," "B," "C," "D," or "E." Other grades do not carry grade points. *Semester GPA* is based on *semester* net hours. *Cumulative GPA* is based on *total* net hours.

Change of Grade

Ordinarily the instructor of a course has the sole and final responsibility for any grade reported. Once the grade has been reported to the registrar, it may be changed upon the signed authorization of the faculty member who issued the original grade. Approval for the change is also required by the department chair and the dean of the college concerned. This policy also applies to the grade of "I" (incomplete).

University Policy for Student Appeal Procedures on Grades

Informal. The steps outlined on this page, beginning with step A, must be followed by any student seeking to appeal a grade. Student grade appeals must be processed in the regular semester immediately following the issuance of the grade in dispute (by commencement for fall or spring), regardless of whether the student is enrolled at the university. It is university policy that students filing grievances and those who are witnesses are protected from retaliation. Students who believe they are victims of retaliation should immediately contact the dean of the college in which the course is offered.

- A. The aggrieved student must first undergo the informal procedure of conferring with the instructor, stating the evidence, if any, and reasons for questioning that the grade received was not given in good faith. The instructor is obliged to review the matter, explain the grading procedure used, and show how the grade in question was determined. If the instructor is a graduate assistant and this interview does not resolve the difficulty, the student may then go to the faculty member in charge of the course (regular faculty member or director of the course sequence) with the problem.
- B. If the grading dispute is not resolved in step A, the student may appeal to the department chair or other appropriate chair of the area within the department (if any). The department chair may confer with the instructor to handle the problem. Step B applies only in departmentalized colleges.
- C. If these discussions are not adequate to settle the matter to the complainant's satisfaction, the student may then confer with the dean of the college concerned (or the dean designate), who will review the case. If unresolved, the dean or designate may refer the case to the college academic grievance hearing committee to review the case formally. In most instances, however, the grievance procedure does not go beyond this level.

Formal. The following procedure takes place after steps A, B, and C (or A and C) have been completed.

- D. Each college has on file in the office of the dean (and in each department of the college) the procedures and composition of the undergraduate or graduate academic grievance hearing committee for student grievances. Each college committee shall operate under grievance procedures as stated which satisfy due process requirements. The committee shall always meet with the student and the instructor in an attempt to resolve the differences. At the conclusion of the hearing, the committee shall send its recommendations to the dean.
- E. Final action in each case will be taken by the dean after full consideration of the committee's recommendation. Grade changes, if any are recommended, may be made by the dean. The dean shall inform the student, instructor, department chair (if any), the registrar, and the grievance committee of any action taken.

Repeating Courses

An undergraduate course taken at ASU may be repeated for credit if the grade of "D," "E," or "W" or a mark of "X" is received. Undergraduate courses in which grades of "D" or "E" are received may be repeated only once. After an undergraduate student repeats 100 and 200 level courses, the student's transcript shows both grades, but the student's cumulative GPA reflects only the higher grade. After an undergraduate student repeats 300 or 400 level courses, the student's cumulative GPA and the transcript reflect both grades.

After completing the course, the student must file a Deletion Form with the Office of the Registrar. To be eligible for the deletion of "D" or "E" grades, the course must be repeated at ASU. Students who have graduated are not eligible to delete the grade for a course taken before the award of the ASU bachelor's degree.

This policy does not apply to seminar and independent study courses with different content each semester. This policy affects only undergraduate students and undergraduate courses.

Demonstration of Mastery

An undergraduate student who receives a “D” in a course in which a “C” or higher is required may use the grade from an equivalent course taken elsewhere to demonstrate mastery at the “C” or higher level. However, the course may neither be transferred to ASU (since credit has already been given for the course) nor computed in the student’s GPA.

Midterm Report

Instructors are required to evaluate students at midterm for academic progress. A student who has been evaluated for a “D” or “E” at midsemester receives a midterm report. The midterm “D” and “E” grades are not recorded on the student’s permanent record. Midterm reports are mailed to the student’s local address of record.

Final Grades

Grades may be viewed online at www.asu.edu/registrar or accessed through InTouch at 480/350 1500.

Records Hold

The Office of the Registrar enforces a financial records hold or administrative hold on the records of a student when an outstanding financial obligation or disciplinary action has been reported

When a hold is placed on a record, the following results may occur:

1. No official or unofficial transcript is issued.
2. Registration privileges are suspended.
3. Other student services may be revoked.

The hold remains effective until removed by the initiating office. It is the student’s responsibility to clear the conditions causing the hold.

Transcripts

The Office of the Registrar releases official transcripts only upon the written request of the student. The request must include the following information:

1. the student’s name and former name(s);
2. the student ID number,
3. the date of birth, and
4. the dates of attendance.

The request for official transcript form is available online at www.asu.edu/registrar/forms.

The Office of the Registrar does not issue a transcript if the student has a financial records hold. The student must supply a specific address if the transcript is to be mailed. The fee for an official transcript for a student not enrolled is \$5 for the first copy. Additional copies ordered at the same time are \$1 each. The fee is \$1 per copy for a student enrolled for a current or future semester.

Unofficial transcripts may be requested in person at the Office of the Registrar or any registrar site, or by mail or fax (480/965 2295) if a signed release is enclosed. There is no charge for an unofficial transcript

All in person transcript requests require presentation of photo identification. Requests are not accepted from third parties without a written release from the student. For information on parental access to records, see “Access to Records.” page 81.

information on parental access to records, see “Access to Records.” page 81.

Retention and Academic Standards

Class Standing. A student’s class standing is determined by the number of hours earned, as shown in the “Class Standing” table below.

Class Standing	
Student	Hours Earned
Freshman	24 or fewer hours earned
Sophomore	25–55 hours earned
Junior	56–86 hours earned
Senior	87 or more hours earned
Graduate	Bachelor’s degree from accredited institution

Academic Good Standing. For the purpose of retention, academic good standing for degree seeking students is defined as shown in the “Academic Good Standing” table below.

A student who does not maintain the minimum GPA standard is placed on academic probation or is disqualified. A student on academic probation is in conditional good standing and is permitted to enroll. A student who has been disqualified is not in academic good standing and is not permitted to enroll for fall or spring semesters.

Academic Good Standing	
Total Earned Hours	Minimum Cumulative GPA
24 or fewer	1.60
25–55	1.75
56 or more	2.00

To transfer from one college to another within the university or to be eligible for readmission, a student must have a GPA of 2.00 or higher. The GPA determining good standing is computed on courses taken only at ASU.

For purposes of retention or transfer, an individual college may set higher GPA standards; otherwise, the university standards prevail. See the college sections of this catalog or contact the college deans’ offices for statements regarding college retention standards.

Meeting Basic Competencies. New students are required to have completed a specific number of courses in the areas of American history, English, laboratory science, mathematics, social science, fine arts and foreign language. Students who are exempt from these requirements include students who have completed an Arizona General Education Curriculum (AGEC) or an associate degree, students admitted by GED, and students who are 22 years of age or older with 24 or more transfer credits by the first day of the semester of admission. An admitted student who needs to meet competencies in one or more of these areas must satisfy the requirement within one year of the beginning of the student’s first semester at ASU. Subject competencies in each area may be met by earning a grade of “D” or higher at ASU in an appropriate course(s) as listed in the “Basic Competencies” table, page 81.

Appealing Basic Competencies. A student who has not met all basic competencies at the end of one calendar year after the student's initial date of enrollment is not permitted to continue at ASU. Each student is notified that he or she may not register or, if already registered, that the registration has been canceled.

A student wishing to appeal the dismissal should submit a petition through his or her college. The colleges have three options in reviewing these appeals:

1. extending the student's end semester to allow one additional semester to complete the required course work;
2. allowing the student to substitute a course not currently approved to fulfill a competency area when an error has been made in advising or for other just causes, or
3. denying the petition.

College actions are forwarded to the Office of the Registrar for processing.

Dean's List. Undergraduate students who earn 12 or more graded semester hours ("A," "B," "C," "D," or "E") during a semester in residence at ASU with a GPA of 3.50 or higher are eligible for the Dean's List. A notation regarding Dean's List achievement appears *only* on the final grade report available online at www.asu.edu/registrar.

Satisfactory Academic Progress. The university is required to publish and enforce standards of satisfactory academic progress for certain students (e.g., student athletes, students receiving financial aid, and students receiving veterans benefits).

Certification of satisfactory progress for student athletes is verified by the academic advisor and the dean's designee for certifying satisfactory progress. Certification of satisfactory progress for students receiving financial aid or veterans benefits is verified by Student Financial Assistance or the Veterans Services Section respectively. Students should contact their advisors or the appropriate office for additional information on satisfactory progress requirements.

Probation. A student's college assumes responsibility for enforcing academic standards and may place any student on probation who has failed to maintain good standing as previously defined. For purposes of probation and retention, an individual college may set higher GPA standards. A student on academic probation is required to observe any rules or limitations the college may impose as a condition for retention.

Disqualification. A student who is placed on probation at the end of a semester is subject to disqualification by the college at the end of the following semester if the conditions imposed for retention are not met.

Disqualification is exercised at the discretion of the college and becomes effective on the first day of the semester following college action. *A disqualified student is notified by the dean of the college or the Office of the Registrar and is not allowed to register in a fall or spring semester at the university until reinstated.* A student who has been disqualified may appeal to the college standards committee. A student who is disqualified may not attend as a nondegree student.

Reinstatement. If a student with a GPA of 2.00 or greater has been disqualified by one college and seeks to transfer to another college at ASU, the student may apply at the Readmissions Section (SSV 114) or directly to the college to which the student wishes and is qualified to transfer.

To be reinstated into an ASU college other than the disqualifying college, the student must submit an application for reinstatement to the University Undergraduate Admissions Board through the Readmissions Section of the Office of the Registrar.

To be reinstated into the same college from which the student was disqualified, the student must submit an application for reinstatement to the disqualifying college. When reinstatement includes readmission, application must be made to the Readmissions Section of the Office of the Registrar.

Reinstatement Appeals. A student wishing to appeal the decision of the standards committee of a college may submit an appeal to the University Undergraduate Admissions Board. The decision of the board is final.

Academic Integrity. The highest standards of academic integrity are expected of all students. The failure of any student to meet these standards may result in suspension or expulsion from the university or other sanctions as specified in the University Student Academic Integrity Policy. Violations of academic integrity include, but are not limited to, cheating, fabrication, tampering, plagiarism, or facilitating such activities. The University Student Academic Integrity Policy is available from the Office of the Senior Vice President and Provost and from the deans of the individual colleges.

Suspension or Expulsion for Academic Dishonesty. All decisions relating to expulsion or suspension that are concerned with academic dishonesty are the sole prerogative of the dean of the school or college in which the student has been admitted. These decisions of suspension or expulsion can be appealed in accordance with established university procedures. Application for reinstatement may be made to any of the academic units within the university after the specified period of suspension. Merely having remained in a suspended status for a period of time does not, in itself, constitute a basis for reinstatement.

Student Records

Family Educational Rights and Privacy Act of 1974

The Family Educational Rights and Privacy Act of 1974, also known as the Buckley Amendment, sets forth the requirements governing the protection of the privacy of the educational records of students who are or have been in attendance at ASU.

Definitions

Eligible Student. For the purpose of this act, an *eligible student* is defined as any individual formally admitted to and enrolled at ASU.

Record. The term *record* includes any information or data recorded in any medium, including, but not limited to, hand writing, print, tapes, film, microfilm, microfiche, and electronic means.

Basic Competencies

Area	ASU Courses That May Be Used to Meet Basic Competencies
American history	Any one course: HIS 103, 104
English	Any one course: ENG 101, 105, 107; WAC 101, 107
Fine arts	Any undergraduate three semester hour course offered in the College of Fine Arts
Foreign language	Student must complete through the 102, 108, or 112 course level of any foreign language course.
Laboratory science*	
Chemistry	Any one course: CHM 101, 107, 113, 117
Earth sciences	Any numbered selection: 1. GLG 101 and 103 2. GLG 110 and 111 3. GPH 111
Life sciences	Any one course: BIO 100, 120, 181, 182, 201; PLB 108
Physics	Any numbered selection: 1. AST 111 and 113 2. AST 112 and 114 3. PHS 110 4. PHY 101 5. PHY 105 6. PHY 111 and 113 7. PHY 112 and 114 8. PHY 121 and 122 9. PHY 131 and 132
Mathematics	Any one course: MAT 114, 117, 119, 122, 170, 210, 260, 270, 290
Social science	Any one course: ASB 102, ECN 111, 112; GCU 102, 121, 141; HIS 100, 101, 102, PGS 101; POS 101, 110, 150, 160; SOC 101

* The laboratory science requirement is designed to demonstrate competency in two separate laboratory science areas. For example, if one lab science competency has been met in life sciences through high school course work, the ATP biology achievement test, or college course work, the second lab science course must be selected from chemistry, earth sciences, or physics

Types of Information

Education Record. The term *education record* refers to those records directly related to a student and maintained by an education institution. Two types of education records are subject to the provisions of this act: (1) directory information and (2) personally identifiable information. The term does not include those records specifically excluded by Section 99.3 of the privacy act

Directory Information. The term *directory information* includes the following student information: name, local, permanent and ASU e-mail addresses, local telephone number, date and place of birth, residency status, academic level, major field of study, college of enrollment, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student.

Personally Identifiable Information. The term *personally identifiable information* includes the name of a student's parent or other family member(s), a personal identifier such as the student's Social Security number, a list of personal characteristics, or other information that would make the student's identity easily traceable and any information, including directory information, that the student has indicated not to be released

Access to Records

An eligible student may inspect and review his or her own education records. Some form of photo identification must be displayed before access to education records is allowed.

Directory information may be released to anyone without consent of the student unless the student has indicated otherwise. Students may request that this information not be released by completing a form in the Office of the Registrar. A request to withhold this information excludes the student from being listed in the annual directory only if the request is submitted to the Office of the Registrar before the end of the third week of the fall semester.

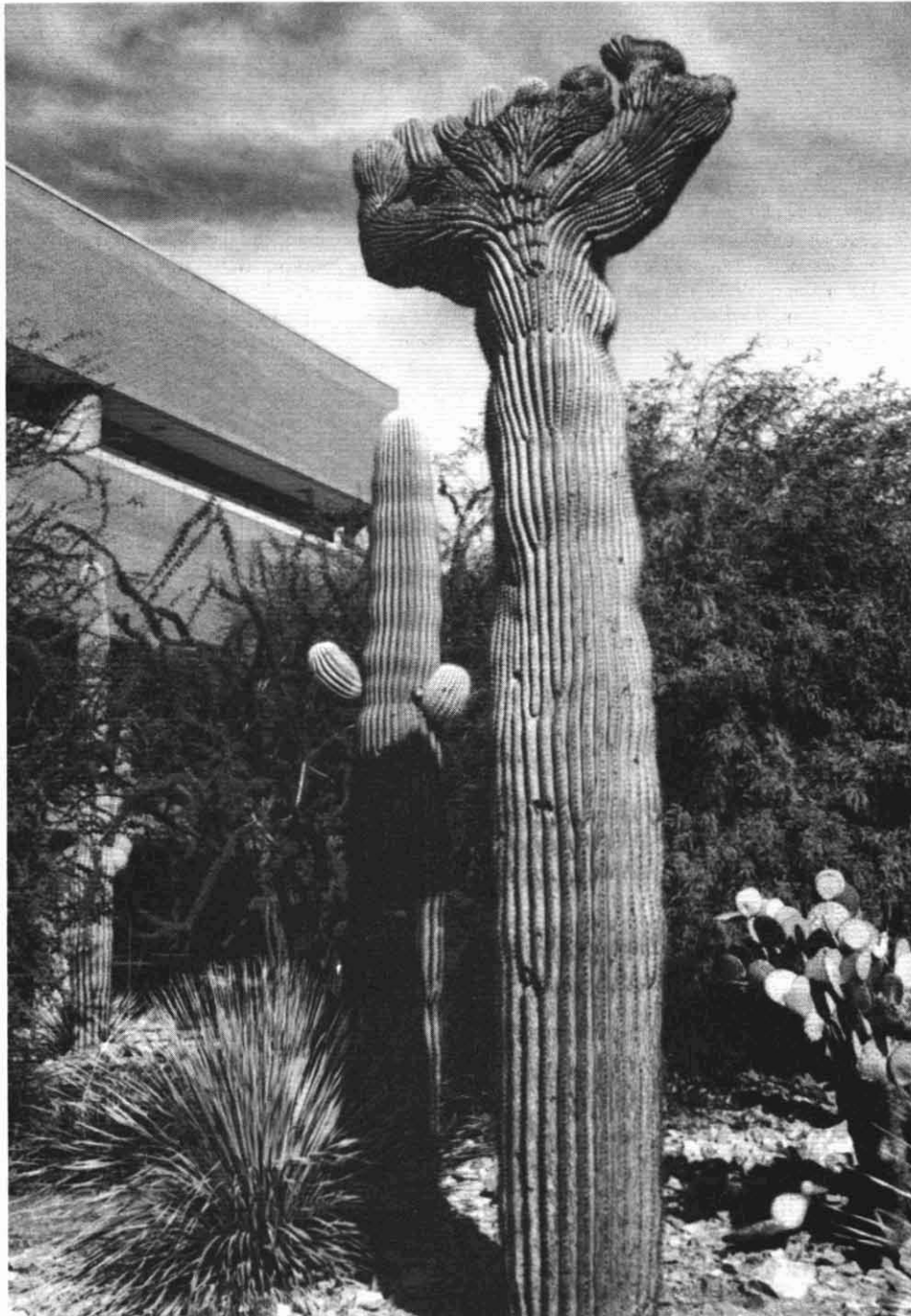
All other education records that contain personally identifiable information may not be released without the written consent of the student. A parent of a dependent student may challenge denial of such access by producing the most current copy of Internal Revenue Form 1040. If that form lists the student in question as a dependent, the parent is required to sign an affidavit that affirms that the student is his or her dependent. The affidavit is retained by the Office of the Registrar. Upon receipt of the affidavit, the university makes student records available to the parent for the rest of that calendar year as specified under the Buckley Amendment.

Students may grant access to parents or agencies by completing a form in the Office of the Registrar.

Location of Policy and Records

The custodian of education records at ASU is the Office of the Registrar. Copies of this policy are available in the following offices: Reserve sections of Hayden Library and the Noble Science and Engineering Library, the Office of

the Registrar, Undergraduate and Graduate Admissions, and Student Life. The Office of the Registrar also maintains a directory that lists all education records maintained on students by ASU.



The ASU Main campus is home to Arizona's largest urban arboretum.

H. Val Peterson photo

University Graduation Requirements

UNIVERSITY REQUIREMENTS

All students enrolled in a baccalaureate degree program must fulfill the following university requirements to graduate.

Credit Requirements

A minimum of 120 semester hours is required for graduation with a baccalaureate degree. A minimum of 45 semester hours in upper division courses is required for graduation. Some programs may require more than 45 upper division semester hours for graduation; refer to college graduation requirements for the specific number required.

Not more than 60 semester hours in independent learning courses and/or earned by comprehensive examination (including Advanced Placement, College-Level Examination Program, and International Baccalaureate Diploma/Certificate exams) are accepted for credit toward the baccalaureate degree.

Grade Point Requirement

A minimum cumulative grade point average of 2.00 for all courses taken at ASU is required to graduate with a baccalaureate degree.

General Studies Requirement

All students enrolled in a baccalaureate degree program must satisfy a university requirement of a minimum of 35 semester hours of approved course work. (See "General Studies," page 87.) For General Studies courses, see the "General Studies Courses" table, page 90, the course descriptions, the *Schedule of Classes*, and the *Summer Sessions Bulletin*.

Students transferring from Arizona community colleges with a certified completion of the appropriate Arizona General Education Curriculum (AGEC) will have satisfied all lower division General Studies requirements of the baccalaureate degree with which the AGEC articulates. For more details regarding the different versions of AGEC, refer to www.abor.asu.edu/abor3/board/student/transfer/agec.html.

General Studies Mathematics Requirement

All undergraduate degree seeking students are expected to fulfill the university's mathematics requirement by the time they have accumulated 30 hours of credit in residence at ASU. Any student who has more than 30 hours of credit and has not fulfilled the mathematics requirement must enroll in a mathematics course or an appropriate prerequisite course and continue to do so every semester until the mathematics requirement is met. A waiver may be granted for continuous enrollment if there are scheduling conflicts detrimental to the student's academic progress.

First-Year Composition Requirement

Completion of both ENG 101 and 102 or ENG 105 with a grade of "C" or higher is required for graduation from ASU in any baccalaureate program. International students from non-English speaking countries may meet the First Year Composition requirement by completing ENG 107 and 108 with a grade of "C" or higher.

New or Transfer Students. Before new students or transfer students can register for the first time at ASU, they must determine what courses to take to complete the university First Year Composition requirement; the students must then enroll immediately in composition courses and continue to do so every term until composition requirements are met. *College offices may grant waivers to the immediate and continual enrollment requirement when there are scheduling conflicts detrimental to the student's academic progress.* Transfer students from other Arizona colleges or universities can determine the acceptability of their composition courses by referring to the most recent Arizona Commission for Postsecondary Education *Course Equivalency Guide* in consultation with an academic advisor. Composition courses transferred from out-of-state institutions must be evaluated and approved by advisors specifically designated for this purpose by the dean of each college.

The transfer student must file an application in the student's college for Equivalency of First-Year Composition Requirements, along with a transcript and catalog descriptions of the composition courses to be transferred. The application, available in each college, should be filed immediately upon transfer of course work to ASU so that the student is able to enroll in an additional composition course, if required to do so.

For more information, the student should go to the appropriate college or unit listed in the "Academic Advising at ASU Main" table, page 74.

Resident Credit Requirement

Resident credit refers to a course that is offered in a regular semester, winter session, intersession, or summer session. Credit earned through comprehensive examinations is also included when calculating ASU resident hours. Credit earned through independent learning, advanced placement, the College Level Examination Program, or an International Baccalaureate Diploma/Certificate are excluded when calculating ASU resident hours.

Campus Resident Credit Requirement. Every candidate for the baccalaureate degree is required to earn a minimum of 30 semester hours in resident credit courses at the ASU campus from which the student will graduate.

Guidelines for Determination of Catalog Year

The *General Catalog* is published annually. Department, school, division, college, and university requirements may change and are upgraded often. In determining graduation requirements, an undergraduate student may use only one edition of the *General Catalog* but may elect to follow any subsequent catalog. Students maintaining continuous enrollment at any public Arizona community college or university may graduate according to the requirements of the catalog in effect at the time of initial enrollment or according to the requirements of any single catalog in effect during subsequent terms of continuous enrollment. Students may maintain continuous enrollment whether attending a single public community college or university in Arizona or

Continuous Enrollment

Student's Activity	Semester/Year	Status
Example A		
Admitted and earned course credit at an Arizona community college	Fall 1998	Active
Continued at an Arizona community college	Spring 1999	Active
	Fall 1999	
Transferred to an Arizona university	Spring 2000	Student enrolled under 1998-99 or any subsequent catalog
Example B		
Admitted and earned course credit at an Arizona community college	Fall 1997	Active
Enrolled but earned all "Ws" or "Es"	Spring 1998	Inactive
Enrolled in audit courses only	Fall 1998	Inactive
Nonattendance	Spring 1999	Inactive
Transferred to an Arizona university	Fall 1999	Student enrolled under 1999-2000 or any subsequent catalog
Example C		
Admitted and earned course credit at an Arizona community college	Fall 1997	Active
Nonattendance	Spring 1998	Inactive
	Fall 1998	
	Spring 1999	
Readmitted and earned course credit at an Arizona community college	Fall 1999	Active
Transferred to an Arizona university	Spring 2000	Student enrolled under 1999-2000 or any subsequent catalog
Example D		
Admitted and earned course credit at an Arizona community college	Fall 1996	Active
Nonattendance	Spring 1997	Inactive
Readmitted and earned course credit at an Arizona community college	Summer 1997	Active
Nonattendance	Fall 1997	Inactive
	Spring 1998	
Transferred to an Arizona university	Fall 1998	Student enrolled under 1996-98 or any subsequent catalog
Example E		
Admitted and earned course credit at an Arizona community college	Summer 1997	Active
Continued at an Arizona community college	Fall 1997	Active
	Spring 1998	
Nonattendance	Fall 1998	Inactive
Readmitted and earned course credit at an Arizona community college	Spring 1999	Active
Transferred to an Arizona university	Summer 1999	Student enrolled under 1996-98 or any subsequent catalog

transferring among public institutions in Arizona while pursuing their degrees.

Students transferring among Arizona public higher education institutions must meet the admission, residency, and all curricular and academic requirements of the degree granting institution

1. A semester in which a student earns course credit is counted toward *continuous* enrollment. Noncredit courses, audited courses, failed courses, or courses from which the student withdraws do not count toward the determination of *continuous* enrollment for catalog purposes. See examples A and B in the "Continuous Enrollment" table on this page.
2. Students who do not meet the minimum enrollment standard stipulated in number 1 during three consecutive semesters (fall spring fall or spring fall/spring) and the intervening summer term at any public Arizona community college or university are no longer considered continuously enrolled. (Note that students are not obligated to enroll and earn course

credit during summer terms, but summer enrollment may be used to maintain continuous enrollment status.) These students must meet requirements of the public Arizona community college or university catalog in effect at the time they are readmitted or of any single catalog in effect during subsequent terms of *continuous* enrollment after readmission. See examples C and D in the "Continuous Enrollment" table on this page.

3. Students admitted or readmitted to a public Arizona community college or university during a summer term must follow the requirements of the catalog in effect the following fall semester or of any single catalog in effect during subsequent terms of *continuous* enrollment. See example E in the "Continuous Enrollment" table on this page.
4. In areas of study in which the subject matter changes rapidly, material in courses taken long before graduation may become obsolete or irrelevant. Course work that is more than eight years old is applicable

to completion of degree requirements at the discretion of the student's major department. Departments may accept such course work, reject it, or request that the student revalidate its substance. The eight year limit on course work applies except when program accreditation agencies limit the life of course work to fewer than eight years. Departments may also require students to satisfy current major requirements rather than major requirements in earlier catalogs when completing earlier requirements is no longer possible or educationally sound.

5. Enrollment by Arizona community college students in nontransferable courses still constitutes enrollment for purposes of determining whether the student has been continuously enrolled. For example, if a student takes two semesters of cooperative education classes, which are not transferable to the university but constitute *continuous* enrollment at the community college, the university should consider it *continuous* enrollment.
6. Exceptions made by an institution apply only to the institution that made the exception. For example, if the community college departments accepted credit that was more than eight years old, the university department to which the student transfers has the right and the obligation to reevaluate any credit more than eight years old.

Inquiries about these guidelines may be directed to the student's academic advisor.

Declaration of Graduation

Students following the curriculum requirements of the 1996–98 or later catalog editions may be eligible to file a Declaration of Graduation using the Degree Audit Reporting System (DARS).

DARS is an automated process that matches courses a student has completed with the requirements of a particular academic degree program, resulting in a report that shows the student which requirements are satisfied and which requirements remain to be fulfilled, thus providing a guide for efficient selection of courses toward graduation. For example, a student majoring in Biology would request a Degree Audit Report that would show how his or her completed ASU and transfer course work would apply to the Biology degree program.

A student must review his or her degree audit with the academic advisor and submit a Declaration of Graduation within the semester he or she earns the 87th semester hour. Students who have not met the above requirement are prevented from further registration.

Students following the curriculum requirements of the 1994–96 or earlier catalog editions, plus selected students following later catalogs, will follow the Program of Study requirement instead of the Declaration of Graduation. Inquiries about whether to follow the Declaration of Graduation procedure or the Program of Study procedure may be directed to the academic advisor.

Program of Study Requirements

A student following the curriculum requirements of the 1994–96 or earlier catalog editions, plus selected students following later editions, must file an Undergraduate Program of Study for graduation within the semester the stu-

dent earns his or her 87th semester hour. The Program of Study guides the student in accomplishing successful completion of degree requirements in a timely manner. Students who have not met the above requirement are prevented from further registration.

Program of Study forms and procedural information are available from the Graduation Section at SSV 140, at any registrar site, or online at www.asu.edu/registrar/forms.

Application for Graduation Requirements

The following steps are required to complete the graduation process:

1. Register for the final semester.
2. Pay the graduation fee at Cashiering Services. Note the deadline dates listed in the "University Calendar," page 13.
3. Submit the fee receipt to the Graduation Section, SSV 140, and apply for graduation. The Degree Audit Report or Program of Study is reviewed at this time and the graduation date and eligibility to graduate are verified.
4. Complete all course work listed on the Degree Audit Report or Program of Study by the graduation date.

For more information about application for graduation requirements at ASU West, contact ASU West Admissions and Records, UCB 120.

Students must comply with the above requirements to graduate.

The Application for Graduation along with the Degree Audit Report or Program of Study is reviewed to verify graduation eligibility.

Petition for Variance from Degree

Any student wishing to have a college or university degree requirement variance must petition the standards committee of the college in which the student is enrolled.

All petitions must originate with the student's advisor. Refer to the college sections of this catalog for college and division, school, or department requirements.

Main Campus Standards Committee. This committee advises the Office of the Senior Vice President and Provost regarding undergraduate student petitions that concern university wide academic requirements. These requirements include but are not limited to requirements on the amount of transfer credit, graduation requirements, limits on credit by examination, and requirements for a second baccalaureate degree (see "Overview of Graduation Requirements," page 86, and "Second Baccalaureate Degree," page 86). To petition for a variance from such university requirements, the normal department, division, school, and college forms and procedures are used. Only petitions that have been denied at the college level are forwarded to the Main Campus Standards Committee.

OTHER REQUIREMENTS

The separate units of the university, such as colleges, divisions, schools, and departments, have specific requirements for graduation that must be satisfied for a baccalaureate degree. For those requirements, see the appropriate *General Catalog* section. Students are encouraged to consult with an academic advisor in planning a program to ensure that it meets the various requirements. A well planned

program may enable a student to concurrently satisfy a portion of the General Studies requirement together with a portion of a college or major requirement.

OVERVIEW OF GRADUATION REQUIREMENTS

At ASU, students take classes that fulfill four types of requirements. As illustrated in the "Graduation Requirements" diagram on this page, some courses can fulfill two or more types of requirements, but other courses fulfill only one requirement. The total semester hours needed to graduate are represented by the largest circle. The university minimum is 120 semester hours. Some majors, however, require more than 120 semester hours.

Although the three shaded circles are equal in size and the white circle is larger than all three, the total number of semester hours for each type of requirement may vary.

University Requirements. The light gray circle represents university requirements. The General Studies requirement and the First-Year Composition requirement are among the university requirements. For General Studies, a minimum of 35 semester hours in five core and three awareness areas is required. For more information, see "General Studies," page 87.

College Requirements. The medium gray circle represents college requirements. Some colleges and schools have additional requirements, especially the College of Liberal Arts and Sciences. It is important that you understand the requirements of your college.

Major. The dark gray circle represents the requirements of the major. The semester hours required for a major may be as low as 30 hours or as high as 63 hours.

Electives/Minor. The white circle represents electives and the requirements of a minor. A minor typically adds an additional 18 to 25 semester hours. Though every student must eventually declare a major, a minor is not required. For more information on minors, see "Minors, Certificates, and Interdisciplinary Studies," page 110. Some courses, while providing semester hours toward graduation, fall outside the shaded circles and are not required in your program for graduation. These courses are electives. Some majors leave no room for electives within the minimum 120 semester hours required to graduate.

GENERAL GRADUATION INFORMATION

Graduation with Academic Recognition. An undergraduate student must have completed at least 60 semester hours of resident credit at ASU to qualify for graduation with academic recognition for a baccalaureate degree.

The cumulative GPA determines the designation, as shown in the "Academic Recognition" table, on this page. The cumulative GPA for these designations is based on only ASU resident course work. For example, ASU independent learning course grades are not calculated in the honors GPA. All designations of graduation with academic recognition are indicated on the diploma and the ASU transcript. Graduation with academic recognition applies only to undergraduate degrees.

A student who has a baccalaureate degree from ASU and is pursuing a second baccalaureate degree at ASU (with a minimum of 30 hours of resident credit) is granted aca-

demically recognition on the second degree based on the semester hours earned subsequent to the posting of the first degree. If fewer than 60 semester hours are completed at ASU subsequent to completion of the first ASU degree, the level of academic recognition can be no higher than that obtained on the first degree. If 60 or more semester hours are completed at ASU after completion of the first ASU degree, the level of academic recognition is based on the GPA earned for the second ASU degree. Inquiries about graduation with academic recognition may be directed to the Graduation Section, 480/965-3256.

Academic Recognition

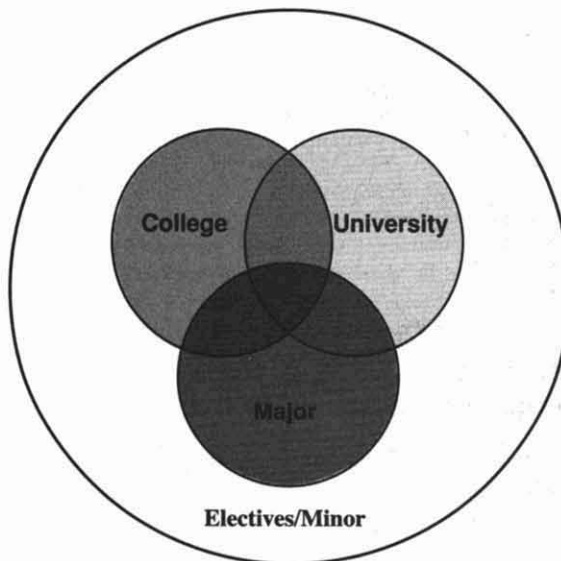
Cumulative GPA	Designation
3.40–3.59	<i>cum laude</i>
3.60–3.79	<i>magna cum laude</i>
3.80–4.00	<i>summa cum laude</i>

Second Baccalaureate Degree. The student seeking a second baccalaureate degree must meet admission criteria for that degree. After conferral of the first degree, a minimum of 30 semester hours in resident credit must be successfully completed at the ASU campus from which the second baccalaureate degree will be awarded. The student must meet all degree and university requirements of the second degree.

Concurrent Degrees. More than one baccalaureate degree may be pursued concurrently if prior approval is given by the standards committee(s) of the college(s) offering the degrees. Students may receive concurrent degrees if they meet the minimum requirements for both degrees.

Graduate Degrees. See "Graduate College," page 304, and "College of Law," page 327, for graduate degrees offered and statements of requirements for graduate degrees. A *Graduate Catalog* may be obtained from the Graduate College or the ASU Bookstore.

Graduation Requirements



General Studies

A baccalaureate education should prepare students for a particular profession or advanced study and for constructive and satisfying personal, social, and civic lives. In addition to depth of knowledge in a particular academic or professional discipline, students should also be broadly educated and develop the general intellectual skills they need to continue learning throughout their lives. Thus, the General Studies requirement complements the undergraduate major by helping students gain mastery of critical learning skills, investigate the traditional branches of knowledge, and develop the broad perspective that frees one to appreciate diversity and change across time, culture, and national boundaries.

Critical learning skills include proficiency in the use of language, mathematics, and quantitative methods as tools for acquiring, renewing, creating, and communicating knowledge. A broad education includes an understanding of the methods and concerns of traditional branches of knowledge—the arts and humanities, the social sciences, and the natural sciences. Developing perspective requires historical, global, and cross-cultural examination of knowledge of all kinds.

To help students achieve these educational goals, the General Studies Program includes five *core areas* and three *awareness areas*. The five *core areas* help students acquire critical lifelong learning skills and guide their exploration of the traditional branches of knowledge:

1. literacy and critical inquiry,
2. mathematics studies;
3. humanities and fine arts;
4. social and behavioral sciences; and
5. natural sciences.

The three *awareness areas* promote appreciation of cultural diversity within the contemporary United States, develop an international perspective, and foster an understanding of current human events through study of the past:

1. cultural diversity in the United States;
2. global awareness; and
3. historical awareness.

The courses approved by the ASU Main General Studies Council (for ASU Main and ASU East) for meeting the General Studies requirement are noted in the “General Studies Courses” table, page 90; in the course descriptions; and in the *Schedule of Classes* each academic term. The courses approved by the ASU West General Studies Council can be found in the *ASU West Catalog* and in the *Schedule of Classes*.

Meeting the General Studies Requirement

All students enrolled in a baccalaureate degree program must successfully complete a minimum of 35 semester hours of approved General Studies courses. Many General Studies courses are approved as satisfying more than one

requirement. The following conditions govern the application of courses toward the General Studies requirement.

1. A single course may be used to satisfy one core area and a maximum of two awareness area requirements.
2. A single course may be used to satisfy a maximum of two awareness area requirements.
3. A single course cannot be used to satisfy two core area requirements, even if it is approved for more than one core area.

There is no limit to the number of advanced placement (AP) or College Level Examination Program (CLEP) credits that can be used to meet the General Studies requirement; see “Special Programs for Advanced Placement and Credit,” page 68. However, the natural sciences (SQ and SG) and literacy and critical inquiry (L) portions of the General Studies requirement are not satisfied by CLEP.

FIVE CORE AREAS

Literacy and Critical Inquiry (L)

Literacy is competence in written and oral discourse; critical inquiry is the gathering, interpretation, and evaluation of evidence. The literacy and critical inquiry requirement helps students sustain and extend their ability to reason critically and communicate clearly through language.

L Requirement (Six Semester Hours). Students must complete six semester hours from courses designated as L, at least three semester hours of which must be chosen from approved upper division courses, preferably in their major. Students must have completed ENG 101, 107, or 105 to take an L course.

Mathematical Studies (MA and CS)

This core area has two categories: (1) Mathematics (MA) is the acquisition of essential skill in basic mathematics and requires the student to complete a course in college mathematics or college algebra or to demonstrate a higher level of skill by completing a course for which college algebra is a prerequisite, and (2) computer statistics quantitative applications (CS) applies mathematical reasoning and requires students to complete a course in either the use of statistics quantitative analyses or the use of the computer to assist in serious math analytical work.

MA and CS Requirement (Six Semester Hours). This requirement has two parts: (1) at least three semester hours must be selected from courses designated MA, and at least three semester hours must be selected from courses designated CS; and (2) all students are expected to fulfill the MA requirement by the time they accumulate 30 hours of credit in residence at ASU. Any student who has more than 30 hours of resident ASU credit and has not fulfilled the mathematics (MA) requirement must enroll in an MA course or an appropriate prerequisite and continue to do so every semester until the mathematics requirement is met. College officers may grant waivers to the immediate and continual

enrollment requirement only when there are scheduling conflicts detrimental to the student's academic progress.

Humanities and Fine Arts (HU)

The humanities and fine arts explore, through critical and creative activities, questions of human experience and expression as these articulate the human condition and reflect basic human values. Although differing in method, both probe the universality of human experience and promote a broader and deeper understanding of an individual's relationship to self, culture, and nature.

HU Requirement. The requirements for humanities and fine arts (HU) are combined with the requirements for social and behavioral sciences (SB). See "Combined HU and SB Requirement," on this page.

Social and Behavioral Sciences (SB)

The social and behavioral sciences provide scientific methods of inquiry and empirical knowledge about human behavior, both within society and individually. The forms of study may be cultural, economic, geographic, historical, linguistic, political, psychological, or social. The courses in this area address the challenge of understanding the diverse natures of individuals and cultural groups who live together in a world of diminishing economic, linguistic, military, political, and social distance.

Combined HU and SB Requirement (15 Semester Hours)

A total of 15 semester hours must be completed in the following two core areas: (1) humanities and fine arts (HU) and (2) social and behavioral sciences (SB). Two conditions must be satisfied: (1) six semester hours must be taken in one of these two core areas and nine hours in the other core area, and (2) three of the 15 semester hours must be at the upper division level.

Natural Sciences (SQ and SG)

The natural sciences help students appreciate the scope and limitations of science and its contributions to society. Natural science areas of study include anthropology, astronomy, biology, biochemistry, chemistry, experimental psychology, geology, microbiology, physical geography, physics, and plant biology. Knowledge of methods of scientific inquiry and mastery of basic scientific principles and concepts are stressed, specifically those that relate to matter and energy in living and nonliving systems. Firsthand exposure to scientific phenomena in the laboratory is important in developing and understanding the concepts, principles, and vocabulary of science.

General Studies courses that satisfy the natural science requirement are given one of two classifications: quantitative and general.

Natural Science-Quantitative (SQ). These laboratory courses include a substantial introduction to the fundamental behavior of matter and energy in physical and biological systems.

Natural Science-General (SG). These laboratory courses cover aspects of scientific inquiry that lend themselves to more qualitative or descriptive discussions of science.

SQ and SG Requirement (Eight Semester Hours). Eight semester hours of courses designated SQ or SG must be

selected. Of these, at least four semester hours must be taken from the SQ category.

THREE AWARENESS AREAS

Students must complete courses that satisfy each of the three awareness areas. Courses that are listed for a core area and one or more awareness areas may satisfy each of these requirements concurrently.

Cultural Diversity in the United States (C)

The objective of the cultural diversity requirement is to promote awareness and appreciation of cultural diversity within the contemporary United States. The objective is accomplished through the study of the cultural, social, or scientific contributions of women and minority groups, examination of their experiences in the United States, or exploration of successful or unsuccessful interactions between and among cultural groups. Awareness of cultural diversity and its multiple sources can illuminate the collective past, present, and future and can help students to achieve greater mutual understanding and respect.

Global Awareness (G)

The objective of the global awareness requirement is to help students recognize the need for an understanding of the values, elements, and social processes of cultures other than the culture of the United States. The global awareness area includes courses that recognize the nature of other contemporary cultures and the relationship of the American cultural system to generic human goals and welfare.

Historical Awareness (H)

The objective of the historical awareness requirement is to help students develop knowledge of the past that can be useful in shaping the present and future. History is present in the languages, art, music, literature, philosophy, religion, and the natural sciences, as well as in the social science traditionally called history.

Transfer Credit

The Arizona General Education Curriculum (AGEC), offered by the Arizona community colleges, is composed of 35 semester hours of lower division general education course work. Students who complete the AGECEC have completed the ASU First Year Composition requirement and all lower-division portions of the General Studies requirement. The students must still take six upper division semester hours (three for L and three for SB or HU) to complete the ASU General Studies requirement. If students transfer from Arizona community colleges without completing AGECEC or from other accredited postsecondary institutions, they receive credit for General Studies based on course-by-course equivalency. See "Arizona General Education Curriculum (AGECEC)," page 66.

College or School, and Major Requirements

In addition to General Studies requirements, students must also complete college or school, and major requirements. Students are encouraged to work with their academic advisors to develop a program of study that efficiently meets all graduation requirements. A well-planned program may enable a student to concurrently satisfy requirements at the university, college, or school levels, and within their major.

GENERAL STUDIES COURSES

The ASU Main and ASU East courses in the “General Studies Courses” table, page 90, satisfy the requirements of the five core areas and three awareness areas. General Studies courses are regularly reviewed. Since courses are occasionally added to and deleted from the list, students should always consult the *Schedule of Classes* each semester to see which courses currently meet the General Studies requirement.

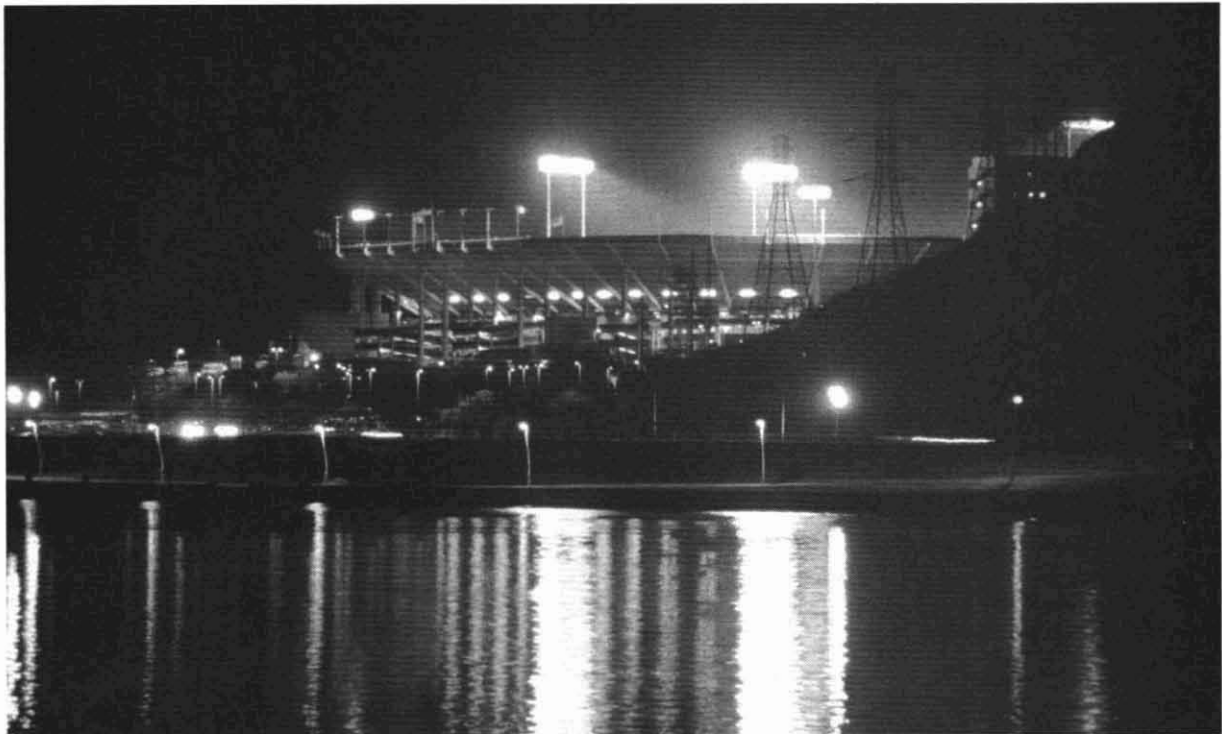
A student receives the General Studies credit a course carries in the semester in which the course is taken.

The “Key to General Studies Credit Abbreviations” table, on this page, defines the abbreviations used. General Studies courses are also identified following course descriptions.

The campus codes “M” (for ASU Main) and “W” (for ASU West) identify the campus that maintains academic control over the course (i.e., course content, registration restrictions, General Studies designations, and other curricular matters). The campus code is not used in the catalogs but appears in the *Schedule of Classes*, on transcripts, and other enrollment and registration records.

Key to General Studies Credit Abbreviations

Code	Description
L	Literacy and critical inquiry core courses
MA	Mathematics core courses
CS	Computer/statistics/quantitative applications core courses
HU	Humanities and fine arts core courses
SB	Social and behavioral sciences core courses
SQ	Natural science—quantitative core courses
SG	Natural science—general core courses
C	Cultural diversity in the United States awareness courses
G	Global awareness courses
H	Historical awareness courses
/	Or
.	And



Sun Devil Stadium reflected at night on Tempe Town Lake

Tim Trumble photo

General Studies Courses

	L	MA	CS	HU	SB	SQ	SG	C	G	H
--- 493 Honors Thesis (See "Courses," page 325. Only three semester hours may fulfill L requirement.)	L									
ACC 330 Enterprise Process Analysis and Design	L									
430 Taxes and Business Decisions	L									
AES 301 Air Force Leadership Studies I	L									
303 Air Force Leadership Studies II	L									
401 National Security Affairs	L									
AFH 353 African American Literature: Beginnings Through the Harlem Renaissance (Cross-listed as ENG 353)	L			HU				C		
354 African American Literature: Harlem Renaissance to the Present (Cross-listed as ENG 354)	L			HU				C		
AFS 363 African American History I (Cross-listed as HIS 363)					SB			C		H
364 African American History II (Cross-listed as HIS 364)					SB			C		H
AFR 493 Honors Thesis	L									
AGB 250 World Food Dynamics									G	
258 International Agribusiness									G	
351 Management Science			CS							
360 Agribusiness Statistics			CS							
414 Agribusiness Analysis	L									
450 International Agricultural Development									G	
455 Resource Management					SB					
456 World Agricultural Resources									G	
AIS 180 Introduction to American Indian Studies								C		
280 American Indian Law and Society								C		
AMT 308 Air Transportation									G	
ANP 236 Introduction to Computer Modeling (Cross-listed as DSC/PUP 236)			CS							
APH 100 Introduction to Environmental Design (Cross-listed as DSC/PUP 100)				HU					G	H
200 Introduction to Architecture				HU					G	
300 World Architecture I/Western Cultures				HU					G	H
301 World Architecture II/Eastern Cultures									G	
304 American Architecture				HU						
305 Contemporary Architecture				HU						
313 History of Western Architecture I	L			HU						
314 History of Western Architecture II	L			HU						
411 History of Landscape Architecture (Cross-listed as PLA 310)										H
414 History of the City (Cross-listed as PUP 412)										H
441 Ancient Architecture				HU						
443 Renaissance Architecture				HU						
444 Baroque Architecture				HU						
446 20th-Century Architecture I				HU						
447 20th-Century Architecture II				HU						
ARA 311 Art Appreciation and Human Development				HU						
488 Understanding Art	L			HU						
ARB 201 Intermediate Arabic									G	
202 Intermediate Arabic									G	
ARS 100 Introduction to Art				HU						
101 Art of the Western World I				HU						H
102 Art of the Western World II				HU						H
201 Art of Asia				HU					G	H
202 Art of Africa, Oceania, and the Americas				HU					G	H
300 Introduction to Art				HU						
302 Art of Africa, Oceania, and the Americas				HU					G	H
340 Art in America				HU						H
400 History of Printmaking				HU						H
402 Art of Ancient Egypt				HU						H
404 Greek Art				HU						H
406 Roman Art				HU						H
410 Early Christian and Byzantine Art				HU						
412 Early Medieval Art				HU						H

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
414				HU						H
416				HU						
418				HU						
420				HU						H
422				HU						
424				HU						H
426				HU						H
428				HU						H
430				HU						H
432				HU						H
434				HU						
436				HU						
438				HU						H
439				HU						H
442				HU						
443				HU						
444				HU						H
450				HU						
451				HU						
457										H
458				HU						
462				HU						H
463				HU						H
465				HU						H
466				HU				C		H
468				HU						
469				HU						H
472				HU						
473				HU						
475				HU						
480										
485		L								
ART 444			CS							
446			CS							
ASB 102					SB				G	
202								C		H
211				HU	SB				G	
222				HU	SB				G	H
223				HU	SB				G	H
231							SG			
240									G	
(Cross-listed as GCU/HIS/POS/REL 240)										
242		L						C		
250		L								
302		L			SB				G	
311					SB					
321		L			SB			C		H
322					SB				G	
323					SB				G	
324									G	
325									G	
326					SB					H
330					SB					
333		L			SB					
335					SB			C		H
337				HU	SB				G	H
338					SB					H
351					SB					
353				HU	SB				G	

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
423 Biomedical Instrumentation Laboratory	L									
BUS 301 Fundamentals of Management Communication	L									
451 Business Research Methods	L									
CCS 101 Introduction to Chicana and Chicano Studies								C		
111 Introduction to Chicana and Chicano Culture								C		
300 Chicana and Chicano Culture and Society								C		
CDE 232 Human Development					SB					
430 Infant/Toddler Development in the Family					SB					
437 Observational and Naturalistic Methods of Studying Children	L				SB					
CEE 486 Integrated Civil Engineering Design	L									
CET 150 Digital Systems I			CS							
CGC 212 Computer-Aided Design and Drafting (CADD)			CS							
310 Computer Graphics Programming (C++)			CS							
312 3D Computer Graphics Modeling and Representation			CS							
CHE 352 Transport Laboratories	L									
461 Process Control			CS							
CHI 201 Intermediate Chinese									G	
202 Intermediate Chinese									G	
207 Chinese for International Professions II									G	
313 Advanced Chinese									G	
314 Advanced Chinese									G	
321 Chinese Literature	L			HU						
322 Chinese Literature	L			HU					G	
413 Introduction to Classical Chinese				HU						
414 Introduction to Classical Chinese				HU						
CHM 101 Introductory Chemistry						SQ				
107 Chemistry and Society						SQ				
113 General Chemistry						SQ				
114 General Chemistry for Engineers						SQ				
115 General Chemistry with Qualitative Analysis						SQ				
116 General Chemistry						SQ				
117 General Chemistry for Majors I						SQ				
118 General Chemistry for Majors II						SQ				
231 Elementary Organic Chemistry (Both CHM 231 and 235 must be taken to secure SQ credit)						SQ				
235 Elementary Organic Chemistry Laboratory (Both CHM 231 and 235 must be taken to secure SQ credit)						SQ				
348 Physical Chemistry Laboratory I (CHM 348, 349, and 452 must be taken to secure L credit)	L									
349 Physical Chemistry Laboratory II (CHM 348, 349, and 452 must be taken to secure L credit)	L									
452 Inorganic Chemistry Laboratory (CHM 348, 349, and 452 must be taken to secure L credit)	L									
CIS 200 Computer Applications and Information Technology			CS							
440 Systems Design and Electronic Commerce	L									
CLS 450 Principles of Clinical Laboratory Administration (Both CLS 450 and 460 must be taken to secure L credit)	L									
460 Principles of Clinical Laboratory Education (Both CLS 450 and 460 must be taken to secure L credit)	L									
COM 100 Introduction to Human Communication					SB					
110 Elements of Interpersonal Communication					SB					
222 Argumentation	L									
225 Public Speaking	L									
230 Small Group Communication					SB					
241 Introduction to Oral Interpretation	L			HU						
250 Introduction to Organizational Communication					SB					
263 Elements of Intercultural Communication					SB			C	G	
308 Empirical Research Methods in Communication	L									
316 Gender and Communication					SB			C		
319 Persuasion and Social Influence					SB					

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
320					SB					
321	L			HU						H
323								C		
325	L									
344				HU				C		
357					SB					
371					SB			C	G	
410					SB					
411					SB					
421				HU						
426					SB					
441				HU						
445				HU						
446				HU				C		
450					SB					
463					SB				G	
CON 101				HU					G	H
389			CS							
472	L									
495			CS							
496	L									
CSE 100			CS							
180			CS							
181			CS							
183			CS							
200			CS							
210			CS							
423	L									
438	L									
CSH 310				HU				C		
351				HU				C		
363	L			HU				C		
485	L			HU				C		
CSS 330								C		
331								C		
336								C		H
340								C		
432								C		
DAH 100				HU						
300				HU						
301	L			HU						
302	L			HU					G	
401				HU						
402				HU						
DAN 423			CS							
DSC 100				HU					G	H
101				HU					G	
236			CS							
ECE 100			CS							
300	L									
380			CS							
400	L									
ECN 111					SB					
112					SB					
306					SB				G	
313					SB					
314					SB					
331					SB				G	
360					SB				G	

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
365 Economics of Russia and Eastern Europe					SB				G	
384 Economics of Social Behavior	L				SB					
404 History of Economic Thought	L				SB					
421 Earnings and Employment	L				SB					
436 International Trade Theory					SB				G	
438 International Monetary Economics					SB				G	
441 Public Finance	L				SB					
450 Law and Economics	L									
480 Introduction to Econometrics			CS							
493 Honors Thesis	L									
EDP 303 Human Development	L									
310 Educational Psychology					SB					
454 Statistical Data Analysis in Education			CS							
EEE 490 Senior Design Laboratory	L									
EMC 321 Computer Literacy			CS							
323 Computer Applications			CS							
ENG 200 Critical Reading and Writing About Literature	L			HU						
201 World Literature				HU						H
202 World Literature				HU						H
204 Introduction to Contemporary Literature				HU						
212 English Prose Style	L									
215 Strategies of Academic Writing	L									
216 Persuasive Writing on Public Issues	L									
217 Writing Reflective Essays	L									
218 Writing About Literature	L									
221 Survey of English Literature				HU						H
222 Survey of English Literature				HU						H
241 American Literature				HU						
242 American Literature				HU						
245 Popular Culture Issues	L									
301 Writing for the Professions	L									
303 Classical Backgrounds of English Literature				HU						
307 Utopian Literature	L			HU						H
312 English in Its Social Setting				HU	SB					
321 Introduction to Shakespeare	L			HU						
331 American Drama	L									
332 Major American Novels	L									
333 American Ethnic Literature	L							C		
352 Short Story				HU						
353 African American Literature: Beginnings Through the Harlem Renaissance (Cross-listed as AFH 353)	L			HU				C		
354 African American Literature: Harlem Renaissance to the Present (Cross-listed as AFH 354)	L			HU				C		
355 History of the Drama	L			HU						
356 The Bible as Literature				HU						
357 Introduction to Folklore				HU						
359 American Indian Literatures	L			HU				C		
361 Silent Film				HU						
362 Sound Film Genres				HU						
363 Chicana and Chicano Literature (Cross-listed as CSH 363)	L			HU				C		
372 Document Production	L									
400 History of Literary Criticism				HU						
413 History of the English Language				HU						
415 Medieval Literature				HU						
416 Chaucer: <i>Canterbury Tales</i>				HU						
417 Chaucer: <i>Troilus and Criseyde</i> and the Minor Works				HU						
418 Renaissance Literature	L			HU						
419 English Literature in the Early 17th Century	L			HU						
421 Shakespeare				HU						

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
415 German Civilization				HU						H
416 German Civilization				HU						H
421 German Literature				HU						
422 German Literature	L			HU						
453 German Literary Masterpieces on Film				HU					G	H
GLG 101 Introduction to Geology I (Physical) (Both GLG 101 and 103 must be taken to secure SQ credit)						SQ			G	
102 Introduction to Geology II (Historical) (Both GLG 102 and 104 must be taken to secure SG credit)							SG			H
103 Introduction to Geology I—Laboratory (Both GLG 101 and 103 must be taken to secure SQ credit)						SQ				
104 Introduction to Geology II—Laboratory (Both GLG 102 and 104 must be taken to secure SG credit)							SG			
105 Introduction to Planetary Science							SG			
110 Environmental Geology (Both GLG 110 and 111 must be taken to secure SG credit)							SG		G	
111 Environmental Geology Laboratory (Both GLG 110 and 111 must be taken to secure SG credit)							SG			
450 Geology Field Camp	L									
GPH 111 Introduction to Physical Geography						SQ				
210 Society and Environment									G	
211 Landform Processes	L									
212 Introduction to Meteorology I (Both GPH 212 and 214 must be taken to secure SG credit)							SG			
214 Introduction to Meteorology Laboratory I (Both GPH 212 and 214 must be taken to secure SG credit)							SG			
314 Global Change									G	
371 Cartography			CS							
373 Geographic Information Science I			CS							
381 Geography of Natural Resources									G	
414 Climate Change									G	
418 Landforms of the Western United States	L									
433 Alpine and Arctic Environments									G	
471 Cartographic Design			CS							
473 Geographic Information Science II.			CS							
GRA 318 History of Graphic Design				HU						
345 Design Rhetoric	L									
GRK 301 Ancient Greek Literature				HU						
302 Ancient Greek Literature				HU						
HCR 210 Clinical Health Care Ethics				HU						
220 Health Care Organizations (Cross-listed as HSA 220)	L									
230 Culture and Health									G	
HEB 201 Intermediate Modern Hebrew									G	
202 Intermediate Modern Hebrew									G	
375 Contemporary Culture of Israel				HU					G	
HIS 100 Western Civilization					SB					H
101 Western Civilization					SB					H
102 Western Civilization					SB				G	H
103 The United States					SB					H
104 The United States					SB					H
107 Introduction to Japan					SB				G	H
111 Global History Since 1500									G	H
201 Introduction to Slavic Civilization	L				SB					H
230 American Social History	L									H
240 Introduction to Southeast Asia (Cross-listed as ASB/GCU/POS/REL 240)									G	
270 Judaism in American History					SB					H
273 American Military History					SB					H
300 Historical Inquiry	L				SB					H
302 Film as History				HU						
303 American Cultural History					SB					H

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
304 American Cultural History					SB					H
305 Asian Civilizations					SB				G	H
306 Asian Civilizations					SB				G	H
308 Modern Southeast Asia					SB				G	H
312 Interpreting China's Classics (Cross-listed as HUM 312)	L			HU						H
320 Ancient Greece					SB					H
321 Rome					SB					H
322 The Middle Ages					SB					H
323 The Middle Ages					SB					H
324 Renaissance	L				SB					H
325 Reformation	L				SB					H
326 Early Modern Europe					SB					H
327 Early Modern Europe					SB					H
329 19th-Century Europe					SB					H
330 19th-Century Europe					SB					H
331 20th-Century Europe					SB				G	H
332 Europe Since 1945					SB				G	H
340 Witchcraft and Heresy in Europe (Cross-listed as REL 374)	L									H
341 Sex and Society in Classical and Medieval Europe					SB					H
342 Sex and Society in Early Modern Europe					SB					H
343 Sex and Society in Modern Europe	L				SB					H
344 Women and Society in Europe	L			HU	SB					H
351 England					SB					H
352 England					SB					H
356 Immigration and Ethnicity in the United States					SB			C		H
357 19th-Century West					SB					H
358 The West in the 20th Century					SB					H
360 American Indian History to 1900					SB			C		H
361 American Indian History Since 1900					SB			C		H
363 African American History I (Cross-listed as AFS 363)					SB			C		H
364 African American History II (Cross-listed as AFS 364)					SB			C		H
366 The Modern Middle East					SB				G	H
369 Exploration and Empire	L									H
370 Women in U.S. History, 1600–1880					SB			C		H
371 Women in U.S. History, 1880–1980					SB			C		H
373 Women in 20th-Century West								C		H
380 History of the Mexican American					SB			C		H
383 Latin America					SB					H
384 Latin America					SB					H
385 Women in Colonial Latin America										H
386 Latin American Women: The National Period					SB				G	H
401 American Colonial History					SB					H
404 The Early Republic, 1789–1850	L				SB					H
406 Civil War and Reconstruction	L				SB					H
407 The Emergence of the Modern United States, 1877 to 1918					SB					H
408 The Modern United States, 1918 to 1945					SB					H
409 The Postwar United States					SB					H
410 The Contemporary United States					SB					H
414 The Modern American Economy					SB					H
416 American Diplomatic History					SB				G	H
417 Constitutional History of the United States					SB					H
418 Constitutional History of the United States					SB					H
419 American Urban History					SB					H
420 American Urban History					SB					H
421 History of American Labor					SB					H
422 Rebellious Women	L				SB			C		H
424 The Hispanic Southwest					SB					H
425 The American Southwest	L				SB					H
426 Indian History of the Southwest					SB			C		H

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
428 Arizona					SB					H
430 20th-Century Chicano History					SB			C		H
431 The French Revolution and the Napoleonic Era					SB					H
433 Modern France					SB				G	H
434 Hitler: Man and Legend					SB					H
435 Modern Germany					SB				G	H
437 Eastern Europe and the Balkans					SB					H
438 Eastern Europe and the Balkans					SB				G	H
441 The Russian Empire					SB					H
442 The Soviet Union					SB				G	H
443 Russia and the United States					SB				G	H
445 Tudor England					SB					H
446 Stuart England					SB					H
449 Modern Britain					SB				G	H
450 British Constitutional History					SB					H
451 The British Empire					SB					H
455 Intellectual History of Modern Europe				HU						H
456 History of Spain				HU	SB					H
457 History of Spain				HU	SB				G	H
460 Spanish South America					SB					H
461 Spanish South America					SB					H
463 Intellectual and Cultural History of Latin America					SB					H
464 The United States and Latin America					SB				G	H
466 Mexico					SB					H
467 Mexico					SB					H
468 Brazil					SB					H
469 Chinese Thought and Way					SB					H
470 Chinese Thought and Way					SB				G	H
471 The United States and Japan					SB				G	H
473 China					SB					H
474 China					SB				G	H
475 The American Experience in Vietnam, 1945–1975					SB				G	H
477 Japan	L				SB					H
478 Japan					SB				G	H
481 The People's Republic of China					SB				G	H
488 History of Fire	L									H
493 Honors Thesis	L									
498 PS: History Pro-Seminar	L									
HON 171 The Human Event	L			HU						H
172 The Human Event	L			HU						H
HPS 322 History of Science				HU						H
323 History of Science				HU						H
330 History of Biology: Conflicts and Controversies (Cross-listed as BIO 316)										H
331 History of Medicine (Cross-listed as BIO 318)										H
410 Professional Values in Science (Cross-listed as BIO 416)	L									
HSA 220 Health Care Organizations (Cross-listed as HCR 220)	L									
HUM 110 Contemporary Issues in Humanities				HU						
200 Encountering the Humanities				HU						
301 Humanities in the Western World	L			HU						H
302 Humanities in the Western World	L			HU						H
310 Japanese Cities and Cultures to 1800 (Cross-listed as REL 355)	L			HU						H
312 Interpreting China's Classics (Cross-listed as HIS 312)	L			HU						H
340 Contemporary American Film and Popular Culture				HU						
401 The Culture and Legacy of the European Enlightenment				HU						H
420 Interpreting Latin America				HU					G	H
440 Los Angeles and Cultural Theory	L			HU				C		
450 Technology and Culture	L			HU						
460 Postmodern Culture and Interpretation	L									
462 Psychoanalysis and Culture	L			HU	SB					

General Studies Courses (continued)

		L	MA	CS	HU	SB	SQ	SG	C	G	H
	465				HU						
	498				HU						
IBS	300									G	
	306					SB				G	
	400								C	G	
	493										
IDN	201									G	
	202									G	
IED	410										H
	430				HU						
	460					SB					
IEE	305			CS							
	374			CS							
	463			CS							
	475			CS							
	476			CS							
IND	316				HU						H
	317				HU						H
	470										
INT	223				HU						
	310				HU						H
	311				HU						H
	412				HU						
	442										
ITA	201									G	
	202									G	
	311									G	
	312									G	
	314									G	
	325				HU						
	415				HU					G	
	430				HU						
	441				HU						
	443				HU						H
	446				HU						
	449				HU					G	
ITM	440									G	
JPN	201									G	
	202									G	
	207									G	
	311									G	
	312									G	
	313									G	
	314									G	
	321				HU					G	
JRN	201										
	301										
JUS	100					SB					
	200					SB					
	302			CS							
	320					SB			C		
	321					SB			C		
	360					SB					
	375					SB					
	385					SB					
	404										
	415									G	
	420					SB			C		

General Studies Courses (continued)

		L	MA	CS	HU	SB	SQ	SG	C	G	H
	466 North American Indian Music	L			HU				C		
MIC	205 Microbiology (Both MIC 205 and 206 must be taken to secure SG credit)							SG			
	206 Microbiology Laboratory (Both MIC 205 and 206 must be taken to secure SG credit)							SG			
	302 Advanced Bacteriology Laboratory (Both MIC 302 and 401 must be taken to secure L credit)	L									
	401 Research Paper (Both MIC 302 and 401 must be taken to secure L credit)	L									
MIS	410 American Defense Policy I					SB					
	412 American Defense Policy II					SB					
	414 Comparative Defense Policy Analysis					SB					
	416 Soviet/C.I.S. Foreign and Defense Policies					SB					
MKT	460 Strategic Marketing	L									
MUE	381 Music Therapy Research	L									
MUS	340 Survey of Music History				HU						H
	347 Jazz in America				HU						
	354 Popular Music				HU						
	355 Survey of American Music				HU						H
	356 Survey of the Musical Theatre				HU						
NUR	362 Professional Development II: Nursing Research	L									
	391 Registered Nurse Mobility I: Professional Development	L									
	403 Research in Nursing Practice (Effective through fall 2000)	L									
PGS	101 Introduction to Psychology					SB					
	222 Human Sexual Behavior					SB					
	270 Psychology of Adjustment					SB					
	304 Effective Thinking	L									
	306 Environmental Psychology					SB					
	315 Personality Theory and Research					SB					
	341 Developmental Psychology					SB					
	344 Directed Child Study	L									
	350 Social Psychology					SB					
	351 Honors Social Psychology	L				SB					
	365 Community Psychology					SB					
	414 History of Psychology	L				SB					
	427 Psychology of Aging	L				SB					
	441 Cognitive Development	L				SB					
	443 Abnormal Child Psychology	L				SB					
	444 Adolescent Psychology and Psychopathology	L									
	445 Child Language and Drawing					SB					
	446 Social Development	L									
	450 Social Perception and Cognition	L									
	451 Stereotyping, Prejudice, and Discrimination	L									
	452 Applied Social Psychology	L									
	461 Interpersonal Influence					SB					
	463 Advanced Psychology of Adjustment	L									
	465 Psychology of Stress and Coping	L									
	466 Abnormal Psychology					SB					
	467 Psychology of Magical Beliefs	L									
PHI	101 Introduction to Philosophy				HU						
	103 Principles of Sound Reasoning	L			HU						
	105 Introduction to Ethics				HU						
	300 Philosophical Argument and Exposition	L									
	301 History of Ancient Philosophy				HU						H
	302 History of Modern Philosophy				HU						H
	304 Existentialism				HU						
	305 Ethical Theory				HU						
	306 Applied Ethics				HU						
	307 Philosophy of Law				HU						
	308 Philosophy of Art				HU						
	309 Social and Political Philosophy				HU						

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
310 Environmental Ethics				HU						
311 Philosophy in Literature				HU						
312 Theory of Knowledge				HU						
314 Philosophy of Science				HU						
315 Philosophy of Language				HU						
316 Metaphysics				HU						
317 Philosophy of Mind				HU						
318 Philosophy of Religion				HU						
319 Philosophy of Computing			CS	HU						
325 Philosophy of Social Science				HU	SB					
332 19th-Century Philosophy				HU						
335 History of Ethics				HU						
402 Empiricism				HU						
403 Contemporary Analytic Philosophy				HU						
PHS 110 Fundamentals of Physical Science						SQ				
208 Patterns in Nature (Cross-listed as STE 208)						SQ				
PHY 101 Introduction to Physics						SQ				
111 General Physics (Both PHY 111 and 113 must be taken to secure SQ credit)						SQ				
112 General Physics (Both PHY 112 and 114 must be taken to secure SQ credit)						SQ				
113 General Physics Laboratory (Both PHY 111 and 113 must be taken to secure SQ credit)						SQ				
114 General Physics Laboratory (Both PHY 112 and 114 must be taken to secure SQ credit)						SQ				
121 University Physics I: Mechanics (Both PHY 121 and 122 must be taken to secure SQ credit)						SQ				
122 University Physics Laboratory I (Both PHY 121 and 122 must be taken to secure SQ credit)						SQ				
131 University Physics II: Electricity and Magnetism (Both PHY 131 and 132 must be taken to secure SQ credit)						SQ				
132 University Physics Laboratory II (Both PHY 131 and 132 must be taken to secure SQ credit)						SQ				
150 Physics I						SQ				
151 Physics II						SQ				
252 Physics III						SQ				
420 Research Paper	L									
PLA 101 Landscape and Society				HU					G	
222 Computers in Landscape Architecture			CS							
310 History of Landscape Architecture (Cross-listed as APH 411)										H
420 Theory of Urban Design				HU						
PLB 108 Concepts in Plant Biology						SQ				
260 Plants in Cities: Introduction to Urban Horticulture							SG			
300 Comparative Plant Diversity	L						SG			
320 Environmental Science (Nonmajor) (Cross-listed as BIO 319)									G	
414 Plant Pathology	L									
432 Computer Applications in Biology (Cross-listed as BIO 406)			CS							
POR 201 Intermediate Portuguese									G	
313 Portuguese Composition and Conversation									G	
314 Portuguese Composition and Conversation									G	
321 Luso-Brazilian Literature				HU						
472 Luso-Brazilian Civilization				HU					G	
POS 101 Political Ideologies					SB					
110 Government and Politics					SB					
150 Comparative Government					SB				G	
160 Global Politics					SB				G	
220 Political Issues and Public Policy					SB					
230 Current Issues in National Politics	L				SB					
240 Introduction to Southeast Asia (Cross-listed as ASB/GCU/HIS/REL 240)									G	
260 Current Issues in International Politics	L				SB				G	
270 American Legal System					SB					
301 Empirical Political Inquiry					SB					

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
425 Biological Bases of Behavior	L									
426 Neuroanatomy	L									
434 Cognitive Psychology	L									
437 Human Factors	L									
498 PS: Behavioral Neuroscience Research	L									
PUP 100 Introduction to Environmental Design (Cross-listed as APH/DSC 100)				HU					G	H
200 The Planned Environment				HU						H
236 Introduction to Computer Modeling (Cross-listed as ANP/DSC 236)			CS							
301 Introduction to Urban Planning	L									
412 History of the City (Cross-listed as APH 414)										H
420 Theory of Urban Design				HU						
445 Women and Environments								C		
452 Ethics and Professional Practice	L									
QBA 221 Statistical Analysis			CS							
321 Applied Quality Analysis I	L									
450 Operations and Process Analysis	L									
REC 120 Leisure and the Quality of Life					SB					
160 Leisure and Society					SB					
305 Introduction to Travel and Tourism									G	
330 Programming of Recreation Services	L									
380 Wilderness and Parks in America					SB					H
458 International Tourism									G	
REL 100 Religions of the World				HU					G	
200 The Study of Religious Traditions	L			HU					G	
201 Religion and the Modern World	L			HU						
202 Religion and Popular Culture				HU				C		
203 Saints and Sinners: Explorations in Sacred Biography				HU						H
205 Living and Dying				HU						
210 Introduction to Judaism	L			HU						H
225 African American Religion				HU				C		
240 Introduction to Southeast Asia (Cross-listed as ASB/GCU/HIS/POS 240)									G	
270 Introduction to Christianity				HU						
305 Ritual, Symbol, and Myth	L			HU						
310 Western Religious Traditions				HU						H
315 Hebrew Bible (Old Testament)	L			HU						H
317 Introduction to Rabbinic Judaism				HU						H
320 American Religious Traditions				HU				C		H
321 Religion in America				HU				C		H
322 Malcolm and Martin				HU				C		
323 Black Religion: A Biographical Approach				HU				C		
330 Native American Religious Traditions				HU				C		
331 History of Native American Religious Traditions	L			HU				C		H
332 South American Indian Religions				HU					G	
344 Religion and Values in Japanese Life				HU					G	
345 Asian Religious Traditions				HU					G	
350 Hinduism	L			HU					G	H
351 Buddhism	L			HU					G	
355 Japanese Cities and Cultures to 1800 (Cross-listed as HUM 310)	L			HU						H
365 Islamic Civilization				HU						H
366 Islam in the Modern World				HU					G	H
371 New Testament				HU						
372 Formation of the Christian Tradition				HU						H
374 Witchcraft and Heresy in Europe (Cross-listed as HIS 340)	L									H
377 Religion in Russia				HU						H
379 Religion, Nationalism, and Ethnic Conflict				HU					G	
381 Religion and Moral Issues	L			HU						
382 Religion, Magic, and Science	L			HU						
385 Contemporary Western Religious Thought	L			HU						
390 Women and Religion				HU					G	

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
410				HU						H
415				HU						
420	L			HU						
426	L			HU						
427				HU						H
444				HU					G	H
460				HU					G	
470				HU						H
471				HU						H
480									G	
486				HU						
RUS 201									G	
202									G	
211									G	
212									G	
311									G	
312									G	
321	L			HU						H
322	L			HU						
323	L			HU					G	
411									G	
412									G	
420	L			HU						
421	L			HU						
423	L			HU						
424	L			HU						
425	L			HU						
426	L			HU					G	
430	L			HU						
441	L			HU					G	H
SCM 455	L									
SHS 367					SB					
465					SB					
SOC 101					SB					
301					SB					
312					SB					
315					SB					
318					SB					
321					SB					
331					SB					
332					SB				G	
333					SB				G	
340					SB					
341					SB					
352					SB				G	H
360					SB					
361					SB					
365					SB					
390			CS							
391					SB					
415					SB					
416	L				SB					
417					SB					
418					SB					
420	L				SB					
421					SB					
422	L				SB					
423	L				SB					
424	L				SB					

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
427	Sociology of Health and Illness	L			SB					
429	Sociology of Law				SB					
433	Demographic Methods				SB					
446	Sociology of Crime				SB					
451	Comparative Sociology				SB				G	
455	Social Movements				SB					
456	Political Sociology				SB				G	
464	Women's Roles	L			SB			C		
470	Racial and Ethnic Relations				SB			C		
474	African-Americans in Modern Society	L			SB			C		
483	History of Social Thought	L			SB					
485	Sociology of Knowledge	L			SB					
486	Contemporary Theory				SB					
SPA 201	Intermediate Spanish								G	
202	Intermediate Spanish								G	
203	Intermediate Spanish for Bilinguals								G	
204	Intermediate Spanish for Bilinguals								G	
207	Spanish for International Professions II								G	
313	Spanish Conversation and Composition								G	
314	Spanish Conversation and Composition								G	
319	Business Correspondence and Communication								G	
325	Introduction to Hispanic Literature			HU						
412	Advanced Conversation and Composition								G	
413	Advanced Spanish Grammar								G	
420	Applied Spanish Linguistics	L								
421	Spanish in the Southwest	L			SB			C		
425	Spanish Literature			HU						
426	Spanish Literature			HU						
427	Spanish American Literature	L								
428	Spanish American Literature	L							G	
464	Mexican American Literature			HU						
471	Civilization of the Spanish Southwest			HU						
472	Spanish American Civilization			HU					G	H
473	Spanish Civilization			HU	SB				G	
SPE 311	Orientation to Education of Exceptional Children				SB					
SPF 111	Exploration of Education				SB					
301	Culture and Schooling	L								
STE 201	Introduction to Bioengineering (Cross-listed as BME 201)	L								
208	Patterns in Nature (Cross-listed as PHS 208)					SQ				
STP 220	Conceptual Statistics		CS							
226	Elements of Statistics		CS							
326	Intermediate Probability		CS							
420	Introductory Applied Statistics		CS							
429	Experimental Statistics		CS							
SWU 271	Introduction to Social Work				SB					H
301	Human Behavior in the Social Environment I	L			SB					
321	Statistics for Social Workers		CS							
340	Human Behavior in the Social Environment II				SB					
374	Diversity and Oppression in a Social Work Context							C		
TCM 201	Radio-Television Writing	L								
315	Broadcast News Reporting	L								
THA 201	Intermediate Thai I								G	
202	Intermediate Thai II								G	
THE 100	Introduction to Theatre			HU						
220	Principles of Dramatic Analysis	L								
300	Film: The Creative Process I			HU						
320	History of the Theatre I			HU						H
321	History of the Theatre II			HU						H
420	History of the American Theatre			HU						H

General Studies Courses (continued)

	L	MA	CS	HU	SB	SQ	SG	C	G	H
421 History of the English Theatre	L			HU						
425 History of Asian Theatre	L			HU						
TWC 200 Impact of Communications Technology on Society	L									
400 Technical Communications	L									
VTN 201 Intermediate Vietnamese I									G	
202 Intermediate Vietnamese II									G	
WSH 413 Lesbian Culture: Images and Realities				HU				C		
464 Voices and Visions				HU				C		
470 Women and Popular Culture				HU				C		
WST 100 Women and Society					SB			C		
300 Women in Contemporary Society					SB			C		
373 Latina/Chicana Issues					SB			C		
375 Women and Social Change								C		
377 Creation of Feminist Consciousness	L							C		
378 Contemporary Feminist Theory	L							C		
380 Gender, Race, and Class					SB			C		
457 Gender, Culture, and Development					SB				G	
460 Women and the Body					SB			C		
498 PS: Theoretical Issues in Women's Studies	L									



Members of the Dance Arizona Repertory Theatre, part of the Department of Dance, lead a workshop for seventh- and eighth-graders at the Silvestre S. Herrera School in south Phoenix.

Tim Trumble photo

Minors, Certificates, and Interdisciplinary Studies

Interdisciplinary studies are available to students through an interdisciplinary degree, such as the Bachelor of Interdisciplinary Studies, or an extensive choice of minors or certificates that may be taken in conjunction with other majors. Since interdisciplinary studies provide skills that support employment in a rapidly changing workplace, students are encouraged to consider these options. Consult the academic advisor in your major about the impact of enrolling in a minor or certificate program.

MINORS

A minor is an approved, coherent concentration of academic study in a single discipline, involving substantially fewer hours of credit than a corresponding major. Several ASU colleges offer undergraduate minors in addition to majors; see the "ASU Minors" table, page 111. For more information about specific minors offered at ASU, see the individual college and department descriptions in this catalog.

Students in most majors may pursue one or more minors and, upon successful completion of the prescribed course work, have that accomplishment officially recognized on the ASU transcript at graduation if (1) the college department of the minor officially certifies, through established verification procedures, that all requirements for the minor have been met and (2) the college (and, in certain colleges, the department) of the student's major allows the official recognition of the minor.

A student wishing to pursue a specific minor should consult an academic advisor in the unit offering that minor to ensure that an appropriate set of courses is taken.

Note: Certain major and minor combinations may be deemed inappropriate either by the college or department of the major or minor. Inappropriate combinations include (but would not be limited to) ones in which an excessive number of courses in the minor are simultaneously being used to fulfill requirements of the student's major.

CERTIFICATES

Students may pursue some certificate programs along with a major and other certificate programs independently. For more information, see the pages indicated in the "ASU Certificates" table, page 113.

CONCURRENT AND DUAL DEGREES

Graduate students have the opportunity to pursue more than one degree at the same time as part of an organized program. For more information, see the *Graduate Catalog*.

INTERDISCIPLINARY STUDIES

Refer to the college sections of this catalog for numerous additional opportunities; for example, see "Certificate Programs and Areas of Emphasis," page 339, for opportunities within the College of Liberal Arts and Sciences.

Bachelor of Interdisciplinary Studies. For information about the Bachelor of Interdisciplinary Studies at ASU Main or ASU East, see "Bachelor of Interdisciplinary Studies," page 115, or the "ASU East Baccalaureate Degrees and Majors" table, page 561.

Energy Studies. An expanding instructional and research involvement in energy matters exists through the following three curricular paths:

1. general studies, which emphasize energy as an elective beyond the scope of a chosen major (for more information, call 480 965-4548),
2. specific studies in the College of Architecture and Environmental Design, for those pursuing the Master of Architecture degree and the Master of Science degree in Building Design; and
3. specific studies in the College of Engineering and Applied Sciences, usually for those seeking a degree in a branch of engineering

Environmental Studies. The Center for Environmental Studies encourages and coordinates interdisciplinary environment related activities in the natural and social sciences within the university. The center sponsors special courses, conferences, and workshops on environmental topics. Drawing from faculty and students throughout the university, the center participates in research and community programs relating to environmental problem areas. It does not formally offer courses or a degree program. For more information, see "Center for Environmental Studies," page 39

Film Studies. The Film Studies Program exists not only to provide information and experience, but also to serve as a means of creative expression for the student and as a useful subject and tool in teaching. The program is not designed to produce professional filmmakers, but it may provide practical preparation for students desiring further film study in other institutions.

Inquiries about this program should be directed to the Film Studies coordinator, at 480 965 7644

Gerontology. The Gerontology Program brings together faculty from several disciplines to teach courses related to adult development and aging, to collaborate on gerontological research, and to participate in projects of service to older adults

A certificate at the postbaccalaureate level and an undergraduate minor are available in Gerontology. The certificate consists of 24 semester hours—12 hours of required and 12 hours of elective course work. The minor consists of 18 semester hours—six hours of required and 12 hours of elective course work. Courses related to aging are taught throughout the university by faculty who are active contributors to research, theory, and public policy and practice. In addition, gerontology provides students with opportunities to gain practical experience in working with elderly people.

ASU Minors

Minor	Administered By	Campus	Page
African American Studies	African American Studies Program	Main	345
American Studies	Department of American Studies	West	612
Anthropology	Department of Anthropology	Main	346
Art History	School of Art	Main	268
Asian Languages (Chinese/Japanese)	Department of Languages and Literatures	Main	391
Astronomy	Department of Physics and Astronomy	Main	418
Biology	Department of Biology	Main	351
Business ¹	College of Business	Main	149
Chemistry	Department of Chemistry and Biochemistry	Main	357
Chicana and Chicano Studies	Department of Chicana and Chicano Studies	Main	360
Communication	Hugh Downs School of Human Communication	Main	463
Communication Studies	Department of Communication Studies	West	612
Dance	Department of Dance	Main	281
Economics for Students Planning a Career in Law	Department of Economics	Main	362
English	Department of American Studies	West	612
English with a Concentration in Linguistics	Department of English	Main	363
English with a Concentration in Literature	Department of English	Main	363
Environmental Resources	Morrison School of Agribusiness and Resource Management	East	569
Ethnic Studies	Ethnic Studies Program	West	612
Exercise Science/Physical Education	Department of Exercise Science and Physical Education	Main	369
Family Resources and Human Development	Department of Family Resources and Human Development	Main	372
Film and Video Studies	Department of Interdisciplinary Arts and Performance	East	575
French	Department of Languages and Literatures	West	612
General Economics	Department of Economics	Main	362
Geography	Department of Geography	Main	376
Geology	Department of Geology	Main	379
German	Department of Languages and Literatures	Main	391
Gerontology	Gerontology Program	Main	110
History	Department of History	West	612
Humanities	Department of American Studies	Main	382
Interdisciplinary Arts and Performance	Interdisciplinary Humanities Program	West	612
Interior Design History	Department of Interdisciplinary Arts and Performance	Main	135
Italian	Department of Design	Main	135
Justice Studies	Department of Languages and Literatures	Main	391
Life Sciences	School of Justice Studies	Main	471
Mass Communication	Department of Life Sciences	West	612
Mathematics	School of Journalism and Telecommunication	Main	468
Microbiology	Department of Integrative Studies	West	612
Music	Department of Mathematics	Main	405
Philosophy	Department of Microbiology	Main	410
Physics	School of Music	Main	292
Plant Biology	Department of Philosophy	Main	416
Political Science	Department of Physics and Astronomy	Main	419
Politics	Department of Plant Biology	Main	424
Prelaw	Department of Political Science	Main	427
Psychology	Department of Social and Behavioral Sciences	West	612
	College of Human Services	West	612
	Department of Psychology	Main	432
	Department of Social and Behavioral Sciences	West	612

¹ This minor is for nonbusiness majors only

- Applications are not being accepted at this time

ASU Minors (continued)

Minor	Administered By	Campus	Page
Recreation Management ²	Department of Recreation Management and Tourism	Main	476
Religious Studies	Department of Religious Studies	Main	435
Russian	Department of Languages and Literatures	Main	391
Small Business	College of Business	Main	170
Social and Behavioral Sciences	Department of Social and Behavioral Sciences	West	612
Sociocultural Anthropology	Department of Social and Behavioral Sciences	West	612
Sociology	Department of Sociology	Main	438
	Department of Social and Behavioral Sciences	West	612
Spanish	Department of American Studies	West	612
	Department of Languages and Literatures	Main	391
Special Events Management	Department of Recreation and Tourism Management	West	612
Theatre	Department of Theatre	Main	299
Tourism	Department of Recreation Management and Tourism	Main	476
Tourism Management	Department of Recreation and Tourism Management	West	612
Urban Planning	School of Planning and Landscape Architecture	Main	139
Women's Studies	Women's Studies Program	Main	444
		West	612

¹ This minor is for nonbusiness majors only

² Applications are not being accepted at this time.

A practicum, held at the Veterans Administration Hospital, is available to students who have completed some gerontology course work. Gerontology also helps students find rewarding internships in community programs for older adults. For more information, see "Gerontology Certificate Program," page 259, and "Gerontology," page 307, or refer to the current *Student Handbook in Gerontology*.

Islamic Studies. The art, history, geography, and religion of the Islamic world are the subjects of several courses offered by departments in the College of Fine Arts and the College of Liberal Arts and Sciences. For information, call the Department of Religious Studies, at 480 965 7145.

Linguistics. Linguistics concentrations are offered in master's degree programs in the Departments of Anthropology, English, and Languages and Literatures through the Graduate College. Numerous linguistics courses are offered in these and other departments. For information, call the University Committee on Linguistics at 480 965 3168.

Medieval and Renaissance Studies. An undergraduate Certificate in Medieval and Renaissance Studies is offered by the Arizona Center for Medieval and Renaissance Studies. See "Medieval and Renaissance Studies," page 340, for more information. See the *Graduate Catalog* for information about the Certificate in Medieval Studies and the Certificate in Renaissance Studies. See "Arizona Center for Medieval and Renaissance Studies (ACMRS)," page 35, for information about the center.

MILITARY OFFICER TRAINING

U.S. Air Force and U.S. Army ROTC units are active on the ASU campus. See "Department of Aerospace Studies,"

page 343, and "Department of Military Science," page 412, for more information.

Defense Activity for Nontraditional Education Support (DANTES). ASU is a participating institution with DANTES and is listed in the DANTES Directory of Independent Study. DANTES is an executive agency of the Department of Defense that provides educational support for the voluntary education programs of all services. The primary missions of DANTES are (1) to provide nationally recognized examination and certification programs as part of the voluntary education programs of military services and (2) to facilitate the availability of high quality independent institutions for service men and women.

WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION (WICHE)

For Arizona residents who wish to attend professional schools of dentistry, occupational therapy, optometry, osteopathy, and veterinary medicine in one of the other western states, Arizona has joined with other western states to create the Western Interstate Commission for Higher Education. Through WICHE, qualified Arizona residents may attend schools in other western states at essentially the same expense to the students as to residents of the state in which the school is located. Students must have maintained at least average grades in their preprofessional work and must have been legal residents of Arizona for at least the last five years. Recipients are required to return to Arizona to practice or to repay a portion of the funds expended in their behalf.

For applications and more information, call 602 229 2500.

ASU Certificates

Certificate	Administered By	Campus	Page
Accountancy, Postbaccalaureate Certificate in	School of Management	West	612
African American Studies	African American Studies Program	Main	345
American Indian Studies	American Indian Studies Program	Main	461
Asian Pacific American Studies	Asian Pacific American Program	Main	462
As an Studies	Center for Asian Studies	Main	382
Communication and Human Relations, Postbaccalaureate Certificate in	College of Human Services	West	612
East Asian Studies	Center of Asian Studies	Main	391
English as a Second Language	College of Extended Education	Extended	261
Enriched College Degree	CLAS	Main	339
Ethnic Studies	College of Arts and Sciences	West	612
Film and Video Studies	College of Arts and Sciences	West	612
Gerontology ¹	College of Extended Education	Extended	259
	College of Human Services	West	612
	Graduate College	Main	307
Hazardous Materials and Waste Management	Department of Information and Management Technology	East	591
Health Physics	Pre Health Professions Office	Main	340
History and Philosophy of Science	Department of Philosophy	Main	416
Human Performance Improvement ²	College of Extended Education and the American Society of Training and Development	Main	260
Indian Law ²	College of Law	Main	328
International Business Studies	College of Business	Main	163
Jewish Studies	Jewish Studies Committee	Main	340
Latin American Studies	Latin American Studies Center	Main	340
Medieval and Renaissance Studies	Arizona Center for Medieval and Renaissance Studies (ACMRS)	Main	340
Medieval Studies ^{1, 2}	ACMRS	Main	—
Museum Studies ^{1, 2}	Department of Anthropology	Main	—
Nonprofit Management ²	College of Extended Education and the United Way	Main	260
Nonprofit Youth Agency Administration: American Humanities	Department of Recreation Management and Tourism	Main	476
Post-Bachelor's Artist Diploma ^{1, 2}	School of Music	Main	—
Post Master's Family Nurse Practitioner ^{1, 2, 3}	College of Nursing	Main	—
Professional Accountancy, Postbaccalaureate Certificate	School of Management	West	612
Quality Analysis	College of Business	Main	153
Renaissance Studies ^{1, 2}	ACMRS	Main	—
Russian and East European Studies	Department of Languages and Literatures	Main	341
Scandinavian Studies	Department of Languages and Literatures	Main	341
Scholarly Publishing ^{1, 2}	Department of History	Main	—
Small Business and Entrepreneurship	College of Business	Main	170
Southeast Asian Studies	Program for Southeast Asian Studies	Main	341
Translation	Department of Languages and Literatures	Main	392
Transportation Systems ^{1, 2}	Committee on Transportation Systems	Main	—
Women's Studies	College of Arts and Sciences Women's Studies Program	West Main	612 341
Writing	College of Arts and Sciences Department of English	West Main	612 364

¹ For more information, see the *Graduate Catalog*

² This certificate program is not available as a B I S concentration

³ Applications for this program are not being accepted at this time

Division of Undergraduate Academic Services

William S. Johnson, Ph.D., Executive Director

www.asu.edu/duas

The Division of Undergraduate Academic Services is a primary source of academic support for students, faculty, and staff. The division coordinates and offers academic programs and services designed to enhance the academic experience of ASU undergraduate students. The goals of the division are to play a major role in student retention, provide students the support necessary for successful completion of their first year and beyond, and offer students learning experiences that complement those provided by other academic units.

The division includes Education Support Services, Bachelor of Interdisciplinary Studies, Advising Services, and General Studies.

EDUCATION SUPPORT SERVICES

This unit provides university-wide teaching and learning support to students and faculty in defined academic areas. For more information, call 480-965-3097.

Campus Match

Campus Match is a first-semester fall program that gives freshmen the opportunity to attend classes in small learning communities according to their academic interest. Students choose a "cluster" of classes from a wide variety of offerings. Each cluster is limited to 25 students who enroll in and attend classes together. All students attend a weekly peer-led seminar that facilitates their social as well as academic adjustment to the university.

University Success Courses

The purpose of the UNI courses is to assist first-year, transfer, and reentry students in making a successful transition to the university. Students learn university resources, policies and procedures, study skills, values and goal setting, human diversity, academic and career planning, and other skills.

UNIVERSITY (UNI)

UNI 100 Academic Success at the University. 3 F S SS
Orientation to campus resources, study skills, and other academic and social issues for college students. Introduction to an understanding of human diversity, values, and perspectives as they relate to student success. Lecture/seminar/discussion. Prerequisite: freshman or sophomore or transfer student standing.

UNI 101 Student Success Seminar. 1 F S SS
Understanding human diversity, perspectives, and values as they relate to student success. Orientation to ASU resources, study skills, and academic and social issues for students. Seminar/discussion.

UNI 494 Special Topics. (3) F S
a) Science is Magic Internship
Present science demonstrations to K-8 children at the elementary school. Interns will be trained by personnel from the Center of Social State Science. This internship does not follow the format of the others.

Supplemental Instruction

Supplemental Instruction (SI) works to improve student performance and increase retention in historically difficult courses (those with high rates of "D," "E," and "W" grades). An SI leader attends class and offers voluntary study sessions to all students enrolled in the class. During the study sessions, students work together to learn course content and to enhance study skills.

Summer Bridge

Summer Bridge is a program designed to assist first-semester freshmen in making the transition from high school to university life. Summer Bridge is a five-week, residential program that provides a full academic curriculum in conjunction with a rich residence hall experience. The program assists participants in acclimating to campus, accessing student support programs and services, and enhancing classroom skills.

Service Learning Program

The Service Learning Program uses community service to enhance education. The program is based on the concept of reciprocal learning. Service Learning sections of regular courses are linked to credit-bearing internships where students apply what they are learning in the community to their course work.

For example, some Service Learning students contribute one-on-one homework tutoring, reading development, educational enrichment workshops, and learning readiness programs for children and youth for six hours a week during the semester. In turn, the tutors' community experiences and research form the basis of their classroom papers and research. Other Service Learning students lead elementary and middle school students in hands-on learning activities that are based on the content of the linked ASU courses.

Students may enroll in the internships with previous or current enrollment in one of the following linked courses or equivalent, approved courses.

See appropriate course listings for more details.

Linked Courses

EED 420 Science Methods, Management, and Assessment in the Elementary School	3
ENG 102 First Year Composition	3
ENG 217 Writing Reflective Essays L	3
ENG 312 English in Its Social Setting, <i>HU SB</i>	3
Sciences and Additional Courses	
GLG 101 Introduction to Geology I <i>SQ G</i>	3
GLG 103 Introduction to Geology I Laboratory <i>SQ</i>	1
GPH 111 Introduction to Physical Geography <i>SQ</i>	4
MTE 180 Theory of Elementary Mathematics	3
PHS 208 Patterns in Nature <i>SQ</i>	4
PLB 108 Concepts in Plant Biology <i>SQ</i>	4

Internships

ENG 484 Writing Internship	3
GLG 484 Geology Internship	3
GPH 484 Geography Internship	3
MTE 484 Theory of Elementary Mathematics Internship	3
PHS 484 Physical Science Internship	3
PLB 498 Pro Seminar	3
UNI 494 Special Topics	3

Writing Across the Curriculum (WAC)

Curriculum Development and Support. WAC Curriculum Development and Support is designed to assist in enhancing the quality of writing and critical thinking skills of university students.

WAC specialists consult with faculty on methods of developing and integrating writing assignments into course content. They also provide customized in class writing workshops designed to assist students in researching and responding to writing assignments.

Writing Center. The Writing Center provides students with one on one and group tutoring in writing skills. Rather than proofreading or editing students' writing, the Writing Center teaches students the skills they need to improve their writing process and product

BACHELOR OF INTERDISCIPLINARY STUDIES

The Bachelor of Interdisciplinary Studies (B.I.S.) is a university wide program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations and an interdisciplinary core, students in the B.I.S. are expected to take an active role in creating their educational plan and defining their vocational goals. The B.I.S. emphasizes written communication, versatility, and critical thinking skills desired in a changing workplace environment. Self assessment and appraisal of opportunities to support academic and career goals are key elements in the core courses. The concentrations are based on approved academic minors and certificate programs and should represent academic interests that the student wishes to integrate into a meaningful program. For information about the Bachelor of Interdisciplinary Studies at ASU East, see "Interdisciplinary Studies B.I.S.," page 576.

At ASU Main, students, other than entering freshmen, must contact Cross-College Advising Services (CAS) in UASB 131, 480 965-4464, to attend an informational session conducted by an academic advisor before declaring the B.I.S. major.

The combination of areas of concentration gives students flexibility in creating a unique program to accomplish individualized academic goals. Combinations created by current students illustrate a range of examples:

1. American Humanics Certificate Program and Theatre
2. Communication and Sociology
3. Dance and Exercise Science
4. Economics and Spanish
5. Environmental Resources and Geology
6. Justice Studies and Political Science
7. Political Science and Environmental Resources
8. Psychology and Women's Studies

9. Religious Studies and Anthropology
10. Small Business and Communication

Basic Requirements

The B.I.S. requires 120 semester hours. The major is composed of a 12 hour core and a minimum of 36 semester hours in two concentrations (18 hours each). Throughout the core sequence, the student assembles a portfolio including self assessment of progress toward career goals and an evaluation of key educational and personal activities that may apply. All core courses must be completed with a grade of "C" or higher.

Core Courses

BIS 301 Foundations of Interdisciplinary Studies L	3
BIS 302 Interdisciplinary Studies	3
BIS 401 Applied Interdisciplinary Studies	3
BIS 402 Senior Seminar L	3
Total	12

Other Requirements

In addition to the basic requirements, students must complete all university requirements, including English Composition and General Studies. Early advising is recommended to facilitate selecting courses that may apply to both the General Studies requirements and the areas of concentration.

Declaring the B.I.S. Major. Academic advising from Cross College Advising Services is required before being approved to declare the B.I.S. In addition, the following requirements must be met:

1. 45 semester hours of college credit;
2. cumulative G.P.A. of 2.00; and
3. selection of two concentrations, with a minimum of two courses in each (minimum grade of "C") completed or one completed and one in progress (i.e., after the drop add period) in each area.

All incoming students and continuing students with a minimum GPA of 2.00 who do not meet the above requirements are placed in a pre B.I.S. major until the requirements have been met.

Approved Concentrations

Each concentration requires 18 semester hours, with a grade of "C" or higher. Twelve of these hours must be in upper division courses. The concentrations are based on existing minors or certificate programs (see colleges for specific minors or certificate programs) Concentrations based on minors with fewer than 18 hours have additional semester hours required. Complete information on each concentration is available in CAS, UASB 131.

See the "ASU Minors" table, page 111, the "ASU Certificates" table, page 113, and the sections of the specific colleges involved.

The core courses BIS 301, 302, 401, and 402 must be taken in sequence. These courses may not be transferred from other institutions. BIS 302 and 401 may be taken concurrently.

BACHELOR OF INTERDISCIPLINARY STUDIES (BIS)

BIS 301 Foundations of Interdisciplinary Studies. (3) F, S, SS
Introduces concepts and methods of interdisciplinary study by critically examining anticipated 21st-century workplace and civic trends. Lecture, seminar, discussion. Prerequisites: B.I.S. major; 2.00 GPA. *General Studies: L.*

BIS 302 Interdisciplinary Principles. (3) F, S, SS
Demonstrates interdisciplinary principles as applied to progressively more complex problems. Students choose among course topics that address both their concentrations. Lecture, seminar, discussion. Prerequisite: BIS 301.

BIS 401 Applied Interdisciplinary Studies. (3) F, S, SS
Applies interdisciplinary problem-solving skills in internships, service-learning, or research; may involve individual or group projects combining both concentrations. Prerequisite: BIS 301.

BIS 402 Senior Seminar. (3) F, S, SS
Capstone course will help students integrate their classroom and experiential learning. Lecture, seminar, discussion. Prerequisites: BIS 301, 302, 401. *General Studies: L.*

ADVISING SERVICES

Cross-College Advising Services

Cross-College Advising Services (CAS) is a central advising, referral, and information facility whose staff is available to assist students in their academic careers at ASU. Emphasis is placed on advising services to first-time, prospective, and transfer students and students in transition,

such as those changing majors and those without majors. In addition to guidance in the exploration or selection of a major, CAS provides general academic information and referrals to all areas of student academic support.

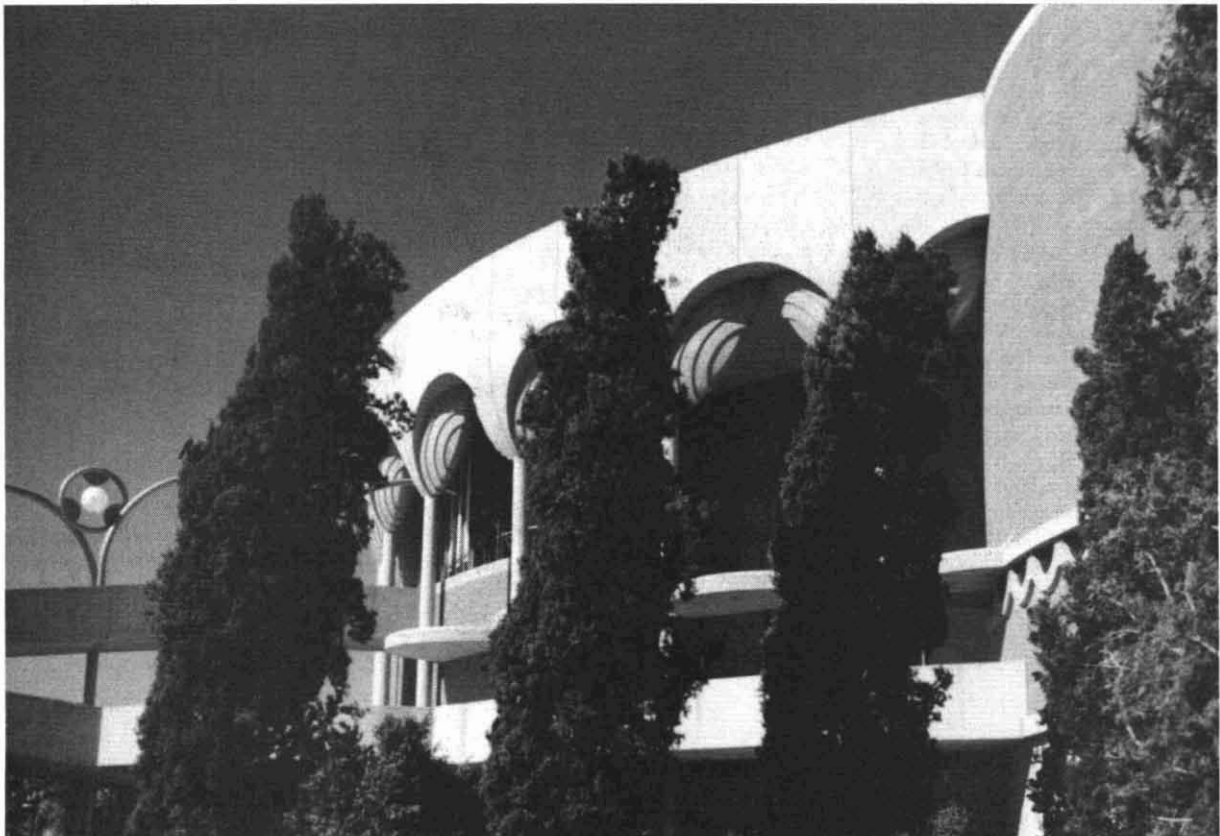
CAS is located in UASB 131 and can be reached by phone at 480/965-4464.

Degree Audit Reporting System (DARS)

DARS is an online tool that provides students with consistent, accurate information regarding their academic requirements. Through this system, a degree audit is produced that matches a student's completed courses against degree program requirements in a matter of seconds. The audit allows students to assess their progress toward their degree or to determine how their earned credits would apply if they were to pursue another degree program. Audits may be obtained from the student's academic advisor.

GENERAL STUDIES

All students enrolled in a baccalaureate degree program must satisfy the General Studies requirement. For more information, see "University Graduation Requirements," page 83, and "General Studies," page 87.



Grady Gammage Memorial Auditorium, designed by Frank Lloyd Wright

H. Val Peterson photo

College of Architecture and Environmental Design

John Meunier, M.Arch., Dean

www.asu.edu/caed



College of Architecture and Environmental Design/North, situated near the northwest corner of campus, houses the Gallery of Design, which showcases traveling exhibitions, as well as student and faculty works.

John MacIsaac photo

School of Architecture 122
School of Design 129

School of Planning and
Landscape Architecture 138

PURPOSE

The practice of architecture and environmental design is the culturally responsible shaping of our environment from the scale of the cities in which we live to the buildings and interiors we inhabit and the artifacts and products we use. What we design must be durable, useful, beautiful, appropriate to its context, and not a waste of resources, energy, or materials. Designing our environment is an art, a technology, and a social science that has a history as long as human culture. The goals of the faculty include offering students an education that becomes the basis for life long growth and improvement as professionals, advancing the discipline in both theory and practice, and improving the quality of the environment by making the expertise and knowledge of the faculty available to other professionals and to the public.

ORGANIZATION

Academic Organization. The college is composed of three academic units

- School of Architecture
- School of Design
- School of Planning and Landscape Architecture

Administration of the college is the responsibility of the dean, who in turn is responsible to the president of the university through the senior vice president and provost.

College Facilities. All the college's programs are housed in a single complex. Facilities include the Architecture and Environmental Design Library, computer laboratories; design studios; the Gallery of Design; lecture and seminar rooms; the Media Center; offices for faculty, the administration, and student organizations; the shop; the slide collection, Materials Resource Center, and technology laboratories. The bridge between the original building and the expansion places the college's review and display space at the heart of the complex

Architecture and Environmental Design Library. As a branch of the University Libraries, the Architecture and Environmental Design Library provides easy access to more than 30,000 books, periodicals, and reference materials for students, faculty, and the professional community. The library's special collections include archives of Blaine Drake, Victor Olgyay, Calvin Straub, Will Bruder, and others, as well as research materials on Paolo Soleri and Frank Lloyd Wright. The Alternative Energy Collection and the Materials Resource Center provide additional sources for research.

Gallery of Design. The Gallery of Design is one of eight university galleries and museums. It provides space for traveling exhibitions and exhibitions of student and faculty work

Special Facilities. College programs are supplemented by several special laboratories, including the computer aided design and graphics lab; the high bay research lab, the lighting lab; the solar research lab; the solar rooftop work area; an extensive shop equipped to handle wood, plastic, and metal; the Herberger Center for Design Excellence, and the Joint Urban Design Program, which also has a studio at the ASU Downtown Center. The Media Center includes tradi-

tional graphics and audiovisual equipment as well as portable gear. The slide collection, with more than 100,000 images, is available for instructional use, and the college maintains an array of materials testing equipment.

ADMISSION

Lower-Division Programs. A new or transfer student who has been admitted to the university and has selected a college major is admitted to the lower division program of his or her choice. A separate application procedure is required for entry to upper division programs and graduate programs. Acceptance into lower division programs does not guarantee acceptance to upper division programs. Acceptance into lower division programs requires a TOEFL score of 500 or higher for international students whose native language is not English.

Transfer Credits. While the university accepts credits transferred from other accredited institutions, transfer credits are not applied to specific degree programs until reviewed and accepted by the appropriate academic units. Transfer course work must be equivalent in both content and level of offering. In addition, a review of samples of work (portfolio format) from previous studio classes is required. Students who change majors to transfer into the college or one of its program areas must have a minimum cumulative GPA of 2.50.

Upper-Division Programs. Admission to upper-division programs is competitive. Consult requirements of each major for details. Students applying to more than one program must make a separate application to each and must submit separate portfolios. Students not enrolled at ASU when they apply to upper division programs must also make a separate application to the university. Students not admitted to the upper division are not dismissed from the university and may reapply or transfer to other programs. Students who plan to reapply should contact a college academic advisor. Transfers into upper-division programs are considered only if vacancies occur, and such transfers are limited to students with equivalent course work who are competitive with continuing students. Acceptance into some upper-division programs requires a TOEFL score of 500 or higher for international students whose native language is not English.

ADVISING

While the college and its academic units provide academic advising, *it is ultimately the responsibility of each student to fulfill academic and program requirements.* Advising and record keeping for lower division programs are the responsibility of a college academic advisor (located in ARCH 141). Records for upper division program students are kept in the appropriate academic units, and advising is by the faculty and the head of the academic unit. General career advising is available from all faculty members. Administration of program requirements is the responsibility of the head of the academic unit and the dean.

Appeals Procedures. Academic appeals and requests for variances are typically made first to the student's advisor and then, if necessary, to the head of the appropriate academic unit, the Governance and Grievance Committee, and, finally, the dean. A student who feels unjustly treated in academic or other matters relating to his or her career as a

College of Architecture and Environmental Design Baccalaureate Degrees and Majors

Major	Concentration	Degree	Administered By
Architectural Studies		B.S.D	School of Architecture
Design Science ¹		B.S.D	School of Design
Graphic Design		B.S.D	School of Design
Housing and Urban Development		B.S.D.	School of Planning and Landscape Architecture
Industrial Design		B.S.D.	School of Design
Interior Design ²		B.S.D.	School of Design
Landscape Architecture		B.S.L.A.	School of Planning and Landscape Architecture
Urban Planning		B.S.P.	School of Planning and Landscape Architecture

Applications for this program are not being accepted at this time.
 Thus major requires more than 120 semester hours to complete

student may contact a college academic advisor or may take the grievance to the college ombudsperson.

sity graduation requirements. See "University Graduation Requirements," page 83.

DEGREES

Undergraduate. The college offers curricula for four- or five year degree programs: the Bachelor of Science in Design (B.S.D) degree in Architectural Studies, Graphic Design, Housing and Urban Development, Industrial Design, and Interior Design; the Bachelor of Science in Landscape Architecture (B.S.L.A.) degree; and the Bachelor of Science in Planning degree. Applications for the B.S.D. degree in Design Science are not being accepted at this time. For more information, see the "College of Architecture and Environmental Design Baccalaureate Degrees and Majors" table, on this page.

Each undergraduate program is divided into lower division and upper division programs. Completion of a lower division program does not guarantee advancement to an upper division program.

MINORS

The faculty in the School of Planning and Landscape Architecture offer a minor in Urban Planning. See "Minor," page 139, for more information. The faculty in the School of Design also offer a minor in Interior Design History. See "Minor," page 135, for more information.

GRADUATE PROGRAMS

The faculty in the College of Architecture and Environmental Design offer the National Architectural Accrediting Board accredited professional degree Master of Architecture (M.Arch.); Planning Accreditation Board accredited professional degree Master of Environmental Planning (M.E.P.); M.S. degree in Building Design; Master of Science in Design (M.S.D.), and Ph.D. degree in Environmental Design and Planning. For more information, see the "College of Architecture and Environmental Design Graduate Degrees and Majors" table, page 120, and the *Graduate Catalog*.

UNIVERSITY GRADUATION REQUIREMENTS

In addition to fulfilling college and major requirements, students seeking a bachelor's degree must meet all university graduation requirements. See "University Graduation Requirements," page 83.

General Studies Requirement

All students enrolled in a baccalaureate degree program must satisfy a university requirement of a minimum of 35 semester hours of approved course work in General Studies, as described under "General Studies," page 87. Note that all three General Studies awareness areas are required. Consult your advisor for an approved list of courses. General Studies courses are listed in the "General Studies Courses" table, page 90, in the course descriptions, in the *Schedule of Classes* and in the *Summer Sessions Bulletin*.

COLLEGE DEGREE REQUIREMENTS

College of Architecture and Environmental Design degree requirements supplement the General Studies requirement. Each curriculum offered by the college includes sufficient approved course work to fulfill the General Studies requirement.

To be eligible for the Bachelor of Science in Design (B.S.D), Bachelor of Science in Landscape Architecture (B.S.L.A.), or Bachelor of Science in Planning (B.S.P.) degrees in the college of Architecture and Environmental Design, a student must:

1. have attained a cumulative GPA of 2.00 or higher for all course work taken at ASU;
2. have earned a "C" or higher in each studio course; and
3. have met all university degree requirements.

MAJOR REQUIREMENTS

Students seeking the Bachelor of Science in Design degree must satisfactorily complete a curriculum of 120 or 150 semester hours, depending on the major. The Bachelor of Science in Planning degree requires 120 semester hours. The Bachelor of Science in Landscape Architecture degree requires 120 semester hours. Students majoring in Interior Design must take 150 semester hours. All other majors require 120 hours.

Special Honors at Graduation. At the time of graduation, students with academic distinction are awarded the respective designation *cum laude*, *magna cum laude*, or *summa*.

College of Architecture and Environmental Design Graduate Degrees and Majors

Major	Concentration	Degree	Administered By
Architecture		M Arch	School of Architecture
Building Design	Computer aided design, energy performance and climate responsive architecture, facilities development and management	M.S.	School of Architecture
Design	Graphic design, industrial design, interior design	M.S.D	School of Design
Environmental Design and Planning	Design; history, theory, and criticism; planning	Ph.D.	College of Architecture and Environmental Design
Environmental Planning	Urban planning	M.E.P.	School of Planning and Landscape Architecture

cum laude. For more information, see "Graduation with Academic Recognition," page 86.

ACADEMIC STANDARDS

Lower-Division Retention Standards. A student in one of the college's lower division programs is placed on probation when he or she fails to maintain a cumulative GPA of 2.00. Students on probation must observe rules or limitations the college imposes on their probation as a condition of retention. If, after one semester on probation, the overall GPA is not at least 2.00 and the conditions of probation have not been met, the student is disqualified for a minimum of two full academic semesters. Appeals may be made to the college Governance and Grievance Committee. For more information, see "Retention and Academic Standards," page 79.

Upper-Division Retention Standards. Students in upper division programs are placed on probation when any of the following occur:

1. failure, incomplete, or withdrawal from any required course,
2. a semester GPA below 3.00,
3. a grade of "D" or "E" in a design studio, a design laboratory, a design lecture, or
4. violation of the college *Code of Student Responsibilities* or any admission agreement.

Students on probation must observe rules or limitations that the college or academic unit places on their probation as a condition of continuation. Students may be removed from a program but not necessarily the university if:

1. the requirements imposed are not met or the probationary semester GPA is below 3.00 after one semester on probation;
2. failures or withdrawals in required courses are not resolved at the next offering of the course,
3. they fail or withdraw from required sequential courses, or
4. incompletes in required sequential courses are not completed before the first day of class of the next semester.

A student removed from a program is not guaranteed reinstatement in the program even if probation requirements or requirements placed on readmission are fulfilled. Appeals may be made first to the appropriate academic unit and, if

necessary, to the college Governance and Grievance Committee. For more information, see "Retention and Academic Standards," page 79.

Incompletes. It is the student's responsibility to contact the instructor regarding the process of requesting and fulfilling an incomplete. Tardiness in contacting the instructor may result in a failing grade. Students must obtain an official "Request for Grade of Incomplete" form from their academic units. The completed form must include a justification, a listing of requirements that have not been fulfilled, and a proposed schedule of completion. The instructor reviews the request, proposes modifications if necessary, and submits a copy of the request to the appropriate program head for upper division students or a college academic advisor (for lower division students). An incomplete in an upper division course that is a prerequisite for sequential courses automatically places the student on probation and denies enrollment in subsequent courses. For more information, see "Incomplete," page 76.

Withdrawals. University withdrawal regulations apply to lower division courses. In addition, because the college's upper division curricula are modular and sequential and because space in the programs is limited, a student is expected to progress through the curriculum with his or her class. Withdrawal from a required upper division course automatically places a student on probation. Withdrawal from a required upper division course in a required sequence automatically removes the student from the program beginning the subsequent semester. For more information, see "Graduation System," page 76.

Credit/No Credit. The only courses accepted toward graduation with a grade of pass/fail or credit/no credit are internships and field studies.

Foreign Study. The College of Architecture and Environmental Design maintains active communications with several foreign institutions offering professional coursework similar to the programs of the college. This opportunity is available for students who wish to pursue professional studies at a foreign institution in lieu of resident coursework for up to one academic year. Any interested student is encouraged to inform the head of his or her academic unit at the earliest possible date of any intentions for foreign study.

Exchange programs currently exist with the Stuttgart University, Germany; Wageningen Agricultural University, the Netherlands, the University of Valladolid, Spain; the University of British Columbia, Canada; and the Autonomous University of Guadalajara, Mexico. Foreign study programs in France, Italy, and Spain and summer off campus courses are offered by the School of Architecture. The School of Planning and Landscape Architecture offers a summer landscape planning course in Europe.

Students are also encouraged to consider foreign travel for either a semester or an entire academic year. A leave of absence must be requested for foreign study and foreign travel. Each academic unit reserves the right to evaluate the content and the student's competency in each of the courses completed at foreign institutions.

Internship. Upper division students in the college are required to complete an internship program during the summer, normally between the third and fourth years of study.

Attendance. Attendance is expected at all classes, laboratories, and seminars and is a criterion for evaluating performance. Absences and missing work due to absences may result in failure of a course or academic probation. A student may not be excused from attending a class except for medical reasons or other serious personal conditions beyond his or her control. Requests for special consideration must be submitted in writing to the instructor. If accepted, a student may be allowed to take a late or special examination or to submit missing work. Tardiness in contacting the instructor is cause for denying acceptance. For university policy regarding religious holidays, see "Equal Opportunity and Affirmative Action," page 24.

Employment. It is difficult for students in professional programs to carry part time employment while in school. Acceptance to any of the college's upper division programs presumes a commitment of a minimum of eight hours a day for professional studies. Prior work experience is not a requirement for admission to upper division programs.

Retention of Student Work. The college reserves the right to retain any or all projects or work submitted to meet course requirements for the college's future use in instruction, publication, and exhibition.

Student Leave of Absence. Upper division students who withdraw from classes or do not continue sequentially in enrollment must request both a leave of absence and readmission in writing from the head of the appropriate academic unit. Leaves of absence are for one year increments and may be approved for personal reasons, travel, work, or additional study in other disciplines. A student on leave must make the written request for readmission before May 1 for the fall semester of the year of return or before November 1 for the spring semester so that a space may be reserved. Failure to request a leave of absence may result in removal from the program.

STUDENT RESPONSIBILITY

The purpose of this code is to promulgate standards of conduct for students of the College of Architecture and Environmental Design and to establish procedures for reviewing violations. Students are expected to support and maintain the highest professional standards with regard to

their individual conduct and their personal and common environments in the college. Copies of the *Code of Student Responsibilities* are available from the Office of the Dean and a college academic advisor.

SPECIAL PROGRAMS

The college and its academic units regularly sponsor lecture series, symposia, and exhibits. In addition, faculty and students attend regional and national meetings of educators and professionals. Academic units sponsor student awards programs and regularly invite professionals and critics to reviews of student projects. The college also participates with the University Honors College, offering courses accepted in that college.

GENERAL INFORMATION

Accreditation. Most states require that an individual intending to become an architect hold an accredited degree. There are two types of degrees that are accredited by the National Architectural Accrediting Board (NAAB): (1) the Bachelor of Architecture, which requires a minimum of five years of study, and (2) the Master of Architecture, which requires a minimum of three years of study following an unrelated bachelor's degree or two years following a related preprofessional bachelor's degree. These professional degrees are structured to educate those who aspire to registration licensure as architects.

The four year preprofessional degree, where offered, is not accredited by NAAB. The preprofessional degree is useful for those wishing a foundation in the field of architecture, as preparation for either continued education in a professional degree program or for employment options in architecturally related areas. For more information, see "Accreditation and Affiliation," page 19.

Dean's List. Undergraduate students who earn 12 or more graded semester hours ("A," "B," "C," "D," or "E") during a semester in residence at ASU with a GPA of 3.50 or higher are eligible for the Dean's List. A notation of achieving the distinction of being listed on the Dean's List appears on the final grade report for that semester.

College of Architecture and Environmental Design

Alumni Association. The College of Architecture and Environmental Design Alumni Association encourages graduates to contribute to the college by acting as liaisons among the college community, students, and practicing professionals. The college also calls on the members of the Architecture Guild of Arizona State, the Arizona Design Institute, the Council for Design Excellence, and the Planning Advisory Committee for advice and to promote the goals of the college.

Council for Design Excellence. The Council for Design Excellence has been created to consolidate a partnership between the College of Architecture and Environmental Design and key community leaders who share a vital interest in the development of high quality in the built environment of the Phoenix metropolitan area. By joining together professionals, business and civic leaders, students, and faculty in a common pursuit of design excellence, the council seeks to make a profound difference in the quality of life.

Affiliations. For information on affiliations maintained by the college, see "Accreditation and Affiliation," page 19.

Student Professional Associations. The purpose of the student associations is to assist students with the transition into professional life and to acquaint them with the profession relating to their program of study. These include the following associations.

American Institute of Architecture Students
College of Architecture and Environmental Design
Pre Studies Organization
Student Association of the College of Architecture and Environmental Design
Student Association of Interior Designers (ASID, IALD, IFDA, IFMA, IIDA)
Student Chapter American Planning Association
Student Chapter American Society of Landscape Architects
Student Chapter/Industrial Designers Society of America
Student Chapter Society of Environmental Graphic Designers
Student Chapter Society for Range Management
Student Chapter Soil and Water Conservation Society
Student Chapter/Wildlife Society
Women in Architecture

School of Architecture

Ron McCoy
Director
(AED 162D) 480/965-3536
www.asu.edu/caed/architecture

REGENTS' PROFESSOR COOK

PROFESSORS
HOFFMAN, McCOY, MEUNIER, OZEL, ROTONDI,
SCHEATZLE, UNDERHILL, UNDERWOOD

ASSOCIATE PROFESSORS
BRYAN, HARTMAN KROLOFF, KUPPER, LOOPE,
SHEYDAYI, VAN DUZER, ZYGAS

ASSISTANT PROFESSORS
ELL N, HAHN, HEJDUK, MURFF, PETRUCCI,
SOROKA, SPELLMAN

PURPOSE

The architecture program at ASU offers an integrated curriculum of professional courses and focuses on the design laboratory. The program reflects an awareness of the complex factors affecting the quality of the built environment. The program seeks through scholarship, teaching, research, design, and community service to develop the discipline and the knowledge necessary to address the important environmental and design issues faced by society.

In addition to developing knowledge and skills in architectural design, building technology, and professional practice, students are encouraged to select electives from a broad

range of approved courses both within the college and across the university. These electives may be selected to devise a minor, to further professional study, or in some other fashion to enrich the student's academic experience.

ORGANIZATION

The School of Architecture's program is organized by the faculty under the direction and administration of the director and standing committees of the faculty.

DEGREES

The faculty in the School of Architecture offer the Bachelor of Science in Design degree with a major in Architectural Studies.

The program in architecture culminates with the professional degree Master of Architecture, which is accredited by the National Architectural Accrediting Board (NAAB). Completion of the program is intended to take six years.

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes two types of degrees the Bachelor of Architecture and the Master of Architecture. A program may be granted a five year, three year, or two year term of accreditation, depending on its degree of conformance with established educational standards.

Master's degree programs may consist of a preprofessional undergraduate degree and a professional graduate degree, which when earned sequentially, comprise an accredited professional education. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

Admission to the professional program in architecture is competitive and begins after completion of lower division requirements, as described in "Admission" below and "Degree Requirements," page 124. The professional program includes two years of upper-division study leading to the Bachelor of Science in Design (B.S.D.) and two years of graduate study leading to the Master of Architecture, as described in "Upper Division Professional Program," page 123.

In cooperation with the University Honors College, the school offers a special honors curriculum for students with University Honors College standing. Consult the advising officers in the school for information.

ADMISSION

Lower-Division Program. New and transfer students who have been admitted to the university and who have selected Architectural Studies are admitted to the lower division architecture program without separate application to the School of Architecture. Completion of lower division requirements does not ensure acceptance to the upper division professional program.

Transfer credits for the lower division program are reviewed by the college faculty. To be admissible to this curriculum, transfer courses must be equivalent in both content and level of offering. A review of samples of work is required for studio classes. Consult a college academic advisor for an appointment.

Entering lower division students who are not prepared to enroll in some of the required courses are required to complete additional university course work. These additional prerequisite courses do not apply to the Bachelor of Science in Design degree requirements.

Upper-Division Professional Program. Admission to the upper division professional program is competitive and limited by available resources. Admission is awarded to those applicants demonstrating the highest promise for professional success, including evidence of ability and the prospect for significant public service.

Transfer students who have completed the equivalent required lower division course work may apply to the upper division program. Prior attendance at ASU is not required for application to the upper division program. Applicants who already hold a bachelor's degree in another field should apply to the 3+ year Master of Architecture degree program. See the *Graduate Catalog* for more information.

To be eligible for admission to the upper division program, the following requirements must be met:

1. admission to ASU (note that application and admission to ASU are separate from application and admission to the upper division program);
2. completion of lower division requirements or equivalents as approved by a college academic advisor and the faculty of the school;
3. a minimum university cumulative GPA of 3.00 as well as a 3.00 GPA based only on the required lower division courses or equivalents; and
4. submission of a portfolio (for detailed information about this requirement, see "Portfolio Format Requirements," on this page)

In an unusual circumstance, when the admission standard deficiency is slight, written evidence of extenuating circumstances is convincing, and promise for success is evident, a student may be granted admission to the upper division on a *provisional* basis.

Students not admitted to the upper division program are not dismissed from the school and may reapply or may transfer to other programs. Students who intend to reapply should meet with a college academic advisor.

Applications for transfer into the upper division professional program are considered only if vacancies occur. Transfer applicants must demonstrate that equivalent course work has been completed, and applicants must be academically competitive with continuing students.

Students who successfully complete the upper division requirements receive the Bachelor of Science in Design degree in Architectural Studies. This is not a professional degree. To complete the professional architecture program, students must attain the NAAB accredited Master of Architecture degree. Students who receive the B.S.D. are eligible to apply for the graduate program and should see the *Graduate Catalog* for proper application procedures. This application process is competitive and based on a thorough review of a student's undergraduate preparation and performance.

Students with the four year Bachelor of Science in Design degree with a major in Architectural Studies or an equivalent degree from another school that offers an accredited professional degree in architecture) should apply directly to the graduate program.

APPLICATION TO UPPER-DIVISION PROGRAMS

Upper-Division Application Procedures. Students should write to a college academic advisor for the application form well in advance of the application deadline. For more information on portfolios, ask for a copy of the *Portfolio Seminar* brochure from a college academic advisor. The following dates and procedures are for students applying to 2001 2002 upper division programs.

Upper-Division Application Deadlines. *April 16, 2001.* Portfolio and application documents are due in the school office by 5:00 P.M.

June 1, 2001. If the spring 2001 semester includes transfer course work (i.e., course work taken at an institution other than ASU), a student must submit his or her transcripts to the school no later than June 1. These transcripts may be unofficial copies. A second set of official transcripts must be sent to the university Undergraduate Admissions office. Application is not complete until the university receives official transcripts for transfer course work. For those transfer students whose academic term ends in June rather than May, this deadline may be extended upon the written request of the applicant.

July 2, 2001. Acceptance notices are mailed no later than July 2.

Return of Letter of Acceptance. A signed receipt of acceptance of admission must be received by the school by the date indicated on the Notice of Acceptance. Alternates may be accepted at a later date if space becomes available.

Matriculation. An accepted student is expected to begin his or her upper division professional program at the beginning of the immediate fall term. There is no spring admission to the upper division.

Portfolio Format Requirements. Each applicant is responsible for obtaining the following documents and including them in the portfolio. Application materials are submitted at one time in a presentation binder (portfolio) with plastic sleeves (8.5 x 11" format only). Items must appear in the following order:

Page 1. The application form should be completely filled out with the first page visible. Application forms are available from the college Academic Advising Office.

Page 2. The second page of the application should be visible.

Page 3. Application Essay. The student's name should be written in the upper right hand corner.

Page 4. All college transcripts for both ASU and transfer work should be included through the fall 2000 semester. Copies are acceptable. An academic advisor forwards 2001 ASU transcripts. Applicants wishing to transfer spring semester 2001 work are responsible for submitting these transcripts by June 2 so that they may be added to

NOTE: For the General Studies requirement courses, and codes such as L, SQ, C, and H, see General Studies, page 87. For graduate requirements, see University Graduate Requirements, page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60.

their portfolios. The student is also responsible for getting an official transfer transcript sent directly to the Office of the Registrar.)

Page 5 A certificate of admission is necessary only for those students who have been newly admitted for fall 2001 and who are applying directly into an upper division program. The certificate is not required for students currently attending ASU.

Following Pages (Usually 10–20 Sheets). Students should present work sufficient to demonstrate the depth and breadth of their creative activity. This work should include (but is not limited to) examples of two and three dimensional design and graphics. Each project should be clearly identified (course, length of project, etc.), with a concise accompanying description of the assignment.

Students should obtain a portfolio requirements addendum for their major from the college's Academic Advising Office, ARCH 141, at the beginning of the academic year in which they intend to apply to the upper division program. Requirements or instructions indicated in the addendum for that academic year take precedence over any other printed material.

Students are encouraged to include additional materials, written or pictorial, that provide additional evidence of skills and abilities and of the aptitude and commitment to the major. When any work submitted is not completely original, the source must be given. When work is of a team nature, the applicant's role should be clearly indicated. Original examples or slides must not be submitted. All examples must be photographs or other reproduction graphic media.

Return of Portfolios. Application documents (pages 1–5) remain the property of the College of Architecture and Environmental Design. However, the remaining portfolio is returned after the admissions review, provided the applicant encloses a self-addressed return mailer with sufficient pre-paid postage. Portfolios may be claimed in person after July 3, 2001. If the applicant provides written permission, another person may claim the portfolio. After one year, unclaimed portfolios are discarded. While care is taken in handling the portfolios, no liability for lost or damaged materials is assumed by the college or school.

ADVISING

Advising for the lower division curriculum is through the college Academic Advising Office. Advising for upper division students is by assigned faculty advisors and administrative personnel from the School of Architecture.

DEGREE REQUIREMENTS

The Bachelor of Science in Design degree in Architectural Studies requires a minimum of 120 hours of course work. Most lower division students pursue option A; however, those who intend eventually to seek an advanced degree in either engineering or building science are encouraged to fulfill the requirements outlined in option B.

Option B students who intend to pursue graduate degrees in an engineering discipline should consult with the College of Engineering and Applied Sciences advising office for any additional requirements.

GENERAL STUDIES REQUIREMENT

The following curriculum includes sufficient approved course work to fulfill the General Studies requirement. See "General Studies," page 87, for requirements and a list of approved courses. Note that all three General Studies awareness areas are required. Consult your advisor for an approved list of courses.

GRADUATION REQUIREMENTS

In addition to fulfilling college and major requirements, students must meet all university graduation and college degree requirements. See "University Graduation Requirements," page 83, and "College Degree Requirements," page 119.

The accredited professional degree Master of Architecture requires an additional 56 hours of approved graduate-level course work. For more information, see the *Graduate Catalog*.

**Architectural Studies—B.S.D.
Lower-Division Requirements
Option A**

First Year

Fall

APH 100 Introduction to Environmental Design <i>HU, G, H</i>	3
ENG 101 First Year Composition	3
SB elective	3
Approved elective	3
Approved elective (MAT 170 Precalculus may be needed)	3
Total	15

Spring

ADE 120 Design Fundamentals I	3
ENG 102 First Year Composition	3
MAT 210 Brief Calculus <i>MA</i>	3
Approved elective	3
C elective	3
Total	15

Second Year

Fall

ADE 221 Design Fundamentals II ²	3
ADE 223 Design Fundamentals II Lecture	1
APH 200 Introduction to Architecture <i>HU, G</i>	3
AVC 294 ST: Drawing Module	1
PHI 103 Principles of Sound Reasoning <i>L/HU</i> ³	3
PHY 111 General Physics <i>SQ</i> ⁴	3
PHY 113 General Physics Laboratory <i>SQ</i> ⁴	1
Total	15

Spring

ADE 222 Design Fundamentals III ²	3
ADE 224 Design Fundamentals III Lecture	1
ANP 236 Introduction to Computer Modeling <i>CS</i>	3
AVC 294 ST: Drawing Module	1
ECN 112 Microeconomic Principles <i>SB</i> or an SB elective ⁵	3
PHY 112 General Physics <i>SQ</i> ⁴	3

PHY 114 General Physics Laboratory <i>SQ</i> ⁴	1
Total	15
Option A lower division total.	60

- ¹ Transfer credits are reviewed by the college and evaluated for applicability to this curriculum. To be applicable, transfer courses must be equivalent in both content and level of offering.
- ² Portfolio review is required for transfer studio work. Submit portfolio to the Academic Advising Office, ARCH 141.
- ³ If PHI 103 is not chosen, then ECN 112 must be taken to fulfill SB requirement.
- ⁴ Both lecture and lab must be taken to secure SQ credit.
- ⁵ If ECN 112 is not chosen, then PHI 103 must be taken to fulfill L requirement.

**Architectural Studies B.S.D.
Upper-Division Professional Program Requirements
Option A**

Third Year

Fall

ADE 321 Architectural Studio I	5
APH 313 History of Western Architecture I <i>L/HU</i> *	3
ATE 353 Architectural Construction	3
Approved elective*	3
Total	14

Spring

ADE 322 Architectural Studio II	5
ANP 331 Analysis and Programming	3
APH 314 History of Western Architecture II <i>L/HU</i> *	3
ATE 361 Building Structures I	3
Total	14

Summer

ARP 484 Clinical Internship	12
Total	12

Fourth Year

Fall

ADE 421 Architectural Studio III	5
ATE 451 Building Systems I	3
ATE 462 Building Structures II	3
Approved elective*	3
Professional elective	3
Total	17

Spring

ADE 422 Architectural Studio IV	5
ATE 452 Building Systems II	3
Architectural history elective	3
Professional elective	3
Total	14

Option A upper division total	60
B.S.D. option A minimum total	120

* These courses may be completed before admission into the upper division

**Architectural Studies B.S.D.
Lower-Division Requirements
Option B¹**

First Year

Fall

APH 100 Introduction to Environmental Design <i>HU G, H</i>	3
ECE 100 Introduction to Engineering Design <i>CS</i>	4
ECN 112 Microeconomic Principles <i>SB</i>	3
ENG 101 First Year Composition	3
MAT 270 Calculus with Analytic Geometry I <i>MA</i>	4
Total	17

Spring

ADE 120 Design Fundamentals I ¹	3
ENG 102 First Year Composition	3
MAT 271 Calculus with Analytic Geometry II <i>MA</i>	4
PHY 121 University Physics I: Mechanics <i>SQ</i> ³	3
PHY 122 University Physics Laboratory I <i>SQ</i> ³	1
Total	14

Second Year

Fall

ADE 221 Design Fundamentals II ²	3
ADE 223 Design Fundamentals II Lecture	1
APH 200 Introduction to Architecture <i>HU, G</i>	3
ECE 210 Engineering Mechanics I: Statics	3
MAT 272 Calculus with Analytic Geometry III <i>MA</i>	4
PHY 131 University Physics II: Electricity and Magnetism <i>SQ</i> ³	3
PHY 132 University Physics Laboratory II <i>SQ</i> ³	1
Total	18

Spring

ADE 222 Design Fundamentals III	3
ADE 224 Design Fundamentals III Lecture	1
ANP 236 Introduction to Computer Modeling <i>CS</i>	3
AVC 294 ST: Drawing Module	2
ECE 380 Probability and Statistics for Engineering Problem Solving <i>CS</i>	3
MAT 274 Elementary Differential Equations <i>MA</i>	3
Total	15
Option B lower division total	64

Transfer credits are reviewed by the college and evaluated for applicability to this curriculum. To be applicable, transfer courses must be equivalent in both content and level of offering.

- ² Portfolio review is required for transfer studio work. Submit portfolio to the Academic Advising Office, ARCH 141.
- Both lecture and lab must be taken to secure SQ credit.

**Architectural Studies—B.S.D.
Upper-Division Professional Program Requirements
Option B**

Third Year

Fall

ADE 321 Architectural Studio I	5
APH 313 History of Western Architecture I <i>L/HU</i> *	3
ATE 353 Architectural Construction	3
ECE 312 Engineering Mechanics II: Dynamics	3
Total	14

Spring

ADE 322 Architectural Studio II	5
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NOTE: For the General Studies requirement courses, and codes (such as L, SQ, C, and H), see "General Studies, page 87. For graduation requirements see "University Graduation Requirements," page 83. For an explanation of additional non-business courses offered but not listed in this catalog see "Classification of Courses, page 60.

ANP 331 Analysis and Programming	3
APH 314 History of Western Architecture II <i>L/HU*</i>	3
ECE 313 Introduction to Deformable Solids	3

Total 14

Summer

ARP 484 Clinical Internship	1
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Total 1

Fourth Year

Fall

ADE 421 Architectural Studio III	5
ATE 451 Building Systems I	3
ECE 300 Intermediate Engineering Design <i>L</i>	3
ECE 351 Civil Engineering Materials	3

Total 14

Spring

ADE 422 Architectural Studio IV	5
ATE 452 Building Systems II	3
ECE 384 Numerical Analysis for Engineers I	2
SB and C elective*	3

Total 13

Option B upper division total 56

B S D option B minimum total 120

* These courses may be completed before admission to the upper division. If already completed, a student may request to substitute an approved elective.

Master of Architecture

Graduate-Division Professional Program Requirements

Fifth Year

Fall

ADE 521 Advanced Architectural Studio I	5
APH 505 Foundation Theory Seminar	3
ATE 553 Building Systems III	3
ATE 563 Building Structures III	3

Total 14

Spring

AAD 551 Architectural Management I	3
ADE 522 Advanced Architectural Studio II	5
APH 515 Current Issues and Topics	3
Professional elective*	3

Total 14

Sixth Year

Fall

ADE 621 Advanced Architectural Studio III	5
ANP 681 Project Development	3
ATE 556 Building Development	3
Professional elective*	3

Total 14

Spring

AAD 552 Architectural Management II	3
ADE 622 Advanced Architectural Studio IV	5
Approved elective	3
Professional elective*	3

Total 14

Graduate division total 56

* At least one professional elective must be a CAD course.

COURSES

Subject matter within the school is categorized in the following instructional areas.

Architectural Administration and Management. AAD courses focus on the organizational and management aspects of architectural practice, including management coordination, administrative procedures, ethics, legal constraints, and the economics of practice.

Architectural Design and Technology Studios. ADE courses require the synthesis of knowledge and understanding gained from other course work and develop an understanding of design theory and design skill through a series of comprehensive design projects. Students apply analytical methods, compare alternative solutions, and develop sophisticated technical and conceptual results.

Environmental Analysis and Programming. ANP courses develop the ability to analyze and program environmental and human factors as preconditions for architectural design using existing and emerging methods of evaluation and analysis.

Architectural Philosophy and History. APH courses develop an understanding of architecture as both a determinant and a consequence of culture, technology, needs, and behavior in the past and present. Studies are concerned with the theory as well as the rationale behind methods and results of design and construction. Case studies are both domestic and international.

Architecture Professional Studies. ARP courses provide students with off campus opportunities, educational experience in group and individual studies relative to specific student interests, and faculty expertise, including summer internships and field trips.

Architectural Technology. ATE courses develop knowledge of the technical determinants, resources, and processes of architecture. These studies focus on the science and technology of design and construction, including materials, building systems, acoustics, lighting, structural systems, environmental control systems, computer applications to design and technology, and both passive and active solar systems. Emphasis is on measurable and quantifiable aspects.

Architectural Communication. AVC courses develop the student's understanding of communication theory as it applies to architectural design and practice as well as skills in drawing, graphics, photography, presentation design, and the design process.

The courses required in the upper division and graduate levels of the professional program are not open to nonmajors and students not admitted to the upper division program.

GRADUATE PROGRAMS

The faculty of the School of Architecture offer a Master of Architecture and a M.S. degree in Building Design. Also, a dual career program, Master of Architecture/Master of Business Administration, has been established in cooperation with the College of Business. Also offered is a college wide, interdisciplinary Ph.D. degree in Environmental

Design and Planning with concentrations in design; history, theory, and criticism, and planning. For more information, see the *Graduate Catalog*.

ARCHITECTURAL ADMINISTRATION AND MANAGEMENT (AAD)

- AAD 551 Architectural Management I.** (3) S
Design delivery coordination of construction documents, cost estimating bidding and negotiations, construction observation, and post construction services. Case studies. Lecture-discussion. Prerequisite: graduate-level standing. Courses: ADE 522.
- AAD 552 Architectural Management II.** (3) S
Organizational, human performance, and market influences on architecture firms and projects. Readings, case studies, and analysis of managerial problems and solutions. Lecture-discussion. Prerequisites: AAD 551; ADE 621.
- AAD 555 Architect as Developer.** (3) A
Development building real estate construction funding land acquisition, and the sources for capital. Prerequisite: instructor approval.
- AAD 599 Thesis.** (1-12) N
- AAD 681 Professional Seminar: Capstone.** (3) S
Examination of ethical, political, social, economic, ecological, and cultural issues confronting the practice of architecture. Readings and case studies. Seminar. Prerequisite: AAD 552. Corequisite: ADE 622.

ARCHITECTURAL DESIGN AND TECHNOLOGY STUDIOS (ADE)

- ADE 120 Design Fundamentals I.** (3) F, S, SS
Development of visual literacy. Introduction to drawing and graphic representation as methods of seeing and problem solving. Studio. Prerequisite: major or non-college of Architecture and Environmental Design.
- ADE 221 Design Fundamentals II.** (3) F
Exercises in basic design, stressing creative problem-solving methods, principles of composition, and aesthetic evaluation. Development of vocabulary for environmental design. Lecture-studio. Prerequisite: with a grade of "C" or higher: ADE 120.
- ADE 222 Design Fundamentals III.** (3) S
Application of design fundamentals with an emphasis on architectural issues. Lecture-studio. Prerequisite: APH 200. Prerequisite with a grade of "C" or higher: ADE 221.
- ADE 223 Design Fundamentals II Lecture.** (1) F
Theory and applications of basic design principles, history and theory of how architecture design is impacted by basic design. Lecture-discussion. Prerequisite: ADE 120. Corequisite: ADE 221.
- ADE 224 Design Fundamentals III Lecture.** (1) S
History and theory of design fundamentals with an emphasis on architectural issues. Lecture, discussion. Prerequisite: ADE 223. Corequisite: ADE 222.
- ADE 321 Architectural Studio I.** (5) F
Introductory building design problems. Emphasis on design process, communication, method, aesthetics, construction, and technology. Lecture-studio-field trips. Prerequisite: admission to upper division. Corequisite: ATE 353.
- ADE 322 Architectural Studio II.** (5) S
Site and building design problems. Emphasis on programmatic and environmental determinants and building in natural and urban contexts. Lecture-studio-field trips. Prerequisite: with a grade of "C" or higher: ADE 321. Corequisite: ANP 331.
- ADE 421 Architectural Studio III.** (5) F
Topical design problems of intermediate complexity including interdisciplinary problems. Lecture-studio, field trips. Prerequisite: with a grade of "C" or higher: ADE 322.
- ADE 422 Architectural Studio IV.** (5) S
Topical design problems of advanced complexity including interdisciplinary problems. Lecture-studio, field trips. Prerequisite: with a grade of "C" or higher: ADE 421.

- ADE 510 Foundation Architectural Studio.** (6) SS
Fundamentals of architectural design methodology, visualization, and representation. Lecture-studio, field trips. Prerequisite: admission to graduate program.
- ADE 511 Core Architectural Studio I.** (6) F
Application of design fundamentals in architectural problems including construction technology, programmatic and environmental determinants. Lecture-studio-field trips. Prerequisites: APH 200, 509. Prerequisite with a grade of "C" or higher: ADE 510.
- ADE 512 Core Architectural Studio II.** (6) S
Application of architectural design fundamentals to increasing complexity problems, including specific sites and activities. Lecture-studio, field trips. Prerequisite: with a grade of "C" or higher: ADE 511.
- ADE 521 Advanced Architectural Studio I.** (5) F
Design problems emphasizing theory, aesthetics, and tectonics as influences on architectural form. Lecture-studio-field trips. Prerequisite: admission to graduate program.
- ADE 522 Advanced Architectural Studio II.** (5) S
Design problems emphasizing the comprehensive integration of building systems and technologies as influences on architectural form. Lecture-studio-field trips. Prerequisite: with a grade of "C" or higher: ADE 521.

- ADE 621 Advanced Architectural Studio III.** (5) F
Design problems emphasizing the urban context, planning issues, and urban design theory as influences on architectural form. Lecture-studio-field trips. Prerequisite: with a grade of "C" or higher: ADE 522.
- ADE 622 Advanced Architectural Studio IV.** (5) S
Individual, student-initiated project reflecting a cumulative synthesis of architectural ideas. Studio. Prerequisites: with a grade of "C" or higher: ADE 621; ANP 681.
- ADE 631 Building Systems Simulation Studio.** (5) F
Design of energy efficient medium and large commercial complexes; synthesis to optimize performance using new and advanced algorithms. Lecture, lab, studio. Prerequisites: ATE 521, 550, 551, 582.
- ADE 661 Bioclimatic Design Studio.** (6) A
Sustainable architectural and site synthesis at a variety of scales, emphasizing bioclimatic criteria and the use of passive and low energy systems. Prerequisite: professional degree or instructor approval. Corequisite: ATE 558.

ENVIRONMENTAL ANALYSIS AND PROGRAMMING (ANP)

- ANP 236 Introduction to Computer Modeling.** (3) F, S
Fundamentals of computer operation, geographic information systems, geometric modeling of three-dimensional forms, and rendering of light, mathematical modeling of processes using spreadsheets. Lab. Cross-listed as DSC PUP 236. Credit allowed for only ANP 236 or DSC 236 or PUP 236. Prerequisite: major in the College of Architecture and Environmental Design. *General Studies CS*.
- ANP 331 Analysis and Programming.** (3) S
Analysis of natural and human environmental determinants as the basis of the programming and design of the built environment. Lecture-studio. Corequisite: ADE 322.
- ANP 475 Computer Programming in Architecture.** (3) F, S
Computer programming for architectural problems and applications. Lecture, lab. Prerequisite: CSE 183 or equivalent.
- ANP 477 Computer Applications to Design Problems.** (3) F
Examination of generic microcomputer software in solving architectural design problems. Emphasis on the logic of problem formulation. Lecture-lab. Prerequisite: instructor approval.
- ANP 500 Research Methods.** (1-12) N
- ANP 530 Computer Graphics in Architecture.** (3) A
Fundamentals of computer graphics programming in architecture, including graphics hardware, device-independent packages 2- and 3-dimensional transformations, and data structures. 2-hour lecture, 3-hour lab. Prerequisite: ANP 475 or instructor approval.

NOTE: For the General Studies requirement courses and codes (such as L, SQ, C, and H), see "General Studies," page 87. For graduation requirements, see "University Graduation Requirements," page 83. For an explanation of additional non-business courses offered but not listed in this catalog, see "Classification of Courses," page 60.

ANP 561 Architectural Information Processing Systems. 3 A
Applications of information processing systems to architectural problems. Analysis of computing tools with respect to assumptions and theories. Lecture. Lab. Prerequisites: graduate standing. Instructor approval.

ANP 563 Methods in Architectural Design Computation. (3) S
Concepts and methods for research in computer-aided architectural design with an emphasis on computational methods and a system framework. Discussion. Lab. Prerequisite: ANP 500 or instructor approval.

ANP 590 RC: Computer Programming and Architecture. (1–12) N

ANP 598 Special Topics. (1–4) N

(a) Computer-Aided Design Methods

ANP 599 Thesis. 1 12) N

ANP 681 Project Development. (3) F 2000

Definition and elaboration of major ideas for implementation in ADE 622 Advanced Architectural Studio IV in relation to contemporary theory and practice. Seminar. Prerequisite: ADE 522

ARCHITECTURAL PHILOSOPHY AND HISTORY (APH)

APH 100 Introduction to Environmental Design. 3 F S
Survey of environmental design. Includes historical examples and the theoretical, social, technical, and environmental forces that shape them. Cross-listed as DSC PUP 100. Credit awarded for only APH 100 or DSC 100 or PUP 100. *General Studies: HU, G, H*

APH 200 Introduction to Architecture. 3) F SS
Survey of issues and polemics affecting current architectural theory and practice. Lecture. Discuss on *Genera Studies: HU G*

APH 300 World Architecture I/Western Cultures. 3) F
Historical and contemporary built environments of Western civilizations: Mediterranean, Europe, and the Americas as manifestations of cultural history and responses to environmental determinants. Prerequisite: nonmajor. *General Studies: HU, G, H*

APH 301 World Architecture II Eastern Cultures. (3) S
Historical and contemporary built environments of Eastern civilizations: Middle East, Central Asia, Far East, and South Pacific as manifestations of cultural history and responses to environmental determinants. *Genera Studies: G*

APH 304 American Architecture. (3) N
Architecture in the United States from earliest colonial times to present. Prerequisite: nonmajor. *General Studies: HU*

APH 305 Contemporary Architecture. 3) N
Europe and America from the foundations of the modern movement to the present. Prerequisite: nonmajor. *General Studies: HU*

APH 313 History of Western Architecture I. (3) F
Representative buildings and sites with emphasis on the physical and social settings from antiquity through the Middle Ages. Prerequisite: junior standing or instructor approval. *General Studies: LHU*

APH 314 History of Western Architecture II. (3) S
Representative examples of architecture and urban design with emphasis on the social and historical contexts from the Middle Ages to the present. Prerequisite: APH 313. *Genera Studies: LHU*

APH 411 History of Landscape Architecture. 3 F
Physical record of human attitudes toward the land. Ancient through contemporary landscape planning and design. Cross-listed as PLA 310. Credit awarded for only APH 411 or PLA 310. *General Studies: H*

APH 414 History of the City. 3) F
The city from its ancient origins to the present day. Emphasis on European and American cities during the last five centuries. Cross-listed as PUP 412. Credit awarded for only APH 414 or PUP 412. *Genera Studies: H*

APH 441 Ancient Architecture. (3) N
Architecture of the ancient Mediterranean world with selective emphasis on major historical complexes and monumental sites. Prerequisite: APH 313. *Genera Studies: HU*

APH 442 Preservation Planning. (3) F
Principles and practices in planning for preservation, conservation and neighborhood redevelopment. Emphasis on evaluation of historical resources. Off-campus field practicum required. Prerequisite: instructor approval.

APH 443 Renaissance Architecture. (3) N
Selected examples of Renaissance architecture and urbanism with emphasis on the historical and cultural settings. Prerequisite: APH 314. *General Studies: HU*

APH 444 Baroque Architecture. 3) N
Selected examples of Baroque architecture and urbanism with emphasis on relationships between architecture and other arts. Prerequisite: APH 314. *General Studies: HU*

APH 446 20th-Century Architecture I. (3) F
Architecture in Europe and America from the foundations of the modern movement to the culmination of the international style. Prerequisite: major. *General Studies: HU*

APH 447 20th-Century Architecture II. (3) S
Developments in architecture since the international style. Prerequisite: APH 446. *General Studies: HU*

APH 505 Foundation Theory Seminar. 3 F
Foundation of conceptual architecture inquiry, stressing the reciprocal and interdependent relationship between design and theory. Lecture seminar.

APH 509 Foundation Seminar. (3) SS
Historical, technical, theoretical, environmental, and professional issues in architecture. Lecture seminar. Field trips. Prerequisite: ADE 510.

APH 511 Energy Environment Theory. 3 F
Solar and other energy sources in designed and natural environments: architectural, urban, and regional implications of strategies using other renewable resources.

APH 515 Current Issues and Topics. (3) S
Critical examination of current architectural issues, topics, and discourse. Prerequisite: APH 505

APH 581 Contemporary Urban Design. (3) S
Exploration of the contemporary city and urban design issues related to contemporary cities. Seminar. Lecture, discussion. Prerequisite: APH 505.

APH 681 Architectural Theory. (3) S
Examination of architectural theory. Emphasis on application of theory to practice. Seminar. Prerequisite: instructor approval.

APH 682 Architectural Criticism. 3 F
Examination of architectural criticism, emphasizing specific methods of criticism and the application for aesthetic judgment. Seminar. Prerequisite: instructor approval.

APH 683 Critical Regionalism. 3) N
Critical inquiry in cultural grounding the definition of place in architectural theory and practice. Lecture. Field studies. Prerequisite: APH 446 or 447

ARCHITECTURE PROFESSIONAL STUDIES (ARP)

ARP 451 Architecture Field Studies. 1–6) F S, SS
Organized field study of architecture in specified national and international locations. Credit/no credit. May be repeated with approval of director.

ARP 484 Clinical Internship. (1 12) SS
Full-time internship under the supervision of practitioners in the Phoenix area or other locales. Credit/no credit. Prerequisite: instructor approval.

ARP 584 Clinical Internship. (1 12) SS
Structured practical experience following a contract or plan, supervised by faculty and practitioners.

ARP 684 Professional Internship. (2–6) S
Field experience in an architectural firm specializing in an area related to the student's advanced study. Integration of theory and state-of-the-art practices. Credit/no credit. Prerequisite: instructor approval.

ARCHITECTURAL TECHNOLOGY (ATE)

ATE 353 Architectural Construction. (3) F
Materials and methods of construction. Aesthetic, code, and cost considerations. Lecture, lab. Corequisite: ADE 321

ATE 361 Building Structures I. 3 S
Introduction to load-bearing structures. Static analysis of determinant beams, trusses, arches, and rigid frames. Computer applications. Lecture. Lab. Prerequisite: admission to upper division.

ATE 451 Building Systems I. (3) F

Principles of solar radiation, heat and moisture transfer, and environmental control systems as form influences. Energy conscious design. Lecture, lab. Prerequisite: admission to upper division.

ATE 452 Building Systems II. (3) S

Architectural design implications of heating, ventilation, and air conditioning systems. Principles of lighting, daylighting and acoustics, and their applications. Lecture, lab. Prerequisite: ATE 451.

ATE 462 Building Structures II. (3) F

Strength of materials. Stresses in beams and columns. Thermal effects on structures. Analysis, design and detailing of wood structural systems. Lecture, lab. Prerequisite: ATE 361

ATE 521 Building Environmental Science. (3) F

Scientific principles relating to comfort and environmental control. Heat and moisture transfer. Solar natural energies for heating, cooling and lighting. Lecture, lab. Prerequisite: MAT 290 or equivalent

ATE 530 Daylighting Design. (3) S

Daylight analysis availability, design sky measurements, modeling and simulation. Integration with passive heating, cooling, building design, and energy considerations. Lecture, lab.

ATE 550 Passive Cooling and Heating I. (3) S

Theory, analysis and application of passive and low-energy systems for thermal comfort in buildings emphasizing heating. Prerequisite: ATE 521.

ATE 551 Passive Cooling and Heating II. (3) F

Theory, analysis, and application of passive and low energy heating systems for thermal comfort in buildings emphasizing cooling. Prerequisite: ATE 550

ATE 552 Energy Parameters in Buildings. (3) N

Advanced modeling. Transient and multidimensional analysis of thermal and daylight performance using variable weather data. Prerequisite: ATE 551 or instructor approval.

ATE 553 Building Systems III. (3) F

Design and integration of building systems including mechanical, electrical, plumbing, security, communications, fire protection and transportation. Prerequisite: admission to upper division or instructor approval.

ATE 554 Building Energy Efficiency. (3) S

Impact of building design on energy performance. Climate responsive design, operations dynamics, and subsystems integration in thermal comfort and efficiency. Prerequisite: ATE 452

ATE 556 Building Development. (3) F

Comprehensive design development through the understanding and integration of building materials and systems. Lecture, seminar. Prerequisites: AAD 551, ATE 462, 553; level: AutoCAD proficiency

ATE 557 Construction Documents I. (3) S

Production of architectural working drawings: legal status, organization, layout, site survey plans, sections, elevations, details, schedules and coordination. Lecture, lab. Prerequisite: admission to upper division

ATE 558 Bioclimatic Parameters. (3) S

Theory, analysis and application of energy related parameters of site, climate, human comfort, and building program for design synthesis

ATE 560 Building Energy Analysis. (3) F

Computer simulation of building thermal behavior. Software review. Detailed study of selected simulation models using case study projects. Lab. Prerequisites: ANP 475 (or 477), ATE 582

ATE 561 Energy Analysis Techniques. (3) F

Mathematical models of building energy operation and comfort condition systems as bases for optimization techniques. Prerequisite: ATE 560.

ATE 562 Experimental Evaluation. (3) A

Instrumentation, measurement and computational techniques for analysis of building components and assessment of thermal and luminous performance. Prerequisite: ATE 521.

ATE 563 Building Structures III. (3) F

Analysis, design, and detailing of steel buildings and frames. Lateral analysis of small rigid and braced frame systems. Lecture, lab. Prerequisite: ATE 462 or equivalent.

ATE 564 Advanced Structures: Concrete. (3) A

Analysis, design, and detailing of concrete systems, considering continuity, multistory frames and shear walls, and lateral analysis. Computer application. Prerequisite: ATE 563 or instructor approval.

ATE 565 Advanced Structures: High Rise. (3) A

Developments in high-rise construction. Effects of wind and seismic forces. Preliminary analysis, design and detailing considering code requirements. Lecture, lab. Prerequisite: ATE 563 or instructor approval

ATE 582 Environmental Control Systems. (3) A

Heating, ventilation, and air conditioning systems. Loads, psychrometrics, refrigeration cycle, air/water distribution, controls, energy performance standards and utility rates. 2 hours lecture, 3 hours lab, field trips. Prerequisite: ATE 451 or 521

ATE 599 Thesis. (1-12) N**ARCHITECTURAL COMMUNICATION (AVC)****AVC 161 Advanced Freehand Perspective Drawing. (2) N**

Introduction to color media, and analytical and design drawing exercises. 4 hours studio. Prerequisite: major in the College of Architecture and Environmental Design

AVC 294 Special Topics. (1) F/S

(a) Drawing Module

AVC 301 Architectural Communication. (2) F

Communication skills for architecture studios. Emphasis on graphic design, drawing conventions, media, computer-aided design, design of presentations and oral presentations. Lecture, studio. Corequisite: ADE 321

School of Design**Jacques Giard***Director***(AED 154B) 480/965-4135****Fax 480/965-9717****www.asu.edu/caed/design**

PROFESSORS

GIARD, KROELINGER, REZNIKOFF

ASSOCIATE PROFESSORS

BERNARDI, BRANDT, CUTLER, DETRIE, JOHNSON, McDERMOTT, NIELSEN, PATEL, RATNER, SANFT, WITT

ASSISTANT PROFESSORS

HARMON-VAUGHAN, HERRING, McCOY, NCKERSON, NEDERHELMAN, RANDALL, ROTHSTEIN, WEED

Information about the School of Design may be obtained via the Web address provided or by sending electronic mail to caed.advising@asu.edu.

PURPOSE

The School of Design educates people for the professional worlds of graphic design, industrial design, and interior design. The curricula focuses on the skills and knowledge that are necessary in these design professions undertaken in a learning environment that bridges the academic milieu to the professional world. This direction is further conditioned by the belief that designers have a responsibility to the public and communities they serve. Consequently,

NOTE: For the General Studies requirement courses and codes (such as L, SQ, C, and H) see "General Studies" page 87. For graduation requirements, see "University Graduation Requirements" page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses" page 60.

students are exposed to a full breadth of learning experiences, from theoretical courses in design history, human factors, and the theories of the profession, to the rigors and demands of the design studio. Students learn to integrate aesthetic values into their designs all the while considering the contextual issues. The goal of the school's academic program is to graduate designers who are accomplished and visually sophisticated and who will continue to evolve in their chosen profession. To this end, the school provides an environment that is conducive to design excellence. It has a faculty of active professionals, excellent facilities and resources, and a network that is international in scope.

ORGANIZATION

Programs in the School of Design are organized by the faculty of the school under the direction and administration of the director

DEGREES

The faculty in the School of Design offer the Bachelor of Science in Design degree with three majors: Graphic Design, Industrial Design, and Interior Design. Applications are not being accepted to the major in Design Science.

Graphic Design. The Graphic Design program educates and develops students for both the graphic design profession and graduate work. The goal of the faculty is to offer the best graphic design education, allowing the graduating student every option available. Studio classroom projects are planned to strengthen and refine students' proficiency in the language, process, and technical aspects of the profession. Projects are intended to help students think critically, both as individuals and as members of a group. Students opting for the profession can expect to work in the areas of ad design, brand identity, broadcast graphics, corporate identity, environmental graphics, informational graphics, in-house corporate design, museum informational design, publication design, Web site design, and others. Students pursuing graduate studies can expect to be equally well prepared with critical and analytical thinking skills coupled with a diversified portfolio. The program is dedicated to a comprehensive education in graphic design as it relates to the changing communication standards of today and in the future

Industrial Design. The program in Industrial Design prepares creative individuals to design objects routinely used by people on a daily basis. The industrial design profession serves the needs of both manufacturers and consumers by developing products that are attractive, useful, safe, convenient, and comfortable to use. The designer's special talents and skills include an aesthetic sense, knowledge of materials and processes, and an understanding of the physical and psychological needs of the user. Designers often serve as a catalyst among management, marketing, and engineering staffs.

Through studio projects, students learn to visualize ideas and communicate them to others and to refine skills in free hand sketching, computer aided design, and model making. Assignments are a balance of conceptual aspects and practical techniques. Typical projects include electronics, toys, furniture, sports equipment, and packaging. Stress is placed on the role of the designer in a team effort. Third year stu-

dents perform internships in a large corporation or in a consulting design agency.

Interior Design. The program in Interior Design is accredited by the Foundation for Interior Design Education Research (FIDER), the national accrediting agency. The five year curriculum emphasizes design process, technical skill development, problem solving, and the management skills needed to work in collaboration with the allied design professions. The goal of interior design is to create high quality environments for human use.

Significant changes in the interior design profession over the last two decades are reflected in the program. The school is committed to integrating computer technology into each level of the curriculum. In doing so, the program offers an excellent environment for experimenting with and testing innovative applications of computer-aided design and simulation to interior design.

ADMISSION

Lower-Division Program. New and transfer students who have been admitted to the university and who have selected Graphic Design, Industrial Design, or Interior Design as a major are admitted to the appropriate lower-division program. Transfer credits for the lower division program are reviewed by the college and evaluated for applicability to this curriculum. To be applicable, transfer courses must be equivalent in both content and level of offering. A review of samples of work is required for studio classes, consult a college academic advisor.

Lower division students entering the program who are not prepared for certain courses in the curriculum (for example, algebra and trigonometry or a second course in computer programming) are required to take additional courses that do not apply to the Bachelor of Science in Design degree. If such courses are required, an additional year of study may be necessary to complete the lower division program.

Completion of lower-division requirements does not ensure acceptance to an upper-division professional program.

Upper-Division Program. When students have completed the lower division curriculum requirements, they may apply for acceptance to upper division programs in Graphic Design, Industrial Design, or Interior Design. In addition to the portfolio review, the faculty in charge of the Interior Design program conduct a required four-hour design project to measure minimum competency and understanding of the design process. The limited spaces available each year are awarded to applicants with the highest promise for professional success. The faculty of the School of Design retain the right to admit any meritorious student who may be deficient in a published school criterion. Such admission requires an extraordinary review of the applicant by the school's admissions committee. Should the faculty choose to admit such an applicant, the student is placed automatically on a provisional admission status with stipulations as to what is required to be removed from probation. See "Application To Upper division Programs." page 131

Students not admitted to upper division programs are not dismissed from the university and may reapply or may

transfer to other programs. Students who intend to reapply should meet with a college academic advisor.

GRADUATE PROGRAMS

The School of Design offers a Master of Science in Design with concentrations in graphic design, industrial design, and interior design. The faculty also participates in a collegewide, interdisciplinary Ph.D. degree in Environmental Design and Planning with concentrations in design; history, theory, and criticism; and planning. For more information, see the *Graduate Catalog*.

APPLICATION TO UPPER-DIVISION PROGRAMS

Upper-Division Application Procedures. Students should write to a college academic advisor for the application form well in advance of the application deadline. For more information on portfolios, ask for a copy of the *Portfolio Seminar* brochure from a college academic advisor. The following dates and procedures are for students applying to 2000–2001 upper division programs.

Upper-Division Application Deadlines. The following dates and procedures apply to Industrial and Interior Design portfolio submission only. Information regarding portfolio submission for Graphic Design is listed separately.

April 16, 2001. Portfolio and application documents are due in the school office by 5:00 P.M. The Interior Design faculty also conduct a *required* half day design project to measure minimum competency and understanding of the design process. The date is announced when the portfolio is submitted. Students who do not complete the charette are not considered for upper-division admission.

June 1, 2001. If the spring 2001 semester includes transfer course work (i.e., course work taken at an institution other than ASU), a student must submit his or her transcripts to the school no later than June 1. These transcripts may be unofficial copies. A second set of official transcripts must be sent to the university Undergraduate Admissions office. Application is not complete until the university receives official transcripts for transfer course work. For those transfer students whose academic term ends in June rather than May, this deadline may be extended upon the written request of the applicant.

July 2, 2001. Acceptance notices are mailed no later than July 2.

March 15, 2001. The application deadline for Graphic Design is March 15, 2001. In addition to the portfolio submission, Graphic Design requires an aptitude test, which is part of the application packet. Application packets can be obtained from the Academic Advising Office one month before the due date. Students may obtain their application results by contacting the Program Coordinator for Graphic Design at the end of the first week of April. Acceptance notices will be mailed to admitted students.

Return of Letter of Acceptance. A signed receipt of acceptance of admission must be received by the school by the date indicated on the Notice of Acceptance. Alternates may be accepted at a later date if space becomes available.

Matriculation. An accepted student is expected to begin his or her upper-division professional program at the beginning of the immediate fall term. There is no spring admission to the upper division.

Graphic Design Application Requirements. Individual applicants are responsible for obtaining the Graphic Design Application Packet by contacting the College of Architecture and Environmental Design Academic Advising Office (ARCH 141). Application materials are submitted in a portfolio organized by the individual applicant. The student's name must be affixed to the outside, with completed materials appearing in the following order:

1. application to the Graphic Design upper-division program;
2. "Commonly Asked Questions" form; and
3. the Graphic Design Aptitude Test.

The packet contains complete instructions for completing the standard test, which is to be addressed by each applicant. This test requires the completion of five problems that are reviewed by the faculty and that become the portfolio of materials considered for admission to the upper division program.

Industrial and Interior Design Portfolio Format Requirements. Each applicant is responsible for obtaining the following documents and including them in the portfolio. Application materials are submitted at one time in a presentation binder (portfolio) with plastic sleeves (8.5" x 11" format only). The student's name must be affixed to the outside. Items must appear in the following order:

Page 1. The application form should be completely filled out with the first page visible. Application forms are available from the college Academic Advising Office.

Page 2. The second page of the application should be visible.

Page 3. Application Essay or Letter of Intent.

Page 4. All college transcripts for both ASU and transfer work should be included through the fall 2000 semester. Copies are acceptable. An academic advisor forwards 2001 ASU transcripts. (Applicants wishing to transfer spring semester 2001 work are responsible for submitting these transcripts by June 1 so that they may be added to their portfolios. The student is also responsible for getting an official transfer transcript sent directly to the Office of the Registrar.)

Page 5. A certificate of admission to ASU is necessary only for those students who have been newly admitted for fall 2001 and who are applying directly into an upper-division program. The certificate is not required for students currently attending ASU.

Following Pages (Usually 10–20 Sheets). Students should present work sufficient to demonstrate the depth and breadth of their creative activity. This work should include (but is not limited to) examples of two- and three-dimensional design and graphics. Each project should be clearly identified (course, length of project, etc.), with a concise accompanying description of the assignment.

NOTE: For the General Studies requirement, courses, and codes (such as L, SQ, C, and H), see "General Studies," page 87. For graduation requirements see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses" page 60.

Students should obtain a portfolio requirements addendum for their major from the college's Academic Advising Office, ARCH 141, at the beginning of the academic year in which they intend to apply to the upper division program. Requirements or instructions indicated in the addendum for that academic year take precedence over any other printed material.

Students are encouraged to include additional materials, written or pictorial, that provide additional evidence of skills and abilities and of the aptitude and commitment to the major. When any work submitted is not completely original, the source must be given. When work is of a team nature, the applicant's role should be clearly indicated. Original examples or slides must not be submitted. All examples must be photographs or other reproduction graphic media.

Return of Portfolios. Application documents (pages 1-5) remain the property of the College of Architecture and Environmental Design. However, the remainder of the portfolio is returned after the admissions review, provided the applicant encloses a self-addressed return mailer with sufficient prepaid postage. Portfolios may be claimed in person after July 2, 2001. If the applicant provides written permission, another person may claim the portfolio. After one year, unclaimed portfolios are discarded. While care is taken in handling the portfolios, no liability for lost or damaged materials is assumed by the college or school.

ADVISING

Advising for the lower and upper division curricula is through a college academic advisor (ARCH 141).

DEGREE REQUIREMENTS

The Bachelor of Science in Design degree requires a minimum of 120 semester hours for a major in Graphic Design and Industrial Design and a minimum of 150 semester hours for a major in Interior Design. The program includes required field trips. Students are responsible for these additional costs. Foreign study opportunities are available for students. An internship is a required part of the program.

Graphic Design

The curriculum in Graphic Design is divided into a pre-professional (first year) and a professional program (second, third, and fourth years).

Preprofessional program	30
Professional program	90
Total	120

The lower-division curriculum balances a foundation in academic subjects such as English, numeracy, and computer technology with departmental foundation courses that include history and theory, as well as studio courses in drawing and design fundamentals as they relate to conceptual design. Students apply for entry into the professional program after fulfilling the first year School of Design core foundation courses. The upper division curriculum includes studio work in graphic design and its relationship to problem solving at multiple scales. Projects are intended to educate students to think critically as individuals and as team participants in small and large corporate facilities. A formal eight week summer internship is included in the profes-

sional program, which is coordinated by the faculty. Students intern in a variety of settings, including in-house corporate design, publication design, ad design agencies, and others.

General Studies Requirement. The following curriculum includes sufficient approved course work to fulfill the General Studies requirement. See "General Studies," page 87, for requirements and a list of approved courses. Note that all three General Studies awareness areas are required. Consult your advisor for an approved list of courses.

Graduation Requirements. In addition to fulfilling college and major requirements for this professional degree, students must meet all university graduation and college degree requirements. See "University Graduation Requirements," page 83, and "College Degree Requirements," page 119.

**Graphic Design—B.S.D.
Preprofessional Program Requirements**

First Year

Fall	
DSC 101 Design Awareness HU, G	3
DSC 121 Design Principles I	3
ENG 101 First Year Composition or ENG 105 Advanced First Year Composition (3) if qualified	3
MA elective	3
CS elective	3
Total	15

Spring

DSC 120 Design Drawing	3
DSC 122 Design Principles II	3
ENG 102 First Year Composition	3
Approved elective	3
SB elective	3
Total	15
Preprofessional program total	30

Transfer credits for the lower division program must be equivalent in both content and level of offering. Samples of studio work to be accepted for credit must be submitted for evaluation through the college's Academic Advising Office, ARCH 141.

A list of courses that fulfill approved electives is available from the college academic advisor.

**Graphic Design—B.S.D.
Professional Program Requirements**

Second Year

Fall	
DSC 494 ST Finding Purpose: Survival in Design	3
GRA 283 Letterform I	3
GRA 284 Visual Communication I	3
L elective	3
SB elective	3
Total	15

Spring

GRA 286 Visual Communication II	3
GRA 287 Letterform II	3
Design elective	3
HU, H elective	3
SQ, SG elective with laboratory I	4
Total	16

Third Year

Fall	
GRA 345 Design Rhetoric L ¹	3
GRA 383 Typography I	3
GRA 386 Visual Communication III ¹	3
Approved electives ²	6
Total	15
Spring	
DSC 483 Preinternship Seminar ¹	1
GRA 318 History of Graphic Design HU	3
GRA 385 Typography II ¹	3
GRA 387 Visual Communication IV	3
C elective	3
Upper division design elective	3
Total	16
Summer	
DSC 484 Internship	3
Total	3

Fourth Year

Fall	
GRA 481 Visual Communication V	3
GRA 494 ST: Graphic Design	3
SQ, SG elective with laboratory II	4
Upper-division design elective	3
Total	13
Spring	
GRA 482 Visual Communication VI	3
GRA 494 ST: Graphic Design	3
Approved elective ²	3
Upper division approved elective ²	3
Total	12
Professional program total	90
B.S.D. minimum total	120

Most studio courses and some lecture courses are sequential. They must be taken in and may be offered only during the semester noted.

² A list of courses that fulfill approved electives is available from the college academic advisor.

Industrial Design

The curriculum in Industrial Design is divided into a pre-professional (first and second years) and a professional program (third and fourth years):

Preprofessional program	61
Professional program	59
Total	120

The preprofessional curriculum balances a foundation in academic subjects such as English, algebra and trigonometry, computing, and physics with departmental courses that include history as well as studio courses in drawing, design fundamentals, human factors, and materials and processes.

The professional curriculum includes studio and laboratory work in industrial design, graphics, project development, and professional practice. Students also take a number of approved program electives. A supervised summer internship is part of the curriculum.

Upper division studios emphasize projects that promote an interdisciplinary approach to solving problems and that develop the student's intellectual understanding of the philosophy, methodology, and theories related to industrial design. Problems proceed from small consumer products with simple task functions to larger and more complex problems and systems. Studio projects also emphasize the design processes: problem resolution through concept ideation, dialogue with specialists in related areas, and product development, presentation, and marketing.

Graduates of the program accept positions in industry and with firms involved in industrial design. Designers may focus on consumer products, transportation, electronics, medical devices, health products, or recreational products, among others. Designers may also choose to continue their education with graduate studies to enrich their design skills, to specialize, or to prepare for college level teaching.

General Studies Requirement. The following curriculum includes sufficient approved course work to fulfill the General Studies requirement. See "General Studies," page 87, for requirements and a list of approved courses. Note that all three General Studies awareness areas are required. Consult your advisor for an approved list of courses.

Graduation Requirements. In addition to fulfilling college and major requirements, students must meet all university graduation and college degree requirements. See "University Graduation Requirements," page 83, and "College Degree Requirements," page 119.

**Industrial Design B.S.D.
Preprofessional Program Requirements**

First Year

Fall	
DSC 101 Design Awareness HU, G.	3
DSC 121 Design Principles I	3
ECN 112 Microeconomic Principles SB ¹	3
ENG 101 First Year Composition	3
or ENG 105 Advanced First Year Composition 3)	
if qualified	
PGS 101 Introduction to Psychology SB	3
Total	15
Spring	
DSC 120 Design Drawing	3
DSC 122 Design Principles II	3
ENG 102 First Year Composition	3
IND 194 ST Drafting for Industrial Design	3
MAT 170 Precalculus MA	3
Total	15

Second Year

Fall	
DSC 236 Introduction to Computer Modeling CS	3
IND 227 Visual Methods for Problem Solving	3
IND 242 Materials and Design	3
IND 260 Industrial Design I	3
IND 316 20th Century Design I HU H	3
Total	15

NOTE: For the General Studies requirement, courses and codes (such as L, SQ, C, and H) see "General Studies, page 87. For graduation requirements see "University Graduation Requirements" page 83. For an explanation of additional omnibus courses offered but not listed in this catalog see "Classification of Courses" page 60.

Spring

COM 225 Public Speaking <i>L</i>	3
or approved program elective (3)	
IND 228 Imaging and Visualization	3
IND 243 Process and Design	3
IND 261 Industrial Design II	3
PHY 111 General Physics <i>SQ</i> ²	3
PHY 113 General Physics Laboratory <i>SQ</i> ³	1
Total	16
Preprofessional program total	61

Transfer credits for the lower division program must be equivalent in both content and level of offering. Samples of studio work must be provided for evaluation. See a college academic advisor for an appointment.

² TGECC satisfied

³ Both PHY 111 and 113 must be taken to secure *SQ* credit.

**Industrial Design—B.S.D.
Professional Program Requirements**

Third Year

Fall

DSC 344 Human Factors in Design	3
IND 327 Presentation Graphics	3
IND 354 Principles of Product Design	3
IND 360 Industrial Design III	5
Total	14

Spring

IND 328 Graphics for Industrial Design	3
IND 361 Industrial Design IV	5
MKT 300 Principles of Marketing	3
<i>SQ, SG</i> elective with approved laboratory	4
Total	15

Summer

DSC 484 Internship	2
Total	2

Fourth Year

Fall

ENG 301 Writing for the Professions <i>L</i>	3
IND 460 Design Project I	5
IND 470 Professional Practice for Industrial Design <i>L</i>	3
Approved <i>HU, SB</i> elective	3
Total	14

Spring

IND 461 Design Project II	5
IND 474 Design Seminar	3
<i>C</i> elective*	3
Elective	3
Total	14
Professional program total	59
B.S.D. minimum total	120

* A list of courses that fulfill approved program electives is available from the college academic advisor

Interior Design

The curriculum in Interior Design is divided into a pre-professional program (first and second year) and a professional program (third, fourth, and fifth years):

Preprofessional program	56
Professional program	94
Total	150

The preprofessional curriculum balances a foundation in academic subjects such as English, algebra and trigonometry, computer technology, and physics with departmental courses that include history and theory, as well as studio courses in drawing, design fundamentals, and conceptual design.

The professional curriculum includes studio work in interior design, furniture design, construction methods structures, codes as related to materials and finishes, human factors, environmental control systems, as well as lecture courses in the history of interior design, decorative arts, and textiles. An eight week supervised summer internship is part of the curriculum. The fifth year is an interdisciplinary year in which students address real-life environmental problems. This final year is a capstone experience that utilizes all previous learning within and outside the professional program. The student's final design project is completed in consultation with a member of the local professional community.

Graduates from the program accept entry level professional positions in a variety of settings, including interior design firms, departments of space planning, architectural firms, public institutions, and industry. Students may also choose to continue their education through graduate studies, which offer greater enrichment in studio disciplines and which contribute to the possibility for postsecondary level academic appointments, giving the recipients highly sought after academic credentials.

General Studies Requirement. The following curriculum includes sufficient approved course work to fulfill the General Studies requirement. See "General Studies," page 87, for requirements and a list of approved courses. Note that all three General Studies awareness areas are required. Consult your advisor for an approved list of courses.

Graduation Requirements. In addition to fulfilling college and major requirements, students must meet all university graduation and college degree requirements. See "University Graduation Requirements," page 83, and "College Degree Requirements," page 119.

**Interior Design—B.S.D.
Preprofessional Program Requirements**

First Year

Fall

DSC 101 Design Awareness <i>HU G</i>	3
DSC 121 Design Principles I	3
ENG 101 First Year Composition	3
or ENG 105 Advanced First Year Composition (3) if qualified	
MAT 170 Precalculus <i>MA</i>	3
<i>SB, C</i> elective	3
Total	15

Spring

ARS 102 Art of the Western World II <i>HU H</i>	3
DSC 120 Design Drawing	3
DSC 122 Design Principles II	3
ENG 102 First Year Composition	3
or <i>HU</i> elective if ENG 105 is taken (3)	
PHY 111 General Physics <i>SQ</i> ²	3

PHY 113 General Physics Laboratory SQ ²	1
Total	16

Second Year

Fall	
DSC 236 Introduction to Computer Modeling CS	3
INT 194 ST: Drafting for Interior Design	3
INT 223 Interior Design Issues and Theories HU	3
INT 235 User Needs and Behavior in Interior Design	3

Total	12
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Spring

COM 225 Public Speaking L	3
or approved L elective (3)	
INT 220 Media for Design Development	3
INT 231 Concepts for Interior Design	3
SQ or SG elective with laboratory	4

Total	13
Preprofessional program total	56

Transfer credits for the lower division program must be equivalent in both content and level of offering. Samples of studio work must be provided for evaluation. See a college academic advisor for an appointment.

- Both PHY 111 and 113 must be taken to secure SQ credit

**Interior Design—B.S.D.
Professional Program Requirements**

Third Year

Fall	
DSC 344 Human Factors in Design	3
INT 310 History of Interior Design I HU, H	3
INT 340 Interior Codes: Public Welfare and Safety	3
INT 364 Interior Design Studio I	5
INT 366 Construction Methods in Interior Design	3

Total	17
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Spring

DSC 483 Preinternship Seminar	1
INT 311 History of Interior Design II HU, H	3
INT 341 Interior Materials and Finishes	3
INT 365 Interior Design Studio II	5
INT 455 Environmental Control Systems	3

Total	15
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Summer

DSC 484 Internship	3
Total	3

Fourth Year

Fall	
ENG 301 Writing for the Professions L	3
INT 412 History of Decorative Arts in Interiors HU	3
INT 442 Specifications and Documents for Interiors L	3
INT 457 Acoustics for Interior Design	3
INT 464 Interior Design Studio III	5

Total	17
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Spring

INT 413 History of Textiles in Interior Design	3
INT 458 Lighting for Interior Design	3
INT 465 Interior Design Studio IV	5

SB elective	3
Total	14

Fifth Year*

Fall	
INT 422 Facilities Planning and Management I	3
INT 446 Furniture Design and Production	3
INT 466 Interior Design Studio V	5
Approved degree project elective	3

Total	14
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Spring

INT 423 Facilities Planning and Management II	3
INT 467 Interior Design Studio VI	5
INT 472 Professional Practice for Interior Design	3
Approved degree project elective	3

Total	14
Professional program total	94
B S D minimum total	150

* See "Fifth Year" below

Fifth Year. During the fifth year, the student concentrates on research and application of that research related to the development of a comprehensive project. This year is self directed in nature and prepares the student for independent thinking and creative problem solving. The fifth year experience promotes high expectations for producing professional work that represents the culmination of the major's academic experience. It should be noted that the fifth year studio sequence is designed to draw majors from the upper-division programs of industrial design, graphic design, and architecture, thus furthering a real life interdisciplinary problem-solving experience.

MINOR

Interior Design History

The minor in Interior Design History is available to students interested in design and culture. The courses designated for the minor are part of the professional studies in interior design within the School of Design. Moreover, the courses serve to inform the students about the importance of the global community, especially sociocultural groups, and the impact of the global community on the design of the interior environment.

The selected courses satisfy the minimum requirement (18 semester hours) for the minor. To enhance the understanding of the subject matter, the selected courses are sequential in nature and require certain prerequisites. Consequently, students should carefully note the semester in which any of these courses is offered. The only exception to this rule is INT 223.

Required Courses

DSC 101 Design Awareness HU G	3
INT 223 Interior Design Issues and Theories HU	3
INT 310 History of Interior Design I HU, H	3
INT 311 History of Interior Design II HU, H	3
INT 412 History of Decorative Arts in Interiors HU	3
INT 413 History of Textiles in Interior Design	3

Total	18
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NOTE: For the General Studies requirement courses, and codes (such as L, SQ, C, and H), see "General Studies," page 87. For graduation requirements, see "University Graduation Requirements" page 83. For an explanation of additional ornibus courses offered but not listed in this catalog, see "Classification of Courses" page 60.

The minor in Interior Design History is open to students majoring in: Architectural Studies, Art, Communication, Psychology, or Sociology and students in any College of Business major or the Bachelor of Interdisciplinary Studies program. All other majors are considered on an individual basis and approved by the coordinators of the Interior Design program within the School of Design. To pursue the minor in Interior Design History, students must have a minimum cumulative GPA of 2.50.

DESIGN (DSC)

- DSC 100 Introduction to Environmental Design.** (3) F, S
Survey of environmental design; includes historic examples and the theoretical, social, technical, and environmental forces that shape them. Cross-listed as APH PUP 100. Credit is allowed for only APH 100 or DSC 100 or PUP 100. *General Studies: HU, G, H.*
- DSC 101 Design Awareness.** (3) F
Survey of cultural, global, and historical context for the design professions. *General Studies: HU, G.*
- DSC 120 Design Drawing.** (3) S
Drawing as a language to explore and communicate ideas. Development of drawing aptitude as a language and process for design thinking. 1 hour lecture, 5 hours studio.
- DSC 121 Design Principles I.** (3) F
Design as a language and process for creative thinking and realization. 1 hour lecture, 5 hours studio. Prerequisite: major in the College of Architecture and Environmental Design.
- DSC 122 Design Principles II.** (3) S
Continued exploration of design as a language and process for creative thinking and realization. 1 hour lecture, 5 hours studio. Prerequisite: DSC 121.
- DSC 236 Introduction to Computer Modeling.** (3) F, S
Fundamentals of computer operation; geographic information systems; geometric modeling of three-dimensional forms and rendering of light; mathematical modeling of processes using spreadsheets. Lab. Cross-listed as ANP PUP 236. Credit is allowed for only ANP 236 or DSC 236 or PUP 236. Prerequisite: major in the College of Architecture and Environmental Design. *General Studies: CS.*
- DSC 344 Human Factors in Design.** (3) F
Man-machine environment systems; human characteristics and behavior applied to design of products, systems, and their operating environment.
- DSC 483 Preinternship Seminar.** (1) S
Preparation of internship materials that produce and enhance a successful internship experience. Seminar. Prerequisite: 3rd year major in the school.
- DSC 484 Internship.** (1-3) SS
Full-time summer internship under supervision of practitioners in the Phoenix area or other locales. Prerequisite: instructor approval.
- DSC 494 Special Topics.** (3) F
a) Finding Purpose. Survival in Design.
- DSC 500 Research Methods.** (1-12) N
- DSC 520 Contemporary Design Issues.** (3) F, S
Projected applications in design production, planning, and decision-making processes. Lecture/seminar. Prerequisites: INT 310 and 311 or equivalents.
- DSC 524 Illumination and Acoustics.** (3) N
Research and laboratory investigation of advanced illumination and acoustic issues of facility design. Emphasis on human factors and performance aspects. Prerequisites: INT 457 and 458 or equivalents.
- DSC 525 Design Methodologies.** (3) F
Practical exercises and studies in problem-solving strategies; problem definition and supporting theory for the designer. Lectures/seminars, lab. Prerequisite: senior or graduate standing.
- DSC 527 Modern Design Theory.** (3) S
Aesthetic, political, economic, and social theories that have shaped modern design theory as the basis for design philosophies. Lectures, seminars. Prerequisite: DSC 525 or equivalent.
- DSC 529 Design Criticism.** (3) F
Critical methods applied to design as material culture and human expression; evaluation of achievement versus intention. Lecture/seminar. Prerequisite: DSC 527 or equivalent.

DSC 544 Human Factors Systems and Documentation. (3) F
Advanced topics associated with theory and methods of human factors in design. Individual projects stress problem organization, evaluation, and documentation. Lectures, seminars. Prerequisite: DSC 344 or equivalent.

DSC 552 Computer Simulation in Design. (3) F
The use of computer graphics as a medium to develop and present images of the environment for analysis and perception. Lecture, lab. Prerequisite: senior or graduate standing.

DSC 553 Computer Imaging and Visual Perception. (3) S
Issues and applications of computer simulation as a tool for describing and testing human interface with the environment. Lecture, lab. Prerequisite: senior or graduate standing.

DSC 558 Daylighting. (3) N
Daylighting as a design determinant: concepts, techniques, methodology, experiments, and case studies. Lecture/studio. Prerequisite: senior or graduate standing.

DSC 580 Practicum: Methods of Teaching Design. (3) F
Background and development of design education theories. Concepts of student teaching methods. Comprehensive student project development and evaluation methods. Prerequisite: graduate standing.

DSC 593 Applied Project. (1-12) N

DSC 598 Special Topics. (1-4) N

(a) Facilities Planning I

DSC 599 Thesis. (1-12) N

GRAPHIC DESIGN (GRA)

- GRA 283 Letterform I.** (3) F
Drawing of letterforms with focus on proportion and structure. Introduction to letterform nomenclature and classification. 6 hours a week. Prerequisites: DSC 122, acceptance into Graphic Design program.
- GRA 284 Visual Communication I.** (3) F
Theoretical and applied studies in shape, drawing, and color. 6 hours a week. Prerequisite: GRA 283.
- GRA 286 Visual Communication II.** (3) S
Transition from theoretical to applied problems. Emphasis on refinement of visual skills. 6 hours a week. Prerequisites: GRA 284, acceptance into Graphic Design program. Corequisite: GRA 287.
- GRA 287 Letterform II.** (3) S
Continuation of Letterform I with an emphasis on lowercase letters, basics of pen writing and font design. 6 hours per week. Prerequisites: GRA 284, acceptance into Graphic Design program. Corequisite: GRA 286.
- GRA 318 History of Graphic Design.** (3) S
Survey of development in the graphic arts; innovative printing methods, aesthetic values, and social and cultural environments that shape them. *General Studies: HU.*
- GRA 345 Design Rhetoric.** (3) F
Development of critical thinking and expression of ideas in concise and persuasive written and spoken form. Prerequisites: ENG 101, 102. *General Studies: L.*
- GRA 382 Graphic Representation.** (3) F
Studio practice in drawing with an application toward graphic communication. 6 hours a week. May be repeated once for credit. Prerequisite: GRA 284.
- GRA 383 Typography I.** (3) F
Theoretical exercises in spatial and textural qualities of type. Problems in tension, activation, and balance. Exercises in simple typographic applications. 6 hours a week. Prerequisites: GRA 286, 287. Corequisite: GRA 386.
- GRA 385 Typography II.** (3) S
Problems in composition, choice, and combinations of typefaces, for mats, and their application to a variety of design projects. 6 hours a week. Prerequisite: GRA 383. Corequisite: GRA 387.
- GRA 386 Visual Communication III.** (3) F
Problems in specific design applications such as poster, packaging, publications. Emphasis on development of concepts in visual communications. 6 hours a week. Prerequisites: GRA 286, 287. Corequisite: GRA 383.
- GRA 387 Visual Communication IV.** (3) S
Client-oriented projects. Problems are multifaceted and the emphases are on continuity of design in more than one medium and format. 6 hours a week. Prerequisites: GRA 383, 386. Corequisite: GRA 385.

GRA 481 Visual Communication V. (3) F

Studio problems with an emphasis on analysis, problem solving and professional portfolio preparation. 6 hours a week Prerequisites: GRA 385, 387

GRA 482 Visual Communication VI. (3) S

Individual and group projects with outside clients. A projects curriculum in an exhibit 6 hours a week Prerequisite: GRA 481

GRA 485 Graphic Design Workshop. (3) F, S, SS

Preprofessional client/designer situations from concept to printed work. Studio workshop and internships for selected students 6 hours a week May be repeated once for credit Prerequisite: instructor approval

GRA 494 Special Topics. (3) F S

(a) Graphic Design

INDUSTRIAL DESIGN (IND)**IND 194 Special Topics. (3) S**

a) Drafting for Industrial Design
Application of mechanical drafting knowledge and skills. Manual drafting principles and techniques with transition to computer-aided industrial design.

IND 227 Visual Methods for Problem Solving. (3) F

Introduction to conceptual design activity based on the mind-eye-media feedback loop. Graphic language used to represent conjecture analysis, synthesis of objects, and their contexts Seminar studio Prerequisite: DSC 122.

IND 228 Imaging and Visualization. (3) S

Design activities stressing graphic language abstraction practiced for presentation. Structure of critical thinking description interpretation, and evaluation are discussed Seminar, studio Prerequisite: IND 227

IND 242 Materials and Design. (3) F

Material application in design Introduction to characteristics and properties of meta and organic materials including plastics and inorganic materials

IND 243 Process and Design. (3) S

Influences of industrial processing on design. Introduction to basic material processing and post-forming processes Emphasis on appearance enhancement and design constraints of material processing Prerequisite: IND 242

IND 260 Industrial Design I. (3) F

Introduction to the method and process of the industrial designer Determinants necessary in small product design 1 hour lecture, 2 hours studio Prerequisite: DSC 122.

IND 261 Industrial Design II. (3) S

Issues of physical form development related to product and design; form development properties of paper, fibers, wood, meta and plastics 1 hour lecture, 2 hours studio. Prerequisite: IND 260 or equivalent.

IND 316 20th-Century Design I. (3) F

Modern European and American design from 1900 to 1940. Emphasis on transportation product, furniture exhibition, and graphic design *General Studies: HU H.*

IND 317 20th-Century Design II. (3) S

Modern European, Asian and American design since 1940 Emphasis on transportation product furniture exhibition, and graphic design. *General Studies: HU H.*

IND 327 Presentation Graphics. (3) F

Methods for portfolio and professional product presentation using graphic media for information transfer are studied Aesthetic judgment, organization, and craftsmanship are stressed Seminar, studio Prerequisite: IND 228.

IND 328 Graphics for Industrial Design. (3) S

Packaging applications and planning are investigated and applied to the development of an identity for a product line structured as a system Lab Prerequisite: IND 327.

IND 354 Principles of Product Design. (3) F

Influences of physical and mechanical concepts in product design mechanisms kinematics, and fastening systems Concepts of analysis for product design. Influences of concepts on aesthetics Prerequisite: PHY 111.

IND 355 Plastics Design. (3) S

Model design for part requirements, molded hoses, threads inserts, fastening and joining decorating; reinforced plastics

IND 360 Industrial Design III. (5) F

Methods of visual thinking conceptualization and deal on related to building skills levels in professional design presentation on technical questions. 10 hours studio Prerequisite: school approval

IND 361 Industrial Design IV. (5) S

Emphasis on developing ideas into a complete functional product including survey and application of aesthetic human factors materials, and manufacturing 10 hours studio Prerequisite: IND 360.

IND 460 Design Project I. (5) F

Complete analysis of the product unit as an element of mass production featuring marketing technology, human factors and visual design Emphasis on professional standards. 10 hours studio Prerequisites: DSC 484, IND 361.

IND 461 Design Project II. (5) S

Product design, with emphasis on systems interaction. Culmination of design process and technique. Individual project direction is encouraged 10 hours studio. Prerequisite: IND 361.

IND 470 Professional Practice for Industrial Design. (3) F

Business procedures management technical accounting systems ethics and legal responsibilities of the design professions May be repeated for credit Prerequisite: senior standing *General Studies: L*

IND 474 Design Seminar. (3) S

Manufacturer's liability, statutes regulations and common law rules, role of expert witnesses insurance and product safety programs Seminar Prerequisite: senior standing

IND 494 Special Topics. (3) N

Application of mechanical drafting knowledge and skills. Manual drafting principles and techniques with transition to computer-aided industrial design

INTERIOR DESIGN (INT)**INT 194 Special Topics. (3) F**

(a) Drafting for Interior Design

INT 220 Media for Design Development. (3) S

Graphic representation methods used to describe and analyze space emphasis on quick presentation on technical questions 6 hours studio Prerequisite: DSC 122.

INT 223 Interior Design Issues and Theories. (3) F

Interior issues, theories, and philosophies Emphasis on unique social and cultural factors that shape 20th century design concepts *General Studies: HU*

INT 231 Concepts for Interior Design. (3) S

Conceptual design development, including scale and proportion, light, texture, form volume, and spatial hierarchy; passage and repose. 1 hour lecture 4 hours lab Prerequisite: DSC 236

INT 235 User Needs and Behavior in Interior Design. (3) F

Applications of conceptual design to issues of programming and space planning user needs, and behavior 1 hour lecture, 4 hours lab. Prerequisite: DSC 122

INT 310 History of Interior Design I. (3) F

The design of interiors or spaces as an expression of cultural influences to 1835 *General Studies: HU H*

INT 311 History of Interior Design II. (3) S

Design of interiors as an expression of cultural influences from 1835 to the present Prerequisite: INT 310 or instructor approval *General Studies: HU H*

INT 340 Interior Codes: Public Welfare and Safety. (3) F

Codes and regulations as performance criteria for interior design. Corequisite: NT 366

INT 341 Interior Materials and Finishes. (3) S

General analysis of quality control measures relating to interior design materials finishes and performance criteria Prerequisites: INT 340, 366

INT 364 Interior Design Studio I. (5) F

Studio problems in interior design related to behavioral response in personal and small group spaces. 10 hours studio Prerequisite: school approval

NOTE: For the General Studies requirement, courses and codes (such as L, SQ, C and H) see "General Studies," page 87. For graduation requirements see "University Graduation Requirements" page 83. For an explanation of additional online bus courses offered but not listed in this catalog, see "Classification of Courses" page 60.

INT 365 Interior Design Studio II. (5) S

Studio problems in interior design with emphasis on issues of public and private use of interior or places of assembly. 10 hours studio. Prerequisite: INT 364.

INT 366 Construction Methods in Interior Design. (3) F

Design theory related to analysis, materials, and building techniques of horizontal and vertical construction in interior design. Lecture/field trips. Corequisite: INT 340.

INT 412 History of Decorative Arts in Interiors. (3) F

The design of decorative arts as an expression of cultural influences and as an extension of interior spaces. Prerequisite: NT 311 or instructor approval. *General Studies HU*

INT 413 History of Textiles in Interior Design. (3) S

Cultural and historical expression of textiles as related to interiors. May include field trips. Prerequisite: NT 412 or instructor approval.

INT 422 Facilities Planning and Management I. (3) F

The facility management process in large scale organizations. Planning, long range forecasting, and productivity. Project management methodology using micro-based software programs. Prerequisite: site selection.

INT 423 Facilities Planning and Management II. (3) S

The format of facilities policies, procedures, and standards. The facilities database, space allocations, and management process. Evaluation of programming criteria. Prerequisites: NT 422, senior standing.

INT 442 Specifications and Documents for Interiors. (3) F

Contract specifications, documents, schedules, and bidding procedures for interior design. Prerequisites: NT 341, 365. *General Studies: L.*

INT 446 Furniture Design and Production. (3) F

Design, construction, cost estimating, and installation of interior furniture and millwork. 1 hour lecture, 4 hours studio.

INT 455 Environmental Control Systems. (3) S

Survey of environmental control systems and their application in the design of buildings. Lecture/field trips. Prerequisites: MAT 117, 170; PHY 111, 113, junior standing.

INT 457 Acoustics for Interior Design. (3) F

Physical properties of sound. Studies pertaining to sound absorbing materials, constructions, and room acoustics. Prerequisites: MAT 170, PHY 111, 113.

INT 458 Lighting for Interior Design. (3) S

Light as an aspect of interior design. Evaluation of light sources for distribution, color, and cost.

INT 464 Interior Design Studio III. (5) F

Studio problems in interior design related to commercial spaces. 10 hours studio. Prerequisites: DSC 484, INT 365.

INT 465 Interior Design Studio IV. (5) S

Studio problems in interior design related to health and educational facilities. 10 hours studio. Prerequisite: NT 464.

INT 466 Interior Design Studio V. (5) F

Advanced interior design problem solving, design theory, and criticism. Thesis project development based upon the major's concentration. 10 hours studio. Prerequisite: school approval.

INT 467 Interior Design Studio VI. (5) S

Advanced series of specialized projects or continuation of thesis project based upon the major's concentration. 10 hours studio. Prerequisite: school approval.

INT 472 Professional Practice for Interior Design. (3) S

Business procedures, project control, fee structures, and professional product abilities.

School of Planning and Landscape Architecture

Frederick Steiner

Director

(AED 158A) 480/965-7167

www.asu.edu/caed/planning

PROFESSORS

KIHL LAI, MUSCHKATEL, P JAWKA, STEINER

ASSOCIATE PROFESSORS

COOK, KIM, McSHERRY, SAN MARTIN, YABES

ASSISTANT PROFESSORS

CAMERON, CREWE, EWAN, F SH EWAN, GUHATHAKURTA, MUSACCHIO

PURPOSE

The faculty in the School of Planning and Landscape Architecture offer a curricula that provides an education for careers in environmental planning, housing and urban development, landscape architecture, urban and regional planning, and urban design. The goal of the faculty is to advance the profession of planning through scholarship, teaching, research, and community service.

Planners and landscape architects work on projects that range in scale from site and landscape development to the design of entire communities and the formulation of policies that shape urban and regional growth. Planning and landscape architecture graduates work for both private firms and government agencies. Their work typically involves fields such as land use planning, housing, natural resource management, urban transportation, development controls, and environmental impact assessment.

ORGANIZATION

The programs are organized by the faculty of the school under the direction and administration of the program coordinators and the school director.

DEGREES

The faculty in the School of Planning and Landscape Architecture offer the Bachelor of Science in Planning degree in Urban Planning, Bachelor of Science in Landscape Architecture degree, and Bachelor of Science in Design degree in Housing and Urban Development.

Bachelor of Science in Planning (B.S.P.)

The B.S.P. degree prepares students for careers in urban planning. Students take courses that include comprehensive planning, socioeconomic and environmental analysis, computer and analytical methods, planning law, site planning, landscape architecture, urban design, and public policy for formulation and administration. An internship or an approved elective is required between the third and fourth years. Many students continue to specialize in planning at the graduate level. Students in planning are exposed to the theories, methods, and practices of the profession of planning.

Bachelor of Science in Landscape Architecture (B.S.L.A.)

This degree prepares students to be professional landscape architects. Students explore the reasons for and the techniques involved in the analysis, planning, and design of the environment, both natural and built. The B.S.L.A. is an accredited program.

Bachelor of Science in Design (B.S.D.)

A B.S.D. degree with a major in Housing and Urban Development (HUD) educates and trains professionals to lead in the production of high-quality affordable housing, in the development of creatively designed and soundly planned neighborhoods and communities, in the revitalization of communities, and in the exemplification of social inclusiveness and environmental sensitivity in responsible land development. HUD graduates may pursue careers in the private home development industry, in publicly sponsored housing and community redevelopment, with nonprofit housing agencies, or in postgraduate housing and urban development research and education. The B.S.D. with a major in Housing and Urban Development is offered in conjunction with the College of Extended Education.

MINOR

Urban Planning

The minor in Urban Planning is designed for students who are interested in the field but who wish to pursue other majors. The course selection is designed to provide an overview of the field and offer information with broad appeal.

All students must complete a minimum of 15 semester hours from the following courses:

PUP 301 Introduction to Urban Planning L*	3
PUP 412 History of the City H	3
PUP 420 Theory of Urban Design HU	3
PUP 425 Urban Housing Analysis	3
PUP 432 Planning and Development Control Law	3
PUP 433 Zoning Ordinances, Subdivision Regulations, and Building Codes	3
PUP 442 Environmental Planning	3
PUP 444 Preservation Planning	3
PUP 475 Environmental Impact Assessment	3
PUP 510 Citizen Participation	3

* PUP 301 Introduction to Urban Planning is required. Landscape Architecture students must choose another class with an advisor's approval since PUP 301 is already required for the B.S.L.A.

The minor is automatically open to students from the following majors: Architectural Studies, Civil Engineering, Environmental Resources, Geography, Housing and Urban Development, Landscape Architecture, and Real Estate. Students pursuing other majors will be considered on an individual basis. To pursue a minor in Urban Planning, students must have a minimum cumulative GPA of 3.00. These students must submit a letter of application to the School of Planning and Landscape Architecture seeking approval to enter the minor program.

GRADUATE PROGRAMS

The faculty in the School of Planning and Landscape Architecture offer specialization areas in landscape ecological planning, urban and regional development, and urban design under the Master of Environmental Planning (M.E.P.) degree and a collegewide, interdisciplinary Ph.D. degree in Environmental Design and Planning with concentrations in design; history, theory, and criticism; and planning. For more information, see the *Graduate Catalog*.

ADMISSION

Lower-Division Program. New and transfer students who have been admitted to the university and who have selected a program in the School of Planning and Landscape Architecture are admitted to the lower division program. Transfer credits for the lower division program are reviewed by the college and evaluated for applicability to this curriculum. To be applicable, transfer courses must be equivalent in both content and level of offering. A review of samples of work is required for studio classes. See a college academic advisor for an appointment.

Completion of lower-division requirements does not ensure acceptance to the upper-division professional program. Admission to the upper division is competitive and limited to the space available. Admission requires formal application and acceptance.

Upper-Division Program. Admission to the upper division programs of the School of Planning and Landscape Architecture is limited to applicants who have completed the lower division program requirements and who are determined by the admissions committee to have the best potential for academic success. Spaces in the program are limited by available facilities, faculty, and qualified applicants. A minimum lower division program GPA of 3.00 may be required. See "Application to Upper Division Programs" below.

Students not admitted to upper division programs are not dismissed from the university and may reapply later or may transfer to other programs. Students who plan to reapply should meet with a college academic advisor.

APPLICATION TO UPPER-DIVISION PROGRAMS

Upper-Division Application Procedures. Students should write to a college academic advisor for the application form well in advance of the application deadline. For more information on portfolios, ask for a copy of the *Portfolio Seminar* brochure from a college academic advisor. The following dates and procedures are for students applying to 2001-2002 upper division programs in Urban Planning and Housing and Urban Development. Applicants to the upper-division program in Landscape Architecture follow different procedures and have different deadline dates; see an advisor in the advising office for more information.

Upper-Division Application Deadlines. April 16, 2001. Portfolio and application documents are due in the school office by 5.00 P.M.

NOTE: For the General Studies requirement courses, and codes (such as L, SQ, C, and H), see "General Studies," page 87. For graduation requirements, see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60.

June 1 2001. If the spring 2001 semester includes transfer course work (i.e., course work taken at an institution other than ASU), a student must submit his or her transcripts to the school no later than June 1. These transcripts may be unofficial copies. A second set of official transcripts must be sent to the university Undergraduate Admissions office. Application is not complete until the university receives official transcripts for transfer course work. For those transfer students whose academic term ends in June rather than May, this deadline may be extended upon the written request of the applicant.

July 2, 2001. Acceptance notices are mailed no later than July 2.

Return of Letter of Acceptance. A signed receipt of acceptance of admission must be received by the school by the date indicated on the Notice of Acceptance. Alternates may be accepted at a later date if space becomes available.

Matriculation. An accepted student is expected to begin his or her upper division professional program at the beginning of the immediate fall term. There is no spring admission to the upper division.

Portfolio Format Requirements. Each applicant is responsible for obtaining the following documents and including them in a presentation binder (portfolio) with plastic sleeves (8.5' x 11' format only) and a label, with the student's name, affixed to the outside

1. evidence of graphic and design work shown in 35 mm slides or 3' x 5' or other appropriately sized photographs (20 maximum);
2. a statement of intent describing the applicant's specific background and interest in the major;
3. latest college level transcript(s), no high school transcripts are required;
4. one example of written work (e.g., a class paper);
5. samples of individual work; team work can be included, but the contribution of the candidate must be clarified,
6. students are strongly encouraged to submit evidence of other endeavors related to the major;
7. the applicant's GPA based on required courses and cumulative GPA is evaluated; and
8. students completing the Phoenix Community College (PCC) articulation program with the B.S.D - HUD program should submit similar material from PCC.

Students should obtain a portfolio requirements addendum for their major from the college's Academic Advising Office, ARCH 141, at the beginning of the academic year in which they intend to apply to the upper division program. Requirements or instructions indicated in the addendum for that academic year take precedence over any other printed material.

Return of Portfolios. Application documents remain the property of the School of Planning and Landscape Architecture. However, the remainder of the portfolio is returned after the admissions review, provided the applicant encloses a self-addressed return mailer with sufficient prepaid postage. Portfolios may be claimed in person after August 15, 2001. If the applicant provides written permission, another

person may claim the portfolio. After one year, unclaimed portfolios are discarded. While care is taken in handling the portfolios, no liability for lost or damaged materials is assumed by the college or school.

ADVISING

Advising for the lower division curriculum is provided through a college academic advisor. Advising for the upper division curriculum is provided by the school director and faculty advisors.

DEGREE REQUIREMENTS

Urban Planning

The Bachelor of Science in Planning degree requires a total of 120 semester hours.

Preprofessional program courses	61
Professional program courses core	57
Internship	2
Total	120

General Studies Requirement. The following curriculum includes sufficient approved course work to fulfill the General Studies requirement. See "General Studies," page 87, for requirements and a list of approved courses. Note that all three General Studies awareness areas are required. Consult your advisor for an approved list of courses.

Graduation Requirements. In addition to fulfilling college and major requirements, students must meet all university graduation and college degree requirements. See "University Graduation Requirements," page 83, and "College Degree Requirements," page 119.

**Bachelor of Science in Planning,
Major in Urban Planning
Preprofessional Program Requirements
First Year**

Fall	
ENG 101 First Year Composition	3
or ENG 105 Advanced First Year Composition (3) if qualified	
HUD 161 Graphic Communication	3
MAT 117 College Algebra MA	3
or approved more advanced MA elective (3)	
PUP 100 Introduction to Environmental Design HU G H	3
Approved HU or SB elective	3
Total	15
Spring	
ECN 112 Microeconomic Principles SB	3
ENG 102 First Year Composition	3
or HU elective if ENG 105 is taken (?)	
GPH 111 Introduction to Physical Geography SQ	4
Approved HU or SB elective	3
Approved SB elective	3
Total	16

Second Year

Fall	
ADE 120 Design Fundamentals I	3
BIO 319 Environmental Science G	3
PLA 101 Landscape and Society	3

PUP 261 Urban Planning I	4
PUP 301 Introduction to Urban Planning L	3
Total	16

Spring

PUP 264 Urban Planning II	4
Approved HU elective	3
Approved CS elective	3
Approved SQ elective	4
Total	14
Preprofessional program total	61

Transfer credits are reviewed by the college and evaluated as admissible to this curriculum. To be admissible, transfer courses must be equivalent in both content and level of offering

² Portfolio review is required for transfer studio work. See a college academic advisor for an appointment.

**Bachelor of Science in Planning,
Major in Urban Planning
Professional Program Requirements**

Third Year

Fall

PUP 322 Planning Methods Using Computers	3
PUP 361 Urban Planning III	5
PUP 412 History of the City H	3
PUP 424 Planning Methods	3
PUP 442 Environmental Planning	3

Minimum total 17

Spring

GCU 361 Urban Geography SB	3
PUP 362 Urban Planning IV	5
PUP 420 Theory of Urban Design HU	3
PUP 430 Transportation Planning and the Environment	3

Total 14

Summer

PUP 484 Internship	1 12
PUP 485 International Field Studies in Planning and Landscape Architecture (optional)	1 12

Minimum total 2

Fourth Year

Fall

PUP 425 Urban Housing Analysis	3
PUP 432 Planning and Development Control Law	3
PUP 452 Ethics and Professional Practice L	3
PUP 461 Urban Planning V	5
PUP 498 PS, Senior Pro Seminar	1

Total 15

Spring

PUP 462 Urban Planning VI	5
PUP 475 Environmental Impact Assessment	3
PUP 494 ST Environmental Planning Economics	3

Total 11

Professional program total 59

B.S.P minimum total 120

Landscape Architecture

The Bachelor of Science in Landscape Architecture degree requires a total of 120 semester hours.

Preprofessional program courses	47
Professional program courses	73

Total 120

General Studies Requirement. The following curriculum includes sufficient approved course work to fulfill the General Studies requirement. See "General Studies," page 87, for requirements and a list of approved courses. Note that all three General Studies awareness areas are required. Consult your advisor for an approved list of courses

Graduation Requirements. In addition to fulfilling college and major requirements, students must meet all university graduation and college degree requirements. See "University Graduation Requirements," page 83, and "College Degree Requirements," page 119.

**Bachelor of Science in Landscape Architecture
Preprofessional Requirements**

First Year

Fall

ENG 101 First Year Composition	3
or ENG 105 Advanced First Year Composition (3)	
MAT 117 College Algebra MA	3
PLA 101 Landscape and Society	3
PLA 161 Graphic Communication	3
PUP 100 Introduction to Environmental Design HU G H	3

Total 15

Spring

ADE 120 Design Fundamentals I ²	3
ARS 101 Art of the Western World I HU, H	3
ENG 102 First Year Composition	3
GPH 111 Introduction to Physical Geography SQ	4
HIS 101 Western Civilization SB, H	3

Total 16

Second Year

Fall

PLA 240 Landscape Survey Techniques	3
PLA 261 Landscape Architecture I ²	4
PLA 310 History of Landscape Architecture H	3
PLA 494 ST: Plant Materials	3
PUP 301 Introduction to Urban Planning L	3

Total 16

Preprofessional program total 47

Transfer credits are reviewed by the college and evaluated as applicable to this curriculum. To be applicable, transfer courses must be equivalent in both content and level of offering.

² Portfolio review is required for transfer studio work. See a college academic advisor for an appointment

**Bachelor of Science in Landscape Architecture
Professional Program Requirements**

Second Year

Spring

PLA 222 Computers in Landscape Architecture	3
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NOTE: For the General Studies requirement, courses, and codes (such as L, SQ, C and H) see "General Studies," page 87. For graduation requirements see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60

PLA 242 Landscape Construction I.....	4
PLA 262 Landscape Architecture II.....	4
SQ or SG elective with laboratory.....	4
Total	15

Third Year

Fall

PLA 311 Contemporary Landscape Architecture.....	3
PLA 344 Landscape Construction II.....	4
PLA 361 Landscape Architecture III.....	4
C elective.....	3
Elective.....	3
Total	17

Spring

PLA 345 Professional Practice Seminar.....	1
PLA 362 Landscape Architecture IV.....	4
PLA 363 Landscape Planting Design.....	4
PUP 420 Theory of Urban Design <i>HU</i>	3
Electives.....	3
Minimum total	15

Summer

PLA 484 Internship (optional).....	3
or PLA 485 International Field Studies in Planning and Landscape Architecture (6) (optional)*	

Fourth Year

Fall

PLA 410 Social Factors in Landscape and Urban Planning.....	3
PLA 461 Landscape Architecture V.....	4
PUP 432 Planning and Development Control Law.....	3
Elective.....	3
Total	13

Spring

PLA 411 Landscape Architecture Theory and Criticism.....	3
PLA 462 Landscape Architecture VI.....	4
Electives.....	6
Total	13
Professional program total.....	73
B.S.L.A. minimum total.....	120

* PLA 484 or PLA 485 would be used as an elective in the fourth year.

Housing and Urban Development

The Bachelor of Science in Design degree in Housing and Urban Development requires a total of 120 semester hours.

Preprofessional program courses.....	63
Professional program courses core.....	56
Internship.....	1
Total	120

General Studies Requirements

The following curriculum includes sufficient approved course work to fulfill the General Studies requirement. See "General Studies," page 87, for requirements and a list of approved courses. Note that all three General Studies awareness areas are required. Consult your advisor for an approved list of courses.

Graduation Requirements. In addition to fulfilling college and major requirements, students must meet all university graduation and college degree requirements. See "University Graduation Requirements," page 83, and "College Degree Requirements," page 119.



Charlie's Café on the second story of the CAED/North building provides an aesthetically pleasing environment in which to study.

John MacIsaac photo

**Bachelor of Science in Design,
Major in Housing and Urban Development
Preprofessional Program Requirements**

First Year

Fall	
ECN 112 Microeconomic Principles <i>SB</i>	3
ENG 101 First Year Composition	3
GPH 111 Introduction to Physical Geography <i>SQ</i>	4
HUD 161 Graphic Communication	3
PUP 100 Introduction to Environmental Design <i>HU, G, H²</i>	3
Total	16
Spring	
ECN 111 Macroeconomic Principles <i>SB</i>	3
or any <i>SB</i> elective (3)	
ENG 102 First Year Composition	3
HUD 201 Introduction to Housing and Urban Development	3
MAT 117 College Algebra <i>MA</i>	3
or MAT 170 Precalculus <i>MA</i> (3) or MAT 210 Brief Calculus <i>MA</i> (3)	
Approved CS elective in computers	3
Total	15

Second Year

Fall	
APH 200 Introduction to Architecture <i>HU G</i>	3
or any CAED history course listed below (3) ¹	
CON 252 Building Construction Methods, Materials, and Equipment	3
PLA 261 Landscape Architecture I	4
or PUP 261 Urban Planning I (4)	
C elective	3
CS statistics elective	3
Total	16
Spring	
PUP 301 Introduction to Urban Planning <i>L</i>	3
ACC elective	3
Natural science with lab.	4
REA elective	3
Upper-division HUM elective	3
Total	16
Preprofessional program total	63

Transfer credits are reviewed by the college and evaluated as admissible to this curriculum. To be admissible, transfer courses must be equivalent in both content and level of offering.

² See "HU SB Note" below.

³ See the "CAED History Courses," on this page.

HU/SB Note. Students not taking PUP 100 and APH 200 should note that courses in the humanities and social/behavioral sciences areas must total at least 15 semester hours with at least six semester hours in each area; two courses must be from the same department; at least two departments must be represented in the total selection, and at least one course must be in the upper division. Courses chosen must also fulfill one of the following awareness areas: historical (H), global (G), or cultural diversity in the United States (C); all three awareness areas must be fulfilled.

CAED History Courses. These CAED history courses also fulfill HU. See the course listings for prerequisites.

APH 300 World Architecture I/Western Cultures <i>HU, G, H</i>	3
APH 305 Contemporary Architecture <i>HU</i>	3
APH 313 History of Western Architecture I <i>L/HU</i>	3
APH 446 20th Century Architecture I <i>HU</i>	3
DSC 101 Design Awareness <i>HU, G</i>	3
GRA 318 History of Graphic Design <i>HU</i>	3
IND 316 20th Century Design I <i>HU, H</i>	3
INT 223 Interior Design Issues and Theories <i>HU</i>	3
INT 310 History of Interior Design I <i>HU, H</i>	3
INT 311 History of Interior Design II <i>HU, H</i>	3
INT 412 History of Decorative Arts in Interiors <i>HU</i>	3
PUP 200 The Planned Environment <i>HU, H</i>	3
PUP 420 Theory of Urban Design <i>HU</i>	3

Select a minimum of nine semester hours of electives from PLA, PUP, or HUD prefix courses.

**Bachelor of Science in Design,
Major in Housing and Urban Development
Professional Program Requirements**

Third Year

Fall	
CON 383 Construction Estimating	3
HUD 301 Housing and Community Design and Development	3
or CON 477 Residential Construction Business Practices (3)	
HUD 361 Housing and Urban Development Studio I: Residential Design and Development	2
HUD 363 Housing and Urban Development Seminar I: Residential Design and Development	3
MKT 394 ST: Marketing and Selling	3
Total	14
Spring	
CON 389 Construction Cost Accounting and Control <i>CS</i>	3
HUD 302 Housing Production Process	3
HUD 362 Housing and Urban Development Studio II: Community Design and Development	2
HUD 364 Housing and Urban Development Seminar II: Community Design and Development	3
Approved elective in computers*	3
Total	14

Summer	
HUD 484 Internship	1
PUP 485 International Field Studies in Planning and Landscape Architecture (optional)	1-12

Minimum total 1

Fourth Year

Fall	
CON 495 Construction Planning and Scheduling <i>CS</i>	3
HUD 401 Assisted Housing	3
HUD 461 Housing and Urban Development Studio III: Comprehensive Housing Development Process	2
HUD 463 Housing and Urban Development Seminar III: Comprehensive Housing Development Process	3

NOTE: For the General Studies requirement, courses and codes (such as L, SQ, C, and H), see "General Studies," page 87. For graduation requirements, see "University Graduation Requirements" page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60.

PUP 433 Zoning Ordinances, Subdivision Regulations, and Building Codes	3
or PUP 432 Planning and Development Control Law (3)	
Total	14
Spring	
HUD 402 Community Revitalization, Problems and Strategies	3
HUD 403 Advanced Topics in Housing and Urban Development	3
HUD 462 Housing and Urban Development Studio IV Neighborhood Revitalization Process	2
HUD 464 Housing and Urban Development Seminar IV Neighborhood Revitalization Process	3
PUP 452 Ethics and Professional Practice L	3
Total	14
Professional program total	57
B.S.D HUD minimum total	120

* CON 251 Microcomputer Applications for Construction is suggested.

INQUIRIES

For more information, contact a college academic advisor

COLLEGE OF ARCHITECTURE AND ENVIRONMENTAL DESIGN
ARIZONA STATE UNIVERSITY
PO BOX 871605
TEMPE AZ 85287 1605

ENVIRONMENTAL DESIGN AND PLANNING (EPD)

See the *Graduate Catalog* for EPD courses.

HOUSING AND URBAN DEVELOPMENT (HUD)

- HUD 161 Graphic Communication.** (3) F S
Development of drawing skills and understanding of the graphic communication systems used by planning, homebuilding, and landscape architecture professions. Studio. Cross-listed as PLA 161. Credit is allowed for only HUD 161 or PLA 161.
- HUD 201 Introduction to Housing and Urban Development.** (3) S
Perspectives and issues concerning HUD. Guest lectures by interdisciplinary faculty and private, public, and nonprofit practitioners.
- HUD 301 Housing and Community Design and Development.** (3) F S
Single and multifamily housing, residential neighborhoods, and planned communities. Affordability in owner-occupied and rental housing. First-time, move-up and adult markets.
- HUD 302 Housing Production Process.** (3) S
Development feasibility analysis, finance, contracts, and acquisition in community and permit presentation and negotiation, scheduling, cost control, marketing, and sales.
- HUD 361 Housing and Urban Development Studio I: Residential Design and Development.** (2) F
Affordable residential design, development, and production process. Studio. Pre- or corequisites: HUD 301, 363. Upper-division HUD major.
- HUD 362 Housing and Urban Development Studio II: Community Design and Development.** (2) S
Neighborhood and new community design and development process. Studio. Pre- or corequisites: HUD 301, 361, 363, 364, upper-division HUD major.
- HUD 363 Housing and Urban Development Seminar I: Residential Design and Development.** (3) F
Affordable residential design, development, and production process. Seminar. Pre- or corequisites: HUD 301, 361. Upper-division HUD major.

- HUD 364 Housing and Urban Development Seminar II: Community Design and Development.** (3) S
Neighborhood and new community design and development process. Seminar. Pre- or corequisites: HUD 301, 361, 362, 363, upper-division HUD major.
- HUD 401 Assisted Housing.** (3) F
Publicly subsidized and non-profit housing. Policy implementation and administrative. FHA, Section 8, FmHA projects and scatter site, and tax considerations.
- HUD 402 Community Revitalization: Problems and Strategies.** (3) S
Public policy and strategies for neighborhood revitalization and community renewal. Preservation and adaptive reuse, gentrification on neighborhood safety, and related socioeconomic concerns.
- HUD 403 Advanced Topics in Housing and Urban Development.** (3) F S
Varying topics such as manufactured housing, homelessness, mortgage and finance in housing, housing abroad, marketing housing, and sustainable community development.
- HUD 461 Housing and Urban Development Studio III: Comprehensive Housing Development Process.** (2) F
Comprehensive development process simulation. Feasibility analysis, finance, design, community and permit presentation, construction and cost management, and marketing. Studio. Pre- or corequisites: HUD 302, 463; upper-division HUD major.
- HUD 462 Housing and Urban Development Studio IV: Neighborhood Revitalization Process.** (2) S
Housing rehabilitation, neighborhood revitalization, and urban infill. CDBG, empowerment-enterprise zoning, code enforcement, citizen participation, etc. Studio. Pre- or corequisites: HUD 401, 402, 464; upper-division HUD major.
- HUD 463 Housing and Urban Development Seminar III: Comprehensive Housing Development Process.** (3) F
Comprehensive development process simulation. Feasibility analysis, finance, design, community and permit presentation, construction and cost management, and marketing. Seminar. Pre- or corequisites: HUD 302, 461; upper-division HUD major.
- HUD 464 Housing and Urban Development Seminar IV: Neighborhood Revitalization Process.** (3) S
Housing rehabilitation, neighborhood revitalization, and urban infill. CDBG, empowerment-enterprise zoning, code enforcement, citizen participation, etc. Seminar. Pre- or corequisites: HUD 401, 402, 462; upper-division HUD major.
- HUD 484 Internship.** (1) SS

LANDSCAPE ARCHITECTURE (PLA)

- PLA 101 Landscape and Society.** (3) F
Examination of interrelationship between society and the landscape with emphasis on human involvement in shaping the landscape. *General Studies: HU, G.*
- PLA 161 Graphic Communication.** (3) F S
Development of drawing skills and understanding of the graphic communication systems used by planning, homebuilding, and landscape architecture professions. Studio. Cross-listed as HUD 161. Credit is allowed for only HUD 161 or PLA 161.
- PLA 222 Computers in Landscape Architecture.** (3) S
Computer applications in landscape architecture including CAD, GIS, graphics, and visualization. Lab. *General Studies: CS.*
- PLA 240 Landscape Survey Techniques.** (3) F
Development of landscape survey skills including aerial photography, satellite images, geo-referencing, landscape surveys, and field data collection. Lecture, lab.
- PLA 242 Landscape Construction I.** (4) S
Landscape construction focus on site and form transformations. Topics include site and form analysis, grading, and earthwork. Studio. Prerequisite: admission to professional program.
- PLA 261 Landscape Architecture I.** (4) F
Landscape communication, communication techniques for urban planning and landscape architecture. Studio. Prerequisites: ADE 120, GPH 111.
- PLA 262 Landscape Architecture II.** (4) S
Reading the landscape, observing, experiencing, and graphically expressing the symbolic and aesthetic significance of natural and scapes. Prerequisites: ADE 120, PLA 261; admission to professional program.

PLA 310 History of Landscape Architecture. (3) F

Physical record of human attitudes toward the land. Ancient through contemporary landscape planning and design. Cross-listed as APH 411. Credit is allowed for only APH 411 or PLA 310. *General Studies: H*

PLA 311 Contemporary Landscape Architecture. (3) F

Exploration of concerns, projects, and movements in landscape architecture of late 20th century understanding social, ecological, regional, and historical influences.

PLA 322 Planning Methods Using Computers. (3) F

Planning methods using database, word processors, spreadsheets, CAD, and mapping packages on microcomputers. Lecture, lab. Cross-listed as PUP 322. Credit is allowed for only PLA 322 or PUP 322.

PLA 344 Landscape Construction II. (4) F

Characteristics of materials and methods used in landscape architectural construction. Studio. Prerequisite: PLA 242 or instructor approval.

PLA 345 Professional Practice Seminar. (1) S

Landscape architecture practice including contracts, project and office management, liability, licensing, and professional development.

PLA 361 Landscape Architecture III. (4) F

Site planning analysis of natural and cultural features, site systems, and implications for planning and design. Studio. Prerequisite: admission to professional program.

PLA 362 Landscape Architecture IV. (4) S

Site design site specific design of configured space by the creative development of form. Studio. Prerequisite: admission to professional program.

PLA 363 Landscape Planting Design. (4) S

Functional and aesthetic use of plants in and region landscape design. Design philosophies are explored through planting design problems. Studio. Prerequisite: admission to professional program.

PLA 410 Social Factors in Landscape and Urban Planning. (3) F

Examination of the influence of social factors in landscape architecture and urban planning.

PLA 411 Landscape Architecture Theory and Criticism. (3) S

Landscape architecture theories and projects are critically analyzed to evaluate validity of design and contribution to society. Prerequisites: PLA 310, 361, 362, 420, 461.

PLA 412 Landscape Ecology and Planning. (3) S

Review of the evolution of landscape ecology and landscape planning and examination of use and value.

PLA 413 Southwest Landscape Interpretation. (3) S

Explorations in methods and implications of landscape interpretation within the American Southwest.

PLA 420 Theory of Urban Design. (3) S

Analysis of the visual and cultural aspects of urban design. Theories and techniques applied to selected study models. Prerequisite: junior standing. *General Studies: HU*.

PLA 446 Landscape Construction III. (3) S

Landscape construction focusing on low technology, biotechnical, regional, and experimental techniques or systems. Lecture, studio.

PLA 461 Landscape Architecture V. (4) F

Landscape ecological planning, collection and application of ecological data relevant to planning and design at landscape scale. Studio. Prerequisite: PLA 362.

PLA 462 Landscape Architecture VI. (4) S

Advanced landscape architecture integrative capstone studio with multifaceted design problems. Prerequisite: PLA 461.

PLA 484 Internship. (3) F, S, SS, SS1 (on y)

Full-time internship under the supervision of practitioners in the Phoenix area or other locales. Credit/no credit. Prerequisite: school major or instructor approval.

PLA 485 International Field Studies in Planning and Landscape Architecture. (1-12) F, S, SS

Organized field study of planning and landscape architecture in specified international locations. May be repeated for credit with school approval. Study abroad. Cross-listed as PUP 485. Credit is allowed for only PLA 485 or PUP 485.

PLA 494 Special Topics. (3) F, S

(a) Plant Materials

PLA 498 Pro-Seminar. (1) S

(a) Professional Senior Seminar

URBAN AND ENVIRONMENTAL PLANNING (PUP)**PUP 100 Introduction to Environmental Design.** (3) F, S

Survey of environmental design includes historic examples and the theoretical, social, technical, and environmental forces that shape them. Cross-listed as APH DSC 100. Credit is allowed for only APH 100 or DSC 100 or PUP 100. *General Studies: HU, G, H*.

PUP 200 The Planned Environment. (3) F

Environmental, aesthetic, social, economic, political, and other factors influencing urban development. *General Studies: HU, H*.

PUP 236 Introduction to Computer Modeling. (3) F, S

Fundamentals of computer operation, geographic information systems, geometric modeling of three-dimensional forms and rendering of light, mathematical modeling of processes using spreadsheets. Lab. Cross-listed as ANP/DSC 236. Credit is allowed for only ANP 236 or DSC 236 or PUP 236. Prerequisite: major in the College of Architecture and Environmental Design. *General Studies: CS*.

PUP 261 Urban Planning I. (4) F

Reading the landscape: observing, experiencing, and graphically expressing the symbolic and aesthetic significance of natural landscapes. Studio. Prerequisites: ADE 120, GPB 111.

PUP 264 Urban Planning II. (4) S

Planning and communication communication techniques for urban planning and landscape architecture communication. Prerequisite: ADE 120; PLA 261 (or PUP 261).

PUP 301 Introduction to Urban Planning. (3) F, S, SS

Theoretical and practical aspects of city planning. Interrelationships among physical planning, environment, government, and society. *General Studies: L*.

PUP 322 Planning Methods Using Computers. (3) F

Planning methods using database, word processors, spreadsheets, CAD, and mapping packages on microcomputers. Lecture, lab. Cross-listed as PLA 322. Credit is allowed for only PLA 322 or PUP 322.

PUP 361 Urban Planning III. (5) F

Site planning: analysis of natural and cultural features; site systems and implications for planning and design. Studio. Prerequisite: school major or instructor approval.

PUP 362 Urban Planning IV. (5) S

Planning elements: one or more factors addressed including and use, housing, environment, transportation, circulation, open space, economic development, urban design. Studio. Prerequisite: school major or instructor approval.

PUP 412 History of the City. (3) F

The city from its ancient origins to the present day. Emphasis on European and American cities during the last five centuries. Cross-listed as APH 414. Credit is allowed for only APH 414 or PUP 412. *General Studies: H*.

PUP 420 Theory of Urban Design. (3) S

Analysis of the visual and cultural aspects of urban design. Theories and techniques applied to selected study models. Prerequisite: junior standing. *General Studies: HU*.

PUP 424 Planning Methods. (3) F

Too useful for urban planning research; emphasis on research design and survey methods. Prerequisite: PUP 301 or instructor approval.

PUP 425 Urban Housing Analysis. (3) F

Nature, dimensions, and problems of urban housing, government policy, environment, and underlying economics of the housing market.

PUP 430 Transportation Planning and the Environment. (3) S

Overview of transportation planning from the perspective of land use and planning, economic development, environmental planning, and social needs. Lecture, discussion. Prerequisite: junior standing or instructor approval.

NOTE: For the General Studies requirement, courses and codes (such as L, SQ, C, and H), see "General Studies," page 87. For graduation requirements, see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60.

PUP 432 Planning and Development Control Law. (3) F

Case studies on police power, eminent domain, zoning subdivision controls exclusion, preservation urban redevelopment and aesthetic and design regulation

PUP 433 Zoning Ordinances, Subdivision Regulations, and Building Codes. (3) F, S

Analysis of zoning ordinances, subdivision regulations building codes and other planning implementation techniques relative to local development

PUP 442 Environmental Planning. (3) F

Environmental planning problems, including floodplains water quality and quantity, solid and hazardous waste, air quality lands design and noise. Field trips Prerequisite: PUP 301 or instructor approval

PUP 444 Preservation Planning. (3) S

History theory and principles of historic preservation Emphasis on legal framework and methods practiced Lecture, off-campus field study. Prerequisite: instructor approval

PUP 445 Women and Environments. (3) F

Examines the role women play in shaping the built environment, ways built/natural forms affect women's lives Focus on contemporary US examples Prerequisite: upper division or graduate status. *General Studies C*

PUP 452 Ethics and Professional Practice. (3) F

Ethical problems and issues in planning professional practice and decisions on making Prerequisite: school major or instructor approval *General Studies L*

PUP 461 Urban Planning V. (5) F

Comprehensive planning collection and analysis of economic, social, and environmental data relevant to urban planning; development of land use plans Studio Prerequisite: PLA 362 or PUP 362 or instructor approval.

PUP 462 Urban Planning VI. (5) S

Capstone studio project focusing on synthesis aspects of planning Studio Prerequisite: PUP 461 or instructor approval

PUP 475 Environmental Impact Assessment. (3) S

Criteria and methods for compliance with environmental laws development of skills and techniques needed to prepare environmental impact statements/assessments.

PUP 484 Internship. (1-12) F S SS (SS1 only)

Full-time internship under the supervision of practitioners in the Phoenix area or other locale. Credit/no credit. Prerequisite: school major or instructor approval

PUP 485 International Field Studies in Planning and Landscape Architecture. (1-12) F S, SS

Organized field study of planning and landscape architecture in specified international locations May be repeated for credit with school approval Study abroad Cross-listed as PLA 485 Credit is allowed for only PLA 485 or PUP 485

PUP 494 Special Topics. (3) F S

a) Environmental Planning Economics

PUP 498 Pro-Seminar. (1) F

(a) Senior Pro-Seminar

PUP 501 The Idea of Planning. (3) F

Comprehensive review of planning profession within a political, governmental multicultural, and gender framework.

PUP 510 Citizen Participation. (3) S

Theory and practice of citizen participation in planning. Examines and critiques participation techniques and roles of planners. Prerequisite: instructor approval.

PUP 520 Planning Theories and Processes. (3) F

Review of past and current theoretical developments related to social change perspectives the role and ethics of planners. Prerequisite: instructor approval

PUP 524 Planning Methods I: Planning Research Methods. (3) F

Tools useful for urban planning research; emphasis on research design and survey methods Prerequisite: PUP 301 or instructor approval

PUP 525 Urban Housing Analysis. (3) F

Nature dimensions, and problems of urban housing, government policy environment, and underlying economics of the housing market

PUP 531 Planning and Development Control Law. (3) S

Case studies on police power eminent domain, zoning, subdivision controls, exclusion, preservation, urban redevelopment and aesthetic and design regulation.

PUP 532 Advanced Urban Planning Law. (3) S

Advanced study on selected issues in planning law, such as urban design controls exclusionary practices compensable regulation, and tax policy Prerequisite: PUP 432 or instructor approval.

PUP 544 Urban Land Use Planning. (3) S

Theory and methods of urban and use planning, including the ratonapanning process, comprehensive, functional, and neighborhood plans Prerequisite: PUP 301 or instructor approval

PUP 546 Urban Design Policy. (3) N

Advanced study of local, state, and federal urban design policy. Prerequisite: PLA 420 or PUP 420.

PUP 561 Urban Design Studio. (4) N

Current urban form and urban landscape design problems within the Phoenix-centered region Studio Prerequisite: PLA 420 or PUP 420 or instructor approval

PUP 572 Planning Studio I: Data Inventory and Analysis. (4) F

Comprehensive planning workshop dealing with real community problems Focus on the data gathering and analysis steps of the planning process. Prerequisite: Master of Environmental Planning major or instructor approval

PUP 574 Planning Studio II: Options and Implementation. (4) S

Comprehensive planning workshop dealing with real community problems. Focus on the development of options, planning, and implementation. Studio Prerequisite: PUP 572 or instructor approval.

PUP 575 Environmental Impact Assessment. (3) S

Criteria and methods for compliance with environmental laws; development of skills and techniques needed to prepare environmental impact statements/assessments.

PUP 584 Internship. (3) F S, SS (SS1 on y)

Internship under the supervision of practitioners in the Phoenix area or other locales Credit/no credit.

PUP 599 Thesis. (1-12) N**PUP 622 Planning Methods II: Quantitative Planning Analysis.** (3) S

Methods and modes used as the basic quantitative techniques of urban, regional and environmental planning and policy analysis. Prerequisites: PUP 424 statistics, instructor approval

PUP 642 Land Economics. (3) F

Land use and locational impact of economic activity and the urban real property market Prerequisite: instructor approval

PUP 644 Public Sector Planning. (3) S

Urban fiscal problems and public goods provision in state and local governments Prerequisites: instructor approval; 1 course in macroeconomics

College of Business

Larry E. Penley, Ph.D., Dean

www.cob.asu.edu



Gregory Moorhead, associate professor, addresses a management class.

Johri Trotta photo

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PURPOSE

The mission of the College of Business is to expand the knowledge of business and to educate men and women for managerial leadership through research activities and professional educational programs. These programs address issues of importance to future managers in a world characterized by demands for continuous improvements in quality; growing sophistication of information technology; globalized markets; racial, cultural, and gender diversity in the work force, and a demand for managers with practical, realistic skills.

Students have many opportunities to supplement their academic experiences. The college offers an honors program for academically talented students, an Academic Access Program to assist underrepresented and other targeted students, an international component to provide a variety of international opportunities, an internship program which provides related practical experience, and 18 cocurricular organizations to increase student interaction and learning.

The college is a member of AACSB The International Association for Management Education, the official accrediting organization in the field of business. The undergraduate and graduate programs and the School of Accountancy and Information Management are accredited by this organization.

The college is host to a chapter of Beta Gamma Sigma, a national society that recognizes high academic achievement in AACSB accredited schools. Selection to Beta Gamma Sigma is the highest scholastic honor a student in business can earn.

In addition to the regular degree curricula, other programs of study in the college are designed to meet special needs. Selected majors are available in the evening and continuing education courses are conducted for qualified persons who are regularly employed and who otherwise would be unable to enroll in college courses. Short courses and institutes on a noncredit basis are organized in cooperation with various business groups for the furtherance of in service training of employed personnel.

The college works in partnership with the business community, and the board of the Dean's Council of 100 serves as a primary source of advice and counsel for the college. Through the various divisions of the L. William Seidman Institute, the college reaches out to the business community through research and executive education. For more information, visit the college's Web site at www.cob.asu.edu

ORGANIZATION

The courses offered by the College of Business are organized into groups so that a related sequence may be established for the various subject fields. For administrative purposes, these fields are organized into the following academic units:

- School of Accountancy and Information Management
- Department of Economics
- Department of Finance
- School of Health Administration and Policy
- Department of Management
- Department of Marketing
- Department of Supply Chain Management

ADMISSION

The Prebusiness Program. Each student admitted to the College of Business is designated as a prebusiness student. The student follows the freshman and sophomore sequence of courses listed in the curriculum outline. Students are required to follow the recommendations of an academic advisor in completing the prescribed background and skill courses in preparation for the subsequent professional program. The skill courses follow.

ACC 230 Uses of Accounting Information I	3
ACC 240 Uses of Accounting Information II	3
CIS 200 Computer Applications and Information Technology CS	3
ECN 111 Macroeconomic Principles SB	3
ECN 112 Microeconomic Principles SB	3
Choose between the course combinations below	6 or 3
ENG 101 First Year Composition (3)	
ENG 102 First Year Composition (3)	
—or	
ENG 105 Advanced First Year Composition	3
MAT 119 Finite Mathematics MA	3
MAT 210 Brief Calculus MA	3
QBA 221 Statistical Analysis CS	3
Total	27 or 30

Accountancy and Computer Information Systems majors should refer to their specific requirements under the "School of Accountancy and Information Management," page 155, which lists variations in the skill courses.

Completion of lower division requirements does not ensure acceptance to the upper division professional program. Prebusiness students are not allowed to register for 300 and 400 level business courses.

The Professional Program. The junior and senior years constitute the professional program of the undergraduate curriculum. Admission to the professional program is competitive and limited by available resources. Admission is awarded to those applicants demonstrating the highest promise for professional success.

Students who wish to apply to the College of Business Professional Program must submit an application during one of the three annual application periods. Candidates are strongly encouraged to visit the Undergraduate Programs Office, BA 123, at the beginning of the semester in which they wish to apply to pick up information regarding academic qualifications, admissions criteria, and application deadlines. The application can be found at the following internet address: www.cob.asu.edu. All applicants must be admitted to ASU by the time they submit their professional program application. Students are also encouraged to complete the Business Basics workshop before applying to the Professional Program.

Nonbusiness Students. A nonbusiness student is permitted to register for selected 300 and 400-level business courses during online registration and only if, (1) at the time of registration, the student has junior standing (56 semester hours completed) and (2) the student has a minimum cumulative GPA of 2.50 at ASU and a minimum GPA of 2.50 for all business courses completed at ASU. Students who have 56 semester hours completed but have never attended ASU are given a one semester period to register and to establish a

GPA at ASU. Students must meet all prerequisites and course requirements as listed in the catalog.

Nonbusiness majors are limited to a maximum of 15 semester hours of selected upper-division business courses (excluding economics [ECN] courses).

Bachelor of Interdisciplinary Studies. The College of Business participates in the Bachelor of Interdisciplinary Studies degree. For details, refer to the Bachelor of Interdisciplinary Studies degree described in "Division of Undergraduate Academic Services," page 114.

Minors. Two Business minors are available to nonbusiness students—a minor in Business and a minor in Small Business. To complete either of the minors, students must obtain the requirements from the Undergraduate Programs Office in the College of Business and complete the specified business courses with a grade of "C" or higher. Courses used in a student's major may not be used toward a minor. Students are advised to consult an advisor in the colleges of their majors to ensure the proper selection of courses for the minor. The upper division courses for the minor are restricted to students with 56 hours who are in good standing. For details on the minor in Small Business, see "Small Business Programs," page 170.

Nondegree Undergraduate and Graduate Students. A nondegree undergraduate or graduate student is permitted to enroll in selected 300- and 400-level business courses only during online registration and only if (1) the student has an ASU cumulative GPA of at least 2.50 and an ASU cumulative business GPA of at least 2.50 at the time of online registration or (2) the student has never attended ASU, in which case he or she is given a one-semester period to register during online registration and to establish a GPA at ASU. Students must meet all prerequisites and course requirements as listed in the catalog.

Nondegree undergraduate and graduate students are limited to a maximum of 15 semester hours of selected upper-division business courses (excluding economics courses).

ADVISING

The student should follow the sequence of courses in the "Curriculum Outline" and the recommendations of the academic advisor in completing the prescribed background and skill courses in preparation for the subsequent professional program.

For additional advising information, please visit the Undergraduate Programs Web site at www.cob.asu.edu/upindexupo.cfm

Curriculum Outline Prebusiness Program

First Year

First Semester

ECN 111	Macroeconomic Principles SB	.....3
	or ECN 112 Microeconomic Principles SB (3)	
ENG 101	First Year Composition	.....3
MAT 210	Brief Calculus MA	.....3

General Studies	.....	3
PGS or SOC course	.....	3
Total	.....	15

Second Semester

COM 100	Introduction to Human Communication SB	.....3
	or COM 230 Small Group Communication SB (3)	
	or COM 259 Communication in Business and the Professions (3)	
ECN 112	Microeconomic Principles SB	.....3
	or ECN 111 Macroeconomic Principles SB (3)	
ENG 102	First Year Composition	.....3
MAT 119	Finite Mathematics MA	.....3
Laboratory science	SQ	.....4
Total	.....	16

Second Year

Third Semester

ACC 230	Uses of Accounting Information I	.....3
QBA 221	Statistical Analysis CS	.....3
General Studies	.....	3
Laboratory science	SQ/SG	.....4
PGS or SOC course	.....	3
Total	.....	16

Fourth Semester

ACC 240	Uses of Accounting Information II	.....3
CIS 200	Computer Applications and Information Technology CS	.....3
General Studies	.....	9
Total	.....	15
Prebusiness program total	.....	62

Accountancy and Computer Information Systems majors should refer to their specific course requirements under the "School of Accountancy and Information Management," page 155, which lists course requirement variations.

Students are encouraged to have College Algebra (MAT 117) proficiency before registering in ECN 111 and 112. ECN 111 and 112 may be taken during the second and third semesters without any delay in the prebusiness program

Professional Program. Students admitted to the professional program should select the necessary upper-division business courses to complete the major by consulting their departmental advising guide and faculty advisor. Professional program students must complete BUS 301 and COB 301 during their first semester in the professional program.

Transfer Credit. Credit from other institutions is accepted subject to the following guidelines. Students planning to take their first two years of work at a community college or another four-year college should take only those courses in business and economics that are offered as freshman- or sophomore-level courses at any of the state-supported Arizona universities. These lower-division courses are numbered 100 through 299. A maximum of 30 hours of business and economics courses from community colleges are accepted toward a bachelor's degree in business.

Students may transfer a maximum of nine semester hours of approved upper-division business course work required for the business degree to ASU Main Professional business

NOTE: For the General Studies requirement courses and codes (such as L, SQ, C and H) see "General Studies" page 87. For graduation requirements see "University Graduation Requirements" page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses" page 60.

College of Business Baccalaureate Degrees and Majors

Major	Concentration	Degree	Administered By
Accountancy		B.S.	School of Accountancy and Information Management
Computer Information Systems		B.S.	School of Accountancy and Information Management
Economics		B.S.	Department of Economics
Finance		B.S.	Department of Finance
Management		B.S.	Department of Management
Marketing		B.S.	Department of Marketing
Real Estate		B.S.	Department of Supply Chain Management
Supply Chain Management		B.S.	Department of Supply Chain Management

courses taught in the junior or senior year in the state universities may not be completed at a two-year college for transfer credit in the business core or major. The introductory course in the legal, ethical, and regulatory issues in business is accepted as an exception to this policy, but only lower division credit is granted. Such courses may be utilized in the free elective category *subject to the 30 hour limitation*. Courses taught as vocational or career classes at the community colleges that are not taught in the colleges of business at any one of the state universities are not accepted for credit toward a bachelors degree. Courses taught in the upper division business core at the state universities must be completed at the degree granting institution unless transferred from an accredited four-year school. Normally, upper division transfer credits are accepted only from AACSB accredited schools. To be accepted for credit as part of the professional program in business, all courses transferred from other institutions must carry prerequisites similar to those of the courses they are replacing at ASU.

An Associate in Transfer Partnership degree is available to Maricopa community college students who wish to complete their first two years of course work at a Maricopa community college and transfer to the College of Business with outstanding credit. An Associate of Business degree is available to students who wish to complete their first two years of course work at an Arizona community college and transfer to the College of Business without loss of credit. Students should consult with an academic advisor in the Undergraduate Program's Office to plan curriculum requirements and/or access Business Transfer Guides for optimal course selection at www.asu.edu/provost/articulation.

DEGREES

The faculty in the College of Business offer the B.S. degree in Accountancy, Computer Information Systems, Economics, Finance, Management, Marketing, Real Estate, and Supply Chain Management upon successful completion of a four-year curriculum of 120 semester hours. Students may select one of the majors shown in the "College of Business Baccalaureate Degrees, Majors, and Concentrations" table. Each major is administered by the academic unit indicated.

GRADUATE PROGRAMS

The faculty in the College of Business offer graduate degrees as shown in the "College of Business Graduate Degrees and Majors" table, page 151. Students have the

opportunity to obtain dual degrees in two years with several master's degree programs in the College of Business, including these examples:

M.B.A./M.H.S.A.
M.B.A./M.S.I.M.
M.B.A./M.A.I.S.
M.B.A./M.S. degree in Economics
M.B.A./M.Tax

Other concurrent degrees available are as follows:

M.B.A. J.D.
M.B.A./Master of Architecture
M.B.A./M.I.M. with American Graduate School of International Management (Thunderbird), Glendale, AZ; ESC Toulouse, Toulouse, France; Universidad Carlos III, Madrid, Spain; and ITAM and ITESM CEM, Mexico City, Mexico.

In addition to the full-time M.B.A. program, the evening M.B.A. program offers a high technology M.B.A. at ASU Research Park and an evening M.B.A. at the ASU Downtown Center.

The Executive M.B.A. program is available to those with significant work experience.

For more information about M.B.A. programs, see the *Graduate Catalog*.

UNIVERSITY GRADUATION REQUIREMENTS

In addition to fulfilling college and major requirements, students must meet all university graduation requirements. For more information, see "University Graduation Requirements," page 83.

General Studies Requirement

All students enrolled in a baccalaureate degree program must satisfy a university requirement for a minimum of 35 hours of approved course work in General Studies, as described under "General Studies," page 87. Note that all three General Studies awareness areas are required.

General Studies courses are listed under the "General Studies" section, in the course descriptions, in the *Schedule of Classes* and in the *Summer Sessions Bulletin*.

First-Year Composition Requirement

Completion of both ENG 101 and 102 or ENG 105 with a grade of "C" or higher is required for graduation from ASU in any baccalaureate program.

College of Business Graduate Degrees and Majors

Major	Concentration	Degree	Administered By
Accountancy and Information Systems		M.A.I.S.	School of Accountancy and Information Management
Business Administration		M.B.A.	College of Business
Business Administration	Accountancy, finance, health services research, ¹ information management, management, marketing, supply chain management	Ph.D.	College of Business
Economics		M.S., Ph.D.	Department of Economics
Health Services Administration		M.H.S.A.	School of Health Administration and Policy
Information Management		M.S.	School of Accountancy and Information Management
Statistics		M.S. ²	Committee on Statistics
Taxation		M.Tax.	School of Accountancy and Information Management

¹ Applications are not being accepted at this time

² This program is administered by the Graduate College. See "Graduate College," page 304

COLLEGE DEGREE REQUIREMENTS

College degree requirements supplement the General Studies requirement with additional course work from the approved university general studies list or the College of Business Policy statement. Business courses may not be used to fulfill college degree requirements except for ECN 111 and 112 and QBA 221

A well planned program of study may enable students to complete many General Studies and college degree requirements concurrently. Students are encouraged to consult with an academic advisor in planning a program to ensure that they comply with all necessary requirements.

Specific courses from the following areas must be taken to fulfill the college degree requirement.

Social and Behavioral Sciences. College of Business students must complete ECN 111 and 112, one course with a PGS prefix, one course with an SOC prefix, and may include these courses toward the General Studies requirements

Science and Mathematics. College of Business students must complete MAT 119 and MAT 210 (or a more advanced MAT course), QBA 221, and may include these courses toward the General Studies requirements.

Communication. All students in the College of Business except Accountancy majors must complete COM 100, 230, or 259. Accountancy majors must complete COM 230 (or 100) and 259

Additional Courses. Additional courses, as needed to complete 60 hours (54 hours for Accountancy majors), may be selected from the General Studies areas (see "General Studies," page 87) or from the College of Business Policy Statement. Students are encouraged to consult with an academic advisor to ensure that they comply with all necessary

requirements. Business courses may not be used to fulfill this requirement except for ECN 111 and 112 and QBA 221

Additional Graduation Requirements

In addition to completion of courses outlined under "Major Requirements," page 157, to be eligible for the B.S. degree in the College of Business, a student must

1. have completed at least 30 semester hours at ASU Main,
2. have attained a cumulative GPA of 2.00 or higher for all courses taken at this university, for all business courses taken at this university, and for all courses for the major taken at this university,
3. have earned a "C" or higher in each lower division core course and each course in the major,
4. have earned a minimum of 51 semester hours in traditional courses designed primarily for junior or senior students and completed in an accredited, four year institution, and
5. have met all university degree requirements

Exceptions. Any exception to these requirements must be approved by the Standards Committee of the College of Business

Declaration of Graduation. A student in a professional program must complete a Declaration of Graduation during the semester in which the student completes 87 semester hours. The Degree Audit Reporting System should be used to guide the student in accomplishing successful completion of degree requirements in a timely manner. Students who have not met this requirement are prevented from further registration. Some students may be required to complete a Program of Study in place of the Declaration of Graduation. Students should consult their advisors for the proper procedure.

NOTE: For the General Studies requirement courses and codes (such as L, SQ, C, and H) see "General Studies," page 87. For graduation requirements see "University Graduation Requirements," page 83. For an explanation of additional common business courses offered by this college see "Classification of Courses," page 60.

Pass/Fail

Business majors may not include among the credits required for graduation any courses taken at this university on a pass fail basis. Pass fail credits taken at another institution may be petitioned for use, but only if the student can demonstrate proof that the pass grade was equivalent to a "C" or higher.

MAJOR REQUIREMENTS

Students seeking a B.S. degree in the College of Business must satisfactorily complete a curriculum of 120 semester hours.

A major consists of a pattern of 18-24 semester hours in related courses falling primarily within a given subject field. Available majors are shown in the "College of Business Baccalaureate Degrees and Majors" table, page 150.

Major Proficiency Requirements Students must receive grades of "C" or higher in upper division courses for the major. If a student receives a grade below "C" in any course in the major, this course must be repeated. If a second grade below "C" is received in either an upper division course in the major already taken or in a different upper division course in the major, the student is no longer eligible to take additional upper division courses in that major. University policy states a course may be repeated only one time.

Business Core Requirements

To obtain an understanding of the fundamentals of business operation and to develop a broad business background, every student seeking a B.S. degree in the College of Business must complete the following courses:

Lower-Division Business Core

ACC 230	Uses of Accounting Information I	.....	3
ACC 240	Uses of Accounting Information II	.....	3
CIS 200	Computer Applications and Information Technology CS	.....	3
Lower division business core total			9

Upper-Division Business Core

BUS 301	Fundamentals of Management Communication I (first semester)	.....	3
COB 301	Business Forum (first semester)	.....	1
FIN 300	Fundamentals of Finance	.....	3
LES 305	Legal, Ethical, and Regulatory Issues in Business	.....	3
MGT 301	Management and Organization Behavior	.....	3
MKT 300	Principles of Marketing	.....	3
OPM 301	Operations and Logistics Management	.....	3
	International business course	.....	3
Upper division business core total			22
Business core total			31

Accountancy and Computer Information Systems majors should refer to their specific requirements under the "School of Accountancy and Information Management," page 155, which lists variations in the business core courses.

Elective Courses

Sufficient elective courses are to be selected by the student to complete the total of 120 semester hours required for graduation.

ACADEMIC STANDARDS

Probation. All students, freshman through senior, must maintain a minimum GPA of 2.00 for all courses completed

at ASU. If these standards are not maintained, the student is placed on probation. Students on probation must attend an Academic Success Workshop.

Disqualification. A student who is on probation becomes disqualified if (1) the student obtains a semester GPA below 2.50 or receives a grade below "C" in one or more courses and if (2) the student has not returned to good standing by the end of two consecutive semesters on probation.

Students who have been academically disqualified are not permitted to enroll in upper division business courses during summer sessions.

Reinstatement and Readmission. Students seeking reinstatement (after disqualification) or readmission (after an absence from the university) should contact the Undergraduate Programs Office regarding procedures and guidance for returning to good standing.

Academic Dishonesty. The faculty of the College of Business follow the guidelines in the Student Academic Integrity Policy on academic dishonesty. A copy of the policy may be obtained in the Undergraduate Programs Office.

Student Appeal Procedure on Grades. The faculty of the College of Business have adopted a policy on the student appeal procedure on grades. A copy of the policy may be obtained in the Undergraduate Programs Office.

SPECIAL PROGRAMS

Academic Access Program. The primary mission of the Academic Access Program (AAP) is to help the underrepresented and first generation college student populations of the College of Business successfully navigate the college's rigorous academic demands. To that end, the office manages a number of programs to assist students, including these:

- Academic advising
- Advising ethnic student business organizations
- Mentoring
- Ongoing seminar and workshop series on study, work issues, and strategies
- Referring students to other campus support offices
- Teaching Academic Success courses COB 294 and 394
- Tutoring

Students can visit the office in BA 122, call 480-965-4066, or access the Academic Access Program's Web site at www.cob.asu.edu/up_aap

Asian Studies. Students in the College of Business may pursue a program with an emphasis in Asian studies as part of the B.S. degree requirements in business. At least 30 upper division semester hours of the program must be in Asian studies content courses. Reading knowledge of an Asian language is required. The Asian studies content program must be approved by the Center for Asian Studies (see "Asian Studies," page 340). Fulfillment of the requirements is recognized on the transcript as a bachelor's degree with a designation of the Asian studies discipline. It is possible to complete the certificate program in International Business Studies and the Asian studies emphasis concurrently. For further information, contact the Center for Asian Studies, in WHALL 109, or call 480-965-7184.

Certificate in Small Business and Entrepreneurship. A curriculum in small business and entrepreneurship is available to business majors at ASU. See "Small Business Programs," page 170

Certificate in International Business Studies. See "International Business Studies," page 163, for the requirements of this certificate

Certificate in Quality Analysis. The program of study leading to the Certificate in Quality Analysis prepares students to perform technical analyses associated with quality measurement and improvement of manufacturing and service processes. Graduates with the ability to implement these analyses are in high demand in the marketplace. This program is not a substitute for the listed areas of business specialization; rather, the courses required for the certificate add quantitative strength and implementation skills for quality tools to the student's chosen field of specialization

Students are required to complete a bachelor's degree from any of the major fields of study at ASU and to complete a minimum of 15 semester hours of approved course work, including the following nine hours:

QBA 321 Applied Quality Analysis I L	3
QBA 421 Applied Quality Analysis II	3
QBA 450 Operations and Process Analysis L	3

To complete the certificate, the student selects at least six additional hours of course work related to quality analysis approved in advance by the advisor for the certificate program. The student must also complete the 15 hours of course work with a minimum GPA of 2.50.

Honors Program. College of Business students who have been admitted to the University Honors College and the professional program are eligible to participate in the Business Honors Program.

The Business Honors Program provides opportunities for academically talented undergraduate business students to interact with other leading students, faculty, and business professionals inside and outside the classroom. The result is a challenging and enriched education experience that is valuable for professional career or graduate work.

To be admitted into the Business Honors Program students must meet the following criteria:

1. be enrolled in the University Honors College,
2. have a cumulative GPA of 3.40 or higher,
3. be admitted into the college's professional program, and
4. have sufficient time to complete the honors requirements.

Upon acceptance into the program, a valuable learning experience begins. The honors course work consists of HON 171 and 172 The Human Event or HON 394 Special Topics and an additional 18 semester hours of upper division honors courses, including the following six semester hours:

COB 301 Business Forum	1
COB 492 Honors Directed Study	1
COB 494 ST Honors Research	.1
493 Honors Thesis*	3

* See "Honors Courses," page 60, for an explanation of this course

The ASU Honors Curriculum normally allows students to complete all requirements within the 120 semester hours of credit required for graduation. All courses taken for honors credit count toward graduation even if the student does not graduate from the University Honors College.

The Business Honors Program emphasizes activities beyond the normal classroom setting in order to broaden the educational experience. Such activities include special honors scholarships, student/faculty mixers, and professional seminars and panel discussions. Students are also encouraged to participate in the Mentoring Program, which allows students the opportunity to interact with local business professionals.

An academic advisor is assigned strictly to assist honors students in course selection, to monitor progress toward the honors recognition, and to be actively involved in career and educational guidance upon completion of the degree.

While the program focuses on students in the professional program, freshman and sophomore honors students are offered break-out sections in core classes, are invited to attend selected events, and can be assigned a junior or senior honors mentor.

For more information see "University Honors College," page 323, call 480 965 8710, fax 480 965 3846, or stop by the Honors Program Office located in BAC 226. Additional information may be obtained by visiting the Business Honors Program's Web site at www.cob.asu.edu/hon

Internships. The college encourages students to complement their academic program with career related work. This practical experience gives students a distinct advantage in the job market when seeking their first full-time professional positions. Additional benefits include industry contacts, a deeper understanding of career options, and monetary compensation that helps students finance their education.

Formal internships and co-ops offer professional work experience and experiential learning opportunities that enrich the student's academic preparation. Students may do internships in the summer or part-time during semesters. Co-op positions are full-time and require a one-semester or longer break in school attendance. The college provides guidelines to companies and encourages them to sponsor internship and co-op positions that benefit both the firm and the student. This is accomplished by building positions around projects and challenging responsibilities that enable students to apply learning acquired in advanced business classes.

ASU Career Services and the College of Business work cooperatively to help students identify and obtain career-related work. The process of obtaining internships and co-ops is a learning opportunity. Students use the same job-search skills and resources that are utilized to obtain permanent career positions. Informational materials, workshops,

NOTE: For the General Studies requirement courses, and codes (such as L, SQ, C, and H) see "General Studies" page 87. For graduation requirements see "University Graduation Requirements" page 83. For an explanation of additional non-business courses offered but not listed in this catalog, see "Classification of Courses," page 60.

and required class activities help students learn job search and career exploration skills, and locate internship and coop opportunities

Some academic units within the college offer internship courses. Work assignments for these courses must be approved in advance by a designated faculty member and all internship courses include an academic component.

For additional information, visit the Undergraduate Internship coordinator at BA 122 (480 965-4066), faculty advisors in the departments or Career Services, or access the College of Business Web site at www.cob.asu.edu up internship.ctm.

Latin American Studies Center. Students in the College of Business may pursue a program with an emphasis in Latin American area studies. For additional information on this program, contact the Latin American Studies Center in SS 213 or call 480 965 5127.

Prelaw Studies. Prelaw students may pursue a program of study in the College of Business. Courses in accounting, economics, finance, insurance, labor relations, and statistics are recommended for any student planning to enter the legal profession

The admission requirements of colleges of law differ considerably. The student should communicate with the dean of the law school the student hopes to attend and should plan a program to meet the requirements of that school. Most law schools, including the ASU College of Law, require a baccalaureate degree for admission.

Students who plan to complete a bachelor's degree before entering law school may follow any field of specialization in the College of Business. Within the College of Business are faculty members who are lawyers and who serve as advisors for students desiring a prelaw background.

RESEARCH CENTERS

L. William Seidman Research Institute

The College of Business has six research centers operating under the umbrella of the L. William Seidman Research Institute. The following centers provide support for faculty research, give opportunities for advanced graduate students' involvement with faculty, and provide information and assistance to the business community on a wide variety of subjects

Arizona Real Estate Center
Bank One Economic Outlook Center
Center for Advanced Purchasing Studies
Center for the Advancement of Small Business
Center for Business Research
Center for Services Marketing and Management
Center for the Study of Finance

The Seidman Research Institute's mission is to encourage and support applied business research by serving as a public access point to the College of Business, by supporting faculty and student research, by transferring new knowledge to the public, by encouraging the development of education programs grounded in applied business research, and by conducting high quality, applied business research.

The institute increases the level of funded research by adding support services to facilitate grant preparation and assistance in grant administration and by facilitating the mission of research centers as liaisons between faculty and businesses. In addition, the institute provides desktop publishing services.

For more information, call 480 965 5362 or write

L. WILLIAM SEIDMAN RESEARCH INSTITUTE
660 S MILL AVE, SUITE 300
TEMPE AZ 85281-3656

The institute's Web site is www.cob.asu.edu/seid.

COLLEGE OF BUSINESS (COB)

COB 294 Special Topics. (1-4) F S

COB 301 Business Forum. (1) F, S SS

Provides professional program business students with information on careers, interviewing, job hunting, and resume skills. Must be taken in the first semester of the professional program for business students. Prerequisite: professional program business student.

COB 380 Small Business Leadership. (3) F S

Develops leadership skills needed to form, lead, and operate a small business. Emphasis on visioning, research, and problem solving. Team teaching, collaborative learning. Prerequisites: 2.00 GPA, 47 hours; non-business major.

COB 381 Small Business Accounting and Finance. (3) F S

Accounting and finance skills needed by a small business to acquire, allocate, and track monetary resources and evaluate performance. Team teaching, collaborative learning. Prerequisites: COB 380; 2.00 GPA, 56 hours; non-business major.

COB 382 Small Business Sales and Market Development. (3) F, S

Building and maintaining customers, developing a market persona, and a niche, and the importance of sales. Team teaching, collaborative learning. Prerequisites: COB 380; 2.00 GPA, 56 hours; non-business major.

COB 383 Small Business Working Relationships. (3) F, S

Addresses communication and the people in a business—consumers, clients, employees, suppliers/providers, competitors, governments, family, and self-development. Team teaching, collaborative learning. Prerequisites: COB 380; 2.00 GPA, 56 hours; non-business major.

COB 384 Small Business Operations and Planning. (3) F S

Planning and executing plans—the what, when, where, how, and who from product/service/project idea to pay back or completion. Team teaching, collaborative learning. Prerequisites: COB 380; 2.00 GPA; 56 hours; non-business major.

COB 394 Special Topics. (1-4) F S

COB 492 Honors Directed Study. (1) F S

COB 494 Special Topics. (1) F, S

(a) Honors Research

School of Accountancy and Information Management

Philip M.J. Reckers
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 Fax 480/965-8392
 www.cob.asu.edu/acct

PROFESSORS

J.R. BOATSMAN, BOYD, JOHNSON, KAPLAN, PANY, PH LIPPAKIS, RECKERS, RENEAU ROY, SCHULTZ, SHR VER R SM TH, STEINBART WYNDELTS

ASSOCIATE PROFESSORS

CHR STIAN, GOLEN, GOUL GUPTA, KEIM, KULKARNI MOECKEL, O'DELL, O'LEARY, PEI REGIER, ST LOUIS, VINZE

ASSISTANT PROFESSORS

BHATTACHERJEE, CHEN, CHENOWETH, DAVID, DOWLING, HWANG, IYER, M SHRA O DONNELL, SANTANAM, SHAO, WH TECOTTON

SENIOR LECTURERS

MACCRACKEN, SHREDNICK

LECTURERS

BALOGH J.L. BOATSMAN, GEIGER, HAYES, TAYLOR

The School of Accountancy and Information Management houses separate undergraduate degree programs in Accountancy and Computer Information Systems. The school also offers a dual degree program in which students complete requirements for both degree programs (Accountancy and Computer Information Systems) simultaneously. For more information on courses, faculty, and programs, visit the school's Web site.

ADMISSIONS

The School of Accountancy and Information Management follows the College of Business policies and procedures for admission to its undergraduate professional programs in Accountancy, Computer Information Systems, and the dual degree program of Accountancy and Computer Information Systems

To be considered for admission to the Accountancy major, a student must meet the College of Business admission requirements, have a grade of "B" or higher in both ACC 230 and 240 or their equivalents, and have a grade of "C" or higher in CIS 220 or its equivalent in place of CIS 200.

To be considered for admission to the Computer Information Systems major, a student must meet the College of Business admission requirements and have a grade of "C" or higher in CSE 100 or its equivalent, in place of CIS 200.

Due to resource limitations, admission to all of the school's programs is very competitive. Approximately one

third of all applicants who apply to the professional programs in Accountancy and Computer Information Systems may be admitted. Applicants are reviewed using a portfolio approach. Among the factors considered are: cumulative GPA, skill course GPA, transfer GPA and institution (if applicable), work experience, demonstrated community involvement and leadership skills, and responses to questions located in the professional program application. Current admission statistics are available at the Undergraduate Programs Office in the College of Business.

ACCOUNTANCY—B.S.

The major in Accountancy includes the essential academic preparation for students

1. pursuing professional careers in public, corporate, and governmental accounting,
2. seeking positions in consulting; or
3. planning to operate their own businesses.

The major in Accountancy consists of the following courses:

ACC 330 Enterprise Process Analysis and Design L	4
ACC 340 External Reporting I	4
ACC 350 Internal Reporting	4
ACC 430 Taxes and Business Decisions L	4
ACC 440 External Reporting II	4
ACC 450 Principles of Auditing	4
Total	24

As part of the requirements, all Accountancy majors must complete the following courses:

ACC 250 Introductory Accounting Lab	1
CIS 220 Programming Concepts for Accountancy Majors ¹	3
CIS 335 Visual Paradigms for Information Systems Development	3
CIS 420 Business Database Concepts	3
COM 100 Introduction to Human Communication SB... or COM 230 Small Group Communication SB ³)	3
COM 259 Communication in Business and the Professions	3
ECN 306 Survey of International Economics SB ³ G ³	3
ENG 301 Writing for the Professions L ⁴	3
Total	22

¹ CIS 220 is counted in the business core in place of CIS 200.

² COM 230 is recommended over COM 100

³ ECN 306 may be counted in the business core in place of the international business course

⁴ ENG 301 is counted in the business core in place of BUS 301

COMPUTER INFORMATION SYSTEMS—B.S.

The major in Computer Information Systems prepares students for professional careers involving the analysis, configuration, programming, and database aspects of the design and implementation of computerized business information systems. The course work prepares the student for a career in business information systems and for admission to graduate programs in information systems or information management.

NOTE: For the General Studies requirement, courses and codes (such as L, SQ, C, and H), see "General Studies" page 87. For graduation requirements see "University Graduation Requirements" page 83. For an explanation of additional omnibus courses offered but not listed in this catalog see "Classification of Courses" page 60.

The major in Computer Information Systems consists of the following courses:

ACC 330 Enterprise Process Analysis and Design L	4
CIS 335 Visual Paradigms for Information Systems Development	3
CIS 410 Object Oriented Modeling and Programming	3
CIS 420 Business Database Concepts	3
CIS 430 Networks and Distributed Systems	3
CIS 440 Systems Design and Electronic Commerce L	3
Total	19

All Computer Information Systems majors must complete CSE 100 Principles of Programming with C++ (CS) or a C or C++ programming language course, which may be used as a college requirement, and CIS 235 Business Information Systems Development, which is used in the business core.

MAJOR PROFICIENCY REQUIREMENTS

In addition to college and university requirements, Accountancy and Computer Information Systems majors must receive grades of "C" or higher in the required upper division major and major support courses. If a student receives a grade below "C" in any required upper division major course, this course must be repeated before any other upper division major course can be taken. If a second grade below "C" is received in either an upper division major course already taken or in a different upper division major course, the student is no longer eligible to take additional upper division major courses.

GRADUATION REQUIREMENTS

In addition to fulfilling major requirements, students seeking a degree must meet all university and college requirements. See "University Graduation Requirements," page 83 and "College Degree Requirements," page 151.

ACCOUNTANCY (ACC)

ACC 230 Uses of Accounting Information I. (3) F, S, SS
Introduction to the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. Prerequisite: sophomore standing

ACC 240 Uses of Accounting Information II. (3) F, S, SS
Introduction to the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. Prerequisites: ACC 230, sophomore standing

ACC 250 Introductory Accounting Lab. (1) F, S, SS
Procedural details of accounting for the accumulation of information and generation of reports for internal and external users. Lab Prerequisite: ACC 230 sophomore standing

ACC 315 Financial Accounting and Reporting. (3) F, S
Accounting theory and practice related to uses of financial statements by external decision makers. Prerequisites: ACC 240, 250 non-Accountancy major

ACC 316 Management Uses of Accounting. (3) F, S
Uses of accounting information for managerial decision-making budgeting and control. Prerequisites: ACC 240; non-Accountancy major

ACC 330 Enterprise Process Analysis and Design. (4) F, S, SS
Analysis and design of efficient and effective business processes. Emphasizes taking advantage of new information technologies to improve managerial decision-making. 3 hours lecture, 3 hours lab. Prerequisite: professional program business student majoring in Accountancy or Computer Information Systems. *General Studies L*

ACC 340 External Reporting I.

(4) F, S, SS
Financial accounting theory and practice related to external reporting. 3 hours lecture, 3 hours lab. Prerequisites: FIN 300 professional program business student majoring in Accountancy. Prerequisites with a grade of "C" or higher: ACC 250, 330

ACC 350 Internal Reporting.

(4) F, S, SS
Internal reporting systems for planning, control, and decision-making. 3 hours lecture, 3 hours lab. Prerequisites: OPM 301 professional program business student majoring in Accountancy. Prerequisites with a grade of "C" or higher: ACC 250, 330

ACC 394 Special Topics.

(3) F, S
a) Financial Analysis and Accounting for Small Businesses

ACC 430 Taxes and Business Decisions. (4) F, S, SS
Federal income taxation of sole proprietors, partnerships, corporations, fiduciaries, and individuals with an emphasis on tax consequences of business and investment decisions. 3 hours lecture, 3 hours lab. Prerequisite: LES 305 professional program business student majoring in Accountancy. Prerequisite with a grade of "C" or higher: ACC 340. *General Studies L*

ACC 432 Problems in Managerial Accounting.

(3) N
Cases and computer applications in decision-making, planning and control, and capital budgeting. Prerequisite: professional program business student majoring in Accountancy. Prerequisite with a grade of "C" or higher: ACC 350

ACC 440 External Reporting II.

(4) F, S, SS
Continuation of ACC 340 External Reporting with emphasis on the recognition, research, and resolution of financial reporting issues. 3 hours lecture, 3 hours lab. Prerequisite: professional program business student majoring in Accountancy. Prerequisite with a grade of "C" or higher: ACC 340.

ACC 450 Principles of Auditing.

(4) F, S
Standards and procedures in auditing. Planning, evidence gathering, and accumulation and reporting. Ethical and legal considerations. 3 hours lecture, 3 hours lab. Prerequisite: professional program business student majoring in Accountancy. Prerequisite with a grade of "C" or higher: ACC 440.

ACC 467 Management Advisory Services.

(3) N
Concepts and methods of providing advisory services with respect to accounting information systems and financial analysis. Administrative consulting practices. Prerequisite: professional program business student majoring in Accountancy. Prerequisite with a grade of "C" or higher: ACC 330

ACC 502 Financial Accounting.

(3) A
Financial accounting concepts and procedures for external reporting. Prerequisite: M.B.A. degree program student.

ACC 503 Managerial Accounting.

(3) A
Managerial accounting concepts and procedures for internal reporting. Prerequisite: M.B.A. degree program student

ACC 511 Taxes and Business Strategy.

(3) A
Economic implications of selected management decisions involving application of federal income tax laws. Recognition of tax hazards and tax savings. Prerequisite: ACC 502 or equivalent

ACC 515 Professional Practice Seminar.

(3) A
History, structure, environment, regulation, and emerging issues of the accounting profession.

ACC 521 Tax Research.

(3) A
Tax research source materials and techniques. Application to business and investment decisions. Prerequisite: ACC 430

ACC 533 Application Solutions in the Connected Economy.

(3) N
Analysis of software solutions and evaluation methods. Emphasis on current topics such as enterprise modeling, ERP software, and inter-organizational solutions. Prerequisite: M.S. information management degree program student or Master of Accountancy and information Systems degree program student

ACC 541 Strategic Innovations in Information and Cost Management.

(3) A
Strategic cost management emphasizing contemporary topics including activity-based costing and strategic uses of information technology systems. Cooperative learning lecture. Prerequisite: ACC 503 or M.S. information Management degree program student or Master of Accountancy and Information Systems degree program student

ACC 567 Financial Models in Accounting Systems.

(3) A
Development and application of financial models by accountants. Analysis of decisions on support systems as financial management environment. Prerequisite: ACC 330

ACC 571 Taxation of Corporations and Shareholders. (3) A

Tax aspects of the formation, operation, reorganization and liquidation of corporations and the impact on shareholders. Prerequisite: ACC 430

ACC 573 Taxation of Partners and Partnerships. (3) A

Tax aspects of the definition, formation, operation, liquidation and termination of a partnership. Tax planning is emphasized. Prerequisite: ACC 430

ACC 575 Estate and Gift Taxation. (3) A

Tax treatment of wealth transfers at death and during lifetime, with emphasis on tax planning. Prerequisite: ACC 430

ACC 577 Taxation of Real Estate Transactions. (3) A

Income tax aspects of acquisition, operation and disposal of real estate, syndicates, installment sales, exchanges, dealer-investor issues; alternative financing and planning. Prerequisite: ACC 521 or instructor approval.

ACC 582 Auditing Theory and Practice. (3) N

Function and responsibility of the auditor in modern society. Advanced topics in auditing theory and methods. Contemporary issues in auditing. Prerequisite: ACC 450

ACC 585 Performance Measurement of Emerging Business Models. (3) A

Application of quantitative techniques to accounting problems. Prerequisite: ACC 503 or M.S. in Information Management degree program student or Master of Accountancy and Information Systems degree program student

ACC 586 Shareholder Value Creation and Financial Statement Analysis. (3) N

Develop skills necessary to exploit financial reporting information in a business environment and appreciation of reporting issues faced by management

ACC 587 Business Process Integrity Controls. (3) A

Design and evaluation of computer-based accounting information system. Development of computer-based business models for planning and control. Prerequisite: Master of Accountancy and Information Systems degree program student.

ACC 591 Seminar on Selected ACC Topics. (3) A

Topics such as the following are offered:

- Computer Security
- Data Warehouse and Data Mining
- Electronic Commerce
- Enterprise Modeling

COMPUTER INFORMATION SYSTEMS (CIS)**CIS 200 Computer Applications and Information Technology.** (3) F, S, SS

Introduction to business information systems and the use of business application software. Prerequisite: MAT 117 or higher. *General Studies CS*

CIS 220 Programming Concepts for Accountancy Majors. (3) F, S, SS

Introduction to business computer programming. Program languages such as C and C++ are used to familiarize students with proper programming style and practice. Prerequisite: pre-business student.

CIS 235 Business Information Systems Development. (3) F, S, SS

Developing information systems and electronic commerce applications using object-oriented languages (e.g., JAVA). Introduction to business technology and systems analysis. Prerequisites: CSE 100, MAT 119 or 210

CIS 300 Computers in Business. (3) N

Introduction to information systems in business. Use of computers for business problem solving. Prerequisites: CIS 200, professional program business student

CIS 307 Systems Modeling. (3) N

Procedures for investigating and analyzing decisions on systems. Use of special languages as tools of analysis and simulation. Prerequisites: CSE 100, MAT 119 or 210 or 270; professional program business student

CIS 335 Visual Paradigms for Information Systems Development.

(3) F, S, SS

Using visual programming languages such as Visual Basic to implement data structures, file structures and interfaces in business information systems. Prerequisites: CSE 100 and professional program business student majoring in Computer Information Systems or CIS 220 and professional program business student majoring in Accountancy

CIS 410 Object-Oriented Modeling and Programming. (3) F, S

Object-oriented modeling of business information systems. Abstract data types and object-oriented programming using a language such as C++. Prerequisite: professional program business student majoring in Computer Information Systems. Prerequisites with a grade of "C" or higher: CIS 235-335

CIS 420 Business Database Concepts. (3) F, S

Database theory, design, and application including the entity relationship model, the relational, hierarchical and network database models and query languages. Prerequisite: professional program business student majoring in Computer Information Systems or Accountancy. Prerequisites with a grade of "C" or higher: ACC 330; CIS 335.

CIS 430 Networks and Distributed Systems. (3) F, S

Advanced topics such as communications protocols, distributed systems, and client-server systems; applications based on platforms such as networked UNIX. Prerequisites: CIS 410; professional program business student majoring in Computer Information Systems

CIS 440 Systems Design and Electronic Commerce. (3) F, S

Systems design for organizational and electronic commerce systems; use of project management and systems analysis and design tools. Prerequisites: professional program business student majoring in Computer Information Systems. Prerequisites with a grade of "C" or higher: CIS 410-420. Pre- or corequisite with a grade of "C" or higher: CIS 430. *General Studies: L*

CIS 502 Management Information and Decision Support Systems. (3) A

Fundamentals of computer-based management information and decision support systems. Prerequisite: M.B.A. degree program student

CIS 505 Object-Oriented Modeling and Programming. (3) A

Object-oriented modeling of business information systems: abstract data types and object-oriented programming using a visual language. Prerequisite: M.S. in Information Management or Master of Accountancy and Information Systems degree program student.

CIS 506 Business Database Systems. (3) A

Hierarchical, network, relational and other recent data models for database systems. Processing issues such as concurrency control, query optimization, and distributed processing. Prerequisite: M.S. in Information Management or Master of Accountancy and Information Systems degree program student

CIS 512 Intelligent Decision Systems and Knowledge Management. (3) A

Definition, description, construction and evaluation of computer-based decision systems. Prerequisite: M.S. in Information Management or Master of Accountancy and Information Systems degree program student.

CIS 515 Management Information Systems. (3) N

Systems theory concepts applied to the collection, retention, and dissemination of information for management decision making. Prerequisite: M.S. in Information Management or Master of Accountancy and Information Systems degree program student

CIS 520 Systems Design and Evaluation. (3) N

Methodologies of systems analysis and design issues include project management, interface, organizational requirements, constraints, documentation, implementation, control and performance evaluation. Prerequisite: M.S. in Information Management or Master of Accountancy and Information Systems degree program student.

CIS 530 Information Systems Development. (3) A

Object-oriented and interprocess communication and control concepts for information systems; applications based on languages such as C++ and platforms such as networked UNIX. Prerequisite: M.S. in Information Management or Master of Accountancy and Information Systems degree program student

NOTE: For the General Studies requirement, courses and codes such as L, SQ, C and H, see "General Studies" page 87. For graduation requirements, see "University Graduation Requirements" page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses" page 60.

CIS 535 Distributed Information Systems. (3) A

Introduction to distributed systems and their impact on information systems in business. Prerequisite: M.S. in Information Management or Master of Accountancy and Information Systems degree program student

CIS 591 Seminar on Selected CIS Topics. (1–12) A

Topics such as the following are offered

- (a) Computer Security
- (b) Computing Architectures
- (c) Data Warehouse and Data Mining
- (d) Electronic Commerce
- (e) Enterprise Modeling

Prerequisite: M.S. in Information Management or Master of Accountancy and Information Systems degree program student

CIS 593 Applied Project. (1–12) N

Department of Economics

Arthur E. Blakemore
Chair

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www.cob.asu.edu/ecn

PROFESSORS

BLAKEMORE, BOYES, BRADA, BURDICK, BURGESS,
DeSERPA FAITH, GOODING, HAPPEL, HOFFMAN,
HOGAN, KINGSTON, LOW, MANELLI, MAYER,
McDOWELL, McPETERS, MELVIN, MÉNDEZ
ORMSTON, SANTOS, SCHLEE

ASSOCIATE PROFESSORS

AHN, COGLEY, REFFETT, REISER, WILSON, WINKELMAN

ASSISTANT PROFESSORS

CHADE, DATTA, HENDRICKS

SENIOR LECTURER

ROBERTS

The study of economics can give students a general knowledge of the ways goods and services are allocated and incomes generated, economics can help students understand why prices, employment, money, and financial markets behave as they do. Some knowledge of economics is crucial not only for students of business but for students pursuing graduate education in law or careers in journalism and communications.

Economists obtain positions at universities and in government, financial institutions, brokerage houses, private nonfinancial corporations, international organizations such as the International Monetary Fund and the World Bank, as financial journalists, and as marketing and management specialists in domestic and international firms.

ECONOMICS—B.S.

Economics majors are required to earn a minimum grade of “C” in MAT 210 Brief Calculus before taking upper division courses in economics. While MAT 210 meets the minimum mathematics requirement to major in Economics, all Economics majors who anticipate going on to graduate school in economics or in business or to law school are encouraged to take MAT 270 Calculus with Analytic Geom-

etry I. Majors are encouraged to pursue further course work in mathematics. MAT 270 may be taken in lieu of MAT 210.

The major in Economics consists of 18 semester hours of upper division courses in economics. The following six hours must be included:

ECN 313 Intermediate Macroeconomic Theory *SB* 3
ECN 314 Intermediate Microeconomic Theory *SB* 3

ECN 313 and 314 should be taken before other upper division courses in economics. Students must earn a minimum grade of “C” in ECN 313 and 314. Concurrent enrollment in ECN 313 and 314 is permitted. Concurrent enrollment in ECN 313 or 314 and other upper division courses in economics is subject to the approval of the faculty advisor

MAJOR PROFICIENCY REQUIREMENTS

Students must receive grades of “C” or higher in upper division courses for the major. If a student receives a grade below “C” in any course in the major, this course must be repeated. If a second grade below “C” is received in either an upper division course in the major already taken or in a different upper-division course in the major, the student is no longer eligible to take additional upper division courses in the major.

Other Economics Programs. For information on majoring in Economics in the College of Liberal Arts and Sciences, see “Economics” page 362.

For information on the minor in General Economics and on the minor in Economics for Students Planning a Career in Law, see “Minor in Economics for Students Planning a Career in Law,” page 362.

GRADUATION REQUIREMENTS

In addition to fulfilling major requirements, students seeking a degree must meet all university and college requirements. See “University Graduation Requirements,” page 83 and “College Degree Requirements,” page 151.

ECONOMICS (ECN)**ECN 111 Macroeconomic Principles.** (3) F, S, SS

Basic macroeconomic analysis. Economic institutions and factors determining income levels, price levels, and employment levels. *General Studies SB*

ECN 112 Microeconomic Principles. (3) F, S

Basic microeconomic analysis. Theory of exchange and production, including the theory of the firm. *General Studies SB*

ECN 306 Survey of International Economics. (3) F, S

Survey of international trade issues, commercial policy, trade theory, customs unions, and international monetary topics. Not for Economics majors. Lecture, discussion. Cross-listed as IBS 306. Credit is allowed for only ECN 306 or BS 306. Prerequisites: ECN 111 or 112, 2.00 ASU GPA junior or standing. *General Studies SB, G*

ECN 313 Intermediate Macroeconomic Theory. (3) F, S

Determinants of aggregate levels of employment, output and income of an economy. Prerequisites: ECN 111–112. Prerequisite with a grade of “C” or higher: MAT 210. *General Studies SB*

ECN 314 Intermediate Microeconomic Theory. (3) F, S

Role of the price system in organizing economic activity under varying degrees of competition. Prerequisites: ECN 111–112. Prerequisite with a grade of “C” or higher: MAT 210. *General Studies SB*

ECN 315 Money and Banking. (3) SS

Functions of money. Monetary systems. Credit functions. Banking practices and central banking policy. This course cannot be applied to the Economics major. Prerequisite: ECN 111.

ECN 331 Comparative Economic Systems. (3) N

Alternative institutions, past and present for organizing the social division of labor. Property rights information and incentives in industrial societies. Prerequisite: ECN 111 or 112 *General Studies SB, G.*

ECN 360 Economic Development. (3) N

Theories of economic growth and development. Role of capital formation, technological innovation, population, and resource development in economic growth. Prerequisite: ECN 111 or 112 *General Studies SB, G.*

ECN 365 Economics of Russia and Eastern Europe. (3) A

Origins and analysis of contemporary institutions. Comparative development and differentation in the 20th century. Prerequisite: ECN 111 or 112 *General Studies: SB, G.*

ECN 382 Managerial Economics. (3) A

Application of economic analysis to managerial decisions on making market analysis in the context of the socio-legal environment. Lecture discussions. Not for Economics majors. Prerequisites: ECN 111 112: 2.00 ASU GPA; junior or standing.

ECN 384 Economics of Social Behavior. (3) A

Application of economic analysis to contemporary behavior, discrimination, work versus leisure, crime, medical care, macroeconomic policies. Not for Economics majors. Lecture student participation. Prerequisites: 2.00 ASU GPA; junior or standing. *General Studies: L/SB.*

ECN 394 Special Topics. (3) N

Current topics of domestic or international interest. Analytical emphasis may be macro, micro, or both. See current *Schedule of Classes* for offerings. Not for Economics majors. Prerequisite: ECN 111 or 112.

ECN 404 History of Economic Thought. (3) N

Development of economic doctrines, theories of mercantilism, physiocracy, classical, neoclassical, Marxism, and contemporary economics. Prerequisite: ECN 314 or instructor approval. *General Studies: L/SB.*

ECN 421 Earnings and Employment. (3) A

Analysis of earnings, employment, unemployment, training, education, and related topics. Policy issues are emphasized. Prerequisite: ECN 314 or instructor approval. *General Studies: L/SB.*

ECN 436 International Trade Theory. (3) A

The comparative advantage doctrine, including practices under varying commercial policy approaches. The economic impact of international trade. Prerequisite: ECN 314 or instructor approval. *General Studies SB, G.*

ECN 438 International Monetary Economics. (3) A

History, theory, and policy of international monetary economics. Balance of payments and exchange rates. International financial markets including Eurocurrency markets. Prerequisite: ECN 313 or instructor approval. *General Studies SB, G.*

ECN 441 Public Finance. (3) A

Public goods, externalities, voting models, public expenditures, taxation, and budget formation with emphasis on the federal government. Prerequisite: ECN 314 or instructor approval. *General Studies: L/SB.*

ECN 450 Law and Economics. (3) A

Economics of the legal system including analysis of property, contracts, torts, commercial law, and other topics. Discussion analysis. Prerequisite: ECN 314. *General Studies L.*

ECN 453 Government and Business. (3) A

Development of public policies toward business. Antitrust activity. Economic effects of government policies. Prerequisite: ECN 314 or instructor approval.

ECN 480 Introduction to Econometrics. (3) A

Elements of regression analysis: estimation, hypothesis tests, prediction. Emphasis is on use of econometric results in assessment of economic theories. Prerequisite: instructor approval. *General Studies: CS.*

ECN 484 Economics Internship. (3) F, S, SS

Academic credit for professional work organized through the Internship Program. Prerequisites: ECN 313, 314; outstanding academic record.

ECN 485 Mathematical Economics. (3) A

Integration of economic analysis and mathematical methods into a comprehensive body of knowledge within contemporary economic theory. Prerequisite: instructor approval.

ECN 493 Honors Thesis. (3) N

General Studies L.

ECN 494 Special Topics. (3) N

Current economic topics of domestic or international interest. Analytical emphasis may be macro, micro or both. See current *Schedule of Classes* for offerings.

a) Manufacturing Processes

b) Public Choice

Prerequisites: ECN 313 and 314 or instructor approval.

ECN 498 Pro-Seminar. (3) A

Topic chosen from current area of interest. Prerequisites: ECN 313 and 314 or instructor approval.

ECN 502 Managerial Economics. (3) F, S

Application of microeconomic analysis to managerial decisions on making areas of demand, production, cost, and pricing. Evaluation of competitive strategies. Prerequisite: MBA degree program student.

ECN 503 Global Economics for Managers. (3) F, S

Macroeconomic analysis of issues related to economic growth, inflation, interest rates, behavior, unemployment, exchange rate determination, and global competitiveness.

ECN 504 History of Economic Thought. (3) S

Historical development of economic theory. Emphasis on the development of economic analysis from preclassical economics through Keynes. Prerequisite: ECN 510 or instructor approval.

ECN 509 Macroeconomic Theory and Applications. (3) F

Theory of income, output, employment, and price level. Influence on business and economic environment. Prerequisites: ECN 111 and calculus or instructor approval.

ECN 510 Microeconomic Theory and Applications. (3) F, S

Application of economic theory to production, consumer demand, exchange, and pricing in a market economy. Prerequisites: ECN 112 and calculus or instructor approval.

ECN 511 Macroeconomic Analysis I. (3) F

Current theories of output, employment, inflation, and asset prices as well as major aggregates. Introduction to dynamic optimization techniques. Prerequisites: ECN 313 and calculus or instructor approval.

ECN 512 Microeconomic Analysis I. (3) F

Theory of production, consumer demand, resource use, and pricing in a market economy. Prerequisites: ECN 314 and calculus or instructor approval.

ECN 513 Macroeconomic Analysis II. (3) F

Focus on growth theory, dynamic general equilibrium models, monetary theory, open economy issues. Prerequisite: ECN 511 or instructor approval.

ECN 514 Microeconomic Analysis II. (3) S

General equilibrium welfare economics, production, and capital theory. Prerequisite: ECN 512 or instructor approval.

ECN 515 Advanced Macroeconomic Analysis. (3) F

Focus on current research areas in macroeconomics and monetary theory with emphasis on methods in economic dynamics and numerical techniques. Prerequisite: ECN 511 or instructor approval.

ECN 516 Economics of Uncertainty, Information, and Strategic Behavior. (3) F

Economic behavior under uncertainty, markets and contracts under asymmetric information, the theory of games with incomplete information, and applications. Prerequisite: ECN 512 or instructor approval.

ECN 517 Monetary Theory. (3) F

Traditional and post-Keynesian monetary theory, interest rate determination, the demand and supply of money. Prerequisite: ECN 511 or instructor approval.

ECN 521 Labor Economics I. (3) F

Development of basic theoretical models for analyzing labor market issues. Prerequisite: ECN 510 or instructor approval.

ECN 522 Labor Economics II. (3) N

Extensions/criticisms of labor market theories. Applications to a variety of policy issues. Prerequisite: ECN 521.

ECN 525 Econometrics I. (3) S

Problems in the formulation of econometric models. Emphasis on estimation, hypothesis testing, and forecast of general linear models. Prerequisite: 6 hours of statistics or instructor approval.

NOTE: For the General Studies requirement courses and codes such as L, SQ, C, and H), see "General Studies," page 87. For graduation requirements, see "University Graduation Requirements," page 83. For an explanation of additional non-business courses offered but not listed in this catalog, see "Catalogation of Courses," page 60.

ECN 526 Econometrics II. (3) F
 Estimation and inference of qualitative and limited dependent variable models as well as general multiple equation models. Prerequisite: ECN 525 or instructor approval

ECN 527 Econometrics III. (3) S
 Generalized method of moment estimation, estimation with censored and truncated samples, non-near models panel data models, econometrics of nonstationarities. Prerequisite: ECN 526 or instructor approval.

ECN 531 Comparative Economic Systems. (3) F
 Philosophical foundations of major economic systems and of properties of principal system models. Comparison of alternative institutions and system components of contemporary economies. Prerequisites: ECN 509 and 510 or instructor approval

ECN 536 International Trade Theory. (3) S
 Theories of comparative advantage and the empirical verification. Theory and policy: economy of commerce policy. Resource transfers and the role of the multinational corporation. Prerequisites: ECN 509 and 510 or instructor approval

ECN 538 International Monetary Theory and Policy. (3) F
 The foreign exchange market, balance of payments, and international financial institutions and arrangements: theory and applications. Prerequisites: ECN 509 and 510 or instructor approval.

ECN 541 Public Economics. (3) S
 Economics of collective action, public spending, taxation, and political impact of central government activity on resource allocation and income distribution. Prerequisite: ECN 510 or instructor approval

ECN 553 Industrial Organization. (3) S
 Analysis of structure, conduct, and performance in industrial markets; the economics of organizations. Prerequisite: ECN 510 or instructor approval

ECN 560 Economics of Growth and Development. (3) F
 Economic problems, issues, and policy decisions facing the developing nations of the world. Prerequisites: ECN 509 and 510 or instructor approval

ECN 584 Economics Internship. (1-3) SS
 Academic credit for professional work organized through the Internship Program. Prerequisites: ECN 510 and 511 or instructor approval

ECN 585 Mathematics for Economists. (3) F
 Survey of mathematical ideas encountered in economics and econometrics: non-linear programming, the Kuhn-Tucker theorem, concave programming, optimization over time. Prerequisite: calculus or instructor approval

ECN 591 Economics Seminar. (1-3) F S SS
 Presentations by outside speakers, department faculty, and graduate students of work in progress. Prerequisite: instructor approval

ECN 593 Applied Projects. (3) F
 Preparation of a supervised applied project typically in conjunction with an internship. Prerequisites: ECN 510-511

ECN 594 Conference and Workshop in Economics. (1-12) F S SS
 Topics such as the following are offered:
 a. Economic Analysis Workshop
 Introduction to Economic Analysis. Prerequisite: Ph.D. degree program student.
 (b) Macroeconomic Topcs Workshop.
 Issues in macroeconomic theory. Prerequisite: ECN 513 or instructor approval
 (c) Microeconomic Topcs Workshop
 Issues in microeconomic theory. Prerequisite: ECN 514 or instructor approval

ECN 598 Special Topics. (3) N
 Advanced topics in economics. Consult the *Schedule of Classes* for offerings. Prerequisite: instructor approval

QUANTITATIVE BUSINESS ANALYSIS (QBA)

For additional QBA courses see "Department of Management."

QBA 221 Statistical Analysis. (3) F S
 Methods of statistical description. Application of probability theory and statistical inference in business. Prerequisite: MAT 119. *General Studies: CS.*

QBA 321 Applied Quality Analysis I. (3) A
 Applications of statistical tools employed in empirical studies related to quality analysis. Applications focus on service processes. Prerequisite: QBA 221. *General Studies: L.*

QBA 410 Applied Business Forecasting. (3) N
 Application of forecasting techniques in business and institutional environments. Prerequisite: QBA 321

QBA 421 Applied Quality Analysis II. (3) A
 Applications of statistical tools employed in manufacturing and experimental research. Applications focus on design and improvement of processes. Prerequisite: QBA 321

QBA 525 Applied Regression Models. (3) A
 Simple linear regression, multiple regression, indicator variables, and logistic regression. Emphasis on business and economic applications. Prerequisite: MAT 210

QBA 527 Categorical Data Analysis. (3) A
 Discrete data analysis in business research. Multidimensional contingency tables and other discrete models. Prerequisite: QBA 525

QBA 530 Experimental Design. (3) A
 Experimental designs used in business research. Balanced and unbalanced factorial designs, repeated measures designs, and multivariate analysis of variance. Prerequisite: QBA 525 or equivalent

QBA 535 Multivariate Methods. (3) A
 Advanced statistical methods used in business research. Multivariate analysis of association and interdependence. Prerequisite: QBA 525

QBA 540 Forecasting. (3) N
 Foundation of statistical forecasts and forecast intervals: application of classical and computer-assisted forecasting methods to business forecasting problems. Prerequisites: MAT 210, QBA 502.

QBA 593 Applied Project. (1-12) N

QBA 599 Thesis. (1-12) N

Department of Finance

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PROFESSORS

BOOTH, COLES, JOEHNK, KAUFMAN, POE, SUSHKA

ASSOCIATE PROFESSORS

CESTA, GALLINGER, HERTZEL, HOFFMEISTER, MARTIN, WLT

ASSISTANT PROFESSORS

GRIFFIN, LEMMON, NARDAR, PERRY

FINANCE—B.S.

The study of finance prepares students to understand the financial implications inherent in virtually all business decisions. Students majoring in Finance are prepared for entry-level careers in corporate management, depository institutions, investment management, and financial services. The finance curriculum emphasizes financial markets, evaluation of investments, and efficient allocation of resources. The major in Finance consists of the following courses.

ACC 315 Financial Accounting and Reporting	3
FIN 331 Financial Markets and Institutions	3
FIN 361 Managerial Finance	3
FIN 421 Security Analysis and Portfolio Management	3
Two additional 400-level FIN courses	6

Total 18

As part of the requirements, all Finance majors must complete ACC 250 Introductory Accounting Lab Finance

majors are strongly advised to take ACC 316 Management Uses of Accounting. FIN 484 Finance Internship is available for nonmajor elective credit

ACC 250 must be completed before taking ACC 315. FIN 331, 361, and ACC 315 must be completed before taking 400 level FIN courses.

MAJOR PROFICIENCY REQUIREMENTS

Students must receive grades of "C" or higher in upper division courses for the major. If a student receives a grade below "C" in any course in the major, this course must be repeated before taking any further courses for which this course is a prerequisite. If a second grade below "C" is received in either an upper division course in the major already taken or in a different upper division course in the major, the student is no longer eligible to take additional upper division courses in that major.

GRADUATION REQUIREMENTS

In addition to fulfilling major requirements, students seeking a degree must meet all university and college requirements. See "University Graduation Requirements," page 83, and "College Degree Requirements," page 151.

FINANCE (FIN)

FIN 300 Fundamentals of Finance. (3) F, S, SS

Theory and problems in financial management of business enterprises. Prerequisites: ACC 240; ECN 112; QBA 221

FIN 331 Financial Markets and Institutions. (3) F, S

Analysis of financial markets and interrelated issues: Theory of financial markets, interest rate theory, money and capital market instruments, and government regulation. Prerequisite: professional program business student majoring in Finance. Prerequisite with a grade of "C" or higher: FIN 300

FIN 361 Managerial Finance. (3) F, S

Theories and problems in resource allocation: cost of capital, CAPM and capital budgeting, asset valuation, capital structure, and financing policy. Prerequisite: professional program business student majoring in Finance. Prerequisite with a grade of "C" or higher: FIN 300

FIN 380 Personal Financial Management. (3) F, S

Dynamic analysis of personal financial planning including time value of money, stock and bond investment, and retirement and estate planning. Prerequisites: minimum cumulative GPA of 2.00; junior standing; non-Finance major

FIN 421 Security Analysis and Portfolio Management. (3) F, S

Security analysis theory and practice. Selection and management of financial asset portfolios. Securities markets and portfolio risk-return analysis. Lecture, discussion. Prerequisite: professional program business student majoring in Finance. Prerequisite with a grade of "C" or higher: ACC 315, FIN 331, 361

FIN 427 Derivative Financial Securities. (3) A

Study of stock options, index options, convertible securities, financial futures, warrants, subscription rights, and arbitrage pricing theory. Lecture, discussion. Prerequisite: professional program business student majoring in Finance. Prerequisite with a grade of "C" or higher: FIN 421

FIN 431 Management of Financial Institutions. (3) A

Asset liability and capital management in financial institutions: influence of market factors and regulatory agencies. Emphasis on commercial banks. Lecture, discussion. Prerequisite: professional program business student majoring in Finance. Prerequisite with a grade of "C" or higher: ACC 315, FIN 331, 361

FIN 451 Working Capital Management. (3) N

Analysis of short-term profitability and liquidity. Emphasis on managing cash, accounts receivable, inventory, and current liabilities. Lecture, discussion. Prerequisite: professional program business student. Prerequisite with a grade of "C" or higher: ACC 315; FIN 331, 361

FIN 456 International Financial Management. (3) A

Exchange rate determination, financial markets, multinational corporations, capital budgeting, and hedging currency risk exposure from an international perspective. Prerequisite: professional program business student majoring in Finance. Prerequisites with a grade of "C" or higher: ACC 315, FIN 331, 361. *General Studies: G*

FIN 461 Financial Cases and Modeling. (3) A

Case-oriented capstone course in managerial finance. Contemporary issues of liquidity management, capital budgeting, capital structure, and financial strategy. Lecture, discussion, group work. Prerequisite: professional program business student majoring in Finance. Prerequisites with a grade of "C" or higher: ACC 315, FIN 331, 361. *General Studies: L*

FIN 481 Honors Seminar in Finance. (3) A

Honors course covering topics that include theory and applications concerning managerial finance, investments, and financial institutions. Lecture, discussion. Prerequisite: Finance College of Business honors program student. Prerequisite with a grade of "C" or higher: ACC 315, FIN 331, 361.

FIN 484 Finance Internship. (3) F, S, SS

Academic credit for fieldwork in finance organized through the Internship Program. Prerequisites: FIN 331, 361, strong academic record; instructor approval

FIN 502 Managerial Finance. (3) A

Theory and practice of financial decision making including risk analysis, valuation, capital budgeting, cost of capital, and working capital management. Prerequisites: ACC 502; ECN 502; QBA 502.

FIN 521 Investment Management. (3) A

Valuation of equities, fixed incomes, and options/futures in an individual security and portfolio context. Mathematical asset allocation approaches. Lecture, discussion. Prerequisite: FIN 502

FIN 527 Derivative Financial Securities. (3) A

Analysis of forwards, futures, and option contracts on bonds, commodities, equities, and foreign exchange. Design of speculative and hedging strategies. Lecture, discussion. Prerequisites: FIN 502, 521

FIN 531 Capital Markets and Institutions. (3) A

Recent theoretical and operational developments in economic sectors affecting capital markets and institutions. Lecture, discussion. Prerequisite: FIN 502

FIN 551 Financial Statement Analysis. (3) A

Analysis of corporations' financial statements to ascertain their financial strength and default risk. Emphasis on studying cash flows. Lecture, cases. Prerequisites: ACC 502; FIN 502.

FIN 556 International Financial Management. (3) A

Behavior of real and nominal currency exchange rates, management of international investment portfolios, corporate exchange exposure, and hedging exchange risk. Lecture, discussion. Prerequisite: FIN 502.

FIN 561 Financial Management Cases. (3) A

Case-oriented course in applications of finance theory to management issues. Acquisition, allocation, and management of funds within the business enterprise. Working capital management, capital budgeting, capital structure, and financial strategy. Lecture, discussion, presentation. Prerequisite: FIN 502

FIN 581 Applied Corporate Finance. (3) A

Application of theories in corporate finance. Market efficiency, capital structure, principal-agent theory, corporate control, dividend policy, and capital budgeting. Prerequisite: FIN 502

FIN 781 Theory of Finance. (3) A

Fundamental tools of financial economics: asset pricing, arbitrage, option pricing, capital structure, dividend policy, asymmetric information, and transaction-cost economics. Prerequisites: FIN 502, 521, 531

NOTE: For the General Studies requirement courses and codes such as L, SQ, C, and H) see "General Studies" page 87. For graduation requirements see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog see "Classification of Courses," page 60.

FIN 791 Doctoral Seminar in Finance. 3 A

- a) Financial Institutions and Markets
Economic and monetary theory applied to financial markets and institutions, implications of financial structure for market performance and efficiency Prerequisite: FIN 781.
- b) Financial Management
Financial theory pertaining to capital structure, dividend policy, valuation, cost of capital, and capital budgeting Prerequisite: FIN 781
- c) Investments
Investments and market theory, efficient markets hypothesis, option and commodity markets Prerequisite: FIN 781

**School of Health Administration
and Policy**

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PROFESSORS

FORSYTH, JOHNSON, KIRKMAN, L. F., SCHNELLER,
WESBURY, WILLIAMS

**ASSISTANT PROFESSOR
RIVERS**

While the school does not offer an undergraduate major, a number of courses at the 200 and 400 level are available to students who have a strong interest in health care, public health, and health policy. Students may enroll in these courses regardless of their undergraduate major. Registration for courses at the 400 level is with permission of the instructor and due to seat availability.

Students have the opportunity to enhance their skills by completing courses in one of the M.B.A. specializations, including information management, supply chain management, finance, or service marketing.

HSA 560 Health Services Administration and Policy	3
HSA 561 Biostatistics	3
HSA 562 Health Care Organization and Systems	3
HSA 563 Health Care Economics	3
HSA 564 Health Care Finance	3
HSA 565 Policy Issues in Health Care	3
HSA 598 ST Epidemiology	3

For more information, see the *Graduate Catalog*.

HEALTH SERVICES ADMINISTRATION (HSA)

HSA 220 Health Care Organizations 3 F S

Overview of United States health care delivery systems, financing, health policy, basic principles of budgeting, cost-benefit analysis, and resource management. Cross-listed as HCR 220. Credits awarded for only HCR 220 or HSA 220. Prerequisite: ENG 101-102 *General Studies I*.

HSA 473 Comparative Health Systems. 3 N

Comparison of health care financing and delivery in industrialized countries. Covers insurance, hospital management and physician payment. Lecture/discussion.

HSA 498 Pro-Seminar. 3 N

- (a) Health Care Finance
- (b) Health Economics
- (c) Health Service Administration and Policy
- (d) Policy Issues in Health Care

HSA 502 Health Care Organization. 3 A

Concepts, structures, functions, and values which characterize contemporary health care systems in the United States.

HSA 505 Community Health Care Perspectives. (3) A

Epidemiologic, sociologic, and political perspectives and techniques for analyzing health problems and responding to health care needs in communities. Prerequisite: HSA 502.

HSA 512 Health Care Economics. (3) A

Economics of production and distribution of health care services, with special emphasis on the impact of regulation, competition, and economic incentives. Prerequisite: HSA 502.

HSA 520 Health Care Organizational Structure and Policy. 3 A

Functional relationships among managerial elements of health care institutions with major focus on hospital governance and policy dynamics. Prerequisite: HSA 502.

HSA 522 Health Care Management Systems. (3) A

Systems concepts, quantitative methods, and information systems applied to management problems in health institutions and community health planning. Prerequisites: HSA 505, QBA 502.

HSA 532 Financial Management of Health Services. (3) A

Acquisition, allocation, and management of financial resources within the health care enterprise. Budgeting, cost analysis, financial planning, and internal controls. Prerequisites: ACC 503, FIN 502, HSA 502.

HSA 542 Health Care Jurisprudence. (3) A

Legal aspects of health care delivery for hospital and health services administration. Legal responsibilities of the hospital administrator and staff. Prerequisites: HSA 505, 520.

HSA 560 Health Services Administration and Policy. (3) F

Introduction to organizational theory and management of complex organization within the historical and contemporary contexts of the U.S. public health.

HSA 561 Biostatistics. (3) F

Aspects of descriptive statistics and statistical inference most relevant to health issues including data rates, and confidence intervals.

HSA 562 Health Care Organization and Systems. (3) F

Functional relationships among managerial elements of health care institutions with major focus on hospital governance and policy dynamics.

HSA 563 Health Care Economics. (3) S

Introduction to concepts and methods used to direct and understand production and distribution of health care services.

HSA 564 Health Care Finance. 3 S

Overview of the acquisition, allocation, and management of financial resources by health care providers. Focuses on economic, financial, and accounting principles.

HSA 565 Policy Issues in Health Care. (3) F

Current policy issues in health through concepts of access, cost, and quality issues relating to disease trends and policy formulation.

HSA 571 Managed Care. 3 N

Trends in managed care/integrated systems, complexities of balancing objectives (e.g. financial and quality). A two-semester ongoing marketplace simulation. Prerequisite: HSA 502.

HSA 573 Comparative Health Systems. 3 A

Comparison of health care financing and delivery in industrialized countries. Covers insurance, hospital management and physician payment. Lecture/discussion.

HSA 575 Chronic Care Administration. (3) A

Management of long-term care services and facilities, including behavioral health and rehabilitation programs.

HSA 589 Integrative Seminar. 3 A

Capstone assessment of current policy issues and controversies across the broad spectrum of health services administration. Prerequisites: HSA 505, 520, 522, 532.

HSA 591 Seminar. (3) A

Seminar topics such as the following may be offered.

- (a) Behavioral Health
- (b) Cost Containment and Quality Assurance
- (c) Health Care Economic Outcomes
- (d) Health Care Policy
- (e) Managing Physicians
- (f) Topics in Health Services Research

HSA 593 Applied Project. (3) F S, SS

Optional on-site experience in advanced development of managerial skills in health services administration and policy. Minimum of 10 weeks. Prerequisites: 18 hours of credit toward program of study; director approval.

HSA 598 Special Topics. (3) A

Special topics such as the following may be offered

- (a) Epidemiology

IBS 394 ST Regional Business Environment of Southeast Asia	3
or IBS 494 ST Regional Business Environment of Southeast Asia (3)	
IBS 493 Cultural Factors in International Business (3)	3
or MGT 494 ST Cultural Factors in International Business (3)	
IBS 493 International Honors Thesis L	3
IBS 499 Individualized Instruction of International Business	3
MGT 459 International Management	3
or IBS 494 ST International Management (3)	
MGT 494 ST Applied International Management	3
MKT 394 ST Global Markets	3
MKT 435 International Marketing	3
MKT 494 ST Applied International Marketing	4
SCM 463 Global Supply Chain Management	3

International Business Studies

Josef C. Brada
Director

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www.cob.asu.edu/up/ipo.cfm

* College of Business students may elect this course to fulfill General Studies SB requirements

Honors students who select an international topic for their thesis may use that as part of the 15 hours of international course work for the certificate

Certificate in International Business Studies

The program of study leading to the Certificate in International Business Studies is designed to prepare students for positions with multinational firms, banks, government agencies, and international organizations. This program is not a substitute for the listed areas of business specialization, rather, the courses required for the certificate add an international dimension to the student's chosen major.

Requirements for the certificate are designed to provide an understanding of international business environments, principles and operations; to provide an awareness of global social processes and a sensitivity to foreign cultures, and to develop competence in a foreign language. These objectives are met in the following ways: international business principles and operations, global and area studies, foreign language, and GPA proficiency.

International Business Principles and Operations. At least 15 semester hours of approved courses in international business are required. Students must take either IBS 300 Principles of International Business or ECN/IBS 306 Survey of International Economics and the international course in their major. Other international business courses from which the remaining hours are selected include:

ECN 306 Survey of International Economics SB, G	3
or IBS 306 Survey of International Economics SB, G (3)	
ECN 331 Comparative Economic Systems SB, G*	3
ECN 360 Economic Development SB, G*	3
ECN 365 Economics of Russia and Eastern Europe SB, G*	3
ECN 436 International Trade Theory SB, G*	3
ECN 438 International Monetary Economics SB, G*	3
FIN 456 International Financial Management G	3
IBS 300 Principles of International Business G	3

Global and Area Studies. This requirement can be satisfied either by means of course work or through participation in approved College of Business exchange programs with foreign schools of business, or by some combination of the two. The course work option requires at least 12 semester hours of approved electives in international and area studies. A minimum of six semester hours must be in courses that provide a cross-cultural perspective from the global point of view of one or more disciplines. A minimum of six semester hours must be in courses that provide an understanding of one region of the world

Students who participate in an approved College of Business exchange program with a foreign business school for two semesters are deemed to have fulfilled the global and area studies requirements of the Certificate in International Business upon the successful completion of this exchange program. Students who participate in such an exchange program for one semester are deemed to have satisfied the required six hours of area studies courses. Students who participate in a business seminar need only complete three hours of area studies courses to meet the requirements of the certificate.

Foreign Language. Evidence of competence in a foreign language equivalent to one year of college study is required

GPA Proficiency. Applicants for the Certificate in International Business must earn a "C" or higher in each of the courses selected for the certificate, have at least a 2.50 GPA for all course work applied to the certificate, and complete at least 50 percent of the course work at ASU Main

Advising. When planning and selecting courses to meet the requirements for the certificate and to take advantage of opportunities for participation in exchanges with foreign schools of business, students should consult with an international business faculty advisor or the coordinator of international programs, BA 122, 480 965 4066, or visit the Web site at www.cob.asu.edu/up/ipo.cfm

NOTE: For the General Studies requirement courses, and codes such as L, SQ, C, and H), see General Studies, page 87. For graduation requirements see "University Graduation Requirements" page 83. For an explanation of additional minor business courses offered but not listed in this catalog see "Classification of Courses," page 60.

INTERNATIONAL BUSINESS STUDIES (IBS)

IBS 300 Principles of International Business. (3) F, S SS
Multidisciplinary analysis of international economic and financial environment. Operations of multinational firms and their interaction with home and host societies. Prerequisite: ECN 112 *General Studies G*

IBS 306 Survey of International Economics. (3) F, S
Survey of international trade issues, commercial policy, trade theory, customs unions, and international monetary topics. Not for Economics majors. Lecture/discussion. Cross-listed as ECN 306. Credit is allowed for only ECN 306 or IBS 306. Prerequisites: ECN 111 or 112; 2.00 ASU GPA; junior or standing. *General Studies SB, G*

IBS 394 Special Topics. (3) F, S
(a) Regional Business Environment of Southeast Asia
Prerequisites: 2.00 ASU GPA; junior or standing.

IBS 400 Cultural Factors in International Business. (3) F, S SS
Cultural role in international business relations; applied principles of cross-cultural communications, negotiations, and management. Regional approaches to business relations. Prerequisites: IBS 300, 306 or ECN 306. *General Studies C, G*

IBS 493 International Honors Thesis. (3) F, S
General Studies L

IBS 494 Special Topics. (3) F, S
(a) International Management
Prerequisite: BS 300 or MGT 301
(b) Multinational Management
(c) Regional Business Environment of Southeast Asia

IBS 499 Individualized Instruction of International Business. (3) F, S

Department of Management

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PROFESSORS

ASHFORTH BOHLANDER, CARDY, DOOLEY, GLICK,
GOMEZ-MEJIA, HERSHAUER, HOM, KINICKI, KIRKWOOD,
KULIK, PENLEY, REIF, RUCH

ASSOCIATE PROFESSORS

BOYD, BRENNENSTUHL, BROOKS, CALLARMAN, CHO,
COOK, KEATS, KEEFER, KELLER, MOORHEAD, OLIVAS,
OSTROFF, ROBERSON, D. SMITH-DANIELS,
V. SMITH-DANIELS, VAN HOOK, VERDINI

ASSISTANT PROFESSORS

BLANCERO, KOKA, LANE, RUNGTUSANATHAM

SENIOR LECTURERS

KREITNER, LEA

LECTURERS

DAVILA, SACK

The faculty in ASU's Department of Management is widely recognized for their work in the areas of strategic management, organizational behavior, human resource management, operations management, and management science. Faculty members emphasize high tech management, quality, process and project management, decision and risk analysis, globalization, diversity, small business and entrepreneurship, change management, systems dynamics, organizational identity, corporate governance, and

human resource management practices in their research, consulting, and teaching.

Department of Management faculty take great pride in their teaching excellence and have been very active in continuing to improve collaborative teaching techniques. Eight management faculty and teaching assistants have won recent college or university level awards for their excellence in teaching effectiveness.

MANAGEMENT—B.S.

Understanding of theory and concepts of management are enhanced by experiencing and testing these concepts in skill-based exercises and cases throughout the curriculum. After analyzing surveys of graduates, their employers, and members of the Dean's Council of 100, the department concluded that the major should have a strong emphasis on measurable, competency based skills. Based on the survey data, the department identified major skill areas that encompass the most important competencies, including

- Administrative
 - conflict management
 - diversity awareness management
 - project management
- Analytical
 - creativity innovation
 - critical analysis skills
 - planning decision making skills
- Coaching/Facilitating
 - employee motivation
 - employee training development
 - mentoring
- Communication
 - persuasion and negotiation
 - verbal
 - written
- Team Orientation
 - delegation and empowerment
 - develop and maintain teamwork
 - relationship building

The faculty focus on both understanding theory and developing competency in these specific skills in all management courses, particularly the three courses taken by all management majors: MGT 311 Human Resource Management, MGT 352 Human Behavior in Organizations, and MGT 463 Strategic Management. The emphasis is on special participative exercises and assignments to practice the skills. Some of these skills, such as communicating, team building, and critical analysis are also emphasized in college core classes (MGT 301 Management and Organization Behavior and OPM 301 Operations and Logistics Management). Further, all undergraduate management classes emphasize skill development exercises for appropriate course topics. Management majors can choose their electives in one of four tracks: general management, managing human resources, small business and entrepreneurship, or managing business processes.

General Management Track

The central purpose of the Management major is to prepare men and women for managerial leadership in a world characterized by demands for continuous improvements in quality; growing technological sophistication; racial, cultural, and gender diversity in the work force; and expanding

globalized markets. This emphasis is on accomplishing the organization's goals in a changing environment by successfully coordinating all available resources. As technological change and global markets create new opportunities for modern organizations, there are increasingly complex challenges to be met by the contemporary manager.

To prepare students to meet these challenges, the general management track curriculum is designed to provide exercises and cases that focus on developing competency-based skills. Applications orientations in classroom settings will promote the development of administrative, analytic, and communicating skills; coaching and facilitating skills; and a team orientation. This pragmatic focus is developed in both internal and external contexts:

1. legal environment of management activity;
2. the range of human behavior encountered in organizational settings;
3. the interrelation of the component functions of a business,
4. the responsibilities of a firm in contemporary society;
5. the challenges to an organization active in an international arena; and
6. the role of the entrepreneur in the growth of businesses.

The following courses must be taken to complete this track.

MGT 311 Human Resource Management.....	3
MGT 352 Human Behavior in Organizations.....	3
MGT 434 Social Responsibility of Management.....	3
MGT 459 International Management.....	3
MGT 463 Strategic Management L.....	3
MGT elective.....	3
Total	18

This generalist perspective addresses such current issues as diversity in the workplace, global involvement, total quality management, ethics, and other managerial emphases that promote success. An interactive, cooperative learning environment is stressed.

As the preferred track for the individual wanting a general grounding in the management discipline, students find a broad range of opportunities available upon graduation. Service and manufacturing firms, for profit and not for profit organizations, and large and small organizations will immediately benefit from the preparation of these graduates and recruit them for challenging trainee positions or entry level management positions.

Managing Human Resources Track

People are the common denominator in all organizations. The efficient and effective management of people is central to the success of the organization. Management has been defined as "the process of getting things done through people." The human resource management track in the Management major introduces students to the spectrum of knowledge necessary to effectively manage people.

This track is designed to train and familiarize future employees, general managers, and human resource specialists with the human resource functional areas, such as performance appraisal, dismissal, and the legal environment surrounding the employment relationship.

Students in this track develop key skills in managing work force diversity, team building, and negotiation. Focus in this track is on developing skills in managing people. Students are involved in class activities such as cases and experiential exercises which develop skills in preventing and solving human resource problems.

The following courses must be taken to complete this track:

MGT 311 Human Resource Management.....	3
MGT 352 Human Behavior in Organizations.....	3
MGT 413 Compensation Management.....	3
MGT 423 Employee Management Relations.....	3
MGT 463 Strategic Management L.....	3
MGT elective.....	3
Total	18

Large corporations in manufacturing and services, as well as small businesses and consulting firms, hire students who successfully complete this track.

Small Business and Entrepreneurship Track

Managing, growing, developing, and starting small businesses is one of the most vital and challenging segments of the economy. Most new innovations spring from small to midsize firms. New venture opportunities emerge each day. Smaller firms constitute the job-creation engine of the nation. The potential for individual wealth creation largely resides among entrepreneurial firms, and in an era of downsizing, many current and former corporate employees are looking toward self employment as a long term career option. The sequence of courses in the small business and entrepreneurship track does not limit student ability to seek employment in the corporate environment. Rather, it provides an enhanced skill set many firms will value, and it offers alternative career options.

The small business and entrepreneurship course sequence provides a broad-based understanding of the entrepreneurial process and the unique problems and challenges faced by smaller firms. In addition, students gain an opportunity to develop their own potential venture concepts.

The following courses must be taken to complete this track:

MGT 311 Human Resource Management.....	3
MGT 352 Human Behavior in Organizations.....	3
MGT 440 Small Business and Entrepreneurship.....	3
MGT 445 Business Plan Development.....	3
or MGT 494 ST: Small Business Planning (3)	
MGT 463 Strategic Management L.....	3
MGT elective.....	3
Total	18

Note that MGT 445 Business Plan Development (BPD) and MGT 494 ST: Small Business Planning (SBP) will have some overlapping sessions. All students will learn about developing business plans and working in small business.

NOTE: For the General Studies requirement courses, and codes (such as L, SQ, C, and H), see "General Studies" page 87. For graduation requirements, see "University Graduation Requirements" page 83. For an explanation of additional orn bus courses offered but not listed in this catalog, see "Classification of Courses" page 60.

Students in the BPD course will prepare a full scale business plan. Students in the SBP class will complete a "small business experience." Students may not get credit for both classes.

Students competing the small business and entrepreneurship track are most likely to work in small businesses or new ventures within larger corporations. Students in this track or other business majors may also be interested in the Certificate in Small Business and Entrepreneurship. See "Certificate in Small Business and Entrepreneurship," page 170.

Managing Business Processes Track

Processes are central to all organizations. Designing and manufacturing a product involves a series of steps in a transformation process starting with raw materials acquisition and continuing through product production, delivery, and use. Determining and delivering a service involves a series of steps in setting service characteristics and providing the service. Specific theories and tools for managing, changing, and continuously improving business processes have been developed and are key ingredients to successfully managing businesses in our global economy.

Students in this track develop key skills in communicating and working with people, particularly in planning and managing process changes. The focus in this track is on understanding key aspects of process design and analysis. Students are involved in case studies and industry projects dealing with actual process issues. Students in this track focus on developing knowledge and skills in product/service design and management, process improvement and problem solving, analysis of process costs, change management, team approaches to solving process problems, and project management skills.

The following courses must be taken to complete this track:

MGT 311 Human Resource Management L	3
MGT 357 Human Behavior in Organizations	3
MGT 433 Management Decision Analysis	3
or MGT 468 Management Systems	
or MGT 480 Team Management Skills	3
or MGT 494 ST Quality and Human Resource Management	3
MGT 463 Strategic Management L	3
QBA 321 Applied Quality Analysis I L	3
or SCM 432 Materials Management	3
QBA 451 Operators and Process Analysis I	3
Total	18

Because managing and controlling the quality of processes is a key issue in process management, students electing this track are strongly urged to also complete the Certificate in Quality Analysis. See "Certificate in Quality Analysis," page 153.

Although large corporate manufacturing and service firms will hire students in this new track, there will also be special opportunities for these students to have a strong positive impact in the many start-up and medium-sized businesses in Arizona. Many management consulting firms that recruit college graduates are very interested in students from this track.

Approved Electives for Management. The following electives have been approved for the management tracks:

ACC 316 Management Uses of Accounting	3
MGT 413 Compensation Management	3
MGT 427 Training and Development	3
MGT 423 Employee Management Relations	3
MGT 424 Employee Selection and Appraisal	3
MGT 433 Management Decision Analysis	3
MGT 444 Social Responsibility of Management	3
MGT 441 Small Business and Entrepreneurship	3
MGT 442 Vertical Design and Development	3
MGT 442 Small Business Management	3
MGT 445 Business Plan Development	3
MGT 459 International Management	3
MGT 468 Management Systems	3
MGT 480 Team Management Skills	3
MGT 434 Special Topics	3
MKT 327 Fundamentals of Marketing Management	3
QBA 451 Operations and Process Analysis L	3

Hot Links to Major in Management. Further information, hot links to courses and current faculty, and any updates on the undergraduate major in Management can be found at www.cob.asu.edu/mgt.

Major Proficiency Requirements

Students must receive grades of "C" or higher in upper division courses for the major. If a student receives a grade below "C" in any course in the major, this course must be repeated. If a second grade below "C" is received in either an upper division course in the major or a ready taken credit in a different upper division course in the major, the student is no longer eligible to take additional upper division courses in that major.

Graduation Requirements

In addition to fulfilling major requirements, students seeking a degree must meet all university and college requirements. See "University Graduation Requirements," page 53 and "College Degree Requirements," page 151.

GRADUATE PROGRAMS

The Department of Management participates actively in several master's and Ph.D. programs, particularly the technology M.B.A., executive M.B.A., evening M.B.A., and day M.B.A. programs. For a detailed description of these programs, see the *Graduate Catalog*. Areas of concentration offered by the Department of Management for technology, evening, and executive M.B.A. students include process management in high technology organizations, globalization and diversity management; entrepreneurship and small business development, and management consulting.

The Department of Management has adopted a modular approach to Ph.D. education to improve its ability to deliver focused, high quality seminars, give students more flexibility in defining their areas of expertise, increase their rate of quality publications, and enhance the quality of Ph.D. placements.

Hot Links to Graduate Programs. Further information, hot links to courses and current faculty, and any updates on the Department of Management areas of concentration for the M.B.A. programs can be found at www.cob.asu.edu/mgt.

General information on the M.B.A. programs can be found at www.cob.asu.edu/mba.

Further information, application procedures, hot links to current faculty, and any updates on the Ph.D. program in Management can be found at www.cob.asu.edu/mgt/degree/phdmainpg.htm.

MANAGEMENT (MGT)

MGT 301 Management and Organization Behavior. (3) F, S, SS
Administrative, organizational, and behavioral theories and functions of management, contributing to the effective and efficient accomplishment of organizational objectives. Prerequisites: 1 psychology (soc and behavioral) course and 1 sociology course.

MGT 311 Human Resource Management. (3) F, S, SS
Human resource planning, staffing, training and development, compensation, appraisal and labor relations. Prerequisite: MGT 301.

MGT 352 Human Behavior in Organizations. (3) F, S, SS
Human aspects of business as distinguished from economic and technical aspects and how they influence efficiency, morale, and management practice. Prerequisite: MGT 301.

MGT 380 Management and Strategy for Nonmajors. (3) F
Introduction to the functions and applications of management in organizations, including controlling, decision making, leadership, motivation, planning, and social responsibility.

MGT 394 Special Topics. (3) N

MGT 413 Compensation Management. (3) F, S
Establishing base and incentive pay with job analysis, job evaluation and wage surveys, performance appraisal, conformance to compensation laws. Prerequisites: MGT 311, professional program business student.

MGT 422 Training and Development. (3) F, S
Learning theory, orientation and basic level training, management development, resource materials and methods. Prerequisites: MGT 311, professional program business student.

MGT 423 Employee-Management Relations. (3) F, S
Employment relationship in union/nonunion setting. Employee-management rights/responsibilities, complaint administration, negotiations, union structure, and mock government negotiations.

MGT 424 Employee Selection and Appraisal. (3) F, S
Concepts and methods of personnel selection and performance appraisal. Includes job analysis, measurement, and legal issues. Experience exercises emphasized. Prerequisite: MGT 311.

MGT 433 Management Decision Analysis. (3) F, S
Decisions on making concepts and methods in the private and public sectors and their application to organizational problems. Understanding of individual and group decisions on making. Prerequisites: MGT 301, professional program business student.

MGT 434 Social Responsibility of Management. (3) F, S, SS
Relationship of business to the social system and its environment. Criteria for appraising management decisions. Managers as change agents. Prerequisites: MGT 301, professional program business student.

MGT 440 Small Business and Entrepreneurship. (3) F, S, SS
Opportunities, risks and problems associated with small business development and operation.

MGT 441 Venture Design and Development. (3) N
Analysis, design and development of a business plan for a new venture. Prerequisite: ACC 240.

MGT 442 Small Business Management. (3) N
Students acting as management consultants, apply business principles and make recommendations to small businesses while learning to manage small firms. Prerequisite: business core except MGT 463.

MGT 445 Business Plan Development. (3) F, S
Develops a complete strategic business plan emphasizing the planning process undertaken by successful small business owners and entrepreneurs. Lecture, experiential exercise. Prerequisite: MGT 440.

MGT 459 International Management. (3) F, S, SS
Concepts and practices of multinational and foreign firms. Objectives, strategies, policies, and organizational structures for operating in various environments. Students taking MGT 459 may not get additional credit for either BS 494 ST, Multinational Management or IBS 494 ST, International Management. Prerequisite: BS 300 or MGT 301.

MGT 463 Strategic Management. (3) F, S, SS
Strategic formulation and administration of the total organization including integrative analysis and strategic planning. To be taken last semester of senior year. Prerequisites: completion of 108 hours, including all other business administration core requirements, professional program business student. *General Studies: L.*

MGT 468 Management Systems. (3) F, S
Systems theory and practice applied to organization process and research. Organizations seen as open systems interacting with changing environments. Prerequisite: MGT 301.

MGT 480 Team Management Skills. (3) F, S
A cooperative education class teaching team skills in active listening, conflict resolution, decision making, effective meetings, norming, and team roles. Cooperative learning.

MGT 494 Special Topics. (3) N
Current topics in management, primarily designed for business majors. See the *Schedule of Classes* for current offerings. Some of the following may be offered.

(a) Applied International Management
(b) Cultural Factors in International Business
Prerequisite: IBS 300 or MGT 301 or IBS 494 or MGT 459

(c) Small Business Planning
(d) Quality and Human Resource Management
Note that students may not get credit for both Small Business Planning and MGT 445 Business Plan Development.

MGT 502 Organization Theory and Behavior. (3) A
Important concepts and applications in management, including communication, decision making, group dynamics, leadership, motivation, organization change, and organization design. Prerequisites: computer literacy, graduate degree program student.

MGT 522 Human Resource Activity and the Management of Diversity. (3) A
Managerial approach to HR/diversity.

MGT 570 Management Consulting. (3) A
Developing an understanding of how internal and external consultants add value. Prerequisites: ability to use common business software, including Microsoft Office familiarity with spreadsheets.

MGT 589 Strategic Management. (3) F, S
Formulation of strategy and policy in the organization, emphasizing the integration of decisions in the functional areas. Prerequisite: completion or concurrent enrollment in a other core courses in the M.B.A. program.

MGT 591 Seminar. (3) N
Topics such as the following are offered:

(a) Business Plan Competition
(b) Entrepreneurship
(c) Human Resource Activity and the Management of Diversity
(d) Human Resource Management and Service Delivery
(e) Human Resources and High Technology Management
(f) International Management
(g) Management Consulting
(h) Organizational Change and Business Process Consulting

MGT 593 Applied Projects. (3) A
Cross-functional teams initiate possibly implement organizational change within a local firm. Lecture, discussion, experiential learning. Prerequisite: completion or concurrent enrollment in a core courses in the M.B.A. program.

MGT 598 Special Topics. (3) N
Graduate special topics chosen from human resources, strategic management, and international management, including special topics in international management in Asia or Europe. Prerequisite: instructor approval.

NOTE: For the General Studies requirement courses, and codes (such as L, SQ, C, and H), see "General Studies" page 87. For graduation requirements, see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60.

MGT 791 Seminar: Doctoral Seminar in Management. (1) A

Short module seminars such as

- a) Causal Modeling
- b) Change and Coping
- c) Cognition: Micro and Macro Perspectives
- d) Dysfunction in Workplace
- e) Economic Theories of the Firm
- f) Levels of Analysis
- g) Motivation and Attitudes
- h) Organizational Identity and Identification
- i) Organizational Learning and Organizational Identity
- j) Organizational Performance and Reward Systems
- k) Organizational Strategy and Culture
- l) Organizational Structure, Technology and Information Systems
- m) Organizational Withdrawal
- n) Performance Appraisal
- o) Power and Organizational Change
- p) Selection
- q) Strategy Overview
- r) Teams, Groups and Leadership
- s) The Craft of Research

OPERATIONS AND PRODUCTION MANAGEMENT (OPM)**OPM 301 Operations and Logistics Management.** (3) F S SS

Identification and integration of major components of operations and logistics management and their impact on organizational productivity and performance. Lecture, lab. Prerequisite: QBA 221.

OPM 394 Special Topics. (3) N

Current topics in operations and production management primarily designed for nonbusiness majors. See the *Schedule of Classes* for current offerings which may for example, include Operations and Logistics Management for nonmajors.

OPM 502 Operations Management. (3) A

Contemporary management issues including environmental, project and supply chain management, new product development, quality control, TQM. Prerequisites: computer literacy; graduate degree program student.

OPM 540 Quality and Productivity Management. (3) N

Organizational factors influencing quality and productivity in the production of goods and services. Quality and productivity strategies, improvement programs, and measurement systems. Prerequisite: OPM 502 or instructor approval.

OPM 585 Facilities Design and Management of Technology. (3) A

Decisions regarding management of facilities and technology for manufacturing and service firms. Facilities location, layout, process design, and selection.

OPM 587 Project Management. (3) A

Planning, scheduling and controlling of projects in R & D, manufacturing, construction and services. Project selection, financial considerations and resource management. Prerequisite: QBA 502.

OPM 591 Seminar. (3) A

Topics such as the following offered

- a) High Performance Management Processes
- b) Management of Technology
- c) Manufacturing Management in High Technology
- d) Manufacturing Strategy
- e) New Product and Process Development
- f) Technology Project Management

OPM 593 Applied Projects. (3) A

Cross functional teams initiate (possibly implement) organizational change with a focus from Lecture discussion, experiential learning. Prerequisite: completion or concurrent enrollment in all core courses in the MBA program.

OPM 791 Doctoral Seminars in Operations and Production Management. (1) N

Short module seminars such as.

- (a) Management of Technology
- (b) Manufacturing Strategy
- (c) Operations Management
- (d) Project Management

QUANTITATIVE BUSINESS ANALYSIS (QBA)

For additional QBA courses, see "Department of Economics"

QBA 450 Operations and Process Analysis. (3) A

Implementation of quantitative techniques for the analysis of quality problems related to operations and process analysis. Prerequisites: OPM 301, QBA 221, *General Studies, L*.

QBA 502 Managerial Decision Analysis. (3) F, S

Fundamentals of quantitative analysis to aid management decisions on making under uncertainty. Prerequisites: MAT 210, computer literacy, graduate degree program student.

QBA 505 Management Science. (3) N

Quantitative approaches to decisions on making including program management and simulation with an emphasis on business applications. Prerequisites: MAT 210, QBA 502.

QBA 508 Product and Service Innovation. (3) F, S

Developing strategies for innovation in products and services. Prerequisites: basic algebra, basic probability concepts, elementary knowledge of Windows.

QBA 550 Intermediate Decision Analysis. (3) N

Quantitative decision analysis methods for business decisions on making under uncertainty including decision diagrams, subjective probabilities, and preference assessment. Prerequisites: MAT 210, QBA 502.

QBA 591 Seminar. (3) F, S

Current topics in Quantitative Business Analysis primarily designed for technology, evening and executive MBA students. Elective courses for these programs may include

- (a) Decisions on Models
- (b) Decisions on Models for Consulting
- (c) Management Problem Solving
- (d) Strategic Decisions on Analysis

QBA 593 Applied Project. (1-12) N**QBA 599 Thesis.** (1-12) N**QBA 791 Doctoral Seminars in Quantitative Business Analysis.** (1) N

The Department of Management has adopted a modular approach to Ph.D. education. Topics such as the following may be offered:

- (a) Chaos Theory
- (b) Risk Analysis
- (c) Strategic Decisions on Making
- (d) Systems Dynamics

Department of Marketing

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PROFESSORS

B TNER, BROWN HUTT, JACKSON, KUMAR,
 LASTOV CKA MOKWA, L OSTROM, REINGEN,
 SCHLACTER WARD

ASSOCIATE PROFESSORS

BLASKO, SINHA, STEPHENS, WALKER

ASSISTANT PROFESSORS

NOWLIS A. OSTROM, ROUNDTREE

SENIOR LECTURER

SPIERS

Study in the field of marketing involves analysis of how organizations plan, organize, deploy, and control their resources to achieve market objectives. Focus is placed on market forces, growth, and the deployment of firms in competitive markets and on the marketing strategy and tactics of the firm. Through the proper selection of courses, a student may prepare for a career in

1. selling and sales management;
2. services and retail marketing;
3. promotion and advertising management;
4. business to business marketing;
5. international marketing;
6. market research and planning;
7. general marketing management; or
8. retail management.

MARKETING—B.S.

The major in Marketing consists of 18 semester hours. The following courses must be included:

MKT 302 Fundamentals of Marketing Management	3
MKT 304 Consumer Behavior	3
MKT 451 Marketing Research	3
MKT 460 Strategic Marketing <i>L</i>	3
Total	12

To complete the major, students, in consultation with their faculty advisors, select six additional hours from among the following list of courses.

MKT 301 Principles of Advertising	3
MKT 310 Principles of Selling	3
MKT 311 Creative Strategy in Marketing	3
MKT 411 Sales Management	3
MKT 412 Promotion Management	3
MKT 424 Retail Management	3

MKT 430 Marketing for Service Industries	3
MKT 434 Industrial Marketing	3
MKT 435 International Marketing	3
MKT 484 Internship	3

Major Proficiency Requirements

Students must receive grades of “C” or higher in upper division courses for the major. If a student receives a grade below “C” in any course in the major, this course must be repeated. If a second grade below “C” is received in either an upper division course in the major already taken or in a different upper division course in the major, the student is no longer eligible to take additional upper division courses in the major.

GRADUATION REQUIREMENTS

In addition to fulfilling major requirements, students seeking a degree must meet all university and college requirements. See “University Graduation Requirements,” page 83, and “College Degree Requirements,” page 151.

GRADUATE PROGRAMS

The department offers a distinctive M.B.A. curriculum in services marketing and management. For more information, see the *Graduate Catalog*.

MARKETING (MKT)

MKT 300 Principles of Marketing. (3) F, S, SS
 Role and process of marketing within the society, economy, and business organization. Prerequisite: EGN 112

MKT 301 Principles of Advertising. (3) F, S, SS
 Advertising as a communication in marketing and business management. Survey of market segmentation, creative strategy media and effectiveness measures. Prerequisite: MKT 300

MKT 302 Fundamentals of Marketing Management. (3) F, S, SS
 Marketing planning, implementation, and control by organizations, with special emphasis on identifying market opportunities and developing marketing programs. Prerequisite: MKT 300

MKT 304 Consumer Behavior. (3) F, S, SS
 Application of behavioral concepts in the analysis of consumer behavior and the use of behavioral analysis in marketing strategy formulation. Prerequisite: MKT 300

MKT 310 Principles of Selling. (3) A
 Basic principles underlying the selling process and their practical application in the sale of industrial goods, consumer goods and intangibles. Prerequisite: MKT 300

MKT 311 Creative Strategy in Marketing. (3) A
 Discussion, application and evaluation of creative concepts and strategies. Creation of a portfolio addressing distinctive advertising/marketing problems and opportunities. Prerequisites: MKT 301; nonbusiness majors must obtain department approval

MKT 382 Advertising and Marketing Communication. (3) F, S
 Introduction for nonbusiness majors to the communication process within marketing and advertising. Creation and presentation of an ad campaign. Not open to business majors. Prerequisites: junior or senior standing, 2.00 ASU GPA.

MKT 394 Special Topics. (3) F
 (a) Global Markets
 (b) Marketing and Selling

MKT 411 Sales Management. (3) N, F, S
 Application of management concepts to the administration of the sales operation. Prerequisite: MKT 302.

MKT 412 Promotion Management. (3) A
 Integration of the promotional activities of the firm including advertising, personal selling, public relations and sales promotion. Prerequisite: MKT 302

NOTE: For the General Studies requirement courses, and codes (such as L, SQ, C, and H), see “General Studies,” page 87. For graduation requirements, see “University Graduation Requirements,” page 83. For an explanation of additional nonbusiness courses offered but not listed in this catalog, see “Classification of Courses,” page 60.

MKT 424 Retail Management. (3) A

Role of retailing in marketing. Problems and functions of retail managers with various retail institutions. Prerequisite: MKT 300.

MKT 430 Marketing For Service Industries. (3) A

Concepts and strategies for addressing distinctive marketing problems and opportunities in service industries. Current issues and trends in the service sector. Prerequisites: MKT 300, professional program business student

MKT 434 Industrial Marketing. (3) A

Strategies for marketing products and services to industrial, commercial, and governmental markets. Changing industry and market structures. Prerequisite: MKT 302 or instructor approval

MKT 435 International Marketing. (3) A

Analysis of marketing strategies developed by international firms to enter foreign markets and to adapt to changing international environments. Prerequisites: MKT 302 or instructor approval, professional program business student

MKT 451 Marketing Research. (3) F, S

Integrated treatment of methods of market research and analysis of market factors affecting decisions in the organization. Prerequisites: with a grade of "C" or higher: MKT 302 and QBA 221

MKT 460 Strategic Marketing. (3) F, S

Policy formulation and decision making by the marketing executive. Integration of marketing programs and consideration of contemporary marketing issues. Prerequisite: professional program business student. Prerequisites: with a grade of "C" or higher: MKT 302, 304, 451. *General Studies: L*

MKT 484 Internship. (3) F, S, SS

Prerequisite: with a grade of "B" or higher: MKT 302

MKT 494 Special Topics. (1-4) F, S, SS

Chosen from topics in the marketing and international marketing arenas to include seminars in international marketing in Europe and Asia (a) Applied International Marketing

MKT 499 Individualized Instruction. (1-3) F, S, SS

Topics of special interest chosen by students and agreed to by the departments to do independent studies with a professor acting as a guide

MKT 502 Marketing Management. (3) F, S, SS

Managing the marketing function: market and environmental analysis; marketing planning, strategy, and control concepts. Development and management of marketing programs. Prerequisite: ECN 502

MKT 524 Services Marketing. (3) A

Strategies for marketing services emphasizing the distinctive challenges and approaches that make marketing of services different from marketing manufactured goods. Prerequisite: MKT 502 or equivalent

MKT 563 Marketing Strategy. (3) N

Planning and control concepts and methods for developing and evaluating strategic policy from a marketing perspective. Prerequisite: MKT 502

MKT 584 Internship. (3) F, S, SS**MKT 591 Seminar.** (3) A

Topics such as the following are offered in conjunction with the M.B.A. concentration in services marketing and management (see M.B.A. program section):

- (a) Business-to-Business Marketing
- (b) Competitive Strategy for Services
- (c) Consumer Behavior and Market Strategy
- (d) Customer Satisfaction/Service Quality Measurement
- (e) International Marketing
- (f) Marketing in the Information Age
- (g) New Product and Service Development

Small Business Programs

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www.cob.asu.edu/up/smallbusiness.html

The aim of Small Business Programs is to become the 21st-century leader in business education, practice, and research by providing high quality, relevant programs and information services that enable students and small and growth businesses to participate, contribute, and compete in the global economy.

Mission

The ASU College of Business, in collaboration with the Center for the Advancement of Small Business, creates and sustains leading edge, preeminent quality programs in small business for undergraduate students in all disciplines to prepare them for leadership in small and growth businesses.

The programs are learning centered, helping students learn business skills that will position them for success in their careers. The programs are designed to help complement and supplement students' major area of expertise, providing them business tools to work effectively in the fast moving world of a small or growth company or to start or acquire a company. The programs are a joint venture between the College of Business and the small business community, a partnership that ensures the academic content and proven successful practices.

Minor in Small Business

The minor in Small Business consists of 18 hours, with five courses required and one elective. Courses in the program are held with both day and evening sessions. Attendance at a minimum of three *Ca\$hing In™ Seminars* with local and national experts is also required. *Ca\$hing In™ Seminars* are held in the late afternoon with on campus, distance, and asynchronous access options available.

Requirements

COB 380 Small Business Leadership	3
COB 381 Small Business Accounting and Finance	3
COB 382 Small Business Sales and Market Development	3
COB 383 Small Business Working Relationships	3
COB 384 Small Business Operations and Planning	3
Elective	3
Total	18

Bachelor of Interdisciplinary Studies (B.I.S.) Area of Emphasis in Small Business (B.I.S. Majors Only)

The requirements for the small business concentration are identical to those for the minor in Small Business listed above. For B.I.S. degree requirements, see "Bachelor of Interdisciplinary Studies," page 115

Certificate in Small Business and Entrepreneurship

A certificate in Small Business and Entrepreneurship is available to only business majors at ASU. The certificate

requires 15 semester hours of classes of which the following six semester hours must be included

MGT 440 Small Business and Entrepreneurship	3
MGT 445 Business Plan Development .. .	3

The remaining nine semester hours consist of three additional upper division courses relevant to small business. A copy of the approved electives for business majors pursuing the Certificate in Small Business and Entrepreneurship is available in the Undergraduate Programs Office. To receive the certificate, students must complete the specified business courses with a grade of "C" or higher.

Small Business and Entrepreneurship Track (Management Majors Only). See "Small Business and Entrepreneurship Track," page 165, for the requirements of this program.

Department of Supply Chain Management

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PROFESSORS

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ASSOCIATE PROFESSORS

ARANDA, BOHLMAN BUTLER, CHOI, DAVIS, DUNDAS,
ELLRAM, LEONARD, LOCK, LYNCH, MURRANKA, SIFERD

ASSISTANT PROFESSORS

AMUNDSON, CLINTON MALTZ

LECTURER

PATTERSON

ADJUNCT PROFESSOR

CAVINATO

The faculty in the Department of Supply Chain Management offer courses in four separate areas: legal and ethical studies, management communication, real estate, and supply chain management.

Legal and Ethical Studies

The legal and ethical studies faculty offer the undergraduate and the Master of Business Administration (M.B.A.) core requirements in legal and ethical studies. In addition, the faculty offer specialized courses in law and ethics relating to health care, insurance, real estate, and professional sports.

Management Communication

The management communication faculty serve the College of Business by teaching the B.S. core requirement BUS 301 Fundamentals of Management Communication.

SUPPLY CHAIN MANAGEMENT—B.S.

Supply chain management is the management of resources to design, procure, fabricate, produce, assemble, store, distribute, deliver, use, maintain, recycle, and dispose of goods and services

A "supply chain" consists of interconnected companies required to transform ideas into delivered products and services.

Supply chain management is a business approach that focuses on integration and partnerships in order to meet customers' needs on a timely basis, with relevant and high quality products, produced and delivered in a cost effective manner

Current interest in supply chain management stems from the need of world class organizations to purchase, produce, move, and market goods and services on a global basis. Relentless focus on time, cost, and quality have sharpened the need to coordinate and cooperate with business partners around the world in order to meet and exceed customers' needs and wants.

The major in Supply Chain Management consists of the following courses:

SCM 345 Logistics Management	3
SCM 355 Supply Management	3
SCM 432 Materials Management .. .	3
SCM 440 Productivity and Quality Management	3
SCM 455 Research and Negotiation L	3
SCM 479 Supply Chain Strategy	3
Total	18

REAL ESTATE—B.S.

The Real Estate faculty offer a unique one year program designed for the students' last year of college. This innovative program emphasizes student involvement with real estate executives on projects in the Phoenix metropolitan area. Students are organized in teams to develop their analytical, communication, and team skills.

The program is organized around five aspects of real estate: brokerage management, development, financing, investments, and market analysis. With the broad interdisciplinary perspective, emphasis on team work, and involvement in projects, students may pursue careers in land development, investment analysis, appraisal, property management, brokerage, and finance.

Successful completion of the program satisfies the requirements of the major based on the following courses:

LES 411 Real Estate Law	3
REA 300 Real Estate Analysis	3
REA 331 Real Estate Finance	3
REA 401 Real Estate Appraisal .. .	3
REA 441 Real Estate Land Development	3
REA 456 Real Estate Investments	3
Total	18

NOTE: For the General Studies requirement courses and codes (such as L, SQ, C, and H) see "General Studies, page 87. For graduation requirements see "University Graduation Requirements" page 83. For an explanation of additional omnibus courses offered but not listed in this catalog see "Classification of Courses" page 60.

In addition to the courses listed for the major, students in the program also satisfy the requirement for BUS 301 Fundamentals of Management Communication (listed in the business core) and BUS 451 Business Research Methods (listed as a major support course). Because of the emphasis on teamwork, interaction with business professionals, and completion of all requirements within a year, students may enter the program only in the fall semester.

MAJOR PROFICIENCY REQUIREMENTS

Students must receive grades of "C" or higher in upper division courses for the major. If a student receives a grade below "C" in any course in the major, this course must be repeated. If a second grade below "C" is received in either an upper division course in the major already taken or in a different upper division course in the major, the student is no longer eligible to take additional upper division courses in that major.

GRADUATION REQUIREMENTS

In addition to fulfilling major requirements, students seeking a degree must meet all university and college requirements. See "University Graduation Requirements," page 83, and "College Degree Requirements," page 151.

BUSINESS ADMINISTRATION (BUS)

BUS 301 Fundamentals of Management Communication. (3) F, S, SS

Written and oral communication in a management context. Prerequisite: C/S 200. Prerequisite with a grade of "C" or higher: ENG 102 *General Studies L*.

BUS 451 Business Research Methods. (3) N
Methods of collecting information pertinent to business problem solving, including design, collection, analysis, interpretation, and presentation of primary and secondary data. *General Studies L*.

BUS 502 Managerial Communication. (1-3) F, S
Analysis of various business problems, solutions, and development of appropriate communication strategies. Prerequisite: MGT 502.

BUS 504 Professional Report Writing. (3) A
Preparation and presentation of professional reports.

BUS 507 Business Research Methods. (3) N
Techniques for gathering information for business decision making. Selection, design, and completion of a business-oriented research project.

BUS 591 Seminar. (3) N
Selected managerial communication topics.

BUS 594 Study Conference or Workshop. (3) N

BUS 700 Research Methods. (3) N

LEGAL AND ETHICAL STUDIES (LES)

LES 305 Legal, Ethical, and Regulatory Issues in Business. (3) F, S

Legal theories, ethical issues, and regulatory compliance affecting business policies and decisions.

For students in the College of Business: LES 306 or its equivalent is not acceptable in lieu of LES 305.

LES 306 Business Law. (3) A
Legal and ethical aspects of contracts, sales, commercial paper, secured transactions, documents of title, letters of credit, and bank deposits and collections.

LES 308 Business and Legal Issues in Professional Sports. (3) N
The economic structure of professional sports and application of contract, antitrust, arbitration, and labor laws in the industry. Prerequisites: 2.00 GPA; junior standing.

LES 380 Consumer Perspective of Business Law. (3) F, S
Role of law as it affects society. Case studies are used to present principles that govern business and consumers. Lecture. Prerequisites: 2.00 GPA; junior standing.

LES 411 Real Estate Law. (3) A

Legal and ethical aspects of ownership, interests, transfer, finance, development, and regulation of the real estate industry.

LES 532 Negotiation Agreements. (3) F, S

Course develops negotiation competencies to build partnerships and create lasting agreements with internal/external customers, suppliers, work teams, and external constituencies. Lecture and student interaction through team exercises.

LES 579 Legal and Ethical Issues for Business. (3) F, S

Study of legal and ethical components of business decisions, self-regulation, and social responsibility as strategies. Prerequisites: ACC 503; FN 502; MGT 502; MKT 502.

REAL ESTATE (REA)

REA 300 Real Estate Analysis. (3) A

Application of economic theory and analytical techniques to real estate markets. Topics include law, finance, appraisal, market analysis, investments, development. Prerequisite: professional program business student.

REA 331 Real Estate Finance. (3) A

Legal, market, and institutional factors related to financing proposed and existing properties. Emphasis on current financing techniques and quantitative methods. Prerequisites: FN 300; professional program business student.

REA 380 Real Estate Fundamentals. (3) F, S

Real estate for the student/consumer with an emphasis on the applied aspects of each area of real estate specialization. Prerequisites: 2.00 ASU GPA; junior standing, not open to Real Estate majors.

REA 401 Real Estate Appraisal. (3) A

Factors affecting the value of real estate. Theory and practice of appraisal and preparation of the appraisal report. Appraisal techniques. Prerequisites: REA 300; professional program business student.

REA 441 Real Estate Land Development. (3) A

Neighborhood and city growth, municipal planning and zoning, development of residential, commercial, industrial, and special purpose properties. Prerequisites: REA 300; professional program business student.

REA 456 Real Estate Investments. (3) A

Analysis of investment decisions for various property types. Cash flow and rate of return analysis. Prerequisites: FN 300; professional program business student.

REA 461 Current Real Estate Topics. (3) N

Current real estate topics of interest are discussed and analyzed. Prerequisites: REA 300; professional program business student.

SUPPLY CHAIN MANAGEMENT (SCM)

SCM 301 Supply Chain Management. (3) N

Examines the purchasing, materials, and logistics management areas. Techniques for acquiring, storing, processing, and moving material. Inventory are presented. Prerequisite: professional program business student.

SCM 345 Logistics Management. (3) F, S

Managing logistics activities with emphasis on integrating transportation needs with inventory, warehouse, facility location, customer service, packaging, and materials handling. Prerequisites: OPM 301; professional program business student.

SCM 355 Supply Management. (3) F, S

Management of the supply function, including organization, procedures, supplier selection, quality, inventory decisions, and price determination. Prerequisite: professional program business student.

SCM 405 Urban Transportation. (3) N

Economic, social, political, and business aspects of passenger transportation. Public policy and government aid to urban transportation development. Prerequisite: upper division standing or instructor approval.

SCM 432 Materials Management. (3) F, S

Study of managing the product flow of material in organization including MRPI, JIT, quality, facility planning, and job design. Prerequisites: OPM 301; professional program business student.



The tools of technology enhance the classroom experience for College of Business students and faculty.

Doug Crouch photo

SCM 440 Productivity and Quality Management. (3) F, S
Productivity concepts at the national, organizational, and individual levels. Quality management and its relationship to productivity in all organizations. Prerequisite: professional program business student.

SCM 455 Research and Negotiation. (3) F, S
Current philosophy, methods, and techniques used to conduct both strategic and operations supply chain management research and negotiation. Includes negotiation simulations. Prerequisites: SCM 355; professional program business student. *General Studies: L.*

SCM 460 Carrier Management. (3) N
Analysis of carrier economics, regulation, management, and rate-making practice; evaluation of public policy issues related to carrier transportation. Prerequisite: upper-division standing or instructor approval.

SCM 463 Global Supply Chain Management. (3) A
Supply chain activities in international business with special emphasis on management of transportation, global sourcing, customs issues, and facility location in a global environment. Prerequisite: SCM 345 or instructor approval.

SCM 479 Supply Chain Strategy. (3) F, S
Synthesis of purchasing, production, transportation, and distribution systems to provide an integrated perspective of supply chain management. Prerequisites: SCM 345, 432; professional program business student. Prerequisite with a grade of "C" or higher: SCM 355.

SCM 532 Supply Chain Design and Development Strategies. (3) F
A strategic orientation toward the design and development of the supply chain for purchasing, materials, and logistics systems.

SCM 541 Supply Chain Management and Control. (3) S
Management and control of purchasing and logistics management systems. Total Quality Management to assess and assure customer satisfaction. Global strategies.

SCM 545 Supply Chain Continuous Improvement Strategies. (3) S
Leading edge strategies such as reengineering high-performance teams and expert systems for continuous improvement of the supply chain. Seminar.

SCM 591 Seminar. (3) N
Topics such as the following are offered:
(a) Global Supply Chain Management
(b) New Product Development
(c) Quality and Productivity Management
(d) Services Operations Management

SCM 791 Doctoral Seminar. (3) A
Topics may be selected from the following:
(a) Logistics, Transportation, and Physical Distribution Management
(b) Purchasing and Materials Management

NOTE: For the General Studies requirement, courses, and codes (such as L, SQ, C, and H), see "General Studies," page 87. For graduation requirements, see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60.

College of Education

David C. Berliner, Ph.D., Dean

tikkun.ed.asu.edu/coe



Elsie G.J. Moore, Director of the Division of Psychology in Education

Tim Trumble photo

Division of Curriculum and Instruction184

Division of Psychology in Education192

**Division of Educational Leadership
and Policy Studies191**

PURPOSE

For students, choosing a professional college is an important step because it establishes the foundation on which a career will be built. The College of Education provides a stimulating, challenging forum wherein scholars and practitioners interact in the discovery and mastery of the science and art of educational endeavors. This balanced approach, in which research and practice are viewed as essential and complementary, enables the college to produce superior educators.

The purposes of the faculty of the College of Education are as follows.

1. to engage in the scholarly, scientific, and professional study of education;
2. to prepare competent professionals who will serve in a variety of critical educational roles;
3. to develop productive scholars who will make significant contributions to the educational literature and to the quality of educational practice; and
4. to serve the education profession at the local, national, and international levels.

In accord with these purposes, the College of Education is committed to producing quality scholarship and research and to *excellence in teaching*.

Information about the college can be found on the Web at www.ed.asu.edu/coe.

ORGANIZATION

The College of Education is organized into three divisions. These divisions and their academic program areas are listed below:

Division of Curriculum and Instruction

Early Childhood Education
Educational Media and Computers
Elementary Education
Multicultural Education
Reading and School Library Science
Secondary Education
Special Education

Division of Educational Leadership and Policy Studies

Educational Policy Studies
Educational Administration and Supervision
Higher and Postsecondary Education
Social and Philosophical Foundations

Division of Psychology in Education

Counseling Psychology
Counselor Education
Learning and Instructional Technology
Lifespan Developmental Psychology
Measurement, Statistics, and Methodological Studies
School Psychology

Services to students and the community are provided through various centers and offices

Center for Bilingual Education and Research. The Center for Bilingual Education and Research (CBER) conducts, supports, and encourages research in the field of dual language education. The purpose of the center's work is to inform public policy. CBER is also engaged in research,

program development, and scholarly discourse aimed at improving public education in the border regions of the United States. *The center gives special attention to the needs of Spanish speaking students.*

Center for Indian Education. The Center for Indian Education serves as a service agency to Native American communities, school districts, and students attending ASU. The center also conducts research on Indian education in Arizona and other states with American Indian populations.

Office of Student Affairs. The Office of Student Affairs assists individuals interested in teacher preparation programs through advising, admission, and retention activities and certification assistance. Other services include program of study validation, declaration of graduation, petition review, student communication, and high school and community college articulation/relations and recruitment. In addition, the office provides support services through tutorial assistance and scholarship programs.

Office of Professional Field Experiences. The Office of Professional Field Experiences places all teacher preparation students in public schools and similar institutions for internships and student teaching, monitors students' progress in their field experiences, sponsors courses for mentor teachers, and conducts research on student teacher performance in the field.

Center for Academic Precocity. The Center for Academic Precocity provides academic services to intellectually advanced students in grades pre K-12. These services include individual assessment, talent identification, and a variety of courses.

Counselor Training Center. The Counselor Training Center provides counseling for ASU students, staff, and the community at large in personal and career development, stress management, and marriage and family issues. Counseling is conducted by graduate students in counseling and counseling psychology under the supervision of licensed psychologists.

Other Units. Other units within the college offering specialized research and educational services include the College of Education Preschool, Arizona Educational Information System, and Technology Based Learning and Research.

Teacher Education

Programs that prepare students for teacher certification by the state are available to both the undergraduate pursuing a first degree and the individual with a college degree in a noneducation field

Undergraduate students interested in teacher certification in art, music, dance, or theatre enroll through programs offered by the College of Fine Arts. These students must also meet the same eligibility requirements for admission to the Professional Teacher Preparation Program (PTPP) for certification

Undergraduate programs leading to the Bachelor of Arts in Education degree are described in the text and tables that follow. For descriptions of graduate degree programs, see the *Graduate Catalog*. For more information, see the "College of Education Graduate Degrees and Majors" table, page 177

College of Education Baccalaureate Degrees and Majors

Major	Concentration	Degree	Administered By
Early Childhood Education		B.A.E.	Division of Curriculum and Instruction
Elementary Education	Bilingual education/English as a second language	B.A.E.	Division of Curriculum and Instruction
Secondary Education	Academic specializations: biological sciences, business education, chemistry, Chinese,* economics, English, family resources and human development (home economics), [~] French, geography, German, history, Japanese, journalism, mathematics, mathematics chemistry, mathematics physics, physical education, physics, physics chemistry, political science, Russian, social studies, Spanish	B.A.E.	Division of Curriculum and Instruction
Selected Studies in Education*		B.A.E.	College of Education
Special Education		B.A.E.	Division of Curriculum and Instruction

* Applications are not being accepted at this time

ADMISSION

Preprofessional Admission

Students admitted to ASU during their freshman and sophomore years may also be admitted to the College of Education with preprofessional status. Preprofessional students should seek advising within the College of Education through its Office of Student Affairs, EDB L113.

Admission to ASU with preprofessional status in the College of Education does not guarantee admission to the PTPP. Admission to the PTPP is a separate process.

Professional Program Admission

Students are eligible for consideration for admission to the PTPP for certification if they meet the following criteria:

1. admission to ASU as a classified student,
2. a minimum cumulative GPA of 2.50,
3. completion of at least 56 semester hours by the time of PTPP admission,
4. submission of scores on the American College Test (ACT) or the Pre Professional Skills test (PPST) (see "Scores," on this page);
5. completion of ENG 101 and 102 and General Studies L or SQ and MA requirements with a grade of "C" or higher (courses in progress do not satisfy this requirement), and
6. a special application with additional supporting materials (great emphasis is placed on prior experience, paid or volunteer, working with the age or group of the certification area sought).

Admission is competitive and not guaranteed to all who satisfy the minimum admission criteria.

Some academic units have additional requirements. Students seeking admission to K-12 or secondary education programs should consult the Office of Student Affairs in the College of Education (480-965-5555) to determine if there are additional admission requirements for their teaching fields.

PTPP application deadlines are January 15 for fall admission and September 1 for spring admission. Applicants should contact the Office of Student Affairs for an application or it can be downloaded via the Web at www.asu.edu/eduosa.

Because PPST or ACT scores must be included for an application to be complete, applicants should plan to take the test *well in advance* of application deadlines.

Scores. An ACT score of 21 or higher is required, or PPST scores of 172 in math, 173 in reading, and 174 in writing are required. Students who do not meet regular admission standards can still be considered for provisional admission (if scores fall between 18 and 20 on the ACT or 170 and 173 in the PPST). Students who fall under this classification need to fulfill specific academic requirements with the purpose of meeting the regular admission standards in the PTPP in order to demonstrate requisite qualifications for successful teaching and to meet the state's certification requirements.

Transfer Students

To be considered for admission to the PTPP for certification, transfer students must first be formally admitted to ASU (see "Transfer Applicants," page 64). Transfer students must attend a Transfer Advising Session (TAS). These sessions are provided in groups according to specialization area and conducted by academic advisors. During the TAS, information is provided regarding the university General Studies requirement, course selection and registration in the College of Education, and admission requirements for the highly competitive Professional Teacher Preparation Program. ASU Undergraduate Admissions should receive the application for admission to ASU, transcripts, applicable test scores, and other required information at least five months before the PTPP application deadline date for the desired PTPP admission semester.

Students should access the ASU Education Transfer Guides for optimal course selection on the Web at www.asu.edu/provost/articulation.

College of Education Graduate Degrees and Majors

Major	Concentration	Degree	Administered By
Counseling		M.C.	Division of Psychology in Education
Counseling Psychology	—	Ph.D.	Division of Psychology in Education
Counselor Education		M.Ed.	Division of Psychology in Education
Curriculum and Instruction	Bilingual education, communication arts, early childhood education, elementary education, English as a second language, Indian education, mathematics education, multicultural education,¹ reading education, science education, secondary education, social studies education	M.A., M.Ed.	Division of Curriculum and Instruction
Curriculum and Instruction	Bilingual education, communication arts, curriculum studies, early childhood education, elementary education, English as a second language, Indian education, mathematics education, multicultural education, ¹ reading education, science education, secondary education, social studies education	Ed.D.	Division of Curriculum and Instruction
Curriculum and Instruction	Curriculum studies, early childhood education, educational media and computers,¹ elementary education, English education, exercise and wellness education, mathematics education, music education, physical education, reading education, science education, special education	Ph.D.²	Interdisciplinary Committee on Curriculum
Educational Administration and Supervision		M.Ed., Ed.D.	Division of Educational Leadership and Policy Studies
Educational Leadership and Policy Studies		Ph.D.	Division of Educational Leadership and Policy Studies
Educational Media and Computers	Business education	M.Ed.	Division of Curriculum and Instruction
Educational Psychology	—	M.A., M.Ed.	Division of Psychology in Education
Educational Psychology	Lifespan developmental psychology; measurement, statistics, and methodological studies; school psychology	Ph.D.	Division of Psychology in Education
Higher and Postsecondary Education	Higher education	M.Ed., Ed.D.	Division of Educational Leadership and Policy Studies
Learning and Instructional Technology		M.A., M.Ed.	Division of Psychology in Education
Learning and Instructional Technology	Instructional technology, learning	Ph.D.	Division of Psychology in Education
Social and Philosophical Foundations of Education		M.A.	Division of Educational Leadership and Policy Studies
Special Education	—	M.A.	Division of Curriculum and Instruction
Special Education	Gifted, infants and young children, mildly handicapped, multicultural exceptional, severely multiply handicapped	M.Ed.	Division of Curriculum and Instruction

¹ Applications are not being accepted at this time

² This program is administered jointly by the College of Education and the Graduate College. See "Graduate College." page 304.

Declaration of Graduation

A declaration of graduation must be filed during the first semester of enrollment in the PTPP. Preprofessional students completing 87 hours (the university limit for registering without a program of study) who have not been admitted to the PTPP are provided a registration waiver by the College of Education. See "University Graduation Requirements," page 83.

ADVISING

All students pursuing teaching certificates should seek early advising from the Office of Student Affairs in the College of Education, 480 965 5555. Careful planning and early advising in developing an approved program of study are essential if teacher candidates are to complete certification and graduation requirements within the typical 120 semester hour undergraduate degree program.

Mandatory Advising. Transfer students are required to meet with an academic advisor before registering for their first semester classes. Freshmen must meet with an advisor before registering for each of their first two semesters.

DEGREES

Bachelor of Arts in Education

The faculty in the College of Education offer the Bachelor of Arts in Education (B.A.E.) degree. See the "College of Education Baccalaureate Degrees and Majors" table, page 176, for more information. Candidates for the Bachelor of Arts in Education degree must complete the Professional Teacher Preparation Program (PTPP) offered by the College of Education. Graduates of this program are able to demonstrate proficiency in specified knowledge areas or skills, including the following:

1. principles and application of effective instruction;
2. classroom organization and management;
3. content or subject matter;
4. specific curriculum and teaching strategies;
5. interrelationship of culture and schooling in a multicultural society;
6. human development;
7. communication skills;
8. theories of learning and motivation;
9. assessment and evaluation; and
10. computer literacy.

Each student in the PTPP selects one of five major areas that provide specialized instruction and preparation. The program areas are:

1. Bilingual/ESL Education (K-8);
2. Early Childhood Education (birth-third grade);
3. Elementary Education (K-8);
4. Secondary Education (7-12), and
5. Special Education (K-12).

Students in Secondary Education may be certified for grades 7-12 in a specific academic specialization. Students in art, music, or physical education complete a K-12 endorsement in their field. Special Education majors may be certified for grades K-12 in mental retardation (MR), emotionally disabled (ED), or learning disabilities (LD).

PTPP Certification Areas or Endorsements

- Early Childhood Education
- Elementary Education
 - bilingual education
 - English as a second language
- Secondary Education
 - certification in specific academic specializations
 - K-12 endorsements in art, music, or physical education
- Special Education
 - emotionally disabled
 - learning disabilities
 - mental retardation

PTPP students in areas other than Special Education complete a common core of courses as well as courses specific to the area or option selected. Early Childhood Education and Elementary Education prepare students for certification by the state in grades K-8. Students who select these majors develop the knowledge and skills needed to teach children from a variety of language, cultural, and developmental backgrounds. The Early Childhood Education concentration prepares students to work in infant programs, preschools, and grades K-3. The Elementary Education bilingual education/English as a second language (ESL) concentration prepares students to work in bilingual ESL settings in grades K-8. The Special Education major prepares students to teach mildly handicapped students in diverse settings and for certification in grades K-12 in MR, ED, or LD. Students completing the Elementary Education major must also complete the human development requirements and an academic specialization.

Secondary Education offers programs that prepare students for certification by the state in specific academic subjects in grades 7-12. Students with teaching majors in the College of Fine Arts earn the appropriate bachelor's degree from that college.

Courses for the academic specialization are determined by the faculty in the academic discipline. Therefore, students with majors in Secondary Education in the College of Fine Arts have two academic advisors: one in the college and department of the academic specialization and one in the Office of Student Affairs in the College of Education. For more information, refer to "Academic Specialization," page 179.

UNIVERSITY GRADUATION REQUIREMENTS

In addition to fulfilling college and major requirements, students must meet all university graduation requirements. For more information, see "University Graduation Requirements," page 83.

General Studies Requirement

All students enrolled in a baccalaureate degree program must satisfy a university requirement of a minimum of 35 hours of approved course work as described in "General Studies," page 87. Note that all three General Studies awareness areas are required. Consult your advisor for an approved list of courses. General Studies courses are listed in the "General Studies Courses" table, page 90, in the course descriptions, in the *Schedule of Classes* and in the *Summer Sessions Bulletin*.

Preprofessional students should complete as many of the General Studies courses as possible before admission to the

PTPP. Students are encouraged to consult with an academic advisor to ensure they comply with all necessary requirements.

COLLEGE DEGREE REQUIREMENTS

A minimum of 120 semester hours are required for the B.A.E. degree in these categories:

1. academic specialization;
2. human development (Early Childhood Education and Elementary Education majors only); and
3. PTPP.

The College of Education expects its degree candidates to meet individual course assessment standards, field experience observation criteria, courses required for teacher certification, and other proficiency standards and performance criteria required to demonstrate knowledge and skill in the areas listed under "Bachelor of Arts in Education," page 178.

Program Requirements

Progress toward the B.A.E. degree involves meeting university, college, and division requirements. The degree program also includes courses and academic content required for teacher certification by the State of Arizona. Students seeking certification in one of the fine arts must complete degree requirements in the College of Fine Arts and specified courses through the PTPP.

MAJOR REQUIREMENTS

Academic Specialization

Courses in the academic specialization give students a greater depth of knowledge in one academic area. Elementary Education majors complete 18 hours in a single academic subject. A Secondary Education major completes 36 to 60 hours, depending upon the area, in the subject in which the student wishes to be certified; fine arts may require more. Teacher candidates should confer with the Office of Student Affairs regarding acceptable academic specializations. Refer to the pages shown in the "Academic Specializations" table on this page.

Human Development

The programs that prepare students for teacher certification by the state in elementary and early childhood education require students to complete 15 credits selected from specific human development courses pertinent to the teaching area. Teacher candidates should confer with an academic advisor in the Office of Student Affairs regarding course selection.

Professional Teacher Preparation Program (PTPP)

The PTPP is a four semester sequential program consisting of 36 to 58 semester hours. Ranging from nine to 16 hours per semester, the courses for one semester must be completed before enrolling in the next semester. In other words, courses for one semester usually may not be taken at the same time as those scheduled for another semester. In addition to the PTPP courses, students continue completing the General Studies requirement and human development

and academic specialization requirements through the third semester of the program.

Academic Specializations

Academic Specialization	Page
Art education ¹	269
Biological sciences	352
Business education ²	
Chemistry	357
Chinese ³	392
Dance education ¹	281
Economics ²	
English	364
Family resources and human development (home economics) ³	372
French	392
Geography	376
German	392
History	382
Japanese	392
Journalism	468
Mathematics	405
Mathematics chemistry	405
Mathematics physics	405
Music ⁴	285
Physical education	369
Physics	419
Physics chemistry	419
Political science	428
Russian ³	392
Social studies	438
Spanish	392
Theatre education ¹	298

¹ Art education, dance education, and theatre education concentrations are under corresponding B.F.A. majors

² See an advisor for details.

³ Applications are not being accepted at this time.

⁴ Students focus on either the choral general music or instrumental music concentration under the B.M. degree.

Early Childhood Education—B.A.E.

The major in Early Childhood Education leads to teacher certification for kindergarten through eighth grade.

Early Childhood Education

Semester I

ECD 300 Principles of Interprofessional Collaboration	3
ECD 400 Inquiry into Teaching and Learning	3
ECD 403 Educational Environments: Preschool/Kindergarten Primary Grades	3
ECD 496 Field Experience	0
EMC 300 Computers in Education	1
SHS 320 Facilitating Speech and Language Development in Early Childhood	3
SPF 401 Theory and Practice in Education	1
Total	14

Semester II

ECD 315 Classroom Organization and Guidance in the Early Years	2
ECD 402 Integrated Curriculum and Assessment: Math and Science	3
ECD 404 Teaching Reading and Language Arts in Early Childhood	3
ECD 405 Practicum in Teaching Reading and Language Arts in Early Childhood	2
ECD 496 Field Experience	0
MCE 447 Diversity in Families and Communities in Multicultural Settings	3
Total	13

Semester III

ECD 401 Integrated Curriculum and Assessment Social Studies and Creative Arts	3
ECD 414 Interprofessional Practicum	3
ECD 496 Field Experience	0
SPE 394 ST Quality Practices in the Collaborative Classroom	3
Total	9

Semester IV

EED 478 Student Teaching in the Elementary School	10-12
Total	10-12

Elementary Education—B.A.E.

The major in Elementary Education prepares students to teach kindergarten through eighth grade and is available with a concentration in bilingual education/English as a Second Language.

**Four-Semester Requirements
Professional Teacher Preparation Program
Elementary Education**

Semester I

EED 433 Language Arts Methods, Management, and Assessment in the Elementary School	3
EED 455 Social Studies Methods, Management, and Assessment in the Elementary School	3
EED 496 Field Experience	0
EMC 300 Computers in Education	1
SPF 301 Culture and Schooling I	3
SPF 401 Theory and Practice in Education	1
Total	11

Semester II

EED 420 Science Methods, Management, and Assessment in the Elementary School	3
EED 480 Mathematics Methods, Management, and Assessment in the Elementary School	3
EED 496 Field Experience	0
SPE 394 ST Quality Practices in the Collaborative Classroom	3
Total	9

Semester III

BLE 335 Language Diversity in Classrooms	3
EED 444 Organizing the Classroom Culture	1
EED 496 Field Experience	0
RDG 414 Teaching Reading Decoding	3
RDG 481 Reading Practicum	3
Total	10

Semester IV

EED 478 Student Teaching in the Elementary School	10-12
Total	10-12

**Elementary Education with a Concentration
in Bilingual Education/English as a Second Language**

Semester I

BLE 400 Principles of Language Minority Education	3
BLE 455 Social Studies Methods, Management, and Assessment in Elementary BLE/ESL Settings	3
BLE 496 Field Experience (6 hours week)	0
EMC 300 Computers in Education	1
SPF 301 Culture and Schooling I	3
SPF 401 Theory and Practice in Education	1
Total	11

Semester II

BLE 409 Language Sensitive Content Teaching	3
BLE 420 Science Methods, Management, and Assessment in BLE/ESL Settings	3
BLE 480 Math Methods, Management, and Assessment in Elementary BLE/ESL Settings	3
BLE 496 Field Experience (8 hours week)	0
MCE 447 Diversity in Families and Communities in Multicultural Settings	3
Total	12

Semester III

BLE 414 Reading Methods, Management, and Assessment in BLE/ESL Settings	3
BLE 433 Language Arts Methods, Management, and Assessment in Elementary BLE/ESL Settings	3
BLE 481 Reading Practicum	3
BLE 496 Field Experience (8 hours week)	0
SPE 394 ST Quality Practices in the Collaborative Classroom	3
Total	12

Semester IV

BLE 478 Student Teaching in the Elementary School	10-12
Total	10-12

Secondary Education—B.A.E.

The major in Secondary Education prepares students to teach seventh grade through 12th grade.

Secondary Education

Semester I

EDP 303 Human Development I	3
EDP 310 Educational Psychology SB	2
SED 403 Principles, Curricula, and Methods	3
SED 496 Field Experience	0
SPF 301 Culture and Schooling I	3
SPF 401 Theory and Practice in Education	1
Total	12

Semester II

EDP 310 Educational Psychology SB	1
EMC 300 Computers in Education	1
RDG 301 Literacy and Instruction in the Content Areas	3
SED 496 Field Experience	0
Methods course in academic specialization I	3
Total	8

Semester III

SED 496 Field Experience	0
SPE 394 ST: Inclusion Practices at the Secondary Level	3
Methods course in academic specialization II	3
Total	6

Semester IV

SED 478 Student Teaching in the Secondary Schools10-12
 Total10-12

Special Education—B.A.E.

The major in Special Education prepares students to teach kindergarten through 12th grade.

Special Education

Semester I

SPE 309 Basic Special Education Curriculum3
 SPE 311 Orientation to Education of Exceptional Children *SB*3
 SPE 314 Introduction to Bilingual/Multicultural Special Education3
 SPE 361 Introduction to Learning Disabilities3
 SPE 498 PS: Field Experience1
 SPF 301 Culture and Schooling *L*3
 Total16

Semester II

EMC 300 Computers in Education1
 SPE 312 Mental Retardation3
 SPE 336 Behavioral and Emotional Problems in Children3
 SPE 412 Evaluating Exceptional Children3
 SPE 413 Methods in Language, Reading, and Arithmetic for Exceptional Children3
 SPE 498 PS: Field Experience3
 Total16

Semester III

SPE 411 Parent Involvement and Regulatory Issues3
 SPE 414 Methods and Strategies in Behavior Management3
 SPE 415 Social Behavior Problems of Exceptional Children3
 SPE 494 ST: Instruction in Content Areas Science Social Studies3
 SPE 498 PS: Field Experience3
 Total15

Semester IV

SPE 478 Student Teaching in Special Education12
 (one certification area)
 Total12

SPE 309 and 311 may be taken before formal Professional Teacher Preparation Program (PTPP) admission

Selected Studies in Education—B.A.E.

Applications are not being accepted for the major in Selected Studies in Education at this time.

Field Experience Requirements

In addition to course work, students admitted to the PTPP are required to participate in directed field experiences during each of the four semesters of the program. The field experiences progress from short term observation and participation to long-term supervised practice teaching.

Students should expect these field experiences to be above and beyond the class times listed in the *Schedule of Classes* for each semester. Such field experiences typically take place in public schools throughout the greater Phoenix area. Regular attendance is required during all field experiences. Students should plan extra travel time and expect to confer with placement teachers and field facilitators before

or after scheduled field experiences. To meet field experience requirements, students must plan to have their own transportation and *be available during regular school hours.*

Teaching is a highly demanding and extraordinarily complex profession. Students desiring to become teachers must maintain academic standards and demonstrate requisite qualifications for successful teaching, including effective interpersonal skills, basic communication skills, appropriate professional conduct, and satisfactory performance during field experience assignments.

Observation and participation assignments in the schools during first, second, and third semester field experience placements are designed to prepare students for the highly demanding performance based student teaching during semester four

Student Teaching. The culminating field experience, called *student teaching*, occurs in the fourth semester of the PTPP and is a full day, full semester obligation. Student teaching is usually possible only during fall and spring semesters.

Admission to Student Teaching (Semester IV). To be admitted to student teaching, a student must have attained a high level of professional standards in previous field experience assignments and meet the following requirements:

1. be in good standing as defined in this policy;
2. completion of any provisional admissions requirement;
3. have no incompletes in PTPP courses;
4. complete all PTPP courses; and
5. have an approved declaration of graduation on file.

There are additional requirements for certain programs. Secondary Education majors may have no more than two required courses remaining in the academic specialization and have no more than two courses to complete in General Studies. Students must also receive approval from their specialization advisor

Elementary and Special Education majors must have completed all human development courses, all methods courses, and may only have two additional courses to complete.

Students must complete the application procedure and approval to student teach from the Office of Professional Field Experiences at least 12 weeks before the beginning of the student teaching term. Student teachers must adhere to the calendar, regulations, and philosophy of the schools in which they are placed. Beginning and ending dates for student teaching are determined by the Office of Professional Field Experiences in cooperation with the placement schools. Because student teaching is on a full day schedule, 8 A.M. to 4 P.M. Monday through Friday for 15 consecutive weeks, student teachers are strongly encouraged to avoid extra activities and course work that would interfere with the heavy demands placed upon them while student teaching.

NOTE: For the General Studies requirement courses, and codes such as L, SQ, C, and H) see "General Studies, page 87. For graduation requirements see "University Graduation Requirements" page 83. For an explanation of additional optional courses offered but not listed in this catalog see "Classification of Courses, page 60"

ACADEMIC STANDARDS

Preprofessional Status

Students admitted to the College of Education on *preprofessional status* are subject to the general standards of academic good standing of the university. However, students who maintain standards of academic good standing during their freshman and sophomore years do not necessarily qualify for admission to any teacher preparation program offered by the College of Education.

Professional Program Status

Students admitted to the PTPP within the College of Education must maintain academic standards and demonstrate requisite qualifications for successful teaching, including sound physical and mental health, interpersonal skills, basic communication skills, a positive attitude, appropriate professional conduct, and satisfactory performance in field experiences. Because PTPP standards are higher than those for the university, a student who is suspended from the PTPP may still be eligible to enroll in other non PTPP courses.

A copy of the Retention and Disqualification Policy for the PTPP may be obtained from the Office of Student Affairs, EDB L113.

College of Education faculty and placement teachers will routinely review preservice teachers' professional attributes and characteristics to determine if the student is making satisfactory progress at both midterm and final. To maintain good standing, students will need to demonstrate appropriate professional demeanor in field placements and college classes.

Students demonstrating behaviors or characteristics that make it questionable whether they can succeed in the teaching profession are reviewed by the director of the Office of Professional Field Experiences and the director of the Division of Curriculum and Instruction. If necessary, a review panel composed of faculty members who have had direct involvement with the student is convened. Following this review, the student may be referred to the Division of Curriculum and Instruction Standards and Appeals Committee. The committee's review may result in a decision to disqualify the student or the specification of conditions under which continued participation is permitted, i.e., probation.

Students who wish to appeal decisions of the Division of Curriculum and Instruction Standards and Appeals Committee may do so in writing to the dean of the college or the Main Campus Standards Committee. Any exceptions to the retention and disqualification policies and procedures must be approved by the Division of Curriculum and Instruction Standards and Appeals Committee and the dean of the College of Education.

Postbaccalaureate Programs

Professional Teacher Preparation programs prepare students for certification by the state and are designed for those who hold a bachelor's degree in an area other than education. The college offers postbaccalaureate programs in early childhood education, elementary education, secondary education, and special education. Special education students must qualify for and be concurrently admitted to a master's

degree program in special education. Information on postbaccalaureate programs is available through the Office of Student Affairs, EDB L113 (480 965 5555). The office provides academic advising and information regarding requirements, procedures, and deadline dates.

A student who wishes to be considered for entry must meet the College of Education admission requirements for postbaccalaureate programs:

1. an earned bachelor's degree from an accredited institution;
2. a cumulative GPA of 2.50 or higher for the last 60 semester hours of credit earned;
3. submission of a completed application form and supporting materials by the appropriate deadline dates during the semester before admission; and
4. completion of an academic specialization for secondary education (consult the Office of Student Affairs, EDB L113).

Admission is competitive and not guaranteed to all who satisfy the minimum admission criteria.

Some academic units have additional requirements. Students seeking admission to K-12 or secondary education programs should consult the Office of Student Affairs in the College of Education (480 965 5555) to determine if there are additional admission requirements for their teaching fields.

PTPP application deadlines are January 15 for fall admission and September 1 for spring admission. Applicants should contact the Office of Student Affairs for an application.

Student Teaching

Students in a postbaccalaureate program for initial teacher certification must file student teaching applications early in the semester before the student teaching term. Application deadlines are September 15 for spring semester and February 1 for fall semester. To be accepted for student teaching, students must:

1. attain a cumulative ASU GPA of 2.50 or higher in required professional education course work;
2. complete all required professional education course work other than one preapproved course that can be taken concurrently with student teaching (Secondary Education students must also receive approval from their academic specialization advisors);
3. remove all academic deficiencies such as grades of "D," "E," or "I" before placement; and
4. obtain a final approval from the Office of Professional Field Experiences (this review considers appropriate professional conduct and satisfactory performance in field settings and academic achievement).

Certification for Teaching

The curricula for both the undergraduate and postbaccalaureate teacher education programs meet the requirements for teacher certification in the State of Arizona.



Many programs provide students with practical experience in areas such as day care.

Tim Trumble photo

In addition to the course requirements specified in this catalog, there are other requirements for teacher certification mandated by the State of Arizona including the U.S. Constitution and Arizona Constitution requirement. Some teaching areas have specific math, science, and fine arts requirements. Each student must pass the Arizona Teacher Proficiency Assessment, which consists of professional knowledge and subject knowledge tests.

Because these requirements vary over program areas and may be changed at any time, students are encouraged to maintain close contact with the Office of Student Affairs regarding the most current state certification requirements.

The College of Education is approved by the Arizona Department of Education for the preparation of elementary, secondary, and special education teachers. Students who complete an approved program of study and meet all graduation requirements of the university and the college are recommended for certification to the Arizona Department of Education. The Office of Student Affairs maintains information about current certification requirements in Arizona and other states. (This includes fingerprint clearance and passing the Arizona Teacher Proficiency Assessment.)

The College of Education also offers courses for certified teachers leading to special endorsements by the Arizona Department of Education. Of special interest are endorse-

ments in the areas of bilingual education, English as a second language (ESL), middle school education, reading, and school library science. The bilingual education endorsement is required of all teachers specifically responsible for providing bilingual instruction. The ESL endorsement is required of all teachers specifically responsible for providing ESL instruction. Students should contact the Office of Student Affairs for information and advising regarding teaching concentrations or special teaching endorsements.

Independent Learning Course Work for Credit

It is the general policy of the College of Education not to accept course credit for *courses in education* taken through independent learning. Exceptions to this policy may be approved if the independent learning course work has been approved in advance of enrollment in the course by the student's advisor, respective program coordinator, and division director. In all such cases, an appropriate rationale must be submitted with the request to enroll.

COLLEGE OF EDUCATION (COE)

See the *Graduate Catalog* for the COE courses.

NOTE: For the General Studies requirement, courses, and codes (such as L, SQ, C, and H), see "General Studies," page 87. For graduation requirements, see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60.

Division of Curriculum and Instruction

Nicholas Appleton
Director
(ED 443U1) 480/965-1644
www.ed.asu.edu/coe/candi

PROFESSORS

BAKER BARONE, BITTER, CHRIST E EDELSKY, FALTIS
FLORES GREATHOUSE, GRYDER, GUZZETT,
HUDELSON, McGOWAN, McISAAC, PIBURN,
RUTHERFORD, SEARFOSS STAHL, STALEY, ZUCKER

ASSOCIATE PROFESSORS

ANDERSON, ARAS, BENAVIDES BLUMENFELD JONES,
COHEN COHN, D GANG, GOMEZ, KNAUPP, McCOY,
MIDDLETON, NELSON, RADER, K SMITH,
SURBECK VALLEJO

ASSISTANT PROFESSORS

ANIJAR, FISCHMAN, LAMOREY, MacSWAN, McQU LLAN,
ROBERTS, ROLSTAD, TRUJILLO,
TSE, YOUNG

CLINICAL ASSOCIATE PROFESSOR

GARCIA

CLINICAL ASSISTANT PROFESSORS

CHRISTINE, McLOONE

LECTURERS

BURSTEIN, COCH ARELLA, S. GLASS, KORTMAN,
SPANIAS, WELDON

Professional Teacher Preparation Programs

- Apprentice Teacher Program
- Bilingual Education
- Early Childhood Education
- English As a Second Language
- Elementary Education
- Secondary Education
- Special Education
- Teacher Education for Arizona Mathematics
and Science
- Teaching for Diverse Future

Degrees: B.A.E., M.A., M.Ed., Ed.D., Ph.D.

DEGREES

Bachelor of Arts in Education—B.A.E.

The faculty in the Division of Curriculum and Instruction offer several undergraduate academic programs designed to prepare persons to teach effectively in early childhood, elementary, secondary, and special education settings. Concentrations available at the undergraduate level include bilingual education, English as a second language (ESL), Indian education, and multicultural education. Programs in special education lead to Arizona teacher certification in the mentally handicapped, emotionally disabled, learning disabilities, and early childhood education for the handicapped areas. Programs of study leading to special endorsements by

the Arizona Department of Education are bilingual education, ESL, middle school education, reading, and school library science

GRADUATE PROGRAMS

The faculty in the Division of Curriculum and Instruction offer several graduate degrees in a number of majors

For more information on courses, faculty, and programs, see the *Graduate Catalog*.

BILINGUAL EDUCATION (BLE)

BLE 335 Language Diversity in Classrooms. (3) F S
Issues in sociolinguistics and language variation in schools with a focus on classroom interaction, instruction curriculum assessment, and language policy. Lecture, discussion, lab. Corequisites: RDG 414 481

BLE 400 Principles of Language Minority Education. (3) F S
Overview of philosophical and theoretical foundations of bilingual education and ESL models of instruction. Other topics include legislative and judicial measures. Lecture, small group discussion. Prerequisite: PTPP admission

BLE 409 Language-Sensitive Content Teaching. (3) F, S
For preservice students seeking K-8 certification and the endorsement in bilingual education or ESL. Lecture, discussion.

BLE 414 Reading Methods, Management, and Assessment in BLE/ESL Settings. (3) F S

Teaching and assessing reading with emphasis on integrated curriculum and literature-based instruction for BLE/ESL learners. Strategies for decoding (phonics), vocabulary comprehension and content area reading. Lecture, lab, discussion. Corequisites: BLE 433 481

BLE 420 Science Methods, Management, and Assessment in BLE/ESL Settings. (3) F S

Methods management strategies and assessment procedures for teaching science to BLE/ESL students in elementary schools. Lecture, lab, discussion. Corequisites: BLE 455 480, 498

BLE 433 Language Arts Methods, Management, and Assessment in Elementary BLE/ESL Settings. (3) F S

The social nature of oral and written, first and second-language acquisition and congruent teaching, management assessment practices in BLE/ESL settings. Lecture, lab, discussion. Corequisites: BLE 414, 481.

BLE 455 Social Studies Methods, Management, and Assessment in Elementary BLE/ESL Settings. (3) F, S

Examines methods classroom management strategies, and assessment techniques for social studies instruction in elementary BLE/ESL classes. Lecture, lab, discussion. Corequisites: BLE 420, 480 498

BLE 478 Student Teaching in the Elementary School. (3-15) F, S
Supervised teaching in the area of specialization. A synthesized experience in curriculum instruction and classroom management in a bilingual education/ESL setting. Prerequisites: 2.50 GPA, completion of professional course sequence, approval of Office of Professional Field Experiences

BLE 480 Mathematics Methods, Management, and Assessment in Elementary BLE/ESL Settings. (3) F, S

Teaching, management, and assessment of mathematics in K-8 BLE/ESL settings. Lecture, lab, discussion. Prerequisite: MTE 180 or equivalent. Corequisites: BLE 420, 455 498

BLE 481 Reading Practicum. (3) F, S

Applications of concepts from BLE 414. Supervised school-based experiences in teaching reading to BLE/ESL students. Corequisites: BLE 414 433

BLE 496 Field Experience. (0) F, S

Application of course content in a bilingual/ESL school setting. Emphasis on observation pupil management planning and delivering instruction, and assessment

BLE 498 Pro-Seminar. (1-7) F, S

Small group study and research for advanced students within the majors. Major status in the department or instructor approval required

BLE 511 Introduction to Language Minority Education. (3) A
Historical philosophical and pedagogical foundations of language minority education in the United States.

BLE 514 Bilingual/Multicultural Aspects of Special Education. (3) S

Theories and issues related to the education of bilingual and culturally diverse exceptional children

BLE 515 Instructional Methods for Bilingual Students. (3) F

An introduction to general language teaching approaches and assessment strategies. Focuses on the effective teaching of limited English proficient populations. Prerequisite: BLE 511

BLE 520 ESL For Children. (3) S

Examines approaches to second language development and assessment for children congruent with recent research in second language acquisition in children. Prerequisite: BLE 511

BLE 521 Primary/Elementary Communication Arts in Bilingual Education. (3) S

Examination of bilingual/bicultural development of elementary school children bringing together native and second language oral language, and literacy development findings with educational practices. Prerequisite: BLE 511

BLE 522 Literacy/Biliteracy Development. (3) F

Acquaints teachers with first and second language literacy research, practice and assessment in elementary school settings. Spanish English emphasis. Lecture/discussion. Cross-listed as RDG 522. Credit is awarded for only BLE 522 or RDG 522. Prerequisite: BLE 511

BLE 524 Secondary Sheltered ESL Content Teaching. (3) F

Teaching and assessing ESL adolescents in the content areas with an emphasis on integrating language acquisition principles with content learning. Lecture/seminar/group work. Corequisite: BLE 541

BLE 528 Social Studies for Bilingual/ESL Teachers. (3) S

Provides language and instructional methodologies and assessment strategies relevant to bilingual multicultural students in social studies content delivered in Spanish and English. Prerequisite: BLE 511

BLE 533 Literacy in Secondary BLE/ESL Settings. (3) S

Examines first and second language literacy research, practice, and assessment across content areas in secondary school settings. Lecture/discussion. Cross-listed as RDG 533. Credit is awarded for only BLE 533 or RDG 533. Prerequisite: BLE 511

BLE 535 Sociolinguistic Issues in Bilingual Education. (3) F

Survey of major theoretical issues (e.g., language status, communicative competence, language attitudes) interrelating language, social processes, and bilingual education. Prerequisite: BLE 511

BLE 541 Nature of Bilingualism/Second Language Acquisition. (3) A

Bilingual and second language acquisition with emphasis on children and adolescents. Cognitive, social and cultural aspects are stressed. Prerequisite: BLE 511

BLE 543 Bilingual Education Models. (3) A

Bilingual education programs in other countries, analysis of political, social, economic, and educational implications; practice in planning bilingual education in curriculum. See also offerings under MCE, SED, SPE, and SPF. Prerequisite: BLE 511

BLE 561 Parent Involvement in Language Minority Education Programs. (3) F, S

Examines issues, approaches and strategies for improving parental and community involvement in the schooling of language minority children and youth. Prerequisite: BLE 511.

BLE 565 Literature for Hispanic Youth/Literatura para Jóvenes Hispanoparlantes. (3) S

Selecting, analyzing, and utilizing literature for Hispanic and Spanish speaking children and adolescents. Cross-listed as LIS 565. Credit is awarded for only BLE 565 or LIS 565.

BLE 580 Practicum. (1-6) F, S

Provides for practical application in school settings of principles of bilingual education on English as a Second Language. Specific assignments on required

BUE 481 Technology in Business and Vocational Education. (3) S 2002

Emerging curriculum and instructional technology in business and vocational education. Lecture/hands-on computer instruction

BUE 501 Principles of Business Education. (3) F

History, philosophy, principles and objectives of business and distribution education

BUE 502 Organization and Management of Cooperative Programs. (3) F

Work study programs for business occupations in high schools and community colleges

BUE 503 Competency-Based Business and Vocational Education. (3) S

Development and administration of competency-based individualized programs in business and vocational education

BUE 505 Current Literature in Business and Vocational Education. (3) S

Critical analyses, generalizations and trends in business and vocational education

BUE 506 Information Processing for Business and Vocational Teachers. (3) SS

Development of curriculum and strategies for teaching information processing, hardware/software evaluation and equipment acquisition on technical business and vocational education

CURRICULUM AND INSTRUCTION (DCI)

DCI 302 Principles and Applications of Effective Instruction. (3) F, S

Principles of teaching defined by research on teaching effectiveness. Application of principles to classroom practice. Prerequisites: EDP 303, education major

DCI 396 Field Experience I. (0) F, S

First semester PTPP. Observation and limited participation in a school setting. Focus on observation of development, learning, management, instruction, assessment and motivation. 4 hours required per week. Corequisite: semester of the PTPP

DCI 397 Field Experience II. (0) F

Second semester PTPP. Observation and limited participation in a school setting. Focus on observation of development, learning, management, instruction, assessment and motivation. 6 hours required per week. Corequisite: semester of the PTPP

DCI 510 Teacher as Researcher. (3) F, S, SS

Introduces teacher research as a new research genre, offers teachers guidance on planning and conducting research on the workplace. Lecture/workshop

DCI 701 Curriculum Theory and Practice. (3) F, S

Curriculum theory and practice as a field of study. Its current or entant and applications, modes of inquiry and community of scholars and practitioners. Seminar. Corequisite: master's level curriculum course

EARLY CHILDHOOD EDUCATION (ECD)

ECD 300 Principles of Interprofessional Collaboration. (3) F, S

Focuses on the dispositions, experiences, knowledge, and skills necessary for interprofessional collaboration designed for young children and the families. Prerequisite: ECD 314

ECD 310 Educational Environments: Infants/Toddlers. (3) F, S, SS

Organizing, planning and implementing developmentally appropriate educational practice to provide optimal learning environments for infants and toddlers in group settings

ECD 314 The Developing Child. (3) F, S, SS

Examines all aspects of development of children birth through age eight with implications for teachers and parents. Classroom observation and participation required.

ECD 315 Classroom Organization and Guidance in the Early Years. (2) F, S

Develops understanding and application of classroom organization and management principles, strategies, and procedures. Prerequisite: ECD 314.

ECD 322 Communication Arts in Early Childhood Education. (3) F

Factors affecting language development. Setting conditions for learning, listening, speaking, reading, and writing

BUSINESS EDUCATION (BUE)

BUE 480 Teaching Business Subjects. (3) S

Organization and presentation of appropriate content for business subjects in the secondary school

ECD 378 Practicum in Early Childhood Development. (3) F, S
Provides a field based experience in selected early childhood settings (outside the public schools before student teaching) Prerequisite ECD 314

ECD 400 Inquiry Into Teaching and Learning. (3) F, S
Foundational basis of the early childhood field, including historical roots, current practices, ethics, models of teaching, and application in early childhood settings

ECD 401 Integrated Curriculum and Assessment: Social Studies and Creative Arts. (3) F, S
Presents materials, techniques, and resources for a balanced program of social studies and aesthetic expression appropriate for children in preschool through 3rd grade with emphasis on the integrated curriculum. Prerequisite ECD 314 Corequisite EMC 300

ECD 402 Integrated Curriculum and Assessment: Math and Science. (3) F, S
Emphasizes developmentally appropriate educational strategies and instructional techniques in teaching mathematics and science to children (preschool through 3rd grade), within an integrated curriculum approach Prerequisites ECD 314; MAT 114 or 117 or equivalent MTE 180 or equivalent Corequisite: EMC 300.

ECD 403 Educational Environments: Preschool Kindergarten Primary Grades. (3) F, S
A focus on interactions between young learners and the physical and social environments encountered in preschool kindergarten, and primary settings Prerequisite ECD 314

ECD 404 Teaching Reading and Language Arts in Early Childhood. (3) F, S
Development of oral and written language from birth to age 8. Describes developmentally appropriate educational strategies for promoting growth in speaking, listening, reading and writing

ECD 405 Practicum in Teaching Reading and Language Arts in Early Childhood. (2) F, S
Supervised experience teaching reading and language arts at the preschool kindergarten and primary-grade (1-3) levels Developmental and appropriate strategies to promote young children's speaking listening reading and writing abilities

ECD 414 Interprofessional Practicum. (3) F, S
Investigation of services and agencies available in the local community to parents of children with special needs Practical experiences with an intermittent seminar format Dispositions knowledge experiences, and skills necessary for interprofessional collaboration across multiple agencies and programs

ECD 496 Field Experience. (0) F, S
Application of course content in a preschool through 3rd grade setting Emphasis on observation, focus on child-centered curriculum planning and delivering instruction, and assessment.

ECD 501 Interprofessional Collaboration. (3) F
Dispositions knowledge experiences, and skills necessary for interprofessional collaboration required of professionals who work with multi-needs families with young children Prepares students to implement effective strategies and workable plans to support interprofessional collaboration for providing integrative services to young children and their families

ECD 521 Primary Elementary Communication Arts in Bilingual Education. (3) S
Examination of bilingual/iterate development of elementary school children bringing together native and second language oral language and literacy development findings with educational practices Prerequisite BLE 511

ECD 522 Developmental Social Experiences in Early Childhood Education. (3) F
Materials, techniques aesthetic expression creative activities and values in the integrated curriculum

ECD 525 Communication Arts in Early Childhood Education. (3) S
Problems and trends of current programs and oral language development. Effort to bring together language acquisition findings with educational practices Opportunity for self-directed learning/study

ECD 527 Mathematics in Early Childhood Education. (3) F
Theory and practice in the use of manipulative materials for teaching mathematics to preschool and primary grade children Prerequisite: ECD 402 or equivalent

ECD 544 Play Education. (3) S, SS
Theories of play and the educational implications of each Practical applications at the early childhood level.

ECD 555 Modern Practices in Early Childhood Education. (3) F, SS
Trends and practices, instructional and resource materials and methods and techniques in early childhood education

ECD 601 Theories and Issues in Early Childhood Education. (3) F, SS
Current theories and issues in early childhood education Presents issues of early childhood best practices, policy theory, research and evaluation that are of significance to the early childhood profession. Highlights building on the child development conceptual framework as related to theory and practice

ECD 733 Social and Emotional Development. (3) A
Inquiry into the social and emotional development dynamics in children such as peer relationships self concept, and parenting processes with implications for teachers.

ECD 744 Evaluative Procedures: Young Children. (3) S
A critical examination and use of developmentally appropriate evaluation procedures for children from birth through age eight

ELEMENTARY EDUCATION (EED)

EED 334 Children's Literature and Elementary School Curriculum. (3) F, S
Selecting and using children's literature in various curriculum areas in elementary school classrooms with diverse student populations. Lecture, discussion lab. Cross-listed as RDG 334 Credits allowed for only EED 334 or RDG 334 Prerequisite professional program admission Corequisite: DCI 396 or EED 496

EED 420 Science Methods, Management, and Assessment in the Elementary School. (3) F, S

Examines philosophies of science and how these relate to the implementation, management, and assessment of science teaching Lecture, discussion lab. Prerequisites: one physical science and one biological science course. Contact the College of Education Student Affairs Office for the approved list of courses. Corequisite: EED 480

EED 433 Language Arts Methods, Management, and Assessment in the Elementary School. (3) F, S

Theory on the social nature of oral and written language and congruent teaching management and assessment practices. Lecture discussion lab Corequisite EED 455

EED 444 Organizing the Classroom Culture. (1) F, S
Examines how teachers can create and maintain a classroom learning community within the context of an elementary school program Discussion, workshop, lab Prerequisites EED 420 433 455 480 Corequisite: EED 496

EED 455 Social Studies Methods, Management, and Assessment in the Elementary School. (3) F, S

Teaching methods, classroom management strategies and assessment techniques for social studies instruction in the elementary grades Lecture discussion, lab Corequisite EED 433.

EED 478 Student Teaching in the Elementary School. (3-15) F, S
Supervised teaching in the area of specialization. A synthesized experience in curriculum instruction and classroom management Prerequisites: 2.50 GPA completion of professional course sequence approval of Office of Professional Field Experiences

EED 480 Mathematics Methods, Management, and Assessment in the Elementary School. (3) F, S

A beginning course in the teaching management and assessment of mathematics in grades K-8 Lecture discussion lab Prerequisite MTE 180 or equivalent Corequisite EED 420

EED 496 Field Experience. (0) F, S

Application of course content in a K-8 school classroom Emphasis on observation pupil management, planning and delivery of instruction, and assessment

EED 511 Principles of Curriculum Development. (3) F, S, SS
Contemporary curriculum theories. Curriculum as an interrelated entity Principles of conceiving and effecting change.

EED 526 Communication Arts in the Elementary School. (3) S, SS
A critical examination of school language arts teaching focusing on theoretical assumptions regarding oral and written language development

EED 528 Social Studies in the Elementary School. (3) F, SS
Problems and trends of current programs Development of a balanced and articulated program of social studies

EED 529 Science in the Elementary School. (3) S
 Problems and trends of current programs. Development of a balanced and articulated science program.

EED 530 Outdoor Environmental Education. (3) SS
 Use of various outdoor settings as laboratories for classroom related experience, study observation inquiry research and recreation. Includes strategies and materials for developing environmental literacy.

EED 537 Mathematics in the Elementary School. (3) F, SS
 Contemporary mathematics teaching. Content materials, and approaches to instruction.

EED 578 Student Teaching in the Elementary School. (9–15) F, S
 Supervised teaching for postbaccalaureate students synthesizes experience in curriculum instruction, and classroom management. Prerequisites: completion of 21 hours of defined course work from an approved program of study, a GPA of 2.50 (postbaccalaureate non degree) or 3.00 (postbaccalaureate degree) approval of the Office of Professional Field Experiences.

EED 581 Diagnostic Practices in Mathematics. (3) F, S
 Specific skills in diagnosing/treating children's learning difficulties in mathematics includes practical experiences, both on and off campus in identifying strengths/weaknesses and in trial remediation.

EED 598 Special Topics. (1–4) N
 (a) Using Math Manipulatives/Elementary Schools
 (b) Using Math Manipulatives/Middle Schools

EED 720 Language in Education. (3) A
 Sociolinguistic seminar on language issues in education, including language acquisition classroom interaction language attitudes, relation language, and class gender ethnicity.

EDUCATIONAL MEDIA AND COMPUTERS (EMC)

EMC 300 Computers in Education. (1) F, S
 An introduction to word processing databases spreadsheets, teacher utility programs and evaluation of educational software. Required for majors in the College of Education.

EMC 321 Computer Literacy. (3) F, S, SS
 Survey of the role of computers in business and education. Laboratory experience in using word processing, database, and spreadsheet software. 2 hours lecture, 2 hours lab. *General Studies: CS*

EMC 323 Computer Applications. (3) F, S, SS
 Introduction to computer applications such as HyperCard Telecommunications, Authoring Languages and Expert Systems. Lecture, lab. *General Studies: CS*.

EMC 405 Presentation Technology for Multimedia. (3) F, S
 An exploration of multimedia hardware and software used in creating presentations for educational, corporate, and commercial applications.

EMC 406 Computer Graphics and Animation. (3) F, S
 The study and application of design and animation techniques for use in video or computer-based presentations.

EMC 455 Animation and Special Effects. (3) S
 An examination of the art science and impact of animation and other special effects used in film.

EMC 503 Current Issues and Problems in Media/Computer Education. (3) F
 Introduction to current theory and practice in instructional media and computers. Overview of production areas.

EMC 505 Presentation Technology for Multimedia. (3) F, S
 An exploration of multimedia hardware and software used in creating presentations for educational corporate and commercial applications. Lecture, lab.

EMC 506 Computer Graphics and Animation. (3) F, S
 The study and application of design and animation techniques for use in video or computer-based presentations. Lecture, lab.

EMC 511 Computer Applications in Education. (3) F, S
 Use and evaluation of computers for word processing, information management, graphics and authoring instruction in educational settings.

EMC 513 Introduction to Multimedia. (3) F, S
 Introduction to multimedia, emphasizing applications for business industry and public and higher education.

EMC 521 Instructional Media Design. (3) F, S, SS
 Solve problems using technology; specify solutions to instructional design challenges. Prerequisite: EMC 511 or instructor approval.

EMC 522 Evaluating Computer Materials. (3) F
 Selection, utilization design and evaluation of instructional computer materials. Focus on learning theory criteria for evaluating educational software.

EMC 523 Distance Education Systems for Instruction. (3) F
 Introduction to internet resources for educators. Instructional applications of distance learning technologies.

EMC 524 Imaging Technology. (3) F, S, SS
 Use of optical scanning and digital data manipulation of photographs for use in educational presentations and publications.

EMC 525 Presentation Graphics. (3) S
 Design production and display of computer graphics for group presentations. Prerequisite: EMC 521 or instructor approval.

EMC 528 Photomedia Production. (3) S
 Design and production of multimedia programs. Emphasis on slide tape format. Prerequisites: EMC 521 and 524 and 525 or instructor approval.

EMC 530 Development of Computer-Based Instruction. (3) S
 The systematic design, development and formative evaluation of computer-based instruction. Prerequisite: EMC 511 or instructor approval.

EMC 531 Hypermedia. (3) F, S
 Explores the design development, and production of computer-based instruction for education and industry. Lecture, lab.

EMC 532 Desktop Publishing. (3) F, SS
 Design and production of educational materials using computer-based word processing graphics and page layout programs. Lecture, lab.

EMC 535 Interactive Video. (3) S
 The use of various authoring systems and support programs to assist in the design and production of regular and repurposed interactive video. Lecture, lab.

EMC 584 Educational Media Internship. (1–6) F, S, SS
 Prerequisites: EMC 521 LNT 502 instructor approval.

EMC 637 Computers in Elementary School Curriculum. (3) SS
 Experiences with educational uses of computers, computer awareness, family societal impact, classroom applications/software, and curriculum development.

EMC 701 Advanced Technologies in Education. (3) S
 Examining the role and impact of artificial intelligence expert systems and related advanced technologies in education.

EMC 702 Research in Technology-Based Education. (3) F
 Critical exposure to theories, research and methods in technology-based education.

EMC 703 Research in Distance Education. (3) S
 Seminar with emphasis on research in telecommunications and distance education. Prerequisite: EMC 523 or instructor approval.

INDIAN EDUCATION (IED)

IED 401 Navajo Language and Culture I. (3) F
 History and culture are added components to the introduction of language reading, writing, and speaking. Emphasis on basic communication and appreciation of history and culture. Lecture, discussion.

IED 403 Navajo Language and Culture II. (3) S
 Emphasis on communication grammar and sentence structures. Translations, reading, writing, and discussions of proper and slang language. Cultural activities are included. Lecture, discussion. Prerequisite: IED 401.

IED 410 History of American Indian Education. (3) F, S
 Philosophical and historical review of the development of American Indian education policies in both traditional and contemporary society. *General Studies: H*

NOTE: For the General Studies requirement courses and codes (such as L, SQ, C, and H) see "General Studies," page 87. For graduation requirements, see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60.

IED 422 Methods of Teaching Indian Students. 3 S

Philosophies, methodologies, and materials used in Indian education. Examination of local and tribal classroom materials. Experimentation with new teaching concepts. Prerequisite: IED 410

IED 430 Issues in Language and Literacy of Indigenous Peoples. 3 S

Examines issues, policies, theoretical foundations, and practices of indigenous peoples and other language minority communities from a sociolinguistic and language reclamation perspective. *General Studies. HU.*

IED 433 Counseling the Indian Student. 3 F

Techniques and methods used in counseling, with emphasis on understanding and cultures and values. Experimentation with new counseling concepts. Prerequisite: IED 410

IED 460 Yaqui History and Culture. (3) F

Yaqui history and culture ranging from precontact to the present. Larger themes: Yaqui identity, belief systems, family, traditions, community resistance, dispersal, and survival. *General Studies. SB.*

IED 498 Pro-Seminar. 3 F S

(a) Navajo Language
Designed for Navajo and non Navajo speaking students that have little or no knowledge of the Navajo language in its written form. Emphasis on development of reading, writing, and speaking skills.

IED 500 Administration and Management of Indian Education Programs. (3) F

Emphasis on educational leadership research and practice in the schooling of American Indian students. Effective practices will be examined.

IED 510 History of American Indian Education. (3) F S

Philosophical and historical review of the development of American education policies in both traditional and contemporary society.

IED 530 Issues in Language and Literacy of Indigenous Peoples. (3) S

Examines issues, policies, theoretical foundations, and practices of indigenous peoples and other language minority communities from a sociolinguistic and language reclamation perspective.

IED 560 Yaqui History and Culture. (3) F

Yaqui history and culture ranging from precontact to the present. Larger themes of Yaqui identity, belief systems, family, traditions, community resistance, dispersal, and survival.

IED 594 Workshop in Indian Education. (6) SS

Curriculum, pedagogy, community involvement, current issues and research will be examined.

LIBRARY SCIENCE (LIS)**LIS 410 Children's Literature.** 3 F, S, SS

Selecting, analyzing, and using modern and classic literature with young readers.

LIS 510 Computers and Technology in the School Library. (3) F
Library uses of technology and computers. Fundamental concepts and issues in library media centers. Prerequisites: LIS 571 and 581 or instructor approval.

LIS 533 Current Library Problems. (3) F

Critical analysis of current practices and problems in school library branch. Prerequisites: LIS 540 and 561 and 571 and 581 or instructor approval.

LIS 540 Classification and Cataloging. 3 F

Descriptive cataloging and Dewey Decimal Classification of print and nonprint library materials.

LIS 561 Selection of Library Materials. (3) F

Principles and procedures used in the selection of materials for the school library.

LIS 563 Children's Literature. 3 F, S, SS

Selecting and using children's literature and related nonprint media to support the elementary school curriculum. Cross-listed as RDG 563. Credit is allowed for only LIS 563 or RDG 563.

LIS 565 Literature for Hispanic Youth. Literatura para Jóvenes Hispanoparlantes. (3) S

Selecting, analyzing, and utilizing literature for Hispanic and Spanish-speaking children and adolescents. Cross-listed as BLE 565. Credit is allowed for only BLE 565 or LIS 565.

LIS 571 Basic Reference Resources. (3) S

Providing reference service in the school library. Content and use of basic resources.

LIS 581 School Library Administration. (3) S

Administration of K-12 libraries and media centers.

LIS 584 School Library Internship. (1-6) F, S

Prerequisites: LIS 410, 540, 561, 571, 581. Instructor approval.

MULTICULTURAL EDUCATION (MCE)**MCE 446 Understanding the Culturally Diverse Child.** (3) A

Survey of cultural and linguistic diversity in American education including education equity, pluralism, learning styles, and roles of schools in a multicultural society. *General Studies. C.*

MCE 447 Diversity in Families and Communities in Multicultural Settings. 3 F, S

Diversity and the changing role of schools in a multicultural society. Lectures, mutual activities, discussion.

READING EDUCATION (RDG)**RDG 301 Literacy and Instruction in the Content Areas.** (3) F, S, SS

Required course for a Secondary Education candidate. Introduces theory and instructional strategies for learning written and oral texts across academic disciplines.

RDG 334 Children's Literature and Elementary School Curriculum. (3) F, S

Selecting and using children's literature in various curriculum areas in elementary school classrooms with diverse student populations. Lecture, discussion. Cross-listed as EED 334. Credit is allowed for only EED 334 or RDG 334. Prerequisite: professional program admission. Corequisite: DC 396 or EED 496.

RDG 414 Teaching Reading Decoding. (3) F, S

Teaching reading as part of an integrated classroom curriculum emphasizing strategies and skills for teaching decoding (phonics), vocabulary, comprehension, study skills, and content area reading. Not graded. Corequisites: DC 396, RDG 481.

RDG 481 Reading Practicum. (3) F, S, SS

Application of concepts from RDG 414 in classroom settings. Students demonstrate teaching strategies under supervision. Required for Elementary Education candidates. Corequisites: DCI 396, RDG 414.

RDG 494 Special Topics. (3) F, S

(a) Reading Decoding

RDG 505 Developmental Reading. 3 F, S, SS

For classroom and special reading teachers. Specific professional skills in decoding, comprehension, and evaluation. Required for Special Reading Endorsement. Prerequisite: teaching certificate.

RDG 507 Content Area Literacy. (3) F, S, SS

Theory, teaching strategies, and practical application concerning learning from text across subject matter disciplines.

RDG 522 Literacy Biliiteracy Development. 3 F

Acquaints teachers with first and second language literacy research, practice, and assessment in elementary school settings (Spanish emphasis). Lecture, discussion. Cross-listed as BLE 522. Credit is allowed for only BLE 522 or RDG 522. Prerequisite: BLE 511.

RDG 533 Literacy in Secondary BLE/ESL Settings. (3) S

Examines first and second language literacy research, practice, and assessment across content areas in secondary school settings. Lecture, discussion. Cross-listed as BLE 533. Credit is allowed for only BLE 533 or RDG 533. Prerequisite: BLE 511.

RDG 544 Secondary Reading Programs. (3) S

Examines rationale for secondary reading programs (grades 7-12), teaching strategies, research, and program assessment. Prerequisite: RDG 507.

RDG 550 Practicum Experiences in Reading. 3 F, S, SS

Practicum experience utilizing assessment and instructional techniques for classroom settings. See RDG 557 for State of Arizona reading endorsement. Prerequisite: RDG 505 or equivalent.

RDG 556 Assessment Procedures in Reading. (3) F, S

Techniques for classroom and clinical reading assessment and instruction. Emphasis on continuous assessment. May be taken concurrently with RDG 557. Recommended for State of Arizona reading endorsement. Prerequisite: RDG 505.

- RDG 557 Advanced Reading Practicum.** (3) F S
Advanced practicum experience utilizing specialized reading and other assessment and instruction on techniques for classroom and clinical settings. Lab sections. Recommended for State of Arizona reading endorsement. May be taken concurrently with RDG 556. Prerequisites: RDG 505. Instructor approval.
- RDG 563 Children's Literature.** (3) F S, SS
Selecting and using children's literature and related nonprint media to support the elementary school curriculum. Cross-listed as LIS 563. Credit is allowed for only LIS 563 or RDG 563.
- RDG 581 Literature-Based Reading Programs.** (3) F S, SS
For classroom and specialized reading teachers. The role of literature in the acquisition and development of literacy. Specific suggestions for helping students learn to read and/or expand their reading ability with literature. Introduction to literature studies. Prerequisite: teaching certificate.
- RDG 582 Practicum: Literature Studies.** (3) S
Practical application of literature study group principles in field sites or through on-campus simulations. Lecture, supervised practice. Prerequisite: RDG 581 or instructor approval.
- RDG 596 Gender, Culture, and Literacies.** (3) S
Influence of gender and culture on written, oral, and post-typographical texts. Seminar.
- RDG 630 Research in Reading.** (3) F S
For advanced graduate students interested in applied research problems. Literature of reading instruction, and major issues related to reading research. Prerequisite: instructor approval.

SECONDARY EDUCATION (SED)

- SED 400 Principles of Effective Instruction in Secondary Education.** (3) F, S, SS
Different modes of education are examined. Appropriate teaching practices for each mode are developed and applied to secondary school classrooms. Lecture, discussion. Prerequisite: PTPP admission.
- SED 403 Principles, Curricula, and Methods.** (3) F, S, SS
Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in the secondary school. Observation/participation required. Corequisite: SED 496.
- SED 478 Student Teaching in Secondary Schools.** (3–12) F, S
The practice of teaching. The relationship of theory and practice in teaching. Prerequisite: two complete semesters of block or equivalent.
- SED 480 Special Methods of Teaching Social Studies.** (3) F, S
Interdisciplinary approaches. Product on and collection of materials.
- SED 496 Field Experience.** (0) F, S
Application of course content in a secondary school setting. Emphasis on observation, pupil management, planning and delivering instruction, and assessment. Corequisite: SED 403.
- SED 501 Introduction to Effective Instruction.** (6) F, S, SS
Introductory course for postbaccalaureate certification program in secondary education. Emphasis upon developing basic classroom management, instruction, and evaluation. Includes a field assignment of at least 120 hours. Prerequisite: admission to postbaccalaureate certification program.
- SED 522 Secondary School Curriculum Development.** (3) F, S, SS
Social processes, issues, principles, patterns, and procedures in curriculum development.
- SED 533 Improving Instruction in Secondary Schools.** (3) F, S, SS
Analyses of procedures, methods, techniques, and experiments in teaching in secondary schools. Prerequisites: SED 478, 578.
- SED 577 Issues and Trends in Secondary Education.** (3) N
Analyses of day and professional reports; problems and issues in American secondary education. Prerequisites: SED 478, 578.
- SED 578 Student Teaching in the Secondary Schools.** (3–12) F, S
The practice of teaching. The relationship of theory and practice in teaching. Postbaccalaureate students only. Prerequisites: completion of approved postbaccalaureate program; minimum 2.50 GPA, approval of the Office of Professional Field Experiences.

- SED 588 Human Relations in the Secondary Schools.** (3) A
Problems in human relations inherent in the interaction of pupils, teachers, administrators, nonprofessional staff, and laymen. Prerequisites: SED 478, 578.
- SED 598 Special Topics.** (1–4) N
(a) Using Math Manipulatives/Middle Schools
- SED 711 Secondary Curriculum Development.** (3) S, SS
Theories and processes of developing curriculum. Evaluation of research. Prerequisites: SED 478, 522 (equivalent), 578.
- SED 722 Improvement of Instruction in the Secondary School.** (3) F
Evaluation of the research, issues and theories related to the improvement of instruction. Prerequisite: SED 533.

SPECIAL EDUCATION (SPE)

- SPE 309 Basic Special Education Curriculum.** (3) F, S, SS
Introduction to curricular practices used in classrooms.
- SPE 311 Orientation to Education of Exceptional Children.** (3) F, S, SS
Includes gifted, mildly handicapped, severely handicapped, and the bilingual/multicultural exceptional child. *General Studies SB*
- SPE 312 Mental Retardation.** (3) F, S, SS
Characteristics and assessment specific to mental retardation. Terminology, development, educational programming, and therapeutic procedures with emphasis. Prerequisite: SPE 311.
- SPE 314 Introduction to Bilingual Multicultural Special Education.** (3) F, S, SS
Theoretical background and practical application of general issues regarding the education of bilingual/multicultural handicapped children. Prerequisite: SPE 311.
- SPE 336 Behavioral and Emotional Problems in Children.** (3) F, S, SS
Characteristics and assessment specific to emotional and behavioral y disturbed children. Terminology, development, and educational programming emphasis. Prerequisite: SPE 311.
- SPE 361 Introduction to Learning Disabilities.** (3) F, S, SS
Characteristics and assessment specific to learning disabilities. Terminology, development, and educational programming emphasis. Prerequisite: SPE 311.
- SPE 394 Special Topics.** (3) F, S
(a) Basic Special Education Curriculum
(b) Inclusion Practices at the Secondary Level
(c) Quality Practices in the Collaborative Classroom
- SPE 411 Parent Involvement and Regulatory Issues.** (3) F, S
Emphasis on parent and school relations through effective communication and state and federal regulations impacting services for the handicapped. Prerequisites: SPE 311 majors only.
- SPE 412 Evaluating Exceptional Children.** (3) F, S
Normative and criterion-referenced diagnostic techniques including formative evaluation. Emphasis upon application. Daily practicum required. Prerequisites: DCI 396, EDP 303, EMC 300; RDG 414. SPE 311. Corequisites: SPE 413, 496.
- SPE 413 Methods in Language, Reading, and Arithmetic for Exceptional Children.** (3) F, S
Methods, techniques, and materials for use in prescriptive teaching. Daily practicum required. Prerequisites: DCI 396, EDP 303, EMC 300; RDG 414. SPE 311. Corequisites: SPE 412, 496.
- SPE 414 Methods and Strategies in Behavior Management.** (3) F, S
The organization and delivery of instruction including formative evaluation on techniques. Techniques of behavior management. Daily practicum required. Prerequisites: RDG 414, SPE 412, 413. Corequisites: SPE 415, 496.
- SPE 415 Social Behavior Problems of Exceptional Children.** (3) F, S
Analysis and intervention into social behavior problems of exceptional populations. Daily practicum required. Prerequisites: RDG 414; SPE 412, 413. Corequisites: SPE 414, 496.
- SPE 455 Early Childhood and the Handicapped.** (3) F
Early childhood education as it applies to the handicapped child.

NOTE: For the General Studies requirement, courses, and codes (such as L, SQ, C, and H), see "General Studies" page 87. For graduation requirements, see "University Graduation Requirements" page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses" page 60.

SPE 478 Student Teaching in Special Education. (3–15) F S

Yth grade only Prerequisite: approval of special education on program coordinator completion of Special Education prerequisites

SPE 494 Special Topics. (3) F S

(a) Instruction in Content Areas: Science, Social Studies

SPE 496 Field Experience. 0 N

Application of course content in a special education setting. Emphasis on observation, pupil management, planning and delivering instruction and assessment. Corequisites: SPE 411 or 413, 412, 414, 415

SPE 498 Pro-Seminar. (1–3) F S

(a) Field Experience

Application of course content in a special education setting. Emphasis on observation, pupil management, planning and delivering instruction, and assessment. Corequisites: SPE 411 (or 413), 412, 414, 415

SPE 510 Inclusionary Curriculum for Special Education Teachers.

(3) F SS

Curricular practices used in classrooms

SPE 511 The Exceptional Child. (3) F S SS

Educational needs of exceptional children and adults. Not recommended for students who have completed SPE 311

SPE 512 Individuals with Mental Retardation. (3) F S, SS

Etymology, diagnosis and management of individuals with mental retardation. Current trends in prevention, programming, and teacher preparation. Not recommended for students who have completed SPE 312

SPE 514 Bilingual/Multicultural Aspects of Special Education. (3) F, S SS

Theories and issues related to the education of bilingual and culturally diverse exceptional children

SPE 515 Methods for the Remediation of Learning Problems of Exceptional Children. 3 S

Methods and materials for remediation of the basic academic problems of exceptional children. Prerequisites: SPE 511, a methods course in the teaching of reading and mathematics

SPE 522 Academic Assessment of Exceptional Children. (3) F

Normal and criterion-referenced assessment of learning problems in exceptional children. Format: evaluative. Includes: Practicum required. Lecture, practicum. Prerequisites: SPE 311 or 511; elementary methods courses; program approval.

SPE 523 Prescriptive Teaching with Exceptional Children. 3 F

Language, reading and arithmetic methods, techniques, and materials used in individualized instruction. Practicum required. Lecture, practicum. Prerequisites: elementary methods courses, SPE 311 or 511, 522 or concurrent and program approval.

SPE 524 Effective Classroom Behavior Management. (3) S

Organization and delivery of instruction including format, evaluation and techniques of academic behavior management for exceptional children. Practicum required. Lecture, practicum. Prerequisites: SPE 311 or 511, 522, 523, program approval.

SPE 525 Social Behavior Interventions. 3 S

Analysis and intervention into social behavior problems of exceptional students. Focus on strategies to change maladaptive social behavior. Practicum required. Prerequisites: SPE 311 or 511 or 522 or 523; program approval.

SPE 531 Behavior Management Approaches with Exceptional Children. 3 F SS

Behavior management approaches for classroom behavior of exceptional children. Prerequisite: SPE 511 or equivalent.

SPE 536 Characteristics of Children with Behavioral Disorders.

(3) F S, SS

Variables contributing to behavior patterns of behaviorally disordered children

SPE 551 Teaching Young Children with Special Needs. (3) S

Methods, materials and curriculum for preschool and primary aged children with special needs. Prerequisites: SPE 455 and 511 or equivalent.

SPE 552 Management of Individuals with Severe Handicaps. (3) S
Instruction and management of school-aged and adult individuals with severe physical or multiple handicaps. Prerequisites: SPE 511 or equivalent; instructor approval.

SPE 553 Developmental/Functional Assessment. 3 F

Teacher-focused developmental/functional assessment of preschool and severely physically and multiply handicapped individuals. Field experience required. Prerequisites: SPE 511, 512, 574 or equivalents.

SPE 554 The Parent/School Partnership. (3) S

Includes knowledge and procedures for involvement and training of parents and caregivers of preschool and severely handicapped individuals. Field experience required. Prerequisites: SPE 455 and 511 or equivalents.

SPE 561 Characteristics/Diagnosis of Learning Disabilities. 3 F S, SS

Theories related to learning disabilities, including identification and characteristics.

SPE 562 Methods of Teaching Students with Learning Disabilities. (3) N

Various methods and intervention strategies for remediation of reading disabilities of children and youth. Prerequisite: SPE 361 or 561

SPE 574 Educational Evaluation of Exceptional Children. 3 F

Design and statistical considerations of normal and criterion-referenced tests. Collection, recording and analysis of data from formatively evaluated. Prerequisites: SPE 511 or equivalent; a methods course in the teaching of reading and mathematics.

SPE 575 Current Issues in the Education of Exceptional Children.

(3) F

Mainstreaming, noncategorical financing, legal diagnosis, abuse neglect and other critical and controversial issues related to the education of exceptional children.

SPE 577 Mainstreaming Methods. 3 S

Successful mainstreaming methods: practical problem-solving sessions related to teacher's classroom needs and individual contracts. Focus: general mainstreaming issues are addressed. General educators encouraged.

SPE 578 Student Teaching in Special Education. 9–15 F S

Yth grade only. Prerequisites: completion of specified courses; approval by the special education program coordinator.

SPE 582 Classroom Research with Exceptional Children. (3) SS

Introduction to interpreting research. Specific research techniques with primary emphasis on classroom research, including applied behavior analysis.

SPE 585 Creativity: Research and Development. 3 S

Nature of creativity explored in terms of philosophical underpinnings, empirical evidence, human development, self-actualization and the ecology surrounding the creative event.

SPE 586 Advising the Gifted Child. 3 A

Focus on educational planning and guidance, social and emotional development, and family problem-solving regarding needs of gifted children.

SPE 587 Controversies in Educating the Gifted. 3 F

In-depth analysis of major controversies in educating the gifted including nature/nurture, the role of mental tests, and sex differences.

SPE 588 The Gifted Child. (3) F SS

Gifted children's characteristics, identification, needs, school and home environments, definitions and misunderstandings. Research by Pressey, Stanley, Terman, and others.

SPE 589 Methods in Teaching the Gifted. (3) S, SS

Methods in teaching elementary and secondary school gifted children. Includes individualized and computer-assisted instruction, team teaching. Prerequisite: SPE 588.

SPE 774 Characteristics and Causation of Exceptionality. (3) F

In-depth analysis of literature pertaining to causes of exceptionality and learning/educational/personal/social, and cognitive characteristics. Lecture/discussion.

SPE 775 Evaluation and Intervention in Special Education. (3) S

In-depth analysis of research and literature on evaluation procedures and intervention approaches for exceptional individuals at a given level. Lecture, discussion.

SPE 781 Research and Evaluation in Special Education. (3) S

Issues and problems in conducting research and/or evaluation on programs involving exceptional children.

**Division of Educational Leadership
and Policy Studies**

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Educational Policy Studies
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Higher and Postsecondary Education
Social and Philosophical Foundations

Degrees: M.A., M.Ed., Ed.D., Ph.D.

GRADUATE PROGRAMS

The faculty in the Division of Educational Leadership and Policy Studies offer several graduate degrees in a number of majors.

For more information on courses, faculty, and programs, contact the division office or see the *Graduate Catalog*.

**EDUCATIONAL ADMINISTRATION
AND SUPERVISION (EDA)**

See the *Graduate Catalog* for the EDA courses.

HIGHER AND POSTSECONDARY EDUCATION (HED)

See the *Graduate Catalog* for the HED courses

SOCIAL AND PHILOSOPHICAL FOUNDATIONS (SPF)

SPF 111 Exploration of Education. (3) F S

Education as an instrument in the development of the individual and society and its significance as an American institution. *General Studies SB*

SPF 301 Culture and Schooling. (3) F S

For the professional teacher preparation program: an overview of the cultural, social, and political milieu in which formal schooling takes place in the United States. For education majors only. *General Studies L*

SPF 401 Theory and Practice in Education. (1-2) F, S

For the professional teacher preparation program. The analysis and interpretation of classroom behavior from perspectives derived from philosophy, social science, and law. Prerequisite: education major

SPF 501 Culture and Schooling. (3) F S

Introduction to social science concepts of culture and the cultural milieu in which schooling takes place in the United States. Lecture recitation

SPF 510 Introduction to Organization and Administration of American Public Schools. (3) F, S

Organizational structure and administration of public education are explored through the application of legal and ethical concepts and relevant information of the social sciences. Cross-listed as EDA 510. Credit is allowed for only EDA 510 or SPF 510

SPF 511 School and Society. (3) F, S, SS

Interrelationship of school and society and the role of education in social change.

SPF 520 Cultural Diversity in Education. (3) S

Philosophical and sociological investigation of cultural diversity in the United States and how it relates to education.

SPF 530 Sociology of Education. (3) F

Explorations in the history of sociological thought, especially theories of the relations between educational systems and the social/cultural world.

SPF 533 Comparative Education In the Western World. (3) N

Educational practices and traditions in the leading nations of Europe and the Soviet Union.

SPF 544 Philosophical Foundations of Education. (3) F

Theories of education in ancient, medieval, and modern classical and contemporary philosophies.

SPF 566 History of Education. (3) S

Development of educational institutions and ideas in the Western World, from ancient times to the 20th century.

SPF 603 Visual Ethnography in Education. (3) S

Advanced qualitative methods class combining ethnography with the use of video and still photography in data gathering and presentation Seminar. Corequisite: COE 503

SPF 612 Evaluation Theory. (3) F

Explores the major theories of evaluation (inquiry leading to value judgments) in educational policy through examination of cases

SPF 622 Organizational Theory. (3) S

Major views of organizations and their influence on role definition and participant behaviors in educational organization Seminar, discussion. Cross-listed as HED 688. Credit is allowed for only HED 688 or SPF 622.

SPF 711 Social and Historical Foundations of Education. (3) N

Problems of American education and their sociohistorical context.

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Division of Psychology in Education

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Degrees: M.A., M.C., M.Ed., Ph.D.

GRADUATE PROGRAMS

The faculty in the Division of Psychology in Education offer graduate degrees in a number of majors.

For more information on courses, faculty, and programs, contact the division office or see the *Graduate Catalog*

COUNSELOR EDUCATION (CED)

CED 294 Special Topics. 1-3 F, S

- a Career Development
- b Foundations of Leadership
- c Leadership Coaching
- d Training

CED 394 Special Topics. 1 F S

- a Special Topics in Leadership
 Courses bring together a faculty member with no more than 12 students to discuss and learn about a specific interest or topic. Topics designed to engage students in the educational dialogue on one of the themes of leadership diversity and service civic responsibility. Pass/fail elective taught in the classroom of McCracken Residence Hall. Open to freshmen through senior undergraduates, all majors welcome.

CED 484 Internship. (1-12) F S

- a Leadership Internship
- b Leadership Internship and Capstone

CED 493 Honors Thesis. 1-6) F S

CED 494 Special Topics. 3 F S

- a Paraprofessional Training

CED 498 Pro-Seminar. 2) F S

- a) Resident Assistant Experience

CED 512 Introduction to Helping Relationships and Community Counseling. 3) F S SS

Introduction to the skills used in the helping professions and an examination of the settings in which they occur

CED 522 Theories of Counseling and Psychotherapy. (3 F S SS)
 Presentation of major theories of psychological intervention as well as underlying personality theory upon which they are based

CED 523 Psychological Tests. 3 F, S, SS

Standardized tests in the study of the individual with emphasis on test score interpretation in counseling

CED 534 Occupations and Careers. (3) F S SS

The world of work: career development education and training for occupational entry and mobility

CED 545 Analysis of the Individual. (3) F S SS

Theory and methods commonly used in studying the individual. Observational methods, diagnostic interviews, structured and semistructured methods for assessing personality. Prerequisite: CED 523

CED 567 Group Procedures. (3 F S, SS)

Social psychological factors determining interaction, effectiveness and morale in small groups. Techniques of observation, assessment and leadership.

CED 577 Counseling. 3) F, S, SS

Principles and application of counseling with particular emphasis on counseling theories. Prerequisites: CED 512, 534, 545 admission to M.C. or school course or certification on program.

CED 655 Student Development Programs in Higher Education. (3 A)

Emerging conceptual models of student development. Overview of student personnel and student affairs programs in community colleges, four-year colleges and universities. Observation on campuses

CED 656 The American College Student. 3) S

Provides overview of American college student from demographic background characteristics and values/attitudes perspectives. Includes access, persistence and degree completion. Lecture, group discussion and research projects. Cross-listed as HED 679. Credits awarded for only CED 656 or HED 679

CED 672 Marriage and Family Counseling I. 3 F

Introduction to marriage and family counseling theories. Emphasis on a systems communication modelizing and counseling

CED 684 Internship in Community Counseling. (3-6 F S SS)

COUNSELING PSYCHOLOGY (CPY)

See the *Graduate Catalog* for the CPY courses.

EDUCATIONAL PSYCHOLOGY (EDP)

EDP 301 Learning and Motivation in Education. 2) F S

Using a case format learning and motivation principles are applied to education contexts. Prerequisite: education major

EDP 302 Assessment and Evaluation in Education. 1 F, S

Using a case format assessment and evaluation principles are applied to education contexts. Prerequisite: education major

EDP 303 Human Development. 3 F S

Selected aspects of child and adolescent development. Emphasis on possibilities for influence by teachers and parents. Prerequisites: CDE 232 or equivalent, education major. *General Studies: L*

EDP 310 Educational Psychology. 1-6) F S SS

Human behavior in educational situations presented through instructional modules. Students may reenroll for credit to a total of 6 hours. *General Studies: SB*

EDP 313 Childhood and Adolescence. (3 F S SS)
Principles underlying total development of pre- and early-adolescent children. Emphasis on physical, intellectual, social, and emotional development with practical implications for teachers grades 5–9. Prerequisite: EDP 303 or admission to College of Education postbaccalaureate program.

EDP 454 Statistical Data Analysis in Education. (3 F, S, SS)
The role of data analysis in research and decision making. Elements of exploratory data analysis, descriptive indexes, and statistical inference. Lecture/lab. Prerequisite: MAT 117 *General Studies CS*.

EDP 502 Introduction to Quantitative Methods. (3 F S, SS)
Topics in statistical analysis, measurement, and research design. Exploratory data analysis, estimation theory, and statistical inference. Use of computers for data analysis. Cross-listed as COE 502. Credit is allowed for only COE 502 or EDP 502.

EDP 503 Introduction to Qualitative Research. (3 F S, SS)
Terminology, historical development, approaches (including ethnography, ethnography, methodology, critical theory, grounded theory, and hermeneutics), and qualitative versus quantitative social sciences methods of inquiry. Cross-listed as COE 503. Credit is allowed for only COE 503 or EDP 503.

EDP 504 Learning and Instruction. (3) F S, SS
Introduction to psychology of learning and instruction. Includes the foundations of learning theories and their application to educational practice. Cross-listed as COE 504. Credit is allowed for only COE 504 or EDP 504.

EDP 510 Essentials of Classroom Learning. (3) F, S, SS
Theoretical and empirical foundations of learning in the classroom. Mandatory critical exposure to research and method in instructional psychology. Cross-listed as LNT 510. Credit is allowed for only EDP 510 or LNT 510.

EDP 513 Child Development. (3) F S, SS
Examination of problems and achievements experienced by children growing up in a technological society. Emphasis on discovering the child's perspective.

EDP 514 Psychology of the Adolescent. (3) F S, SS
Cognitive, physical, and social development of adolescents in contemporary society. Impact of family, school, and workplace on adolescent development. Prerequisite: EDP 310 or PGS 101 or equivalent.

EDP 530 Theoretical Issues and Research in Human Development. (3) F
Psychological theories, research, and methods relevant to human development, emphasizing the relations between early development and later performance.

EDP 535 Applied Behavior Analysis. (3) F
Principles of conditioning as applied to behavior. Current research on the experimental analysis of behavior in educational psychology.

EDP 536 Physiology of Behavioral Disorders. (3) F
Critical study of nervous system, brain function for fundamental behaviors, and system dysfunctions in mental, neuro, and cognitive disorders. Prerequisite: instructor approval.

EDP 540 Theoretical Views of Learning. (3) F S
Classical and cognitive theories of learning plus recent orientational, illustrative, experimental, and rational foundations. Implications for educational practice. Cross-listed as LNT 540. Credit is allowed for only EDP 540 or LNT 540.

EDP 542 The Psychology of Learning and Instruction. (3) S
Critical review and evaluation of research on learning variables relevant to acquisition and retention of instructional materials. Lab. Cross-listed as LNT 542. Credit is allowed for only EDP 542 or LNT 542.

EDP 544 Psychology of Reading. (3) F
Alternative analyses of the reading process, designs, and procedures for investigating instructional and noninstructional variables related to reading achievement.

EDP 550 Introduction to Measurement in Education. (3) F S
Nature and types of educational measures. Critiquing and selecting appropriate measuring devices. Constructing measuring devices. Social controversies about tests. Lecture/lab. Prerequisite: EDP 502 or instructor approval.

EDP 552 Quantitative Data Analysis in Education I. (3) F S, SS
Continued treatment of statistical estimation, testing, and research synthesis. Inferential techniques including ANOVA and multiple regression on with computers. Lecture/lab. Prerequisite: EDP 502 or instructor approval.

EDP 554 Quantitative Data Analysis in Education II. (3) F, S, SS
Advanced issues in applied multiple regression and ANOVA. Introduction to ANCOVA. Use of computers for data analysis. Lecture/lab. Prerequisite: EDP 552 or instructor approval.

EDP 556 Data Processing Techniques in Measurement and Research. (3) A
Use of statistical packages for data analysis. Emphasis on data management, data structures, and related statistical procedures. Lecture/lab. Prerequisite: EDP 552. Pre- or corequisite: EDP 554 or instructor approval.

EDP 560 Individual Intellectual Assessment. (3) F, S
Issues in administration and interpretation of individual intelligence tests. Theoretical basis, ethical considerations, and diagnostic use of test results. Prerequisite: admission to a program in professional psychology or instructor approval.

EDP 561 Lab in Psychological Assessment. (3) S
Laboratory experience in administration, scoring, and interpretation of individual intelligence tests. Lab. Prerequisite: admission to a program in professional psychology or instructor approval. Corequisite: EDP 560.

EDP 562 School Psychology: Theory and Practice. (3) F
Development and present status of school psychology including an overview of assessment and intervention strategies and professional issues.

EDP 563 Interventions in School Psychology. (3) F
Examination of case-based consultation and consultation on research relevant to school psychology practice. Field experience. Prerequisite: school psychology program or instructor approval.

EDP 564 Curriculum-Based Assessment and Academic Interventions. (3) S
Constructing, administering, and scoring outcome-based measures. Use of measures for using the various educational decisions.

EDP 566 Diagnosis of Learning Difficulties. (3) S
Clinical diagnosis of learning difficulties. Emphasis on specific academic problems. Use and interpretation of diagnostic instruments in practical school situations. Prerequisites: EDP 560 and 562 or equivalent, instructor approval.

EDP 567 School Psychological Services to Minority Students. (3) S
Historical perspectives and major issues in psychological and academic assessment and interventions with minority school children.

EDP 568 Diagnosis and Interventions for Children and Adolescents with Emotional Handicaps. (3) F
Clinical diagnosis of emotional handicaps in children and adolescents with emphasis on interpretation of diagnostic instruments and design appropriate interventions in school settings. Lecture/lab. Prerequisites: EDP 566, PSY 578 or equivalent.

EDP 651 Methods and Practices of Qualitative Research. (3) S
Advanced course for students familiar with theory and extant work. Topics include data collection, analysis, reporting, and an extended fieldwork project. Prerequisite: COE 503.

EDP 652 Multivariate Procedures in Data Analysis I. (3) F
Introduction to matrix algebra. Application of MANOVA, MANCOVA, power analysis, effect size, discriminant and repeated measures analysis with computers. Lecture/lab. Prerequisite: EDP 554 or instructor approval.

EDP 654 Multivariate Procedures in Data Analysis II. (3) S
Treatment of applied multivariate multiple regression, canonical correlation, factor analysis, log-linear models, and structural equations with computers. Lecture/lab. Prerequisite: EDP 652 or instructor approval.

LEARNING AND INSTRUCTIONAL TECHNOLOGY (LNT)

See the *Graduate Catalog* for the LNT courses.

NOTE: For the General Studies requirement, courses and codes (such as L, SQ, C, and H) see "General Studies" page 87. For graduation requirements, see "University Graduation Requirements," page 83. For an explanation of additional omnibus courses offered but not listed in this catalog, see "Classification of Courses," page 60.

College of Engineering and Applied Sciences

Peter E. Crouch, Ph.D., Dean

www.eas.asu.edu



Engineering students assemble ASUSat1. The satellite, designed to map earth features, is a student-initiated project that has involved more than 400 students over the past six years.

Tim Trumble photo

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PURPOSE

The purpose of the College of Engineering and Applied Sciences is to provide students with a range of educational opportunities by which they may achieve competence in the major branches of engineering, in computer science, and construction. Considerable effort is spent on the development and delivery of well rounded programs that enhance student preparation for professional careers, lifelong learning, and responsible participation as a member of society.

For more information, visit the college's Web site at www.eas.asu.edu.

ORGANIZATION

The College of Engineering and Applied Sciences is composed of the following academic and service units (with seven departments making up the School of Engineering):

Del E. Webb School of Construction

School of Engineering

Department of Bioengineering

Department of Chemical and Materials Engineering

Department of Civil and Environmental Engineering

Department of Computer Science and Engineering

Department of Electrical Engineering

Department of Industrial Engineering

Department of Mechanical and Aerospace Engineering

Research Centers. The college is committed to the development of research programs of national prominence and to the concept that research is an important part of its educational role. The college encourages the participation of both qualified undergraduate students and graduate students in various research activities. Most of the faculty are involved in government or industry sponsored research programs in a wide variety of topics. A partial list of these topics includes aerodynamics, biotechnology, computer design, computer integrated manufacturing, environmental fluid dynamics, innovative engineering education, microelectronics manufacturing, power systems, semiconductor materials and devices, signal processing, solar energy, solid state electronic devices, structural dynamics, telecommunications, thermosciences, and transportation systems. This research is carried out in the departments and schools listed above and in the following interdisciplinary research centers:

Center for Low Power Electronics

Center for Research on Education in Science,

Mathematics, Engineering, and Technology

Center for Research in Engineering and Applied Sciences

Center for Solid State Electronics Research

Center for System Science and Engineering Research Manufacturing Institute

Telecommunications Research Center

Center for Professional Development. The Center for Professional Development, often in cooperation with the college's academic units and research centers, provides a variety of technical conferences, seminars, short courses, and televised and satellite transmitted programs to enable engineers, scientists, and managers to continue the lifelong learning that is so necessary in a constantly changing world.

Programs may be conducted on campus, at various off campus locations, or at company sites upon request. For more information, contact the Center for Professional Development, located in ECG 148, at 480 965 1740, by e mail at asu.cpd@asu.edu, or visit the center's Web site at www.eas.asu.edu/cpd.

ADMISSION

Individuals wishing to be admitted to freshman standing in the College of Engineering and Applied Sciences should have completed certain secondary school units. These units are identified in the requirements for each of the two schools in the college. If these conditions are not met, additional university course work, possibly unacceptable for degree credit, may be required.

Students who are not admissible to programs in this college and who enroll in another college at ASU may not register for any 300 or 400 level courses in this college unless they are required in their degree programs and the students have the proper course prerequisites.

Entrance requirements of this college may differ from those of other ASU academic units. Students may be admitted under one of two different classifications, professional or preprofessional.

Professional Status. For admission to professional status, Arizona residents and nonresidents must meet one of the requirements as listed in the appropriate section of the "Professional Status Requirements" table, page 196. In addition, an international student must satisfy minimum Test of English as a Foreign Language (TOEFL) score requirements as shown in the table.

Students admitted to the university after successful completion of the General Education Development (GED) examination are admitted as preprofessional students within their major. Professional status is attained by meeting the minimum ACT or SAT score required for admission as listed in the "Professional Status Requirements" table, page 196.

Preprofessional Status. A student not admissible to professional status within the college but otherwise regularly admissible to ASU as stated in "Undergraduate Admission," page 62, may be admitted as a *preprofessional* student to any one of the academic programs of the college. International students whose TOEFL scores do not meet the required minimum shown in the "Professional Status Requirements" table, page 196 may also be admitted to preprofessional status. A student admitted into this classification follows the freshman sophomore sequence of courses as required by the chosen major. Courses are selected with the assistance of an academic advisor. After completing a minimum of 30 semester hours of required or approved elective courses with a *cumulative GPA equivalent to that required of transfer students and corresponding to the chosen major*, students may apply for admission to professional status. International students must also submit a TOEFL score equivalent to that required for admission to professional status (see the "Professional Status Requirements" table, page 196). Preprofessional students are not permitted to register for 300 and 400 level courses in the College of Engineering and Applied Sciences until their status is changed to the professional classification.

Professional Status Requirements

Student	School	High School Rank	Minimum Scores			Transfer GPA	
			ACT	SAT	TOEFL ²	Resident	Nonresident
Resident	Construction	Upper 25%	23	1140			
	Engineering	Upper 25%	23	1140			
Nonresident or International	Construction	Upper 25%	24	1140	550		
	Engineering	Upper 25%	24	1140	550		
Transfer	Construction				550	2.25	2.50
	Engineering				550	2.50	2.50

The cumulative GPA is calculated using all credits from ASU as well as those from other colleges and universities.

² This test is for international students (see "TOEFL," page 67)

Readmission. Students applying for readmission to professional status for any program in this college must have a cumulative GPA for all college course work equal to that of the transfer admission requirements shown in the "Professional Status Requirements" table, on this page.

Transfer into and Within the College. Students transferring between academic programs within the college or from other colleges within the university must meet both the cumulative GPA requirement and the catalog requirements of the desired program in effect at the time of transfer. Students who are transferring from an Arizona community college and have been in continuous residence may continue under the catalog in effect at the time of their entrance into the community college.

Transfer Students. A student who contemplates transferring into this college from another institution, whether a community college or four-year institution, should carefully study the catalog material pertaining to the particular program and consult an advisor in this college before enrolling in the other institution. These steps assure a smooth transition at the time of transfer. Transfer students may request admission to either preprofessional or professional status in any of the programs offered by this college.

The minimum requirements for admission of resident, nonresident, and international transfer students to the professional program are listed in the "Professional Status Requirements" table, on this page. The academic units may impose additional admission and graduation requirements beyond the minimum specified by the college.

Credit is granted for transferred courses deemed equivalent to corresponding courses in the selected program of study, subject to grade and ASU resident credit requirements. No grades lower than "C" are accepted as transfer credit to meet the graduation requirements of this college. Credits transferred from a community college or two-year institution are applied only as lower division credits. For a listing of the acceptable courses transferable to the various college degree programs, prospective Arizona community college transfer students should consult their advisors and refer to the ASU transfer guides available on the Web at www.asu.edu/provost/articulation.

It should be noted that some courses taken in other colleges of this university or other universities may be acceptable for general university credit but may not be acceptable toward the degree requirements of this college. Determina-

tion of those particular courses acceptable to a specific degree program is made within the appropriate academic unit with the approval of the dean.

Cooperative Education. The co-op program is a work-study plan of education that alternates periods of academic study with periods of employment in business, industry, or government. Students who choose this program ideally complete 12 months of employment and graduate with both the academic background and practical experience gained from working with professionals in a chosen field.

A student in the college is eligible to apply to the co-op program upon completion of 45 or more hours of classes required for the selected major. Transfer students are required to complete at least one semester at ASU before beginning work. All student applicants must have a GPA of at least 2.50 and the approval of an advisor.

To maintain continuous student status in the university, each co-op student must be enrolled in ASE 399 Cooperative Work Experience for one semester hour during each work session. Such credit cannot be applied toward degree requirements. For more information, contact the director of Student Academic Services at 480-965-1750 (ECG 205) or the Career Services office at 480-965-2350 (SSV 329).

ADVISING

For assistance and counseling in planning a program of study, each student in this college is assigned a faculty advisor who is familiar with the chosen field of specialization and who must be consulted before registering each semester. The student should inform the advisor of any outside work or activity so that course loads may be adjusted accordingly.

Most students attending college find it necessary to obtain part-time employment; consequently, it is suggested that a careful balance of work and class requirements be considered in order to avoid academic problems.

Students enrolled in an undergraduate degree program in this college may register for a maximum of 19 semester hours each semester. Any student wanting to register for more than the maximum must petition the CFAS Standards Committee and must have an approval on file before registering for the overload.

Students who are enrolled in an undergraduate nondegree status in this college must obtain advising and approval to register before registering each semester from the director of Student Academic Services in ECG 205. For more

College of Engineering and Applied Sciences Baccalaureate Degrees and Majors

Major	Concentration	Degree	Administered By
Del E. Webb School of Construction Construction ¹	General building construction, heavy construction, residential construction, specialty construction	B.S.	Del E. Webb School of Construction
School of Engineering Aerospace Engineering ¹	—	B.S.E.	Department of Mechanical and Aerospace Engineering
Bioengineering ¹		B.S.E.	Department of Bioengineering
Chemical Engineering ¹		B.S.E.	Department of Chemical and Materials Engineering
Civil Engineering ¹	Construction engineering, environmental engineering	B.S.E.	Department of Civil and Environmental Engineering
Computer Science ¹	—	B.S.	Department of Computer Science and Engineering
Computer Systems Engineering ¹		B.S.E.	Department of Computer Science and Engineering
Electrical Engineering ¹	—	B.S.E.	Department of Electrical Engineering
Engineering Interdisciplinary Studies ²		B.S.	School of Engineering
Engineering Special Studies ¹	Premedical engineering	B.S.E.	School of Engineering
Industrial Engineering ¹		B.S.E.	Department of Industrial Engineering
Materials Science and Engineering ¹	—	B.S.E.	Department of Chemical and Materials Engineering
Mechanical Engineering ¹		B.S.E.	Department of Mechanical and Aerospace Engineering

¹ This major requires more than 120 semester hours to complete

² Applications for this program are not being accepted at this time

information, see "Admission of Undergraduate Nondegree Applicants" section, page 68.

DEGREES

The faculty in the College of Engineering and Applied Sciences offer programs leading to the B.S. and B.S.E. degrees with majors in the subjects shown in the "College of Engineering and Applied Sciences Baccalaureate Degrees and Majors" table, on this page. Each major is administered by the academic unit indicated.

Integrated B.S.E.—M.S. Program. To provide greater program flexibility, qualified students of the School of Engineering may undertake a program with an integrated fourth- and fifth-year sequence of study in one of several fields of specialization in engineering. This program provides an opportunity to meet the increasing demands of the profession for graduates who can begin their engineering careers at an advanced level.

Students admitted to this program are assigned a faculty committee that supervises a program of study in which there is a progression in the course work and in which earlier work is given application in the later engineering courses for both the bachelor's and master's degrees. Entry into the integrated program requires an application submitted to the dean through the faculty advisor and the department chair. Applications are reviewed by a school committee that recommends the appropriate action to the dean. The application may be submitted in the fifth semester.

GRADUATE PROGRAMS

The faculty in the College of Engineering and Applied Sciences offer master's and doctoral degrees as shown in the "College of Engineering and Applied Sciences Graduate Degrees and Majors" table, page 199. School of Engineering faculty participate in offering the Master of Engineering (M.E.) as a collaborative degree program offered by Arizona's three state universities. For more information on courses, faculty, and programs, see the *Graduate Catalog*.

DEGREE REQUIREMENTS

For detailed information on the degree requirements of a major in the College of Engineering and Applied Sciences, refer to that department's or school's individual description on the following pages.

UNIVERSITY GRADUATION REQUIREMENTS

In addition to department and school requirements, students must meet all university graduation requirements (see "University Graduation Requirements," page 83). A well planned program of study enables students to meet all requirements in a timely fashion. Students are encouraged to consult with an academic advisor in planning a program to ensure that they comply with all necessary requirements.

General Studies Requirement

All students enrolled in a baccalaureate degree program must satisfy a university requirement of a minimum of 35

hours of approved course work in General Studies. General Studies courses are listed in the "General Studies Courses" table, page 90, in the course descriptions, in the *Schedule of Classes*, and in the *Summer Sessions Bulletin*. Consult your advisor for an approved list of courses.

First-Year Composition Requirement

As a minimum, completion of ENG 101 and 102, or ENG 107 and 108, or ENG 105 with grades of "C" or higher is required for graduation from ASU in any baccalaureate program. See "First Year Composition Requirement," page 83. Any student whose written or spoken English in any course is unsatisfactory may be required by the appropriate director or department chair to take additional course work.

COLLEGE DEGREE REQUIREMENTS

Pass/Fail Grades

Students enrolled in the College of Engineering and Applied Sciences do not receive degree credit for pass/fail courses taken at this institution. In addition, no course in this college is offered for pass/fail credit. Students requesting credit for pass/fail courses taken at another institution must file a Petition for Adjustment to Curriculum Requirements to the department of their major. Each request is judged on its particular merits.

Entry into Upper-Division Courses

Before enrolling in courses at the 300 level and above, students must be in good academic standing in professional program status and have the approval of their advisors. A student who is not in good academic standing must secure approval from his or her advisor and the college's Student Academic Services. Students whose grades in 300 level courses are unsatisfactory may be required to retake one or more courses for which credit has previously been granted.

The departments and schools have certain additional requirements that must be met in addition to the above college requirements and students should consult them for details.

Currency of Course Work

Courses taken more than five years before admission to degree programs in this college are not normally accepted for transfer credit at the option of the department in which the applicant wishes to enroll. Courses completed within the five years preceding admission are judged as to their applicability to the student's curriculum.

MAJOR REQUIREMENTS

For detailed information on the degree requirements of a major in the College of Engineering and Applied Sciences, refer to that department's or school's individual description on the following pages.

ACADEMIC STANDARDS

Retention. A student is expected to make satisfactory progress toward completion of degree requirements in order to continue enrollment in the College of Engineering and Applied Sciences. Any one of the following conditions is considered unsatisfactory progress and results in the student being placed on probationary status.

- 1 a semester or summer session with a GPA less than or equal to 1.50;

- 2 two successive semesters with GPAs less than 2.00; or
- 3 an ASU cumulative GPA less than 2.00.

Students on probation are subject to disqualification if

- 1 they do not attain a semester GPA of 2.25;
- 2 their cumulative GPA is below 2.00 at the end of the probationary semester, or
- 3 they are placed on probation for two consecutive semesters.

Courses completed during the summer sessions may not be used to reevaluate a student's fall semester probationary status.

Students on academic probation are not allowed to register for more than 13 semester hours of course work. Probationary students may not register for the next semester without a special permit from an advisor in Student Academic Services. Special permits are not given until grades are recorded by the registrar for the current semester.

Disqualification. During a semester on academic probation, a student who fails to meet the retention standards specified above is disqualified. Students may request a review of their disqualification status by contacting the director of Student Academic Services in ECG 205. Any disqualified student who is accepted by another college at ASU may not register for courses in this college unless the courses are required for the new major. Disqualified students who do register for courses in this college may be withdrawn from these courses any time during that semester. Furthermore, students at the university who have been disqualified academically by this college are not eligible to enroll in summer session courses in this college until the disqualification period has expired and they have been reinstated.

Reinstatement. The College of Engineering and Applied Sciences does not accept an application for reinstatement until the disqualified student has remained out of this college for at least a 12-month period. Merely having remained in a disqualified status for this period of time does not, in itself, constitute a basis for reinstatement. Proof of ability to do satisfactory college work in the chosen discipline is required, for example, completing at least 15 semester hours of pertinent courses in the discipline at a community college with higher than average grades, and a cumulative GPA of 2.50 or higher for all courses completed.

STUDENT RESPONSIBILITIES

Course Prerequisites. Students should consult the *Schedule of Classes* and the catalog for course prerequisites. Students who register for courses without the designated prerequisites may be withdrawn without the student's consent at any time before the final examination. Such withdrawal may be initiated by the instructor, the chair of the department offering the course, the director of Student Academic Services, or the dean of the college. In such cases, students will not receive monetary reimbursement. However, such withdrawal is considered to be unrestricted as described under "Grading System," page 76, and does not count against the number of restricted withdrawals allowed.

College of Engineering and Applied Sciences Graduate Degrees and Majors

Major	Concentration	Degree	Administered By
Del E. Webb School of Construction			
Construction	Construction science, facilities, management	M.S.	Del E. Webb School of Construction
School of Engineering			
Aerospace Engineering	—	M.S., M.S.E., Ph.D.	Department of Mechanical and Aerospace Engineering
Bioengineering	Biomedical and clinical engineering, chemical process engineering, chemical reactor engineering, energy and materials conversion, environmental control, solid-state processing, transport phenomena	M.S., Ph.D.	Department of Bioengineering
Chemical Engineering		M.S., M.S.E., Ph.D.	Department of Chemical and Materials Engineering
Civil Engineering	—	M.S., M.S.E., Ph.D.	Department of Civil and Environmental Engineering
Computer Science	—	M.C.S., M.S., Ph.D.	Department of Computer Science and Engineering
Electrical Engineering	—	M.S., M.S.E., Ph.D.	Department of Electrical Engineering
Engineering	—	M.E. ¹	School of Engineering
Engineering Science	—	M.S., M.S.E., Ph.D.	School of Engineering
Industrial Engineering	—	M.S., M.S.E., Ph.D.	Department of Industrial Engineering
Materials Engineering	—	M.S., M.S.E.	Department of Chemical and Materials Engineering
Materials Science	—	M.S. ²	Committee on the Science and Engineering Materials
Mechanical Engineering	—	M.S., M.S.E., Ph.D.	Department of Mechanical and Aerospace Engineering
Science and Engineering of Materials	High-resolution nanostructure analysis, solid-state device materials design	Ph.D. ²	Committee on the Science and Engineering of Materials

¹ This collaborative program is offered by the three state universities. See the *Graduate Catalog* for more information

² This program is administered by the Graduate College. See "Graduate College." page 304

SPECIAL PROGRAMS

Foundation Coalition. ASU is a member of the Foundation Coalition, a National Science Foundation funded group of seven institutions of higher learning across the U.S. that is working to improve engineering education. Foundation Coalition programs are intended to

1. demonstrate and promote the interrelationships of subject matter within the curriculum;
2. improve the interpersonal skills of students and the understanding of concepts through the use of more teaming and cooperative learning environments;
3. increase the use of technology in the curriculum; and
4. assess and evaluate intended improvements.

Such changes address the desires of employers, increase the numbers of baccalaureate degrees earned by members of currently underrepresented groups, and promote curriculum improvement. Foundation Coalition programs are available to all freshmen and sophomores except those majoring in Bioengineering, Chemical Engineering, Computer Science, Construction and Materials Science Engineering, and to

juniors and seniors in Electrical Engineering and Industrial Engineering.

Foundation Coalition programs offer students a more hands on, team based, computer intensive approach to the curriculum. The freshman programs provide an important opportunity for new students to get to know a small group of students, making a large university seem less overwhelming. The programs also involve more interactions with faculty and access to special tutors. All students will get a team based, computer intensive education in ECE 194 Introduction to Engineering Design, but the Foundation Coalition program extends this experience to many more subjects and courses.

Freshmen Foundation Coalition programs offer both an integrated set of courses which include engineering, calculus, physics, and English in both the first and second semesters, and smaller integration packages that include engineering and English. In these packages, the same set of students take all of the courses in the package in high tech. team promoting classrooms while the faculty work together to deliver a unified set of courses. Sophomore programs presently involve courses in mathematics, mechanics, and electrical circuits.

Students interested in these programs should see the department advisor, inquire at the Foundation Coalition office in room ECG 303, call 480 965 5350, or access the Web site at www.eas.asu.edu/asufc.

Minority Engineering Program. The staff of the Minority Engineering Program (MEP) is available to assist the academic and professional development of prospective, newly admitted, and continuing students through a variety of support services. In addition, advice on financial aid, scholarships, and employment is provided. Visit the MEP office located in room ECG 307 or call 480 965 8275, or access the Web site at www.eas.asu.edu/~omep.

Women in Applied Sciences and Engineering Program. The Women in Applied Sciences and Engineering (WISE) Program hosts seminars and workshops, and provides outreach programs to high school and community college students. WISE offers a professional development course, STE 194 ST: Engineering for Undecided, to acquaint students with a variety of technical careers. The WISE Center, located in room ECG 214, is open for study groups, tutoring, and informal discussions. The phone number is 480 965 6882. The Web address is www.eas.asu.edu/wise.

Student Academic Services. The dean's office of the College of Engineering and Applied Sciences maintains a special office staffed to assist students in various matters. This office coordinates the work of the College Admissions and Standards Committee and administers the probation, disqualification, and readmission processes for students who are academically deficient.

Academic Honors. Students completing baccalaureate degree requirements receive the appropriate honors designations on their diplomas consistent with the requirements specified by the university.

Students in the College of Engineering and Applied Sciences are encouraged to seek information concerning entry into those honor societies for which they may qualify. Membership in such organizations enhances the student's professional stature. The following honor societies are active within the college:

- Alpha Pi Mu Industrial Engineering Honor Society
- Chi Epsilon Civil Engineering Honor Society
- Eta Kappa Nu Electrical Engineering Honor Society
- Pi Tau Sigma Mechanical Engineering Honor Society
- Sigma Gamma Tau Aerospace Engineering Honor Society
- Sigma Lambda Chi Construction Honor Society
- Tau Beta Pi National Engineering Honor Society
- Upsilon Pi Epsilon National Computer Science Honor Society

Information on any of these organizations may be obtained from the respective department or school offices.

University Honors College. The College of Engineering and Applied Sciences participates in the programs of the University Honors College, which provides enhanced educational experiences to academically superior undergraduate students. Participating students can major in any academic program. A description of the requirements and the opportunities offered by the University Honors College can

be found in the "University Honors College" section, page 323.

Scholarships. Information and applications for academic scholarships for continuing students may be obtained by contacting the college's Student Academic Services or the various department or school offices. Other scholarships may be available through the University Student Financial Assistance Office.

ASU 3+2 Programs. Students desiring to earn a baccalaureate degree from Grand Canyon University (Phoenix, Arizona) in Mathematics, Chemistry, Construction, or Physics or from Southwestern University (Georgetown, Texas) in Physical Science and a baccalaureate degree in one of the engineering majors or the Construction major from ASU can take advantage of a 3+2 program approved by these institutions. Such students complete the first three years of study at their respective college or university and the last two years of study at ASU. At the end of the fourth or fifth year, assuming all degree requirements have been met, the baccalaureate degree is awarded by the student's respective college or university and the appropriate engineering or construction baccalaureate degree is awarded by ASU.

A similar 3+2 program is available to qualified students from Long Island University (C.W. Post Campus, College of Arts and Sciences), who wish to earn both a B.S. degree from C.W. Post in Mathematics or Physics and a Bachelor of Science in Engineering degree from ASU in Civil, Chemical, Electrical, Industrial, or Mechanical Engineering.

More information can be obtained by writing to one of the following offices:

OFFICE OF THE ADMINISTRATIVE VICE
PRESIDENT
GRAND CANYON UNIVERSITY
3300 W CAMELBACK RD
PHOENIX AZ 85017-1097

PROVOST AND DEAN OF THE BROWN COLLEGE
OF ARTS AND SCIENCES
SOUTHWESTERN UNIVERSITY
GEORGETOWN TX 78626 6100

DEAN COLLEGE OF ARTS AND SCIENCES
C.W. POST CAMPUS
LONG ISLAND UNIVERSITY
700 NORTHERN BLVD
GREENVALE NY 11548-1327

OFFICE OF THE DEAN
COLLEGE OF ENGINEERING AND
APPLIED SCIENCES
ARIZONA STATE UNIVERSITY
PO BOX 875506
TEMPE AZ 85287 5506

ROTC Students. Students pursuing a commission through either the Air Force or Army ROTC programs are required to take courses in the Department of Aerospace Studies or Department of Military Science. To preclude excessive overloads, these students should plan on at least one additional semester to complete degree requirements. Because of accreditation requirements, aerospace studies (AES) or military science (MIS) courses are not acceptable for degree credit in engineering as well as social and behavioral science or