

Cognate Courses	Credit Hours
BIO 114. Organisms	4
BIO 124. Ecology and Evolution	4
CHEM 131-132. General Chemistry I-II	6
MATH 235-236. Calculus I-II ¹	8
PHYS 240-250. University Physics I-II ²	6

¹MATH 231-232 may be substituted for MATH 235-236.²PHYS 125-126 or PHYS 140-150 may be substituted for PHYS 240-250

Core Courses	Credit Hours
ISAT 320-321. Fundamentals of Environmental Science and Technology I-II	6
ISAT 302. Instrumentation and Measurement of the Environment	1
ENVM 490. Environmental Management Seminar (optional)	2
ENVM 491-492. Senior Thesis/Project I-II (optional)	6
Concentration	
See descriptions below	15
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Concentrations

The environmental management minor concentrates in one of two areas, natural resources and industrial systems. Students should be aware that some of the listed courses may have additional prerequisites.

Natural Resources

ISAT 424. Natural Resource Management

Choose four of the following courses:

- BIO 451. Ecological Systems
- BIO 453. Microbial Ecology
- BIO 459. Freshwater Ecology
- CHEM 355. Geochemistry of Natural Waters
- ECON 340. Economics of Natural Resources
- GEOG 325. Environmental Ethics
- GEOG 327. Climatology
- GEOG 340. Biogeography
- GEOG 385. Principles of Remote Sensing
- GEOL 320. Meteorology
- GEOL 460. Geohydrology
- ISAT 420. Environmental Analysis and Modeling
- ISAT 421. Environmental Policy and Regulation
- ISAT 425. Environmental Hydrology
- ISAT 426. Environmental Information Systems
- ISAT/GEOG 429. Sustainability: An Ecological Perspective

Industrial Systems

ISAT 422. Environmental Management

Choose four of following courses:

- ECON 305. Environmental Economics
- HTH 352. Environmental Health
- HTH 450. Epidemiology
- ISAT 410. Sustainable Energy Development
- ISAT 421. Environmental Policy and Regulation
- ISAT 423. Environmental Remediation
- ISAT 426. Environmental Information Systems
- ISAT 427. Industrial Hygiene
- ISAT 428. Industrial Ecology

Environmental Studies

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The minimum requirement for a minor in Environmental Studies is 18 hours with a maximum of three courses from either discipline (natural or social science).

Required Courses	Credit Hours
Natural sciences (choose three from the following):	
BIO 124. Ecology and Evolution	4
BIO 451. Ecological Systems	4
BIO 452. Population Ecology	4
BIO 453. Microbial Ecology	4
BIO 459. Freshwater Ecology	4
GEOL 211. Introduction to Oceanography	3
GEOL 310. Management of Marine Resources	3
GEOL 320. Meteorology	3
GEOL 340. Soils and Land Use	3
GEOL 355. Geochemistry of Natural Waters	3
ISAT 320. Fundamentals in Environmental Science	3
ISAT 421. Environmental Policy and Regulation	3
CHEM 354. Environmental Chemistry Field Camp	3
PHYS 215. Energy and the Environment	3
Social science (choose three from the following):	
GANTH 196. Biological Anthropology	3
ANTH 355. Culture and Ecology	3
ECON 305. Environmental Economics	3
ECON 340. Economics of Natural Resources	3
GEOG 300. Population Geography	3
GEOG 310A-D. Environmental Issues	1-4
GEOG 325. Environmental Ethics	3
GEOG 327. Climatology	3
GEOG 340. Biogeography	3
GEOG 341. Wilderness Techniques	3
HTH 352. Environmental Health	3
PHIL 395. Philosophy and Scientific Inquiry	3
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A student may not receive dual credit for required courses that apply to both the major and minor. The program encourages students to pursue environmental research topics through participation in the individual research options of the various departments involved.

Family Studies

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The interdisciplinary minor in family studies is designed for undergraduates seeking enhancement of their major, desiring to increase understanding of self and relationships, and seeking to make a positive contribution to society. A substantial knowledge of family-related issues, family processes, policies, laws, services and the interrelationship of families and societies will enhance majors in many fields including anthropology, early and middle education, health sciences, management, nursing, psychology, social work and sociology. The minor encourages students to make connections between their major field and family studies, thereby adding value to the major.

The family studies minor requires a minimum of 18 credit hours with no more than six credit hours in the student's major.

One introductory course is required from the following: FAM 133, The Contemporary Family, or SOCI 276, Sociology of the Family. One course must be selected from each of these areas: families in society, family and intimate relationships, and human development in the family. An additional course must be selected from any of the three areas or from family studies electives. A capstone course, FAM 400, Family Issues and Applications, is also required. At least four courses in the minor, including the introductory course, must have been completed prior to enrolling in FAM 400.

Required Courses	Credit Hours
Introductory course (choose one of the following):	3
FAM 133. Contemporary Family	
SOCI 276. Sociology of the Family	
Families in Society (choose one of the following):	3
ECON 306. Economics of Women and the Family ¹	
GERN/SOCI 280. Social Gerontology	
HIST 466. The Family 1400-1800	
SOCI 303. Sociology of Death and Dying ²	
SOCI 337. Sociology of Gender	
SOWK 338. Issues and Policies in Family Services	
SOWK 342. Child Welfare Services	
Family and Intimate Relationships (choose one of the following):	3
FAM 330. Family Relations	
HTH 372. Human Sexuality	
PSYC 275. Psychology of Human Intimacy	
PSYC 450. Psychology of Child Abuse and Neglect ^{1,3}	
SOWK 340. Violence in Families ⁴	
Human Development in the Family (choose one of the following):	3
FAM 300. Child Development ^{1,6}	
FAM 335. Parent-Child Relationships Across the Lifespan	
PSYC 304. Death and Dying: Thanatology ^{1,5}	
PSYC 365. Developmental Psychology ^{1,7}	
PSYC 470. Psychology of the Young Adult ¹	
PSYC 475. Psychology of Adulthood ¹	
SOWK 387. Working with Teenagers	
Capstone	3
FAM 400. Family Issues and Applications ¹	
Additional family studies course	3
(choose additional course from B, C, D or one of the following):	
FAM 487. Special Topics in Family Issues	
FAM 490. Special Studies in Family Issues	
FAM Elective	

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¹ Course has one or more prerequisites. ² May not also take PSYC 304 in the minor. ³ May not also take SOWK 340 in the minor. ⁴ May not also take PSYC 450 in the minor. ⁵ May not also take SOCI 303 in the minor. ⁶ May not also take PSYC 365 in the minor. ⁷ May not also take FAM 300 in the minor.

Film Studies

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The minor in film studies is designed for students who wish to extend their critical understanding of visual communication and narrative form by studying how movies tell stories, convey information and influence audiences. Because the program is interdisciplinary, it examines films as both art and entertainment, bringing together the literary traditions of English and the communication perspectives of media arts and design. Together, the aim is to explore cinema's pictorial "language," investigate its commercial consequences and evaluate its impact across cultures as a medium for enacting the human story.

The minimum requirement for a minor in film studies is 18 hours. A total of six credit hours may be double-counted between the minor and the major. Students electing this minor may acquire more information from the film studies adviser of the School of Media Arts and Design or the Department of English.

All students must complete the following:

Required Courses	Credit Hours
ENG 381. An Introduction to Film to 1960	3
SMAD 460. Movies and Society	3
Select no fewer than four courses from the following:	12
ENG 302. Special Topics (when topic is film)	
ENG 382. An Introduction to Film Since 1960	
ENG 383. Major Film Genres	
ENG 384. Major Film Directors	
ENG 412. Special Topic Seminars (when topic is film)	
SMAD 371. Narrative Media Studies	
SMAD 461. Movies as Art	
SMAD 462. Documentary in Film and Television	
SMAD 463. Film Adaptations	
SMAD 498. Senior Seminar (when topic is film)	

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Gerontology

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The interdisciplinary minor in gerontology is designed for any undergraduate major desiring a concentration of study in gerontology for personal understanding or career preparation. The minor program requires 18 hours of study in gerontology. Upon completion of the minor program, a certificate in gerontology will be awarded for those students enrolled in the certificate program.

Required Courses	Credit Hours
GERN/SOCI 280. Social Gerontology	3
GERN 305. Programs and Services for the Elderly	3
GERN 400. Skills and Techniques	3
GERN 495. Field Experience/Seminar	3
Major elective (a course supporting the student's major or related field of study with 50 percent of the course content in gerontology)	3
Elective (must be a course in which the content is at least 50 percent in gerontology)	3

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Historical Archaeology

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The minor is designed for students interested in the field of historical archaeology, a discipline that integrates the research interests and methods of archaeology and history. The minor is designed to complement existing majors in anthropology and history, and it may also be of interest to students in art history and public administration. While guided by the theoretical underpinnings of history and anthropology, the minor in historical archaeology is highly field and research oriented. Students enrolling in the program should anticipate courses that require significant effort outside of the classroom.