511. Animal Science for Veterinarians
Fall. 4(4-0) First year Veterinary Medicine students.
Husbandry and management of food animals, horses, companion animals, zoo animals and laboratory animals.

512. Physical Examination and Animal Handling II
Spring. 2(0-6) First year Veterinary Medicine students.
Techniques for restraint and examination of cattle, sheep, goats, and swine. Inspections of production units.

525. Animal Nutrition
Spring. 5(4-2) BCH 401.

800. Advanced Independent Study
(A H 890.) Fall, Winter, Spring, Summer.
1 to 4 credits. May enroll for a maximum of 8 credits. Approval of department. Investigation of areas within animal science of special interest to graduate students.

830. Rumen and Gastrointestinal Microbiology
Fall of even-numbered years. 3(3-0) MPH 303, BCH 452 or approval of department.
Microbial activities in the rumen and gastrointestinal ecosystems of major livestock species. Microbial types, classification, distribution, degradation and fermentation of substrates, interactions, manipulation and cultivation.

931. Advanced Ruminant Nutrition
(DRY 923.) Fall of even-numbered years. 4(4-0) PSL 911, ANS 850, approval of department.
Biochemistry, physiology, and microbiology of ruminant digestion. Absorption and metabolism of ruminant fermentation products.

935. Comparative Nutrition—Lipids and Carbohydrates
(BNF 928.) Winter of odd-numbered years. 4(4-0) BNF 402 and a previous course on principles of nutrition. Interdepartmental with Human Nutrition and Foods.
Regulatory aspects of carbohydrate and lipid metabolism as influenced by nutrition in mammals. Emphasis on normal and abnormal physiological states such as obesity, ketosis and diabetes.

936. Comparative Nutrition—Protein Metabolism and Developmental Biology
(BNF 927.) Fall of even-numbered years. 4(4-0) PSL 811 or approval of department. Interdepartmental with Human Nutrition and Foods.
Protein quality assessment, protein status, protein calorie malnutrition, amino acid metabolism, protein turnover, digestion and absorption, hormonal control of protein metabolism, developmental aspects of protein metabolism and growth.

937. Comparative Nutrition—Minerals
(A H 928.) Fall of even-numbered years. 3 credits. PSL 811 or approval of department. Interdepartmental with Human Nutrition and Foods.
Forms and location in body, metabolic roles, deficiency and toxicity signs, interrelationships, requirements and biological availability of sources.

941. Genetics of Breed Improvement
(A H 982.) Winter of odd-numbered years. 3(3-0) ANS 314, STT 421.

942. Breeding Systems and Plans
(A H 984.) Spring of odd-numbered years. 3(3-0) ANS 941.
Biometric relations between related animals. Role of selection in changing populations. The effects of different mating systems.

943. Biometrical Genetics
(965.) Fall. 4(4-0) ANS 872.

999. Doctoral Dissertation Research
(A H 999.) Fall, Winter, Spring, Summer. Variable credit. Approval of department.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisite(s)</th>
<th>Credits</th>
<th>Term(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANP 100</td>
<td>Cross-cultural Examination of Peasantry and Change in Developing Nations.</td>
<td>Focuses on traditional peasant and social cultures and societies of Asia, Europe, and Latin America.</td>
<td>ANP 171; one upper division sociocultural ANP course, approval of department.</td>
<td>3</td>
<td>Fall, Spring</td>
</tr>
<tr>
<td>263</td>
<td>Introduction to Archaeology</td>
<td>Archaeologists work in the field and laboratory: dating the past; analysis of sites from Stone Age caves to ceremonial sites.</td>
<td></td>
<td>3-0</td>
<td>Winter</td>
</tr>
<tr>
<td>264</td>
<td>Great Discoveries in Archaeology</td>
<td>Great discoveries in archaeology that have captured the public's imagination and shaped Western thought; from Olduvai Gorge to Machu Picchu.</td>
<td></td>
<td>4-0</td>
<td>Winter</td>
</tr>
<tr>
<td>265</td>
<td>Vanished Peoples and Lost Civilizations</td>
<td>Concepts of cultural evolution and origins of civilization as found in popular literature ranging from Atlantis to Chartres of the Gods.</td>
<td></td>
<td>4-0</td>
<td>Fall, Spring</td>
</tr>
<tr>
<td>266</td>
<td>War and Aggression</td>
<td>The question &quot;What makes friends and what makes enemies&quot; is examined from the standpoint of cultural anthropology. Violence-prone cultures and peaceful ones are compared for factors influencing human aggression.</td>
<td></td>
<td>3-0</td>
<td>Fall, Spring</td>
</tr>
<tr>
<td>275</td>
<td>The Anthropology of Asia</td>
<td>Several cultural complexes and culture types—from hunting and gathering through complex civilizations—of East, Southeast, and South Asia. The cultures and nature of their development will be examined. Past and present significance of cultural stability and change will be seen in a comparative framework.</td>
<td></td>
<td>4-0</td>
<td>Fall of odd-numbered years</td>
</tr>
<tr>
<td>281</td>
<td>The Africans and Their Cultures</td>
<td>Racial and cultural problems confronting the African peoples.</td>
<td></td>
<td>4-0</td>
<td>Spring</td>
</tr>
<tr>
<td>285</td>
<td>Anthropological Perspectives on Global Interdependence</td>
<td>Intertwined nature of cultural traditions in the modern world. Consideration of how people of developing nations respond to the dominant cultural forces of industrialized nations.</td>
<td></td>
<td>4-0</td>
<td>Spring</td>
</tr>
<tr>
<td>305</td>
<td>Peasant and Social Change in the Developing World</td>
<td>Cross-cultural examination of peasantry and rural cultures and societies of Asia, Europe and Latin America. Traditional peasants and social change in developing nations.</td>
<td></td>
<td>4-0</td>
<td>Fall, 4-0</td>
</tr>
<tr>
<td>306</td>
<td>Culture, Health and Illness</td>
<td>Anthropological study of health behavior. Comparative view of primitive, folk and scientific medical systems and their effect on the individual and the community in the illness situation.</td>
<td>ANP 171; one upper division sociocultural ANP course, approval of department.</td>
<td>4-0</td>
<td>Spring</td>
</tr>
<tr>
<td>380</td>
<td>Methods of Sociocultural Anthropology</td>
<td>Field research and analysis methods and techniques in anthropological development of research problems and questions; alternative models of validation: ethics of research and presentation of findings.</td>
<td></td>
<td>4-0</td>
<td>Winter</td>
</tr>
<tr>
<td>381</td>
<td>Anthropology and Education</td>
<td>Maturation and socialization in various societies of Asia, Africa, and Latin America. These will be compared with educational institutions in the U.S. and Europe. It is expected to be a contribution to the broader cross-cultural investigation of the teaching/learning process.</td>
<td></td>
<td>4-0</td>
<td>Winter</td>
</tr>
<tr>
<td>401H</td>
<td>Honors Work</td>
<td>Analysis of how different cultures around the world organize and create (or impede) change on the basis of class, religion, race, ethnicity, language, and territory.</td>
<td></td>
<td>3-0</td>
<td>Fall, Winter, Spring, Summer</td>
</tr>
<tr>
<td>405H</td>
<td>Environmental History</td>
<td>History of the impact of human societies on the natural environment. Effect of human induced environmental change on the history of various peoples. Global, thematic approach with emphasis on Europe and Americas since the 16th century.</td>
<td></td>
<td>4-0</td>
<td>Winter</td>
</tr>
<tr>
<td>415</td>
<td>Critical Issues in Contemporary Africa (MTC)</td>
<td>Separate courses on African cultures with emphasis on traditional patterns of social organization, political systems, subsistence and ideology; culture change through colonialism and modernization; traditional cultures and modern states.</td>
<td></td>
<td>4-0</td>
<td>Fall, Spring</td>
</tr>
<tr>
<td>419</td>
<td>Studies in the Anthropology of the New World (MTC)</td>
<td>Separate courses on African cultures with emphasis on traditional patterns of society, political systems, subsistence and ideology; culture change through colonialism and modernization; traditional cultures and modern states.</td>
<td></td>
<td>4-0</td>
<td>Fall, Winter, Spring</td>
</tr>
<tr>
<td>421</td>
<td>North American Indian Ethnography</td>
<td>Native cultures of North America on eve of European contact and during past three centuries of interaction with Europeans. Federal policy toward Native Americans. Traditional adaptations and contemporary problems.</td>
<td></td>
<td>4-0</td>
<td>Fall of odd-numbered years</td>
</tr>
<tr>
<td>423</td>
<td>Cultural Anthropology of Mexican Americans</td>
<td>Origins, development, and contemporary variation in Chicano culture as studied anthropologically. Comparative theoretical perspectives in Chicano anthropology.</td>
<td></td>
<td>4-0</td>
<td>Spring</td>
</tr>
<tr>
<td>426</td>
<td>Humanistic Perspectives on Global Diversity and Interdependence</td>
<td>Anthropological and historical analysis of global diversity and interdependence since the 16th century.</td>
<td></td>
<td>4-0</td>
<td>Winter</td>
</tr>
</tbody>
</table>

ANP 171; one upper division sociocultural ANP course, approval of department; separate courses on African cultures with emphasis on traditional patterns of social organization, political systems, subsistence and ideology; culture change through colonialism and modernization; traditional cultures and modern states.
427. Contemporary Issues in Global Interdependence and Change
Fall, Winter. 4(4-0) Juniors or approval of department. Interdepartmental with and administered by the Department of History. Interdependence of the modern world since 1945. Focus on such issues as the impact of the West on the non-western world, industrialization, modernization, population and natural resources.

428. Project in Global Studies
Spring. 4(4-0) HST 426 or HST 427 or approval of instructor. Interdepartmental with and administered by the Department of History. Supervised project to test students' competence in applying the cultural and historical diversity/interdependence frameworks introduced in the prerequisite courses.

430. Environment of International Enterprise
Fall, Spring. 4(4-0) ANP 171 or approval of department. Natural, sociocultural, governmental, and global competitive environments that limit and are affected by multinational firms' operations are presented in an anthropological framework.

439. Anthropology of Birth
Fall of odd-numbered years. 4(4-0) ANP 171 or ANP 230 or ANP 262 or ANP 356 or approval of department.

444. Human Diversity
Winter of even-numbered years. 3(3-0) ANP 100.

446. Primatology
Spring. 3(3-0) ANP 100.

448. Forensic Anthropology
Spring of odd-numbered years. 3(3-0) ANP 345 or approval of instructor.

450. Area Courses in Prehistory (MTC)
Fall. Winter. 4(4-0). May reenroll for a maximum of 16 credits if different subtitles are taken. ANP 100 or ANP 263. Archaeology of different areas with emphasis on prehistoric adaptations to natural and social environments. Settlement patterns, subsistence, technology, social organization, economy, style analysis. Areas vary with staff and student interest.

451. African Prehistory
Fall. 4(4-0) ANP 100 or ANP 263 or approval of instructor.

452. African Prehistory
Fall. 4(4-0) ANP 100 or ANP 263 or approval of instructor. Prehistory of Africa, with emphasis south of the Sahara, from first human cultures two million years ago to Iron Age. Major research problems, issues, strategies and researchers.

453. Origins of Food Production
Spring of even-numbered years. 4(4-0) ANP 263 or ANP 353.

454. Paleolithic Archaeology
Fall of odd-numbered years. 3(3-0) ANP 100, ANP 263 or ANP 352.

455. Theory in Historical Archaeology
Winter of even-numbered years. 4(4-0) ANP 263 or approval of department.

457. Public Archaeology
Fall of even-numbered years. 3(3-0) ANP 100, at least one 400-level archaeology course.

458. Archaeological Investigation of Frontiers and Colonization
Fall. 4(4-0) ANP 100 or ANP 263 or approval of department.

460. Religion and Culture
Fall. 4(4-0) ANP 171 or SOC 241 or approval of department.

461. Symbolic Anthropology
Winter. 4(4-0) ANP 221 or ANP 463 or ANP 464 or approval of department.

462. Language and Culture
Fall, Spring. 4(4-0) Approval of department. Interdepartmental with the Department of English.

463. Social Anthropology
Fall. 4(4-0) ANP 171 or approval of department.

464. American Folk Medicine
Winter. 3(3-0) Juniors or approval of department.

466. Symbolic Anthropology
Winter. 4(4-0) ANP 221 or ANP 463 or ANP 464 or approval of department.

Anthropology — Description of Courses
Description — Anthropology

of Courses

484. Methods of Field Archaeology
   Summer. 4(4-0) ANP 293 or approval of department.
   Approvals are taken. Application of methods and techniques of field
   archaeological research using actual sites and in the context of participation in a research
   program. Small groups work closely with staff in the execution of research designs.

486. Practicum in Field Archaeology
   Summer. 2 to 12 credits. May reenroll for a maximum of 20 credits. Approval of department.
   Application of methods and techniques of field archaeological research using actual sites and in the
   context of participation in a research program. Small groups work closely with staff in the execution
   of research designs.

490. Topics in Anthropology (MTC)
   Fall, Winter, Spring, Summer. 2 to 8 credits. May reenroll for a maximum of 20 credits. Approval of department.
   Experimental courses and courses taught by visiting scholars.

495. Topics in Medical Anthropology (MTC)
   Fall, Winter, Spring, Summer. 2 to 6 credits. May reenroll for a maximum of 20 credits. Approval of department.
   Western and non-Western health care and medical systems, relationships between cultural systems
   and treatment of illness, cross-cultural analysis of health maintenance and medical delivery.

499. Independent Study
   Fall, Winter, Spring, Summer. 2 to 16 credits. May reenroll for a maximum of 16 credits. Approval of instructor. Written approval of instructor and department.
   Study of a selected topic under the guidance of a faculty advisor in the area of speciality, including
   field work.

800A. Concepts in Anthropology: Sociocultural Anthropology
   Fall. 4(4-0) Approval of department.
   Approvals are given. Approval of department.
   Approvals are given. Approv...
860. Anthropological Theory
Fall of odd-numbered years. 4(4-0)
Approval of department.
Development of contemporary anthropological theory from 18th and 19th century foundations. Major paradigms in current anthropology, emphasizing critical issues and problems in theory.

861. Religion and Ritual
Winter of even-numbered years. 3(3-0)
Approval of department.
Anthropological theories and crosscultural analysis of the significance of religion and ritual and patterns of their variation among world cultures.

862. Theories of Sociocultural Change
Winter of even-numbered years. 3(3-0)
Approval of department.
Anthropological theories concerning change in sociocultural systems and relationships. Major theorists in sociocultural change and the development of theory. Methods of analysis and their applications.

863. Class and Ethnicity in Social Differentiation
Spring of odd-numbered years. 4(4-0)
Approval of department.
Anthropological theories on nature and sources of social differentiation and inequalities within cultures and ethnic communities. Class and ethnic identity in their cultural contexts.

864. Gender, Age and Social Differentiation
Fall of odd-numbered years. 4(4-0)
Approval of department.
Anthropological theories on nature and sources of social differentiation and inequalities within cultures and ethnic communities, emphasizing gender and age distinctions in their cultural contexts.

865. Cultural Ecology
Spring of even-numbered years. 4(4-0)
Approval of department.
Relationship of human populations to their ecosystems; comparative analysis of roles of technology and culture in mediating environmental adaptation; processes of change; case studies of technologically induced sociocultural change.

866. Social Impact Analysis and International Development
Spring of odd-numbered years. 4(4-0)
Approval of department.

872. Seminar in Special Subject Fields
Fall, Winter, Spring, Summer. 2 to 6 credits. May receive for a maximum of 24 credits when new fields are offered. Approval of department.
Special fields of study will include any area of anthropology selected.

873. Seminar in Economic Anthropology
Winter of odd-numbered years. 4(4-0)
ANP 474 or approval of instructor.
Issues, problems, theories and current research in anthropological analyses of nonindustrial economies and their relationship to rest of culture. Emphasizes primitive, peasant cultures before and since emergence of capitalism.

875. Individual Research Projects
Fall, Winter, Spring, Summer. 1 to 22 credits. May renew for a maximum of 24 credits with approval of department. Approval of department.

880. Individual Readings
Fall, Winter, Spring, Summer. 1 to 12 credits. May renew for a maximum of 24 credits with approval of department. Approval of department.

899. Master's Thesis Research
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

999. Doctoral Dissertation Research
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

ARABIC
See Linguistics and Germanic, Slavic, Asian and African Languages.

ART
College of Arts and Letters

History of Art

<table>
<thead>
<tr>
<th>Course</th>
<th>Meeting</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>205. Purposes of Art (A)</td>
<td>Fall, Winter, Spring 3(3-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>206. History of Western Art: The Ancient World (A)</td>
<td>Fall, Winter, Spring 4(4-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>207. History of Western Art: The Middle Ages and the Renaissance (A)</td>
<td>Fall, Winter, Spring 4(4-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>208. History of Western Art: The Baroque to the Present (A)</td>
<td>Fall, Winter, Spring 4(4-0)</td>
<td>4(4-0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Meeting</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>305. Roman Art and Archaeology</td>
<td>Spring of odd-numbered years. 4(4-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>310. Baroque Art</td>
<td>Fall of odd-numbered years. 3(3-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>320. Women in Modern Art</td>
<td>Fall, Winter of odd-numbered years. 3(3-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>406. Ancient Architecture</td>
<td>Spring of even-numbered years. 4(4-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>409. Ancient Architecture</td>
<td>Fall of odd-numbered years. 4(4-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>410. Early Christian and Byzantine Art</td>
<td>Fall of even-numbered years. 4(4-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>411. Carolingian, Ottonian, and Romanesque Art</td>
<td>Fall of odd-numbered years. 4(4-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>412. Gothic Art</td>
<td>Spring of odd-numbered years. 4(4-0)</td>
<td>4(4-0)</td>
</tr>
<tr>
<td>420. Italian Renaissance Architecture</td>
<td>Fall of odd-numbered years. 4(4-0)</td>
<td>4(4-0)</td>
</tr>
</tbody>
</table>

Art — Description of Courses