

DESCRIPTIONS of COURSES 1981

This section provides descriptions of all courses given by the University at both the undergraduate and graduate levels. The courses are listed in the schools and departments which give the instruction. The schools and departments are arranged in alphabetical sequence.

COURSE NUMBERS

001-099 Non-Credit Courses

Courses with these numbers are offered by the University to permit students to make up deficiencies in previous training or to improve their facility in certain basic skills without earning credit.

For information about remedial-developmental-preparatory courses, consult the *Academic Programs* section of the catalog.

100-299 Undergraduate Courses

Courses with these numbers are for undergraduate students. They carry no graduate credit, although graduate students may be admitted to such courses in order to make up prerequisites or to gain a foundation for advanced courses.

For information about remedial-developmental-preparatory courses, consult the *Academic Programs* section of the catalog.

300-499 Advanced Undergraduate Courses

Courses with these numbers are for advanced undergraduate students. They constitute the advanced portion of an undergraduate program leading to the bachelor's degree. A graduate student may carry 400 level courses for credit upon approval of the student's major department and the department offering the course. In exceptional cases, a graduate student may petition the dean of his or her college, in writing, for approval of a 300 level course for graduate credit.

500-699 Graduate-Professional Courses

Courses with these numbers are courses in the graduate-professional programs. A graduate student may carry these courses for credit with approval of the major department.

800-899 Graduate Courses

Courses with these numbers are for graduate students. Advanced undergraduates with a 3.00 or better grade-point average in their total programs may be admitted to 800-899 level courses; others, if recommended by their academic adviser and approved by their dean. *At least 23 credits of the total required for a master's degree shall be taken at the 800 and 900 level* except as specifically exempted by the dean of the college.

900-999 Advanced Graduate Courses

Courses with these numbers are exclusively for graduate students and primarily for advanced graduate students. A master's degree candidate may take these courses with the approval of the major department.

COURSE LISTINGS

		1	2	3	4
(A) →	401.	<i>Comparative Physiology I</i> (412.) Fall, 4(3-4) 240 or B S 212 and			
(B) →	CEM 132.	<i>Interdepartmental with the Department of Zoology.</i>			
(C) →		A comparison of osmoregulation, digestion, respiration, and other physiological processes in a wide range of organisms.			

This material has three categories.

- (A) The course number and title including:

The course number suffix:

H — Honors Course

1 — Type I

2 — Type II

3 — Type III

4 — Type IV

5 — Type V

Remedial-Developmental-Preparatory Courses.

For additional information about remedial-developmental-preparatory courses, consult the *Academic Programs* section of the catalog.

The General Education designation code in parentheses following the title:

(A) — Arts and Humanities

(N) — Biological, Physical, or Mathematical Sciences

(S) — Social and Behavioral Sciences.

For additional information, refer to the section on *Courses Approved for General Education Designation* beginning on page A-2.

- (B) The material in italics which includes:

1 The former course number in parentheses if the course number has been changed within the past 5 years.

2 The term or terms the course is authorized to be given. Lack of staff or low student enrollment may preclude offering the course, particularly at the advanced level, every term for which it is authorized.

3 The term credits are designated to include class hours a week as follows: A(B-C) where:

A = Number of term (quarter) credits.

B = Number of class hours a week in lecture, recitation, quiz, etc., sections.

C = Number of class hours a week in laboratory.

If the credit is indicated to be variable, the number of credits is to be determined at the time of enrollment. If the course is a non-credit course, the credit-equivalent is given in brackets.

4 The course number(s) or other information indicates the preparation or classification prerequisite to enrollment in the course. If a department code and course number are

listed, the reference is to a course in the department indicated by the code. The department codes and the corresponding department names are listed on this page. *The prerequisite may be satisfied by the course or courses indicated or equivalent background.* If a class standing such as juniors is listed, only students with that or a higher class level are eligible for enrollment. A student who is unsure of eligibility for enrolling in a course should contact the administering department, school, or college.

© A brief description of the course.

Department Codes Used in Course Prerequisites

Codes are listed in alphabetical order by the code. The departments are listed in alphabetical sequence by their names in the pages which follow.

DEPT. CODE	DEPARTMENT NAME
A E	Agricultural Engineering
A H	Animal Husbandry
A L	Arts and Letters
A S	Aerospace Studies
ADV	Advertising
AEC	Agricultural Economics
AET	Agricultural Engineering Technology
AFA	Accounting and Financial Administration
AFR	African Languages—See Linguistics and Oriental and African Languages
AMS	American Studies
ANP	Anthropology
ANR	Agriculture and Natural Resources
ANS	Animal Science
ANT	Anatomy
ARB	Arabic—See Linguistics and Oriental and African Languages
ART	Art—See History of Art and Studio Art
ASC	Audiology and Speech Sciences
AST	Astronomy and Astrophysics
ATL	American Thought and Language
B C	Building Construction—See Agricultural Engineering
B S	Biological Science
BCH	Biochemistry
BIM	Biomechanics
BME	Biomedical Engineering
BOA	Business Law and Office Administration
BOT	Botany and Plant Pathology
BPY	Biophysics
C E	Civil Engineering
C J	Criminal Justice
CAS	Communication Arts and Sciences (College of)
CEM	Chemistry
CHE	Chemical Engineering
CHS	Chinese—See Linguistics and Oriental and African Languages
CLA	Classical Studies
CMS	Community Health Science
COM	Communication
CPS	Computer Science
CSS	Crop and Soil Sciences
DRY	Dairy Science
E E	Electrical Engineering
E S	Earth Science
EC	Economics
ED	Education
EGR	Engineering
ENG	English
ENT	Entomology
F E	Family Ecology—See Family and Child Ecology
F M	Family Medicine
F W	Fisheries and Wildlife
FCE	Family and Child Ecology
FCS	Family and Child Sciences—See Family and Child Ecology
FMP	Family Practice
FOR	Forestry
FRN	French—See Romance and Classical Languages
FSC	Food Science
FSM	Food Systems Economics and Management—See Agricultural Economics
G R	German and Russian
GEN	Genetics
GEO	Geography
GLG	Geology
GRK	Greek—See Romance and Classical Languages
GRM	German—See German and Russian
H A	History of Art—See Art
H M	Human Medicine (College of)
HEB	Hebrew—See Linguistics and Oriental and African Languages
HEC	Human Ecology (College of)
HED	Human Environment and Design
HNF	Human Nutrition and Foods—See Food Science and Human Nutrition
HPR	Health, Physical Education and Recreation
HRI	Hotel, Restaurant and Institutional Management

DEPT. CODE	DEPARTMENT NAME
HRT	Horticulture
HST	History
HUM	Humanities
IS	Improvement Service
IDC	Interdisciplinary Courses
ITL	Italian—See Romance and Classical Languages
J M	Justin Morrill Inter-College Programs
JAP	Japanese—See Linguistics and Oriental and African Languages
JRN	Journalism
L A	Landscape Architecture—See Urban Planning and Landscape Architecture
LBC	Lyman Briggs College
LIN	Linguistics—See Linguistics and Oriental and African Languages
LIR	Labor and Industrial Relations
LOA	Linguistics and Oriental and African Languages
LSM	Large Animal Surgery and Medicine
LTN	Latin—See Romance and Classical Languages
M C	James Madison College
M E	Mechanical Engineering
M S	Military Science
M T	Medical Technology
MED	Medicine
MGT	Management
MMM	Metallurgy, Mechanics and Materials Science
MPH	Microbiology and Public Health
MTA	Marketing and Transportation Administration
MTH	Mathematics
MUS	Music
N E	Nursing
N S	Natural Science
NSC	Natural Science (College of)
O M	Osteopathic Medicine
OGR	Obstetrics, Gynecology, and Reproductive Biology
OST	Osteopathic Medicine (College of)
P S	Poultry Science
PAM	Public Affairs Management—See Agricultural Economics
PED	Pediatrics
PHD	Pediatrics and Human Development
PHL	Philosophy
PHM	Pharmacology and Toxicology
PHS	Physical Science
PHY	Physics
PKG	Packaging
PLS	Political Science
PRR	Park and Recreation Resources
PRT	Portuguese—See Romance and Classical Languages
PSC	Psychiatry
PSL	Physiology
PSY	Psychology
PTH	Pathology
R D	Resource Development
RAD	Radiology
REL	Religious Studies
RES	Racial and Ethnic Studies
ROM	Romance Languages
RUS	Russian—See German and Russian
S E	Sanitary Engineering—See Civil and Sanitary Engineering
S S	Social Science
S W	Social Work
SAL	South Asian Languages—See Linguistics and Oriental and African Languages
SOC	Sociology
SPN	Spanish—See Romance and Classical Languages
SSC	Social Science (College of)
SSM	Small Animal Surgery and Medicine
STA	Studio Art—See Art
STT	Statistics and Probability
SUR	Surgery
SYS	Systems Science—See Electrical Engineering and Systems Science
TC	Telecommunication
THR	Theatre
U D	Urban Development (College of)
U P	Urban Planning
UMS	Urban and Metropolitan Studies
V M	Veterinary Medicine (College of)
ZOL	Zoology

COURSES APPROVED FOR GENERAL EDUCATION DESIGNATION

Each student must earn a minimum of 45 credits in courses approved for general education or in approved substitutes. Beginning in the fall of 1979, students may meet the University general education requirements in the three general knowledge areas either by completing appropriate courses in the departments of Humanities, Natural Science, and Social Science or by combining courses in these three departments with courses approved for General Education

designation outside of these three departments. Nine of the required 45 credits in general education must be earned by completing appropriate courses in American Thought and Language or an approved substitute.

Beginning in the fall of 1979, in addition to completing the American Thought and Language courses or an approved substitute, each student must complete a minimum of three courses representing a total of 36 credits, including any substitution option, in the three general knowledge areas: arts and humanities; biological, physical, or mathematical sciences; and social and behavioral sciences. Temporarily, for each of the three general knowledge areas; two of the three courses must be in the department of Humanities; Natural Science, or Social Science, while the third may be elected from courses approved for General Education designation outside of the department. If after completing the prescribed three courses in each of the three general knowledge areas the General Education credits do not total 36, the student may complete the 36 credit requirement by electing a course approved for General Education designation from any of the three general knowledge areas.

The courses approved for General Education designation are listed below by general knowledge areas. The courses that are offered this term are included in the appropriate departmental listings in the Schedule of Courses. For additional information concerning the University's general education requirements and the courses that may be used to fulfill them, refer to the *Academic Programs* section of the catalog.

Arts and Humanities

	CREDITS
ENG 241	Introduction to Popular Culture (A)..... 3
ENG 344	Jewish-American Literature (A)..... 3
GRM 243	German Literature in English Translation (A)..... 3
HST 111	The Roots of European History (A)..... 4
HST 112	Maturing of European Civilization (A)..... 4
HST 113	Europe in the Modern Age (A)..... 4
HST 121	Union to Disunion: America, The First Hundred Years (A).... 4
HST 122	History of the United States: The Nation State (A)..... 4
HUM 199	Humanities: The Greek World (A)..... 2
HUM 200	Humanities: The Roman World (A)..... 2
HUM 201	Humanities in the Western World: Ancient (A)..... 4
HUM 202	Humanities in the Western World: Medieval and Early Modern (A)..... 4
HUM 203	Humanities in the Western World: Modern (A)..... 4
HUM 211	Great Books of Western Culture, Ancient (A)..... 4
HUM 212	Great Books of Western Culture, Medieval and Early Modern (A)..... 4
HUM 213	Great Books of Western Culture, Modern (A)..... 4
HUM 221	The Visual Arts and Western Culture, Ancient (A)..... 4
HUM 222	The Visual Arts and Western Culture, Medieval and Early Modern (A)..... 4
HUM 223	The Visual Arts and Western Culture, Modern (A)..... 4
HUM 261	Music and Western Culture, Ancient (A)..... 4
HUM 262	Music and Western Culture, Medieval and Early Modern (A).... 4
HUM 263	Music and Western Culture, Modern (A)..... 4
HUM 281H	Honors Course: Ancient World (A)..... 4
HUM 282H	Honors Course: Medieval and Early Modern Periods (A)..... 4
HUM 283H	Honors Course: Modern World (A)..... 4
HUM 291	The Cultural Traditions of China (A)..... 4
HUM 292	The Cultural Traditions of India (A)..... 4
HUM 293	The Cultural Traditions of Japan (A)..... 4
HUM 294	The Cultural Traditions of the Islamic World (A)..... 4
HUM 295	The Cultural Traditions of Sub-Saharan Africa (A)..... 4
HUM 311	Great Cities, Arts, and Ideas: The Western Classical Age (A).... 4
HUM 312	Great Cities, Arts, and Ideas: The Renaissance (A)..... 4

HUM 313	Great Cities, Arts, and Ideas: The Modern World (A)..... 4
HUM 341	The Humanities in the Contemporary World (A)..... 4
HUM 345	Jewish Humanities in the Twentieth Century (A)..... 4
ITL 341	Italian Literary Masterpieces in English Translation (A)..... 3
PHL 101	Introduction to Philosophy: Ethics and Value (A)..... 3
PHL 102	Introduction to Philosophy: Epistemology and Metaphysics (A)..... 3
PHL 120	Classics of Philosophical Literature (A)..... 4
PHL 211	Introduction to the History of Philosophy, Part I (A)..... 3
PHL 212	Introduction to the History of Philosophy, Part II (A)..... 3
PHL 213	Introduction to the History of Philosophy, Part III (A)..... 3
PHL 390	Philosophy in Literature (A)..... 3
REL 150	Understanding Religious Man (A)..... 3
REL 151	Western Religions (A)..... 3
REL 152	Eastern Religions (A)..... 3
REL 220	Old Testament (A)..... 3
REL 221	Old Testament (A)..... 3
REL 370	Religion in American Culture (A)..... 3
REL 371	Religion in American Culture (A)..... 3
REL 372	American Civil Religion (A)..... 3
ROM 241	Masterpieces of the Romance and Classical Literatures in English Translation (A)..... 4
ROM 242	Masterpieces of the Romance Literatures in English Translation (A)..... 4
ROM 243	Masterpieces of the Romance Literatures in English Translation (A)..... 4
STA 101	How to Look at Art (A)..... 4

Biological, Physical, or Mathematical Sciences

AST 119	General Astronomy (N)..... 4
AST 217	General Astronomy (N)..... 4
BOT 201	Plants, Man and the Environment (N)..... 3
ENT 250	Pesticides, Their Alternatives and Environmental Quality (N)..... 3
FSC 101	Food and Society (N)..... 3
HNF 102	Nutrition for Man (N)..... 3
IDC 256	Energy Consumption and Environmental Quality (N)..... 3
NS 115	The Nature and Continuity of Life (N)..... 4
NS 122	Biosocial Evolution of Man (N)..... 4
NS 125	Time and Change in Nature (N)..... 4
NS 135	Changing Concepts of the Universe (N)..... 4
NS 142	Life, Its Environment (N)..... 4
NS 152	Science and Culture in the 20th Century (N)..... 4
NS 162	Race, The Evolution of an Idea (N)..... 4
NS 171H	Our Biological Nature (N)..... 4
NS 172H	Our Place in Nature (N)..... 4
NS 173H	Science-Technology and Human Values (N)..... 4
NS 1814	Natural Science (N)..... 4
NS 1824	Natural Science (N)..... 4
NS 1834	Natural Science (N)..... 4
PHY 201	The Science of Sound I: Rock, Bach and Oscillators (N)..... 3 or 4
PHY 301	Bohr and Einstein: The Concept of Nature in Our Day (N).... 3

Social and Behavioral Sciences

ANP 171	Introduction to Sociocultural Anthropology (S)..... 4
ANP 250	Culture, Environment and Adaptation (S)..... 4
GEO 170	Future Worlds (S)..... 3
GEO 204	World Regional Geography (S)..... 4
PLS 251	Human Values and Politics: On Liberty (S)..... 4
PLS 252	Human Values and Politics: Equality and Justice (S)..... 4
PLS 253	Human Values and Politics: Authority and the Individual (S)..... 4
SS 201	Americans and Their Values (S)..... 4
SS 202	Power in America (S)..... 4
SS 203	American and World Problems (S)..... 4
SS 211	The Emergence of Man (S)..... 4
SS 212	Coping with Changing Institutions in Modern Society (S).... 4
SS 213	Casualties of Contemporary Society (S)..... 4
SS 221	The Changing American Metropolis: Ecology of the Urban Community (S)..... 4
SS 222	Metropolitan Perspectives: Economics, Politics and Policies (S)..... 4
SS 223	World Urbanization: Human Consequences (S)..... 4
SS 241	Cultures in Crisis (S)..... 4
SS 242	Freedom and Justice (S)..... 4
SS 243	War and Morality (S)..... 4
SOC 150	The Individual in Modern Society (S)..... 4
U D 200	Human Perspectives on Urbanization (S)..... 4
U D 201	Historical Roots of Racism and Ethnocentrism (S)..... 4
U D 202	Minorities in American Cities (S)..... 4
U P 231	Evolution of Urban Communities (S)..... 4