DESCRIPTIONS of COURSES 1984

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.

Refer to the statements on credits and Course Formats and Credits in the Academic Programs section of catalog

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 graduateprofessional 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 gradepoint 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

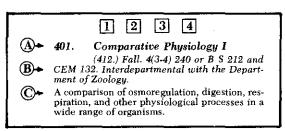
Courses with these numbers are exclusively for graduate students and primarily for advanced graduate students. A master's degree candidate may take these courses with the approval of the major department, with the exception of courses numbered 999 (doctoral dissertation research). Admission to a doctoral degree program is a prerequisite of all courses numbered 999.

VARIABLE CREDIT COURSES

For each variable credit course, the range of credits for which a student may enroll in a given term shall be specified.

Except for courses numbered 899 (Master's Thesis Research) and 999 (Doctoral Dissertation Research), the maximum number of credits that a student may earn in a course with a reenrollment provision shall be specified.

COURSE LISTINGS



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 Remedial-Develop
3 — Type III mental-Preparatory

4 — Type IV Courses.

5 — Type V

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, and 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-3.

- (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.

ALPHA CODE

NAME

4 The course number(s) or other information indicates the preparation or classification prerequisite to enrollment in the course. If a course alpha code and number are listed, the reference is to a course indicated by the code. The alpha codes and the corresponding 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 department, school, or college that administers the course.

(C) A brief description of the course.

Course Alpha Code Designations

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

I	-	ĹĨ
ALPHA	N. () (m.	Li
CODE	NAME	LĬ
ΑE	Agricultural Engineering	LC
ΑĦ	Animal Husbandry—See Animal Science	Ĺì
A L	Arts and Letters	M
A S	Aerospace Studies	M
ACC	Accounting	M
ADV	Advertising	M
AEC	Agricultural Economies	MI
AET	Agricultural Engineering Technology—See Agricultural	M
4 37 D	Engineering	M
AFR	African Languages—See Linguistics and Germanic,	M
13.60	Slavic, Asian and African Languages	M
AMS	American Studies	M' M'
ANP	Anthropology	M
ANR	Agriculture and Natural Resources	N
ANS ANT	Animal Science	N N
	Anatomy	NS
ARB	Arabic—See Linguistics and Germanic, Slavic, Asian and	o
4 TO CT	African Languages	ŏ
ART	Art—See History of Art and Studio Art	ŏŝ
ASC	Audiology and Speech Sciences	P
ASΤ	Astronomy and Astrophysics—See Physics and	PA
A COLT	Astronomy	PE
ATL	American Thought and Language	ΡĒ
BC	Building Construction—See Agricultural Engineering	PĖ
BS	Biological Science	Pi
BCH	Biochemistry	PF
BIM	Biomechanics	PI
BME	Biomedical Engineering	
BOT	Botany and Plant Pathology	PK Pi
BPY	Biophysics	PE
CE	Civil Engineering	
C J CAS	Criminal Justice	PF PS PS PS
CAS	Communication Arts and Sciences (College of)	PS
CEM	Chemistry	PS
CEP	Counseling, Educational Psychology and Special	PS
	Education	PΊ
CHE	Chemical Engineering	R
CHS	Chinese—See Linguistics and Germanic, Slavic,	RA
	Asian and African Languages	RE
CLA	Classical Studies—See Romance and Classical Languages	RC
CMS	Community Health Science	ъ.
COM	Communication	RU
CPS	Computer Science	
CSS	Crop and Soil Sciences	SI
DRY	Dairy Science—See Animal Science	
ĒΕ	Electrical Engineering	SS
ΕS	Earth Science—See Geological Sciences	5 '
EAC	Administration and Curriculum	SA
EC	Economics	
EGR	Engineering	SC
ENG	English	SC
ENT	Entomology	SP
FΪ	Finance and Insurance	SS
FМ	Family Medicine	ST
F₩	Fisheries and Wildlife	ST
FCE	Family and Child Ecology	SU
FMP	Family Practice	SU SY
FOR	Forestry	
FRN	French—See Romance and Classical Languages	T
FSC	Food Science	TO
FSM		TF
T. 21A1	Food Systems Economics and Management—See Agricultural Economics	U
GR		
GR.	German and Russian—See Linguistics, Germanic,	\mathbf{V}]
GBL	Slavic, Asian and African Languages	ZĆ
Ann	General Business—Business Law Programs	

CODE	NAME
GEN	Genetics
GEO	Geography
GLG GRK	Geology Greek—See Romance and Classical Languages
GRM	German—See Linguistics, Germanic, Slavic,
U A	Asian and African Languages
H A H M	History of Art—See Art Human Medicine (College of)
HEB	Hebrew—See Linguistics and Germanic, Slavic,
HEC	Asian and African Languages
HEC HED	Human Ecology (College of) Human Environment and Design
HNF	Human Nutrition and Foods—See Food Science and
LIDE	Human Nutrition
HPE HRI	Health and Physical Education Hotel, Restaurant and Institutional Management
HRT	Horticulture
HST HUM	History Humanities
I M	Internal Medicine
IS	Improvement Service
IDC ITL	Interdisciplinary Courses
JAP	Italian—See Romance and Classical Languages Japanese—See Linguistics and Germanic, Slavic,
	Asian and African Languages
JRN L A	Journalism Landscape Architecture—See Urban Planning and
ыA	Landscape Architecture
LBS	Lyman Briggs School
LCS LIN	Large Animal Clinical Sciences
LIIV	Linguistics—See Linguistics and Germanic, Slavic, Asian and African Languages
LİR	Labor and Industrial Relations
LOA LTN	Linguistics and Oriental and African Languages Latin—See Romance and Classical Languages
M C	James Madison College
ME	Mechanical Engineering
M S M T	Military Science Medical Technology
MED	Medicine
MGT MMM	Management
MPH	Metallurgy, Mechanics, and Materials Science Microbiology and Public Health
MTA	Marketing and Transportation Administration
MTH MUS	Mathematics Music
NE	Nursing (College of)
N S NSC	Natural Science
O M	Natural Science (College of) Osteopathic Medicine
OGR	Obstetrics, Gynecology, and Reproductive Biology
OST P S	Osteopathic Medicine (College of) Poultry Science—See Animal Science
PAM	Public Affairs Management—See Agricultural Economics
PED PHD	Pediatrics Pediatrics and Human Development
PHL	Philosophy
PHM	Pharmacology and Toxicology
PHS PHY	Physical Science Physics
PKG	Packaging
PLS	Political Science
PRR PRT	Park and Recreation Resources Portuguese—See Romance and Classical Languages
PSC	Psychiatry
PSL	Physiology
PSY PTH	Psychology Pathology
R D	Resource Development
RAD REL	Radiology Religious Studies
ROM	Romance Languages—See Romance and Classical
DIIO	Languages
RUS	Russian—See Linguistics and Germanic, Slavic, Asian and African Languages
SE	Sanitary Engineering—See Civil and Sanitary
0.0	Engineering
S S S W	Social Science Social Work
SAL	South Asian Languages—See Linguistics and Germanic,
SCS	Slavic, Asian and African Languages Small Animal Clinical Sciences
SOC	Sociology
SPN	Spanish—See Romance and Classical Languages
SSC STA	Social Science (College of) Studio Art—See Art
STT	Statistics and Probability
SUR	Surgery
SYS	Systems Science—See Electrical Engineering and Systems Science
TE	Teacher Education
TC	Telecommunication
THR U P	Theatre Urban Planning—See Urban Planning and Landscape
	Architecture
V M ZOL	Veterinary Medicine (College of) Zoology
201	Louivej

GROUPINGS OF COURSES APPROVED FOR GENERAL EDUCATION CREDIT

Each student must earn a minimum of 45 credits in General Education in courses divided among the following four areas: written and oral communication; arts and humanities; biological, physical, and mathematical sciences; and social and behavioral sciences. In meeting the minimum of 45 credits, no fewer than 9 credits and no more than 16 credits shall be taken to satisfy the General Education requirement in each of the four areas. Students must meet the written and oral communication General Education requirement by completing 9 credits in appropriate American Thought and Language courses.

Beginning in the Fall of 1982, any student who has not completed the General Education requirements in the arts and humanities; biological, physical, and mathematical sciences; and social and behavioral sciences must meet these requirements in accordance with the statements on the groupings of courses in these areas that follow. If after completing a prescribed grouping of courses in each of the three areas the General Education credits do not total 36, the student must select an additional course approved for General Education from any of the three areas.

The planned groupings of courses approved for General Education in the arts and humanities and social and behavioral sciences areas are arranged according to:

Option A — groupings of courses arranged as three term sequences/series representing a broadly integrative perspective on selected topics or issues.

Option B — groupings of courses arranged according to specific emphases representing selected approaches to knowledge within the relevant area or emphases on topics or issues within the area.

The planned groupings of courses approved for General Education in the biological, physical, and mathematical sciences correspond to Option B as described above.

The General Education courses that are offered each term are included in the appropriate departmental listings in the *Schedule of Courses*. For additional information concerning the University's general education requirements, refer to the *Academic Programs* section of the University Catalog.

GROUPINGS OF GENERAL EDUCATION COURSES IN THE ARTS AND HUMANITIES

Students complete either Option A or Option B

Option A— Students take all three courses in one of the following series/sequences. Additional series/sequences of courses are available to students who elect to complete three courses

in the Department of Humanities; each such series/sequence is comprised of three courses, one of which ends in number 1, one of which ends in number 2, and one of which ends in number 3.

A-1	A L	311	CREDITS Great Cities, Arts and Ideas: The Western Classical
	A L A L	312 313	Age (A)
			Great Cities, Arts and Ideas: The Modern World (A).
A-2	GRM GRM GRM	241 242 243	German Literature in English Translation (A)
A-3	H A H A	206 207	History of Western Art: The Ancient World (A)
	H A	208	History of Western Art: The Baroque to the Present (A)
A-4	HST HST HST	111 112 113	The Roots of European History (A)
A-5	HUM HUM		Humanities in the Western World: Ancient (A)
	HUM	203	Humanities in the Western World: Modern (A)
A-6	HUM HUM	211 212	Great Books of Western Culture, Ancient (A)
	HUM	213	Great Books of Western Culture, Modern (A)
A-7	HUM HUM	221 222	The Visual Arts and Western Culture, Ancient (A) The Visual Arts and Western Culture, Medieval and Early Modern (A)
	HUM	223	The Visual Arts and Western Culture, Modern (A)
A-8	HUM HUM	261 262	Music and Western Culture, Ancient (A)
	ним	263	Music and Western Culture, Modern (A)
A- 9	HUM HUM		Honors Course: Ancient World (A)
	HUM	283H	(A)
A-10	PHL PHL PHL	211 212 213	Ancient Philosophy (A) Medieval and Early Modern Philosophy (A) Modern Philosophy (A)
A-11	REL REL REL	150 151 152	Exploring Religion (A) Western Religions (A) Eastern Religions (A)
A-12	REL REL REL	220 221 222	Old Testament (A)
A-13	REL REL REL	370 371 372	Religion in American Culture (A) Religion in American Culture (A) American Civil Religion (A)
A-14	ROM	241	Masterpieces of the Romance and Classical Literatures in English Translation (A)
	ROM	242	Masterpieces of the Romance Literatures in English Translation (A)
	ROM	243	Masterpieces of the Romance Literatures in English Translation (A)

Option B — Students take one course in each of at least 3 of the following emphases:

- B-1 Emphasis in Fine Arts
- B-2 Emphasis in History
- B-3 Emphasis in Language and Literature
- B-4 Emphasis in Philosophy and Religion

Students may not receive credit in more than one Humanities course which ends in the same number: 1, 2 or 3.

L	311	Great Cities, Arts and Ideas: The Western Classical
	311	Age (A)
ΑL	312	Great Cities, Arts and Ideas: The Renaissance (A)
ΑL	313	Great Cities, Arts and Ideas: The Modern World (A)
ΗA	205	Purposes of Art (A)
H A	206	History of Western Art: The Ancient World (A)
H A	207	History of Western Art: The Middle Ages and the Renaissance (A)
H A	208	History of Western Art: The Baroque to the Present (A)
HUM	221	The Visual Arts and Western Culture, Ancient (A)

Courses approved for General Education by the Academic Council will be counted toward the General Education requirements in accordance with the effective date for General Education approval. No course that was offered prior to the effective date for General Education approval shall be counted toward the requirements.

Any course that had General Education approval, but no longer has General Education approval, will be counted toward the General Education requirements if the course was completed during the period for which it had General Education approval. Any student who completed such a course should consult his or her academic adviser regarding the completion of the General Education requirements.

The current policy on substitutions shall remain in effect until such time as section 3. of the 1980 General Education Policy is implemented. At the present time, a college, or a department with the approval of the college, may permit or require its majors and major preference students to substitute certain alternative courses for those approved for General Education credit in the area which is closest to the student's major.

	пом	222	Early Modern (A)
	HUM	223	The Visual Arts and Western Culture, Modern (A)
	HUM	261	Music and Western Culture, Ancient (A)
	HUM	262	Music and Western Culture, Medieval and Early
			Modem (A)
	HUM	263	Music and Western Culture, Modern (A)
	STA	101	How to Look at Art (A)
B-2	Empha	isis in	History
	HST	101	The African Experience (A)
	HST	102	The Latin American Experience (A)
	HST	111	The Roots of European History (A)
	HST	112	Maturing of European Civilization (A)
	HST	113	Europe in the Modern Age (A)
	HST	121	Union to Disunion: America, The First Hundred
	HST	122	Years (A)
	HUM	201	Humanities in the Western World: Ancient (A)
	HUM	202	Humanities in the Western World: Medieval and
	*****	200	Early Modern (A)
	HUM	203	Humanities in the Western World: Modern (A)
	HUM	204	Humanities in the Contemporary World (A)
	HUM		Honors Course: Ancient World (A)
	HUM	26211	Honors Course: Medieval and Early Modern Periods (A)
	HUM	283H	Honors Course: Modern World (A)
	HUM	296	The Cultural Traditions of Japan (A)
_	HUM	298	The Cultural Traditions of China (A)
	REL	370	Religion in American Culture (A)
	REL	371	Religion in American Culture (A)
	REL	372	American Civil Religion (A)
nэ	F 1	anin i-	- · ·
B-3			Language and Literature Laurich Humanities in the Twentieth Conturn (A)
	A L ENG	$\frac{345}{241}$	Jewish Humanities in the Twentieth Century (A) Introduction to Popular Culture (A)
	ENG	344	Jewish-American Literature (A)
	FRN	341	French Literary Masterpieces in English Translation
			(A)
	GRM	241	German Literature in English Translation (A)
	GRM	242	German Literature in English Translation (A)
	GRM	243	German Literature in English Translation (A)
	HUM	211	Great Books of Western Culture, Ancient (A)
	HUM	212	Great Books of Western Culture, Medieval and Early
			Modern (A)
	HUM	213	Great Books of Western Culture, Modern (A)
	HUM	295	Cultural Traditions of Sub-Saharan Africa (A)
	HUM	297	Cultural Traditions of India (A)
	ITL	341	Italian Literary Masterpieces in English Translation (A)
	PHL	390	Philosophy in Literature (A)
	ROM	241	Masterpieces of the Romance and Classical Literature
	ROM	242	in English Translation (A) Masterpieces of the Romance Literatures in English
	DOM:	0.42	Translation (A)
	ROM	243	Masterpieces of the Romance Literatures in English
			Translation (A)
B-4			Philosophy and Religion
	HUM		The Cultural Traditions of the Islamic World (A)
	PHL	101	Introduction to Philosophy: Ethics and Value (A)
	PHL	102	Introduction to Philosophy, Knowledge and Reality
	DIII	100	(A)
	PHL	$\frac{120}{211}$	Classics of Philosophical Literature (A)
	PHL PHL	211	Ancient Philosophy (A)
	PHL	212	Medieval and Early Modern Philosophy (A)
	REL	150	Exploring Religion (A)
	REL	151	Western Religions (A)
	REL	152	Eastern Religions (A)
	REL	220	Old Testament (A)
	REL	221	Old Testament (A)
	REL	222	New Testament (A)

4 3

GROUPINGS OF GENERAL EDUCATION COURSES IN THE BIOLOGICAL, PHYSICAL, AND MATHE-MATICAL SCIENCES 1

Students complete a minimum of three courses; at least one course must be from each of the two major emphases and at least one course must include a laboratory experience. Only one course from each of the following groups may be counted toward the General Education requirement: N S 122, N S 125, N S 162; AST 119, AST 217, N S 135.

1.		•		Philosophy and Methods of Science ience content			
	ın						
		N S	115	The Nature and Continuity of Life (N) (Lab)			
		NS	1814	Natural Science (N) (Lab)			
	1B	Geological and Historical content					
		NS	122	Human Biosocial Evolution (N) (Lab)			
		NS		Time and Change in Nature (N) (Lab)			
		NS		Natural Science (N) (Lab) ¹			

	1C	Physic	al Scio	ence content	
		AST	119	General Astronomy (N)	4
		AST	217	General Astronomy (N)	4
		NS	1834	Natural Science (N) (Lab) 1	4
		PHY	201	The Science of Sound I: Rock, Bach and Oscillators	
				(N)	4
2.	Em_i	phasis a	m Scie	nce and Society	
	2A	man Biology			
		FSC	101	Food and Society (N)	3
		HNF	102	Nutrition for Humans (N)	3
		NS	129	Biotechnology and Human Values (N)	4
		N/S	171H	Our Biological Nature (N)2	4
		N S	209	Humans and Disease (N)	4
	2B	Issues	in En	vironmental Science	
		BOT	201	Plants, People and the Environment (N)	3
		ENT	201	Insects and Society (N)	4
		ENT	250	Pesticides, Their Alternatives and Environmental Quality (N)	3
		NS	142	Life, Its Environment (N) (Lab)	4
		NS	172H	Our Place in Nature (N)2	4
		N S	242	Wilderness Environmental Field Studies (N)	4
		PHY	256	Energy Consumption and Environmental Quality	•
				(N)	3
<u>.</u>	2C	Scienc	e and l	Human Values	
		N S	152	Science and Culture in the 20th Century (N)	4
		N S	155	Cosmology, Humanity's Place in the Universe (N)	4
		NS	162	Race: The Evolution of an Idea (N) (Lab)	4
		NS	173H	Science-Technology and Human Values (N)2	4
		PHY	301	Bohr and Einstein: The Concept of Nature in Our	-
				Day (N)	3
_					

N S 1814, N S 1824, and N S 1834 are designed for students who are enrolled in the Remedial-Developmental Writing Program. The General Education requirement in the Biological, Physical, and Mathematical Sciences may be met by completing N S 1814, N S 1824, and N S 1834.
 N S 171H, N S 172H, and N S 173H are designed for honors students. The General Education requirement in the Biological, Physical, and Mathematical Sciences may be met by completing N S 171H, N S 172H, and N S 173H.

GROUPINGS OF GENERAL EDUCATION COURSES IN THE SOCIAL AND BEHAVIORAL SCIENCES

Students complete either Option A or Option B

Option A Students take all three courses in one of the following series/sequences.

A-1	S S S S S S	201 202 203	Americans and Their Values (S) Power in America (S) America and World Problems (S)	4 4 4
A-2	SS	211	Becoming Human: The Social Scientific Perspective (S)	4
	SS	212	Coping with Changing Institutions in Modern Society (S)	4
	SS	213	Casualties of Contemporary Society (S)	4
A-3	SS	221	The Individual and Metropolitan Society (S)	4
	SS	222	Economics, Politics and the Individual in the Metropolis (S)	4
	S S	223	World Urbanization; Cultures and Common Issues (S)	4
A-4	SS	241	Cultures in Crisis (S)	4
	SS	242	Freedom and Justice (S)	4
	SS	243	War and Morality (S)	4
A-5	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
A-6	SS	251	Human Perspectives on Urbanization (S)	4
	SS	252	Historical Roots of Racism and Ethnocentrism (S)	4
	s s	253	Minorities in American Cities (S)	4

Students take one course in each of the fol-Option B lowing emphases.

- B-1 Emphasis on the Individual and Society
- **Emphasis on Social Institutions** and Processes
- Emphasis on Global Interdependence and Conflict

Emph	asis or	the Individual and Society	
ANP	171	Introduction to Sociocultural Anthropology (S)	4
PLS	251	Human Values and Politics: On Liberty (S)	4
PLS	253	Human Values and Politics: Authority and the	
		Individual (S)	4
SS	201	Americans and Their Values (S)	4
SS	211	Becoming Human; The Social Scientific Perspective	
		(S)	4

	S S S S S S	221 241 251	The Individual and Metropolitan Society (S)	4 4 4		S S S S S S	242 252 253	Freedom and Justice (S)	4
	SOC	150	The Individual in Modern Society (S)	4	B-3	Emph	asis on	a Global Interdependence and Conflict	
B-2	Emphe	asis on	Social Institutions and Processes			GEO		Future Worlds (S)	3
	ANP	250	Culture, Environment and Adaptation (S)	4		GEO	204	World Regional Geography (S)	4
	PLS	252	Human Values and Polities: Equality and Justice (S).	4		SS	203	American and World Problems (S)	4
	SS	202	Power in America (S)	4		SS	223	World Urbanization: Cultures and Common Issues	
	SS	212	Coping with Changing Institutions in Modern					(S)	4
			Society (S)	4		ss	243	War and Morality (S)	4
	SS	213	Casualties of Contemporary Society (S)	4		UР	231	Evolution of Urban Communities (S)	4
	SS	222	Economics, Politics and the Individual in the						