

843. Ecosystem Analysis, Design and Management

Spring. 3(3-0) 442 or ZOL 404. Interdepartmental with the Zoology Department.

Groups of students from various biological and non-biological disciplines will synthesize and analyze models of selected biological systems. Projects should yield information relevant to solution of contemporary ecological problems.

847. Analysis of Stochastic Systems

Spring. 3(3-0) E E 846. Equilibrium properties of non-stationary random processes; problems or estimation, filtering and prediction; sequential and recursive decision schemes; applications of random process theory to system modeling.

888. Hybrid Computation

Spring. 3(3-0) Approval of department. Hybrid programming techniques, applications in simulation design, control and optimization.

899. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

961. Optimal Control Theory I

Fall. 3(3-0) 827, 828 or approval of department; MTH 426. Formulation of the general control problem; controllability, observability and normality in discrete-state and continuous-state systems; performance functionals; typical control problems.

962. Optimal Control Theory II

Winter. 3(3-0) 961. Optimal control theory in continuous-state and discrete-state systems; necessary and sufficient conditions for optimal solutions, geometric interpretations relation to calculus of variations; typical applications.

963. Optimal Control Theory III

Spring. 3(3-0) 962 or approval of department. Topics selected among: computational methods for optimal controls (solution of selected two-point boundary value problems); stochastic control theory; state estimation, Kalman filtering and related statistical methods; differential game theory.

965. Special Topics in Optimal Process Theory

Spring of odd-numbered years. 3(3-0) 828 or approval of department. Interdepartmental with and administered by the Chemical Engineering Department. Continuation of 828 and special topics from the literature in non-linear, stochastic, and dynamic programming.

999. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

ENGINEERING EGR
College of Engineering

150. Introduction to Environmental Systems

Fall. 3(3-0) Interdepartmental with and administered by Systems Science. Basic systems concepts presented in a non-mathematical manner. Application to selected

ecological topics, e.g., energy, water quality, food production, population dynamics. Interactive models provide opportunity for students to play decision-making role.

160. Engineering Communications

Fall, Winter, Spring. 4(1-6) MTH 108 or 111 or concurrently.

Engineering graphics, a means used by engineers to communicate their ideas to others. Freehand sketching, descriptive geometry, and graphical, numerical and computer problem solutions.

161. Mechanical Drawing

Fall, Winter, Spring. 2(0-4) Lettering and use and care of instruments. Orthographic projection, working drawings, machine sketching and isometric drawing.

162. Mechanical Drawing

Fall, Winter, Spring. 2(0-4) 160 or 161. Continuation of 161 with emphasis on freehand lettering and sketching, advanced working drawings.

200. Technology and Society

Winter. 3(3-0) One term of American thought and language. Interdepartmental with the Natural Science Department. An attempt to describe and analyze portions of current technology and its desired and undesired consequences; an exploration of avenues for assessing such consequences for future technologies.

201. Introduction to Engineering Mechanics

Winter. 4(4-0) PHY 237. Interdepartmental with and administered by the Metallurgy, Mechanics and Materials Science Department. Laws of mechanics governing the behavior of rigid and deformable bodies emphasizing how these laws influence engineering design. Extensive use of demonstrations.

260. Machine Drawing

Fall, Winter, Spring. 3(0-6) Advanced orthographic projection, detail, and assembly drawing, sections and conventions, tracings, illustration and other pictorial drawings of mechanical elements.

263. Structural Drawing

Winter. 3(0-6) An engineering graphics course. A comprehensive study of space planning relative to residential and light-commercial interiors. Building materials, fixtures, and mechanical equipment will be studied with respect towards application and installation.

267. Architectural Drafting I

Fall, Winter, Spring. 3(0-6) House construction detailing. Analysis and drawing of typical standard details.

268. Descriptive Geometry

Fall. 3(2-2) 160, 161. Problems involving relations of points, lines, and planes. Intersections, developments, coplanar, and noncoplanar vectors.

270. Computer Graphics

Spring. 3(3-0) 160 or 161; CPS 110 or 120 or LBC 125; or approval of department. Use of computer controlled display systems for the solution of multidimensional problems.

300. Technology and Utilization of Energy

Winter. 3(3-0) Initial course in any sequence of courses in the Department of Natural Science. Interdepartmental with and administered by the Mechanical Engineering Department.

Problems of energy technology and its impact: energy sources, conversions, waste and environmental effects, future outlook for mankind.

364. Architectural Drafting II

Winter. 3(0-6) 267. Functional and standard procedure in the layout of floor plans in traditional and modern houses. Rendered plot plan and required details.

365. House Planning

Fall, Winter, Spring. 3(1-4) Elementary house architecture. Drawing plans from sketches. Kitchen planning, house styles, elements of design, financing, heating, lighting.

366. Architectural Perspective Drawing

Fall. 3(0-6) Any engineering graphics course. One-point and two-point perspective, revolved plan and measuring line methods. Pencil rendering, problems in shade and shadows. House model to scale, optional.

401. Technology Assessment

Spring. 3(3-0) Seniors or approval of department. Interdepartmental with the Natural Science Department. Sociotechnical evaluation of impact of proposed technologies on economic, political, and cultural aspects of society. Identification of technical strategies and social goals. Techniques of assessment.

410. Systems Methodology

Winter. 3(3-0) 150, MTH 113, CPS 110 or 120. Interdepartmental with and administered by Systems Science. The systems approach in multidisciplinary large scale problem solving. The development of useful systems analysis tools; systems design; feasibility study; computer simulation for feasibility evaluation.

411. Systems Project

Spring. 2(3-0) 410. Interdepartmental with and administered by Systems Science. Completion of a systems study initiated in 410. The project may involve the design of hardware, simulation of a solution to an interdisciplinary problem, or development of a solution concept.

463. Architectural Drafting III

Spring. 3(0-6) 364 or 365. Traditional and modern elevations. One- and two-point rendered perspective. Functional plans drawn in 364 or 365 required.

480. Special Problems

Fall, Winter, Spring, Summer. 1 to 4 credits. May re-enroll for a maximum of 8 credits. Approval of department.

ENGLISH ENG
College of Arts and Letters

091. English for Foreign Students—Elementary

Fall, Winter, Spring, Summer. Zero credit. (3(3-0) to 15(25-0))†. English language proficiency examination. Spoken structures, pattern practice, reading, writing and laboratory in the English language for foreign students on the elementary level.

†See page A-2 item 3

**092A. English for Foreign Students—
Low Intermediate**
(092.) Fall, Winter, Spring, Summer.
Zero credit. (3(5-0) to 15(25-0))†. English
language proficiency examination.
Spoken structures, pattern practice, reading,
writing and laboratory in the English language
for foreign students on the low-intermediate
level.

**092B. English for Foreign Students—
High Intermediate**
(092.) Fall, Winter, Spring, Summer.
Zero credit. (3(5-0) to 15(25-0))†. English
language proficiency examination.
Spoken structures, pattern practice, reading,
writing and laboratory in the English language
for foreign students on the high-intermediate
level.

**093. English for Foreign Students—
Advanced**
Fall, Winter, Spring, Summer. Zero
credit. (3(5-0) to 15(25-0))†. English language
proficiency examination.
Spoken structures, pattern practice, reading,
writing and laboratory in the English language
for foreign students on the advanced level.

**094. English for Foreign Students—
Supplementary**
Fall, Winter, Spring, Summer. Zero
credit. (3(5-0) to 6(10-0))†. English language
proficiency examination.
Composition in the English language for foreign
students on the supplementary level.

101. Responses Through Writing
Fall. 4(4-0) Arts and Letters Fresh-
men only.
A writing workshop that concentrates on the
student's personal writing voice and on his
responses to the things, people, and institutions
central to his experience.

102. Writing and Composing
Winter. 5(5-0) Arts and Letters
Freshmen only.
A writing workshop that develops the emphases
of 101 and encourages students to write in more
public and objective forms—narrative, critical
analysis, and issue-oriented essays.

200H. Honors Work
Fall, Winter, Spring. 1 to 16 credits.
Approval of department.

201. Nature of Language
Fall, Winter, Spring, Summer. 3(3-0)
Various aspects of language—phonology and
orthography; morphology, semantics and the
lexicon; syntax; and dialects—with special ref-
erence to American English.

205. Introduction to Shakespeare
Fall, Winter, Spring. 3(3-0)
A study of selected plays illustrating the powers
of England's greatest writer.

206. Forms of Literature: Fiction
Fall, Winter, Spring, Summer. 3(3-0)
Required of majors and minors. Open to Fresh-
men.
Major forms of prose fiction, designed to reveal
artistic problems met and solved by these forms.
Prepares students for advanced literary study by
acquainting them with the conventions of various
literary forms, by providing a critical vocabulary
and by furnishing experience in reading and
writing critical evaluations of outstanding literary
works from all historical periods.

†See page A-2 item 3.

207. Forms of Literature: Drama
Fall, Winter, Spring, Summer. 3(3-0)
Required of majors and minors. Open to Fresh-
men.
Major forms of drama, designed to reveal artistic
problems met and solved by these forms.

208. Forms of Literature: Poetry
Fall, Winter, Spring, Summer. 3(3-0)
Required of majors and minors. Open to Fresh-
men.
Major forms of poetry, designed to reveal artistic
problems met and solved by these forms.

**210. Introduction to the Study of
Literature I**
Fall, Winter. 4(4-0) English majors
or prospective English majors.
Exploration of the major forms of literature, the
aims and process of literary study, the cultural
and personal functions of literature, and the
role of literary study in the University.

**211. Introduction of the Study of
Literature II**
Winter, Spring. 4(4-0) 210.
A continuation of 210.

213. Writing Workshop
Fall, Winter, Spring, Summer. 3(3-0)
A writing workshop designed to help students
improve their writing abilities. The course
provides opportunities for students to write with
different purposes in a variety of modes.

**214. Composition for Secondary
English Teachers**
Fall, Winter, Spring. 4(3-4) Sopho-
more English Education majors or written ap-
proval of department.
Writing practice in various modes such as per-
sonal narrative and description, the familiar
essay, drama, poetry, and fiction. Exercises in
creative dramatics. Discussion of the process
of composing and the teaching of oral and
written composition in junior and senior high
schools. Will participate in field experience.

228A. Fiction Writing
Fall, Winter, Spring, Summer. 4(4-0)
206 and written approval of department.
The writing of short fiction. Classes and in-
dividual conferences. Approval to enroll re-
quires a conference with the instructor and
will usually be on the basis of manuscripts sub-
mitted to him.

228B. Fiction Writing
Fall, Winter, Spring, Summer. 4(4-0)
Written approval of department.
The writing of fiction. Classes and individual
conferences. Approval to enroll requires a con-
ference with the instructor and will usually be
on the basis of manuscripts submitted to him.

229. Poetry Writing
Fall, Winter, Spring. 4(4-0) 208 and
written approval of department.
The writing of poetry. Classes and individual
conferences. Approval to enroll requires a con-
ference with the instructor and will usually be
on the basis of manuscripts submitted to him.

241. Introduction to Popular Culture
Fall, Winter, Spring. 3(3-0) Fresh-
men or Sophomores.
Generic and thematic study of the arts and
artifacts of popular culture with particular
emphasis on writing about the popular culture
of contemporary American society.

242. Popular Literary Forms
Fall, Winter, Spring. 3(3-0) May
re-enroll for a maximum of 6 credits. Fresh-
men or Sophomores.
Study of a particular genre of popular literature
(e.g., science fiction, western, gothic) through
reading, discussion, and writing, and with at-
tention to the genre's development in media
other than print.

**250. Major Themes in English and
American Literature**
Fall, Winter, Spring, Summer. 3(3-0)
May re-enroll for maximum of 6 credits.
A particular theme of significant works of
English and American writers in a relevant
social or cultural context. Reading, discussion
and writing are essential activities.

300A. Advanced Fiction Writing
Fall, Winter, Spring, Summer. 4(4-0)
May re-enroll in 300A and/or 300B for a
maximum of 12 credits. 228B and written ap-
proval of department.
Advanced work in the writing of fiction. Classes
and individual conferences. Approval to enroll
requires a conference with the instructor and
will usually be on the basis of manuscripts
submitted to him.

300B. Advanced Poetry Writing
Fall, Winter, Spring, Summer. 4(4-0)
May re-enroll in 300A and/or 300B for a
maximum of 12 credits. 229 and written ap-
proval of department.
Advanced work in the writing of poetry. Classes
and individual conferences. Approval to enroll
requires a conference with the instructor and
will usually be on the basis of manuscripts sub-
mitted to him.

300C. Playwriting
Winter, Spring. 4(4-0) May re-
enroll for a maximum of 8 credits. Approval
of department.
Basic elements of playwriting: dramatic action,
exposition, plotting, characterization, dialogue,
mood, and visual effects. Class work will also
include discussion of plays.

301. Literature and the Adolescent
Fall, Winter, Spring. 4(3-4) 208;
Junior English education majors or written ap-
proval of department.
Extensive reading of literature appropriate for
secondary school students. Discussion of formal
literature programs in relation to student's read-
ing needs. Methods of analyzing literature and
establishing common and individualized read-
ing programs. Will participate in field ex-
perience.

**309. English Field Experience
Internship**
Fall, Winter, Spring, Summer. 3 to
5 credits. May re-enroll for a maximum of 8
credits. 214, 301, or 408A or concurrently.
Intensive field experience in English. Interns
will be placed in schools for work in middle,
junior, and senior high school classrooms and
learning centers in the Lansing area.

315. World Literature in English
Fall. 3(3-0) Interdepartmental with
Linguistics.
Representative works, not from England or the
United States, which were written originally
in English, especially the English literature of
present or former British Commonwealth
nations, and nations from the Middle East and
Africa.

- 316. World Literature in English Translation**
Winter. 3(3-0) Interdepartmental with and administered by Linguistics.
Significant and characteristic works of the Orient, the Middle East, and Africa in English translation.
- 317. Genres and Themes in World Literature**
Spring. 3(3-0) Interdepartmental with Linguistics.
Work will center each term around a single literary genre, type or theme. Typical examples: The Quest, Literature of Revolt, Satire. Literary examples will be selected from several national literatures.
- 340. Studies in Popular Culture**
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Majors: 208; others: 6 credits of literature.
Popular Cultures of the United States and England from the 19th Century to the present.
- 345. Classic Myths and Literature**
Fall, Winter, Spring. Summer of even-numbered years. 3(3-0)
Greek myths that have been wrought into later poetry, fiction, drama, painting, sculpture, and music.
- 347. Literature and Film**
Winter. 3(3-0) 208 or 211.
Introduction to the relationship between film and literature through study of theme, style, and structure in selected film masterpieces from different periods and cultures.
- 351. English Literature I**
Fall. 4(4-0) English major or minor.
Survey of English literature to Milton. Major representative writers and literary forms of the specified period.
- 352. English Literature II**
Winter. 4(4-0) English major or minor.
Survey of English literature, Milton to Blake. Major representative writers and literary forms of the specified period.
- 353. English Literature III**
Spring. 4(4-0) English major or minor.
Survey of English literature, Blake to Hardy. Major representative writers and literary forms of the specified period.
- 380. Masterpieces of American Literature**
Fall, Winter, Spring, Summer. 3(3-0)
Not applicable to major or minor requirements. Selected masterpieces of American literature.
- 381. Masterpieces of English Literature**
Fall, Winter, Spring, Summer. 3 credits. Not applicable to major or minor requirements.
Selected masterpieces of English literature.
- 382. Masterpieces of Contemporary Literature**
Fall, Winter, Spring, Summer. 3(3-0)
Not applicable to major or minor requirements. Selected masterpieces of contemporary literature.
- 399. Perspectives on Literature**
Fall, Winter, Spring, Summer. 4(4-0)
May re-enroll for a maximum of 12 credits.
A rich variety of perspectives on literature for majors and non-majors. Approach and content differs with each section.
- 400. Tutorial**
Fall, Winter, Spring, Summer. 1 to 5 credits. May re-enroll for a maximum of 10 credits. Majors; approval of department.
Reading, discussion, and writing under the guidance of a faculty member.
- 400H. Honors Work**
Fall, Winter, Spring. Variable credit.
Open to particularly able students. Consists of individually supervised study of a phase of literary history.
- 401. Introduction to English Language Studies**
Fall, Winter, Spring, Summer. 4(4-0)
The English language, including such topics as social and regional dialects, sounds, grammar, usage, psycholinguistics and semantics. Attention is given to practical applications.
- 402. Modern English Grammar**
Winter, Spring. 4(4-0) 401.
English morphology and syntax, incorporating insights from current linguistic theory and practice.
- 403. The Development of Modern English**
Winter. Summer of even-numbered years. 4(4-0)
Historical development of the language; native and foreign elements; changes in inflections, pronunciation, vocabulary, meaning.
- 404. American English**
Fall. 4(4-0)
Characteristic American dialects, standard and non-standard, with analysis of usage and explanations of origins and differences.
- 406. Comparative Linguistics**
Spring. 5(4-0) 402, 403; 2 college years of a foreign language or approval of department.
Techniques for the scientific comparison of related languages. The comparative method and the results of its application to the Indo-European languages.
- 407. Methods of Teaching English as a Second Language**
Fall. 4(4-0) 402.
Applications of linguistic principles to teaching of English pronunciations, structure, and vocabulary to native speakers and to native speakers of other languages. Preparation of materials and discussion of techniques.
- 408A. Problems in the Teaching of Reading**
Fall, Winter, Spring. 4(3-4) 214, 301, ED 327D.
Instruction and field experience in the teaching of reading for prospective English teachers.
- 408B. Problems in the Teaching of Reading and Writing**
Fall, Winter, Spring. 4(3-4) 408A.
Independent work on the teaching and learning of reading and writing with strong emphasis on field experience.
- 408C. Problems in the Teaching of Reading and Writing**
Fall, Winter, Spring. 4(3-4) 408B.
Independent work in developing junior and senior high school reading and writing programs. Will participate in field experience.
- 409. Teaching Competencies in English**
Fall, Winter, Spring, Summer. 4(4-0) 214, 301, or 408A or ED 327D. ENG 309 concurrently.
Practicum in the development of teaching competencies in the fundamentals of reading and writing within a humanistic English curriculum. Analysis of accountability models and assessment instruments in English.
- 410. Chaucer**
Fall, Winter, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Chaucer's poetry, especially *The Canterbury Tales*. Read in Middle English.
- 411. Spenser**
Winter. 4(4-0) Majors: 208; others: 6 credits of literature.
A representative selection of Spenser's poetry with special emphasis on *The Faerie Queene*.
- 412. Milton**
Fall, Winter, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Milton's prose and poetry, especially *Paradise Lost*.
- 421. Shakespeare**
Fall, Winter, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Study of the following representative plays: *Richard II*, *Richard III*, *Hamlet*, *Othello*, *Julius Caesar*, *Romeo and Juliet*, *Twelfth Night*, *Winter's Tale*, *Midsummer-Night's Dream*.
- 422. Shakespeare**
Fall, Winter, Spring, Summer. 4(4-0) 421.
Advanced study of several representative plays exclusive of those taught in 421.
- 424. Conference Course in Advanced Writing**
Fall, Winter, Spring, Summer. 4 credits. Written approval of department.
Intended for the student ready to pursue an advanced project in writing. Individual conferences. Approval to enroll requires a conference with the instructor and will usually be on the basis of manuscripts submitted to him. Prior course work in writing will normally be expected.
- 426A. Comparative Drama**
(ENG 426.) Fall. 3(3-0) Majors: 208; others: 6 credits of literature.
Studies in the development of drama: classical and medieval.
- 426B. Comparative Drama**
(ENG 426.) Winter. 3(3-0) Majors: 208; others: 6 credits of literature.
Studies in the development of drama: Renaissance and seventeenth century.
- 426C. Comparative Drama**
(ENG 426.) Spring. 3(3-0) Majors: 208; others: 6 credits of literature.
Studies in the development of drama: neo-classical and romantic.
- 426D. Comparative Drama**
(ENG 426.) Fall, Spring. 3(3-0) Majors: 208; others 6 credits of literature.
The development of drama: Ibsen to World War II.

- 426E. Comparative Drama**
Spring, Summer. 3(3-0) Majors: 208; others: 6 credits of literature.
The development of drama: World War II to the present.
- 436. Comparative Fiction**
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Majors: 208; others: 6 credits of literature.
Types of narrative and fiction in various literatures and periods. Specific course content varies each term.
- 439. British Poetry and Poetic Theory Since 1890**
Winter, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Special emphasis on Hopkins, Hardy, Yeats, Auden and Thomas.
- 441. American Literature: Colonial and Revolutionary Period**
Fall. 4(4-0) Majors: 208; others: 6 credits of literature.
Works of Taylor, Edwards, Franklin, Freneau and others.
- 442. American Literature: Early Romanticism**
Fall. 4(4-0) Majors: 208; others: 6 credits of literature.
Works of Cooper, Irving, Poe, Emerson, Thoreau and others.
- 443. American Literature: Later Romanticism**
Winter, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Works of Hawthorne, Melville, Whitman, Dickinson and others.
- 446. American Literature: Realism and Naturalism**
Fall, Winter, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Rise and development of realism and naturalism as exemplified in the works of such authors as Twain, James, Dreiser, Robinson, and others.
- 447. Twentieth Century American Fiction**
Fall, Winter, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Works of Fitzgerald, Hemingway, Faulkner and others.
- 448. Twentieth Century American Poetry**
Fall, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Works of Eliot, Pound, Frost and others.
- 449. Afro-American Literature I**
Fall, Winter, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Creative thought of the black American illustrated by the participation of the black man in American culture from beginnings through Harlem Renaissance.
- 450. Afro-American Literature II**
Winter, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Creative thought of the black American illustrated by the participation of the black man in American culture—post-World War II.
- 452. Contemporary Literature**
Fall, Winter, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Contemporary British or American fiction, drama or poetry.
- 455. Tudor Literature**
Fall. 4(4-0) Majors: 208; others: 6 credits of literature.
Poetry, prose and non-Shakespearean drama of the sixteenth century.
- 456. Early Seventeenth Century Literature**
Winter. 4(4-0) Majors: 208; others: 6 credits of literature.
Some of the major literary works of 1600-1660.
- 460. The Age of Dryden and Pope**
Fall. 4(4-0) Majors: 208; others: 6 credits of literature.
Literature of the Restoration and early eighteenth century, 1660-1744; Dryden, Pope, Swift, and others.
- 462. The Age of Johnson**
Spring. 4(4-0) Majors: 208; others: 6 credits of literature.
Literature of later eighteenth century to 1785; Johnson and his circle, the novelists and others.
- 465. The English Romantic Period**
Fall, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
The beginnings of romanticism; Blake, Wordsworth and Coleridge.
- 466. The English Romantic Period**
Fall, Winter, Spring. 4(4-0) Majors: 208; others: 6 credits of literature.
Continuation of 465; Keats, Shelley, Byron.
- 467. Language and Culture**
Fall, Spring. 4(3-0) Approval of department. Interdepartmental with and administered by the Anthropology Department.
A survey exploring the interconnectedness of language and culture. Special areas to be emphasized include: Child Language Learning; Linguistic and Cultural Contact Phenomena; "Specialized" Languages, such as Cant, Argot, Trade Jargon, Lingua Franca; "Hybridization" and "Substratum"; Language and Cultural Change; a brief examination of Theories of Origins and of the Sapir-Whorf Hypothesis.
- 468. Nature of Myth**
Winter. 3(3-0)
Myth in some of its theoretical aspects, with special reference to the mythical character of literature.
- 470. Victorian Essayists**
Fall, Summer of even-numbered years. 4(4-0) Majors: 208; others: 6 credits of literature.
Selected readings from Carlyle, Newman, Arnold, Mill, Huxley and other essayists.
- 471. Victorian Poets**
Spring. 4(4-0) Majors: 208; others: 6 credits of literature.
Selected readings from Arnold, Browning, Tennyson and other poets.
- 474. Oral Folklore**
Spring. 4(4-0)
The nature of folklore, its social functions, and its use in literature and drama.
- 476. Canadian-American Studies**
For course description, see Interdisciplinary Courses.
- 477. Comparative Epic**
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Majors: 208; others: 6 credits of literature.
Each term will consider two epics. Fall: *Odyssey* and the *Book of Job*; Winter: Dante's *Inferno* and Milton's *Paradise Lost*; Spring: *Beowulf* and the *Song of Roland*.
- 478. Methods of Comparative Literature**
Fall. 3(3-0) Two of the following: 206, 207, 208.
Rationale and techniques of study in comparative literature.
- 479. Classical Christian Contributions to Literary Tradition**
Spring of odd-numbered years. 3(3-0) Two of the following: 206, 207, 208.
Development and influence of the ideas, forms, and motifs of the ancient world and Christianity in literature of the world.
- 480. Literary Criticism: Theory and Practice**
Fall, Spring, Summer. 4(4-0) Senior majors.
A survey of literary theory; critical and historical approaches to literature.
- 481. Modern Critical Theory**
Winter. 4(4-0) Senior majors.
An examination of the principal modern theories of literary criticism.
- 482. Practical Criticism**
Spring. 4(4-0) 480 or 481.
Literary criticism in response to a given work.
- 485. The English Novel Through the Eighteenth Century**
Fall, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Study of such writers as Richardson, Fielding, Smollett, Sterne, Austen, and others.
- 486. The English Novel in the Nineteenth Century**
Winter, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.
Study of such writers as Scott, Dickens, Thackeray, Eliot, Hardy and others.
- 487. The Modern English Novel**
Spring, Summer. 4(4-0) Majors; 208; others: 6 credits of literature.
Study of such writers as Conrad, Ford, Joyce, Lawrence and others.
- 491H. Studies in Period**
Fall. 4(4-0) May re-enroll for a maximum of 8 credits. To receive credit, both 491H and 492H must be completed satisfactorily. Six credits in English honors courses and approval of the departmental honors adviser.
A two-term study of specific writers in relation to their age is provided by 491H and 492H.
- 492H. Studies in Period**
Winter. 4(4-0) May re-enroll for a maximum of 8 credits. To receive credit, both 491H and 492H must be completed satisfactorily. 491H and approval of the departmental honors adviser.
Continuation of 491H.
- 493H. Studies in Genre**
Winter. 4(4-0) May re-enroll for a maximum of 8 credits. To receive credit, both 493H and 494H must be completed satisfactorily. Six credits in English honors courses and approval of the departmental honors adviser.
A two-term study of the conventions and techniques of a specific literary genre.

494H. Studies in Genre

Spring. 4(4-0) May re-enroll for a maximum of 8 credits. To receive credit both 493H and 494H must be completed satisfactorily. 493H and approval of the departmental honors adviser.

Continuation of 493H.

496H. Special Topics

Fall, Winter, Spring. 4(4-0) May re-enroll for a maximum of 12 credits. Approval of the departmental honors adviser.

Intensive study of some particular author, theme, problem, or other critical topic.

497H. Senior Honors Essay

Fall, Winter, Spring. 4 to 10 credits. May re-enroll for a maximum of 10 credits. Seniors and approval of departmental honors adviser.

A substantial piece of writing under the direction of selected faculty.

499. Senior Proseminar

Fall, Winter, Spring, Summer. 4(4-0) Senior English majors.

Intensive work in an area, problem or author. Students will work closely with the instructor in the preparation and evaluation of substantial research or critical papers.

800. History of the English Language

Spring, Summer. 3 credits.

801. Old English

Fall, Summer. 3 credits.

Phonology and morphology of English before 1100.

802. Beowulf

Winter. 3 credits.

803. Old English Poetry

Spring. 3(3-0) 802.

Studies in Old English poetic literature: selections from the poetry of the Exeter Book or other works exclusive of *Beowulf*.

804. Middle English

Winter. 3(3-0)

Linguistic study of English writings, 1100-1400.

805. Studies in Comparative Theatre and Drama

(ENG 905.) Fall, Winter, Spring, Summer. 3(3-0) May re-enroll for a maximum of 12 credits. Approval of department. Interdepartmental and jointly administered with the Department of Theatre.

Comparative study of selected playwrights, movements, trends and developments in world drama from the beginnings to the present day.

806. Medieval Languages

Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 15 credits.

Gothic, Old Norse, and Old Irish.

807. Advanced Methods of Teaching English as a Second Language

Fall. 3(3-0) 407.

Advanced study of linguistic theory and applications to classroom practice of methods of teaching English as a second language, specifically with regard to oral drill, reading, writing, testing, language and cultural heritage.

810. Medieval Literature

Fall, Winter, Summer. 3(3-0) May re-enroll for a maximum of 6 credits.

Chaucer and the literature of the fourteenth century.

811. Renaissance Literature

Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits.

English nondramatic literature, 1500-1600.

815. Restoration and Eighteenth Century Literature

Fall, Winter. 3(3-0) May re-enroll for a maximum of 6 credits.

English literature, 1660-1798.

816. Nineteenth Century Literature

Fall, Winter, Spring, Summer. 3(3-0) May re-enroll for a maximum of 9 credits.

English literature, 1798-1900.

821. Nineteenth Century American Literature

Fall, Winter, Spring, Summer. 3(3-0) May re-enroll for a maximum of 9 credits.

American literature, 1820-1900.

824. Seventeenth Century Literature

Winter, Spring. 3(3-0) May re-enroll for a maximum of 6 credits.

English nondramatic literature, 1600-1660, including Milton.

825. Comparative Literature: Studies in Theme and Idea

Fall. 3(3-0) May re-enroll for a maximum of 9 credits. Interdepartmental with the departments of Romance Languages and German and Russian and administered by the Romance Languages Department.

Myths, archetypes, *Topoi*, significant ideas and intellectual currents in different periods and cultural traditions.

828. Colonial and Revolutionary American Literature

Winter. 3(3-0)

American literature, from the beginnings to 1820.

829. Twentieth Century Literature

Fall, Spring. 3(3-0) May re-enroll for a maximum of 6 credits.

English and American literature, 1900 to the present, with attention to foreign backgrounds.

830. Major Writers of American Literature

Fall. 5(4-0) Major in English—Secondary School Teaching or approval of department.

Franklin through Whitman.

831. Major Writers of American Literature

Winter. 5(4-0) Major in English—Secondary School Teaching or approval of department.

Twain to the present.

840. Writing Workshop for Teachers

Fall, Spring, Summer. 5(5-0) Major in English—Secondary School Teaching or approval of department.

Emphasis on personal and public modes of writing; some discussion of methods of teaching writing; class discussion and evaluation of student writing; individual conferences.

841. Topics in the Teaching of English

Winter, Spring. 3 to 5 credits.

Selected topics and issues in the teaching of English and the language arts. Investigation of problems of special concern to the students, especially those directly related to teaching.

845. Approaches to Language

Fall. 3(3-0) Major in English—Secondary School Teaching or approval of department.

Modern linguistic approaches to language and their application to writing.

846. Approaches to Language

Winter. 3(3-0) Major in English—Secondary School Teaching or approval of department.

Continuation of 845.

847. Reading and the English Teacher

Spring, Summer. 5(5-0)

Investigation of applied linguistics and psycholinguistics to the reading process with particular emphasis on the application to problems in the teaching of reading and literature.

848. Teaching English in Bicultural Settings

Winter, Spring. 5(5-0)

For the English teacher with students from bilingual-bicultural homes. Application to the classroom of developments in sociolinguistics, English education, reading instruction, and language learning theory.

849. English Teaching Workshop

Fall, Winter, Spring, Summer. 2 to 5 credits. May re-enroll for a maximum of 10 credits.

Workshop in the development of teaching materials and resources in English. Investigation of sources and bibliographies. Emphasis on seeking practical solutions to particular problems in the teaching of English.

855. Shakespeare

Fall, Spring. 3(3-0)

Intensive study of selected plays.

856. Comparative Literature: Literature and Other Disciplines

Winter. 3(3-0) May re-enroll for a maximum of 9 credits. Interdepartmental with the departments of Romance Languages and German and Russian and administered by the Romance Languages Department.

Relations between literature and the sciences and other arts; social, historical, psychological, philosophical bases of literary study.

862. Approaches to Literature

Winter. 5(4-0) Major in English—Secondary School Teaching or approval of department.

Literature through thematic, genre and historical approaches.

871. Methods of Literary Research

Fall, Spring, Summer. 3(3-0)

Bibliography and use of library: preparation of reports, reviews, and scholarly papers.

878. Comparative Literature: Methods in the Study of Comparative Literature

Fall. 3(3-0) Interdepartmental with the German and Russian and Romance Language Departments.

Rationale and techniques of study in comparative literature.

879. Myth, Ritual and Folklore in Literature

Fall. 3(3-0) May re-enroll for a maximum of 9 credits.

The concepts, scholarship, and methods of study and research in mythology, ritual, and folklore, with special attention to their use in literature and drama.

880. Proseminar for Master's Degree Candidates
Fall, Winter, Spring, Summer. 3(3-0)
Individual scholarly work under guidance.

885. Studies in the History of Literary Criticism
Fall, Winter, Spring, Summer. 3(3-0)
The history of literary criticism.

886. Studies in Modern Criticism
Fall, Winter, Spring, Summer. 3(3-0)
885.
Continuation of 885.

895. College Teaching of English
Fall, Winter, Spring. 1 to 3 credits.
May re-enroll for a maximum of 3 credits.
Graduate teaching assistant.
Supervised teaching of college classes in English language and literature.

896. Practicum in English Language and Literature
Fall, Winter, Spring Summer. 2 to 6 credits. Approval of department.
Supervised graduate practicums, observations, internships in the teaching of English language and literature.

899. Research
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

902. Comparative Literature: Studies in Form and Genre
Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Interdepartmental with the German and Russian and Romance Language Departments.
Development and interrelationships of individual and collective forms and genres of literatures of the Western world, including the drama, tragedy, the novel, the short story, the theory and forms of poetry, popular literature, and the tale.

903. Comparative Literature: Studies in Periodization
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Interdepartmental with the German and Russian and Romance Language Departments.
Analyses of the manner in which various genres, conventions and continuing traditions of literature interact with the creative and critical climates of particular periods and movements, such as classicism, the Middle Ages, the baroque, or romanticism, in qualifying or modifying characteristic literary works.

904. Studies in Influence
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits.
Mutual influences of the English, Romance and Germanic literatures in general and in terms of specific authors and literary kinds, together with studies of the intermediaries of transmission, translations and sources.

930. Studies in English Drama
Fall of odd-numbered years. Winter and Spring of even-numbered years. 3(3-0) May re-enroll for a maximum of 9 credits.
Liturgical beginnings to 1642, excluding Shakespeare.

940. Studies in Shakespeare
Winter of odd-numbered years. 3(3-0)
To receive credit, both 940 and 941 must be completed satisfactorily.

941. Studies in Shakespeare
Spring of odd-numbered years. 3(3-0)
To receive credit, both 940 and 941 must be completed satisfactorily.

970. Graduate Reading Course
Fall, Winter, Spring, Summer. 1 to 5 credits. Approval of department.
Supervised reading course in English and American literature for Ph.D. candidates.

980. Studies in English Language
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits.
The English language from the viewpoint of historical problems, literary analysis and pedagogical implications.

981. Seminar: Earlier English Literature
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits.
Special problems in English literature, beginnings to 1660.

982. Seminar: Later English Literature
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits.
Special problems in English literature, 1660-1900.

983. Seminar: American Literature
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits.
Special problems in American literature, beginnings to 1900.

984. Seminar: Twentieth Century Literature
Winter, Spring. 3(3-0) May re-enroll for a maximum of 6 credits.
Special problems in English and American literature, 1900 to the present.

985. Seminar: Special Studies in Literary Form and Theory
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits.
Forms, genres, and movements.

986. American Literature and Culture
Fall, Winter. 3(3-0)
American Literature in a cultural context, drawing upon popular and fine arts, the history of ideas, the history of social movements.

987. Seminar: Special Topics in Comparative Literature
Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Advanced graduates. Interdepartmental with the departments of Romance Languages and German and Russian and administered by the Romance Languages Department.

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

301. General Entomology
Fall, Spring. 3(3-0) B S 211 and 212 recommended.
Biological relationships of insects. Insect behavior, ecology, and classification. Metamorphosis and development of insects.

302. General Entomology Laboratory
Fall, Spring. 2(0-6) 301 or concurrently.
Experiments in morphology, physiology, behavior of insects. Populations and classification of major groups.

337. Forest and Shade Tree Entomology
Fall. 4(3-2) Three terms of Natural Science.
Provides an understanding of significance and nature of insect injury to forest and shade trees, based upon morphology, physiology, biology and taxonomy of insect and host. Analyzes biological, chemical, cultural and silvicultural approaches to insect control in order to equip student with competence to carry out survey and action program assignments.

401. Problems
Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 12 credits. Approval of department.
Advanced individual work on a field or laboratory research problem or a study of published literature on a selected topic.

404. Field Entomology
Summer. 6 credits. One year of zoological science or teaching major in general science or approval of department. Given at W. K. Kellogg Biological Station.
Basic field survey in entomology. Emphasis on the biology, collection and identification of insects common to the Gull Lake Biological Station area.

410. Apiculture and Pollination
Spring. 3(2-2)
Biology of the honey bee and some of the wild bees. Relationships between bees and flowering plants. Value of bees in crop pollination. Introduction to management with visits to the University apiary.

411. Seminar
Fall, Winter. 1(1-0) Majors or approval of department.
Reports by students, faculty, and representatives of the profession, with emphasis on current problems not covered in regular college subjects.

418. Systematic Entomology
Winter. 4(1-9) 301, 302.
General taxonomic course to acquaint the student with the various groups of insects.

420. Aquatic Insects
Fall. 4(2-4) 301, 302.
Biology, ecology and systematics of aquatic insects.

421. Stream Ecology
Summer. 3 credits. 420 or approval of department. Given at W. K. Kellogg Biological Station.
An in-depth examination of stream ecosystems—physical, chemical and biological aspects. Field work will be centered on local streams. Laboratory exercises will involve manipulations necessary for the determination of population energy budgets, with special emphasis on aquatic insects.

ENTOMOLOGY ENT

College of Natural Science

250. Pesticides and Environmental Quality
Winter. 3(3-0)
Impact of agricultural pesticides on man and his environment. Emphasizes the effect of chemicals on food production and combating pesticides and ecological imbalance. Presents pesticide alternatives for the future.