

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

ENGINEERING

EGR

College of Engineering

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.

260. Machine Drawing
Fall, 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) 160.

Structural steel, reinforced concrete, masonry, and timber detail drawings. Highway drawings and mapmaking.

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) CPS 110 or 120 or LBC 125; EGR 160 or 161; or approval of department.

Use of computer controlled display systems for the solution of multidimensional problems.

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.

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.

ENGLISH

ENG

College of Arts and Letters

091. English for Foreign Students—Elementary

Fall, Winter, Spring, Summer. Zero credit. [3(5-0) to 15(25-0)]†. English language proficiency examination.

Grammar, conversation, composition, pronunciation and laboratory in the English language for foreign students on the elementary level.

092. English for Foreign Students—Intermediate

Fall, Winter, Spring, Summer. Zero credit. [3(5-0) to 15(25-0)]†. English language proficiency examination.

Grammar, conversation, composition, pronunciation and laboratory in the English language for foreign students on the 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.

Grammar, conversation, composition, pronunciation 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 and pronunciation in the English language for foreign students in need of supplementary work only.

101. Freshman Composition I
Fall, Winter, Spring. 4(3-1)

Practice in writing expository prose.

102. Freshman Composition II
Fall, Winter, Spring. 5(3-2)

Continuation of 101.

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

201. Nature of Language
Fall, Winter, Spring, Summer. 3(3-0) ATL 113.

Various aspects of language—phonology and orthography; morphology, semantics and the lexicon; syntax; and dialects—with special reference to American English.

205. Introduction to Shakespeare
Fall, Winter, Spring. 3(3-0) ATL 113.

A study of selected plays illustrating the powers of England's greatest writer.

206. Forms of Literature
Fall, Winter, Spring, Summer. 3(3-0) Required of majors and minors. Open to Freshmen.

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
Fall, Winter, Spring, Summer. 3(3-0) Required of majors and minors. Open to Freshmen.

Major forms of drama, designed to reveal artistic problems met and solved by these forms.

208. Forms of Literature
Fall, Winter, Spring, Summer. 3(3-0) Required of majors and minors. Open to Freshmen.

Major forms of poetry, designed to reveal artistic problems met and solved by these forms.

213. Expository Writing
Fall, Winter, Spring, Summer. 3(3-0) ATL 113.

Practice in informative writing to develop mastery of a clear, accurate style and of practical, basic expository forms.

214. Composition for Secondary English Teachers
Fall, Winter Spring. 4(3-1) ATL 113.

Writing practice in various modes such as personal 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.

228A. Fiction Writing
Fall, Winter, Spring, Summer. 4(4-0) 206 and written approval of department.

The writing of short 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.

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 conference 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 conference with the instructor and will usually be on the basis of manuscripts submitted to him.

300A. Advanced Fiction Writing
(300.) Fall, Winter, Spring, Summer. 4(4-0) May re-enroll in 300A and/or 300B for a maximum of 15 credits. 228B and written approval of the 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
(300.) Fall, Winter, Spring, Summer. 4(4-0) May re-enroll in 300A and/or 300B for a maximum of 15 credits. 229 and written approval 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 submitted to him.

301. Literature and the Adolescent
Fall, Winter, Spring. 4(3-1) 208.

Extensive reading of literature appropriate for secondary school students. Discussion of formal literature programs in relation to student's reading needs. Methods of analyzing literature and establishing common and individualized reading programs.

345. Classic Myths and Literature
Fall, Winter, Spring. Summer of even-numbered years. 3(3-0) ATL 113.

Greek myths that have been wrought into later poetry, fiction, drama, painting, sculpture, and music.

380. Masterpieces of American Literature

Fall, Winter, Spring, Summer. 3(3-0) ATL 113. 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

Spring. 3(3-0) Not applicable to major or minor requirements.

Selected masterpieces of contemporary literature.

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.

402. Modern English Grammar

Fall, Winter, Spring, Summer. 4(4-0) ATL 113.

Descriptive, structural and transformational analysis of present-day American English in light of current linguistic theory and practice; phonetics, phonemics, morphemics, syntax, and dialects; applications to teaching.

403. The Development of Modern English

Winter. Summer of even-numbered years. 4(4-0) ATL 113.

Historical development of the language; native and foreign elements; changes in inflections, pronunciation, vocabulary, meaning.

404. American English

Fall. 4(4-0) ATL 113.

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.

410. Chaucer

Fall, Winter, Spring, Summer. 4(4-0) Majors: 208; others: 6 credits of literature.

Chaucer's poetry, especially *The Canterbury Tales*.

411. Spenser

Winter. 4(4-0) Majors: 208; others: 6 credits of literature.

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.

426. Comparative Drama

(C L 426.) Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 12 credits. Majors: 208; others: 6 credits of literature.

Studies in the development of the drama in three courses, as follows: classical and medieval; Renaissance and seventeenth century, neo-classical and romantic; and the drama from Ibsen to the present.

436. Comparative Fiction

(C L 436.) Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Majors: 208; others: 6 credits of literature.

Studies in the development of narration and fiction in three courses, as follows: forerunners of the novel and eighteenth century and romance fiction; origins of realism, naturalism, expressionism, symbolism, the psychoanalytic novel, and other experimental forms in nineteenth-century fiction; and continuation of these forms in twentieth-century fiction.

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.

452. Contemporary Literature

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

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.
- 476. Canadian-American Studies**
For course description, see Interdisciplinary Courses.
- 477. Comparative Epic**
(C L 466.) 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**
(472.) 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**
(438.) 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 8 credits.
May re-enroll for a maximum of 8 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.
- 806. Medieval Languages**
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 15 credits.
Gothic, Old Norse, and Old Irish.
- 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.
- 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. Advanced Writing**
Spring. 5(4-0) Major in English—Secondary School Teaching or approval of department.
Expository and creative writing.
- 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.
- 850. Major Writers of English Literature**
Spring. 5(4-0) Major in English—Secondary School Teaching or approval of department.
Chaucer through Milton.
- 851. Major Writers of English Literature**
Summer. 5(4-0) Major in English—Secondary School Teaching or approval of department.
Dryden through Keats.
- 852. Major Writers of English Literature**
Summer. 5(4-0) Major in English—Secondary School Teaching or approval of department.
Tennyson to the present.

855. Shakespeare
Fall. 5(4-0) Major in English—
Secondary School Teaching or approval of de-
partment.
Intensive study of selected plays.

**861. Library Methods—Secondary
Schools**
Spring. 3(3-0) Major in English—
Secondary School Teaching or approval of de-
partment.
Uses of the library; book selection and ordering.

862. Approaches to Literature
Winter. 5(4-0) Major in English—
Secondary School Teaching or approval of de-
partment.
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.

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

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

899. Research
Fall, Winter, Spring, Summer. Vari-
able credit. Approval of department.

902. Studies in Form and Genre
Fall, Winter, Spring. 3(3-0) May
re-enroll for a maximum of 9 credits.
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. Studies in Periodization
(C L 903.) Fall, Winter, Spring. 3(3-0)
May re-enroll for a maximum of 9 credits.
Analyses of the manner in which various genres,
conventions and continuing traditions of litera-
ture 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.

905. Studies in Comparative Drama
(C L 905.) Fall, Winter, Spring. 3(3-0)
May re-enroll for a maximum of 9 credits. Ap-
proval of department.
Comparative study of selected playwrights,
movements, trends and developments in world
drama from the beginnings to the present day.

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 Shake-
speare.

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 Amer-
ican literature for Ph.D. candidates.

972. Rationale of Literary Research
Spring. 3(3-0) Candidacy for the
Ph.D. degree.
Principles and methods of research in literary
problems.

**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, begin-
nings 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, begin-
nings 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 liter-
ature, 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.

999. Research
Fall, Winter, Spring, Summer. Vari-
able credit. Approval of department.

**337. Forest and Shade Tree
Entomology**
Fall. 4(3-2) N S 193.

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 biolog-
ical, chemical, cultural and silvicultural ap-
proaches 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 liter-
ature 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 in-
sects 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. In-
troduction to management with visits to the
University apiary.

411. Seminar
Fall, Winter. 1(1-0) Majors or ap-
proval 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 in-
sects.

430. Economic Entomology
(300.) Winter. 3(2-3) 301, 302.
Recognition, life histories, behavior, ecology and
integrated control of insects of economic im-
portance.

438. Taxonomy of Immature Insects
Spring of even-numbered years. 4(1-9)
418.
Identification of immature insects with particu-
lar emphasis on the Holometabola.

440. External Morphology of Insects
Fall. 4(2-6) 301, 302, or approval
of department.
Morphological concepts of external skeletal parts
of insects. Emphasis on evolutionary develop-
ment of structures from the Apterygota through
the Pterygota.

441. Internal Morphology
Winter. 4(2-6) 440 or approval of
department.
Morphology of the internal structure of insects.
Emphasis on the evolutionary development of
organs and organ systems of various representa-
tive insects.

ENTOMOLOGY ENT

College of Natural Science

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

302. General Entomology Laboratory
Fall, Spring. 2(0-6) 301 or concu-
rently.
Experiments in morphology, physiology, be-
havior of insects. Populations and classifica-
tion of major groups.