851. Modeling of Engineering Systems I
Fall, 3(3-0) M E 455 or E E 415. Interdepartmental with and administered by the Department of Mechanical Engineering.
Modeling of engineering components and dynamic systems; mechanical, electrical, fluid, thermal, and transducer effects. Linear state-space responses, impedance methods, simulation of linear models. Design project.

852. Modeling of Engineering Systems II
Winter, 3(3-0) M E 851. Interdepartmental with and administered by the Department of Mechanical Engineering.

863. Analysis of Stochastic Systems
Winter, 3(3-0) E E 415, E E 456. Interdepartmental with Electrical Engineering. Analysis and modeling of stochastic signals and systems. Topics include stochastic models, description of processes, stationarity, ergodicity, correlation and power spectrum, linear stochastic systems, harmonic analysis, Markov processes, Poisson processes.

880. Signal Analysis
Winter, 3(3-0) Approval of department. Interdepartmental with and administered by Electrical Engineering.
Continuous and discrete signals—generation, representation and classification, Fourier transform, spectral analysis and filtering for continuous and discrete signals. Computer implementation of signal processing.

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

947. Topics in Communications
Fall of odd-numbered years, 3(3-0) May reenroll for a maximum of 6 credits. E E 848. Interdepartmental with and administered by Electrical Engineering. Advanced treatment of a topic or group of topics of current research interest in the field of communications, information theory and signal processing.

901. Optimal Control Theory
Fall, 3(3-0) SYS 827, MTH 486. Optimal control, performance measures, principle of optimality, dynamic programming, Hamilton-Jacobi-Bellman equation, variational approach, constrained extrema, Pontryagin principle, necessary conditions, solution techniques, singular cases.

925. Computational Techniques for Optimal Control
Winter of odd-numbered years, 3(3-0) SYS 861. Computational methods of optimal controls, steepest descent, variation of extremals, quasilinearization, gradient projection, dynamic programming, convexity techniques, support functions for reachable sets, current literature.

936. Dynamic System Identification and Control
Spring of odd-numbered years, 3(3-0) SYS 863, SYS 829. System identification, dynamic programming, state-space and adaptive control. Topics under identification include review of statistics background, dynamic system models, identification methods, recursive algorithms, input design, and structure discrimination.

964. Large Scale Dynamic Systems
Winter of even-numbered years, 3(3-0) SYS 961. Model simplifications; stability of large scale systems; decentralized control; optimization by decomposition and coordination; multilevel hierarchical control; applications.

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

ENGLISH

College of Arts and Letters

091. English for Foreign Students—Structures
Fall, Winter, Spring, Summer. Zero credits. [3(5-0) See page A-1 item 3] English language proficiency examination. Explanation and intensive practice of basic grammatical structures of English. Students are tested and then placed in small groups, from beginning to advanced, depending on their need.

092. English for Foreign Students—Speaking and Listening

093. English for Foreign Students—Language Laboratory
Fall, Winter, Spring, Summer. Zero credits. [3(5-0) See page A-1 item 3] English language proficiency examination. Language laboratory practice in small groups (determined by proficiency). Beginnings review and supplement ENG 091, ENG 092. Advanced groups use carefully prepared lectures, speeches, and presentations to practice structures and vocabulary.

094. English for Foreign Students—Reading
Fall, Winter, Spring, Summer. Zero credits. [3(5-0) See page A-1 item 3] English language proficiency examination. Intensive and extensive reading in small groups (determined by proficiency). Beginners emphasize vocabulary development and practice in basic structures. Advanced classes include reading skills, wider reading, and specialized vocabulary.

095. English for Foreign Students—Writing
Fall, Winter, Spring, Summer. Zero credits. [3(5-0) See page A-1 item 3] English language proficiency examination. Frequent and free writing in small groups to reduce errors and practice using structures and vocabulary to express ideas. Advanced classes include writing styles used in academic course work.

101. Responses Through Writing
Fall. 4(4-0) Arts and Letters Freshmen only. Students must enroll in and complete ENG 102 satisfactorily to make a substitution for the American Thought and Language requirement. A writing workshop that concentrates on the students' personal writing voices and on their responses to the things, people, and institutions central to their experience.

102. Writing and Composing
Winter. 5(5-0) ENG 101: Arts and Letters Freshmen only. A continuation of ENG 101 that develops the emphasis of ENG 101 and encourages students to write in more public and objective forms—narrative, critical analysis, and issue-oriented essays.
104. Writing for Science Majors Fall, 3(3-0) Satisfactory grade in English proficiency exam; College of Natural Science majors. Interdepartmental with the Department of American Thought and Language.
Writing workshop for science students that develops and refines composition ability.

105. The Scientist as Writer Winter, 3(3-0) ENG 104. Interdepartmental with the Department of American Thought and Language.
Study of various types of writing by scientists—fiction, poetry, and autobiography as well as professional papers and books. Students will write frequently about the readings.

106. Introductory Scientific Writing Spring, 3(3-0) ENG 105. Interdepartmental with the Department of American Thought and Language.
Writing of popular essays, scientific papers and reports, and other papers related to science.

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 reference to American English.

205. Introduction to Shakespeare Fall, Winter, Spring. 3(3-0) Not applicable to major or minor requirements.
A study of selected plays illustrating the powers of England’s greatest writer.

206. Forms of Literature: Fiction Fall, Winter, Spring. 3(3-0)
Open to Freshmen.
Major forms of prose fiction, designed to reveal artistic problems met and solved by these forms. Freshmen 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.

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

208. Forms of Literature: Poetry Fall, Winter, Spring. 3(3-0)
Open to Freshmen.
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 to the Study of Literature II Winter, Spring. 4(4-0) ENG 210.
A continuation of ENG 210.

213. Writing Workshop Fall, Winter, Spring, Summer. 4(4-0)
Completion of the American Thought and Language General Education requirement.
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.

219. English from Greek and Latin Roots Fall, Winter, Summer. 3(3-0) Interdepartmental with and administered by Classical Languages.
Prefixes, roots, suffixes derived from Greek and Latin word elements used in formation of English words. Useful for improving vocabulary and spelling.

220. English from Greek and Latin Roots Fall, Winter, Summer. 3(3-0) Interdepartmental with and administered by Classical Languages.
Prefixes, roots, suffixes derived from Greek and Latin word elements used in formation of English words. Useful for improving vocabulary and spelling.

226. Introduction to Creative Writing Fall, Winter, Spring. 4(4-0) Completion of American Thought and Language General Education requirement.
Writing of fiction, drama, creative nonfiction, and poetry, with ample practice in several. Some reading of professional contemporary writing. Course organized as workshop, designed for beginning writers.

228. Introduction to American Thought and Language Spring. 4(4-0) Completion of the American Thought and Language General Education requirement.

230. Non-fictional Imaginative Prose Writing Fall, Winter, Spring. 4(4-0) Written approval of instructor based on manuscripts submitted.
The writing of biography, autobiography, and personal essays. Classes and individual conferences.

232. Advanced Workshop in Expository Writing Winter, Spring. 4(4-0) ENG 213 or approval of department.
Directed practice in the writing of clear, concise, and forceful expository prose, with special emphasis on practical writing tasks like the composing of summaries, reports, and position papers.

233. Scientific Writing Winter, Spring. 4(4-0) Science students or students with considerable background in the natural sciences.
Writing of papers, reports and essays.

237. Playwriting Winter, Spring. 4(4-0) May reenroll for a maximum of 8 credits. Written approval of instructor. Basic elements of playwriting: dramatic action, exposition, plot, characterization, dialogue, mood, and visual effects. Class work will also include discussion of plays.

238. Advanced Fiction Writing Fall, Spring. 4(4-0) May reenroll in ENG 325 and/or ENG 329 for a maximum of 12 credits. ENG 238B and written approval of instructor based on manuscripts submitted.
Advanced work in the writing of fiction. Classes and individual conferences.

239. Advanced Poetry Writing Winter, Spring. 4(4-0) May reenroll in ENG 325 and/or ENG 329 for a maximum of 12 credits. ENG 239B and written approval of instructor based on manuscripts submitted.
Advanced work in the writing of poetry. Classes and individual conferences.
330. **Composition for Secondary English Teachers**
   Fall, Winter. Summer of odd-numbered years. 4(3-4) Sophomore English Education majors or minors or written approval of department.

   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. Will participate in field experience.

331. **Literature and the Adolescent**
   Winter, Spring. Summer of even-numbered years. 4(3-4) Sophomore English Education majors or minors and 8 credits of literature or written approval of department.

   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. Will participate in field experience.

332. **English Field Experience Internship**
   Fall, Winter, Spring. Summer. 1 to 5 credits. May reenroll for a maximum of 10 credits. Juniors, approval of instructor. Supervised field experience in English.

340. **Studies in Popular Culture**
   Spring. 3(2-0) May reenroll for a maximum of 9 credits. Sophomores.

   Popular Cultures of the United States and England from the 19th Century to the present.

342. **Women and Literature**
   Fall, Winter, Spring. 3(3-0) Sophomores.

   The feminine sensibility as revealed in literary themes and characterizations, through a study of poetry and fiction written by women authors.

343. **Regional American Literature**
   Fall. 3(3-0) May reenroll for a maximum of 9 credits if different topics are taken. Sophomores.

   Representative works of a particular geographical region as expressions of its distinctive cultural, historical, and literary characteristics, e.g., in a given term, the Middle West, South, New England, or Far West.

344. **Jewish-American Literature (A)**
   Winter. 3(3-0) Sophomores.

   The Jewish-American experience as reflected in fiction, drama, poetry, essay, autobiography, film.

347. **Literature and Film**
   Fall, Winter, Spring. 4(2-4) Sophomores.

   Introduction to the relationship between film and literature through study of theme, style, and structure in selected film masterpieces from different periods and cultures.

349. **Afro-American Literature I**
   Fall. 4(4-0) Sophomores.

   Chronological survey of the literature and historical experience of Black America from the African oral tradition to Reconstruction. Literary texts complemented by readings in history and politics. Several film screenings.

350. **Afro-American Literature II**
   Winter. 4(4-0) Sophomores.

   Chronological survey of the literature and historical experience of Black America from Reconstruction to the present. Literary texts complemented by readings in history, politics, autobiography. Several film screenings.

351. **English Literature I**
   Fall. 4(4-0) Sophomores.


352. **English Literature II**
   Winter. 4(4-0) Sophomores.

   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) Sophomores.

   Survey of English literature, Blake to Hardy. Major representative writers and literary forms of the specified period.

360. **World Literature in English**
   Fall. 3(3-0) Interdepartmental with Linguistics and Oriental and African Languages.

   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.

361. **World Literature in English Translation**
   Winter. 3(3-0) Interdepartmental with and administered by Linguistics and Oriental and African Languages.

   Significant and characteristic works of the Orient, the Middle East, and Africa in English translation.

362. **Genres and Themes in World Literature**
   Spring. 3(3-0) Interdepartmental with Linguistics and Oriental and African Languages.

   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.

363. **African Literature in English**
   Spring of odd-numbered years. 3(3-0) Sophomores.

   Contemporary African literature written in English, including novels by Soyinka, Achebe, Ngugi, Amma, La Guma, and Ekwensi; plays and poetry by Clark, Hutchinson, Nkosi, Henshaw, Okara, Awoonor, Okigbo, and others.

364. **Canadian Literature and Culture**
   Spring of even-numbered years. 4(4-0) May reenroll for a maximum of 5 credits. Sophomores.

   Canadian literature and culture in bicultural, historical and contemporary contexts.

365. **Classic Myths and Literature**
   Fall, Winter, Spring. Summer of even-numbered years. 3(3-0) Sophomores.

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

366. **Literary Interpretation of the Bible**
   Fall, Winter. 3(3-0) Sophomores.

   Literary study of the Old and New Testaments, with emphasis upon the ideas and events which figure prominently in English and American literature.

380. **Masterpieces of American Literature**
   Fall, Winter, Spring, Summer. 3(3-0) Sophomores. Not applicable to major or minor requirements.

   Selected masterpieces of American literature.

381. **Masterpieces of English Literature**
   Fall, Winter, Spring. 3(3-0) Sophomores. Not applicable to major or minor requirements.

   Selected masterpieces of English literature.

382. **Masterpieces of Contemporary Literature**
   Fall, Winter, Spring, Summer. 3(3-0) Sophomores. Not applicable to major or minor requirements.

   Selected masterpieces of contemporary literature.

399. **Perspectives on Literature and English Language**
   Fall, Winter, Spring. 4(4-0) May reenroll for a maximum of 12 credits if different topics are taken. Sophomores.

   A rich variety of perspectives on literature and English language for majors and non-majors. Approach and content differs with each section.

400. **Tutorial**
   Fall, Winter, Spring. Summer. 1 to 5 credits. May reenroll for a maximum of 10 credits. Approval of department. Reading, discussion, and writing under the guidance of a faculty member.

400H. **Honors Work**
   Fall, Winter, Spring. 1 to 5 credits. May reenroll for a minimum of 10 credits. Approval of department. Open to particularly able students. Consists of individually supervised study of a phase of literary history.

403. **The Development of Modern English**
   Winter. 4(4-0) Sophomores.

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

404. **American English**
   Fall. 4(4-0) Sophomores.

   Characteristic American dialects, standard and non-standard, with analysis of usage and explanations of origins and differences.

407. **Methods of Teaching English as a Second Language**
   Fall. 4(4-0) ENG 302 or ENG 402 or permission of department.

   Survey and demonstration of theories, methods and techniques for teaching English, both here and abroad, to school age children and adults who are not native speakers of English.

408A. **Problems in the Teaching of Reading**
   Fall, Winter. Spring. 3(3-5) ENG 330 or ENG 331, ENG 332.

   Instruction and field experience in the teaching of reading for prospective English teachers.
408B. Problems in the Teaching of Reading
Fall, Winter, Spring. 4(3-4) ENC 408A
Instruction and independent work on the teaching and learning of reading with strong emphasis on field experience.

408C. Problems in the Teaching of Reading
(408.) Fall, Winter, Spring. 4(3-4) ENC 408B
Instruction and independent work in developing junior and senior high school reading programs. Will participate in field experience.

410. Chaucer
Fall, Winter. 4(4-0) Juniors, 8 credits of literature.
Chaucer’s poetry, especially ‘The Canterbury Tales’. Read in Middle English.

411. Spenser
Spring of even-numbered years. 4(4-0) Juniors, 8 credits of literature.
A representative selection of Spenser’s poetry with special emphasis on ‘The Faerie Queene’.

412. Milton
Winter, Spring. 4(4-0) Juniors, 8 credits of literature.
Milton’s prose and poetry, especially ‘Paradise Lost’.

418. Scandinavian Contributions to Literary Tradition
Winter. 3(3-0) Approval of department. Interdepartmental with German and Russian and Romance Languages. Administered by German and Russian.
Development and influence of the ideas, forms and motifs of the Scandinavian literatures in the literatures of the world.

421. Shakespeare: Representative Plays
Fall, Winter, Spring, Summer. 4(4-0) Juniors, 8 credits of literature.
Plays chosen to represent the different periods of Shakespeare’s career and the genres in which he wrote.

422. Shakespeare: Advanced Study
Spring. 4(4-0) ENC 421 or ENC 426B or approval of instructor.
Intensive study of particular plays, poems, genres, or issues.

423. Writing: Style and Technique
(J M 410) Winter, Spring. 4(4-0) ENG 213 or approval of department.
Intensive individual and seminar instruction in advanced composition.

424. Conference Course in Advanced Writing
Fall, Winter, Spring, Summer. 1 to 5 credits. May reenroll for a maximum of 10 credits. Written approval of instructor based on manuscripts submitted.
Intended for the student ready to pursue an advanced project in writing. Individual conferences.

425. Writing as a Profession
Spring. 4(4-0) At least one creative writing course or approval of department.
Discussion of many questions and problems experienced by students interested in professional writing. A variety of panels and lectures by people who know the field.

426A. Comparative Drama
Fall. 3(3-0) Juniors, 8 credits of literature.
Studies in the development of drama: classical and medieval.

426B. Comparative Drama
Winter. 3(3-0) Juniors, 8 credits of literature.
Studies in the development of drama: Renaissance and seventeenth century.

426C. Comparative Drama
Spring. 3(3-0) Juniors, 8 credits of literature.
Studies in the development of drama: neoclassical and romantic.

426D. Comparative Drama
Winter. 3(3-0) Juniors, 8 credits of literature.
The development of drama: Rosen to World War II.

431. Writing the Research Report
(431.) Fall. 4(4-0) ENG 213 or approval of department.
Advanced methods and organization of written research reports will be taught by providing examples, exercises, and writing practices based on research submitted by the students.

436. Comparative Fiction
Fall. 3(3-0) May reenroll for a maximum of 9 credits. Juniors, 8 credits of literature.
Types of narrative and fiction in various literatures and periods. Specific course content varies each term.

439. Twentieth Century British Poetry
Winter. 4(4-0) Juniors, 8 credits of literature.
Special emphasis on Hopkins, Hardy, Yeats, Auden and Thomas.

441. American Literature: Colonial and Revolutionary Period
Fall of even-numbered years. 4(4-0) Juniors, 8 credits of literature.
Works of Taylor, Edwards, Franklin, Franklin, and others.

442. American Literature: Early Romanticism
Winter. 4(4-0) Juniors, 8 credits of literature.
Works of Cooper, Irving, Poe, Emerson, Thoreau and others.

443. American Literature: Later Romanticism
Spring. 4(4-0) Juniors, 8 credits of literature.
Works of Hawthorne, Melville, Whitman, Dickinson and others.

446. American Literature: Realism and Naturalism
Fall, Winter, Spring. 4(4-0) Juniors, 8 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) Juniors, 8 credits of literature.
Works of Fitzgerald, Hemingway, Faulkner and others.

448. Twentieth Century American Poetry
Fall. 4(4-0) Juniors, 8 credits of literature.
American poetry from WW II to present: such writers as Roethke, Lowell, Plath and others.

454. Contemporary American Fiction
Spring. 4(4-0) Juniors, 8 credits of literature.
American fiction from WW II to present: such writers as Mailer, Ellison, Barth, Updike, O’Connor, Pynchon, and others.

455. Literature of the Early Renaissance
Winter of odd-numbered years. 4(4-0) Juniors, 8 credits of literature.
Poetry, prose and non-Shakespearian drama of the sixteenth century.

456. Literature of the Later Renaissance
Spring of even-numbered years. 4(4-0) Juniors, 8 credits of literature.
Some of the major literary works of 1600-1669.

460. The Age of Dryden and Pope
Fall. 4(4-0) Juniors, 8 credits of literature.
Literature of the Restoration and early eighteenth century, 1660-1744; Dryden, Pope, Swift, and others.

462. The Later Eighteenth Century
Spring. 4(4-0) Juniors, 8 credits of literature.
Fiction, other prose, and poetry from the mid-century to the early romantics.

465. The English Romantic Period
Fall, Winter. 4(4-0) Juniors, 8 credits of literature.
The beginnings of romanticism; Blake, Wordsworth and Coleridge.

466. The English Romantic Period
Winter, Spring. 4(4-0) Juniors, 8 credits of literature.
Continuation of ENC 465; Keats, Shelley, Byron.

467. Language and Culture
Fall, Spring. 4(4-0) Approval of department. Interdepartmental with and administered by the Department of Anthropology.
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.
### Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Department</th>
<th>Credits</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>468</td>
<td>Nature of Myth</td>
<td>Winter</td>
<td>3-0</td>
<td>Juniors, 8 credits of literature. Myth in some of its theoretical aspects, with special reference to the mythical character of literature.</td>
</tr>
<tr>
<td>471</td>
<td>Victorian Studies</td>
<td>Spring</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. Selected readings from poets and essayists of the Victorian period.</td>
</tr>
<tr>
<td>477A</td>
<td>Comparative Epic</td>
<td>Fall</td>
<td>3-0</td>
<td>Juniors, 8 credits of literature. Two epics will be considered: ‘Odyssey’ and the ‘Book of Job’.</td>
</tr>
<tr>
<td>477B</td>
<td>Comparative Epic</td>
<td>Spring</td>
<td>3-0</td>
<td>Juniors, 8 credits of literature. Two epics will be considered: Dante’s ‘Inferno’ and Milton’s ‘Paradise Lost’.</td>
</tr>
<tr>
<td>479</td>
<td>Classical Christian Contributions to Literary Tradition</td>
<td>Spring</td>
<td>3-0</td>
<td>Juniors, 8 credits of literature. Development and influence of the ideas, forms, and motifs of the ancient world and Christianity in literature of the world.</td>
</tr>
<tr>
<td>480</td>
<td>Literary Criticism: Theory and Practice</td>
<td>Fall</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. A survey of literary theory; critical and historical approaches to literature.</td>
</tr>
<tr>
<td>481</td>
<td>Modern Critical Theory</td>
<td>Winter</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. An examination of the principal modern theories of literary criticism.</td>
</tr>
<tr>
<td>484</td>
<td>Literature and Psychology</td>
<td>Spring</td>
<td>4-0</td>
<td>Juniors or approval of department. Interdepartmental with the Department of Psychology. An application of psychological theory to the study of literature and an exploration of the ways in which literature enriches the theory which helps to illuminate it.</td>
</tr>
<tr>
<td>485</td>
<td>The English Novel Through the Eighteenth Century</td>
<td>Fall</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. Study of such writers as Richardson, Fielding, Smollett, Sterne, Austen, and others.</td>
</tr>
<tr>
<td>486</td>
<td>The English Novel in the Nineteenth Century</td>
<td>Winter</td>
<td>Spring</td>
<td>4-0</td>
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<tr>
<td>487</td>
<td>The Modern English Novel</td>
<td>Winter</td>
<td>Spring</td>
<td>4-0</td>
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<tbody>
<tr>
<td>491H</td>
<td>Studies in Period</td>
<td>Winter</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A two-term study of specific writers in relation to their age is provided by ENG 491H and ENG 492H.</td>
</tr>
<tr>
<td>492H</td>
<td>Studies in Period</td>
<td>Spring</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A two-term study of the convocations and techniques of a specific literary genre.</td>
</tr>
<tr>
<td>493H</td>
<td>Studies in Genre</td>
<td>Winter</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 493H and ENG 494H must be completed satisfactorily. A two-term study of the principal modern theories of literary criticism.</td>
</tr>
<tr>
<td>494H</td>
<td>Studies in Genre</td>
<td>Spring</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 493H and ENG 494H must be completed satisfactorily. A senior honors essay.</td>
</tr>
<tr>
<td>496I</td>
<td>Special Topics</td>
<td>Fall</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. May reenroll for a maximum of 12 credits. To receive credit, both ENG 493H and ENG 494H must be completed satisfactorily. Intensive study of some particular author, theme, problem or other critical topic.</td>
</tr>
<tr>
<td>497H</td>
<td>Senior Honors Essay</td>
<td>Fall, Winter Spring</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. May reenroll for a maximum of 12 credits. To receive credit, both ENG 493H and ENG 494H must be completed satisfactorily. A senior honors seminar.</td>
</tr>
<tr>
<td>498</td>
<td>Topics in Comparative Literature</td>
<td>Fall, Winter, Spring</td>
<td>3-0</td>
<td>Juniors, 8 credits of literature. May reenroll for a maximum of 12 credits. To receive credit, both ENG 493H and ENG 494H must be completed satisfactorily. An 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.</td>
</tr>
<tr>
<td>499</td>
<td>Senior Proseminar</td>
<td>Spring</td>
<td>4-0</td>
<td>Juniors, 8 credits of literature. May reenroll for a maximum of 12 credits. To receive credit, both ENG 493H and ENG 494H must be completed satisfactorily. A senior honors seminar.</td>
</tr>
</tbody>
</table>

### 491H. Studies in Period

**Winter of odd-numbered years.**

- **4-0** Juniors, 8 credits of literature. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A two-term study of specific writers in relation to their age is provided by ENG 491H and ENG 492H.

**Spring of even-numbered years.**

- **4-0** Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A two-term study of the convocations and techniques of a specific literary genre.

### 492H. Studies in Period

**Spring of odd-numbered years.**

- **4-0** Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A two-term study of the convocations and techniques of a specific literary genre.

**Winter of even-numbered years.**

- **4-0** Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A two-term study of the principal modern theories of literary criticism.

### 493H. Studies in Genre

**Winter of even-numbered years.**

- **4-0** Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A two-term study of the principal modern theories of literary criticism.

**Spring of even-numbered years.**

- **4-0** Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A senior honors essay.

### 494H. Studies in Genre

**Spring of even-numbered years.**

- **4-0** Juniors, 8 credits of literature. May reenroll for a maximum of 8 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A senior honors seminar.

### 496I. Special Topics

**Fall.**

- **4-0** Juniors, 8 credits of literature. May reenroll for a maximum of 12 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. Intensive study of some particular author, theme, problem or other critical topic.

### 497H. Senior Honors Essay

**Fall.**

- **4-0** Juniors, 8 credits of literature. May reenroll for a maximum of 12 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A senior honors seminar.

### 498. Topics in Comparative Literature

- **Fall.**

  - **Winter.**
    - **Spring.**
      - **3-0** Juniors, 8 credits of literature. May reenroll for a maximum of 12 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. An 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.

### 499. Senior Proseminar

- **Spring.**

  - **4-0** Juniors, 8 credits of literature. May reenroll for a maximum of 12 credits. To receive credit, both ENG 491H and ENG 492H must be completed satisfactorily. A senior honors seminar.

The content of certain courses on both the 800-level and the 900-level may change from term to term, making possible a wide variety of course offerings. Students may enroll in such courses with authorized reenrollment provisions for more than one term or in more than one section during the same term, provided that duplication of content does not result. Brochures giving detailed information concerning all graduate courses to be offered during a given year are available in the English office throughout that academic year.
821. Nineteenth Century American Literature
Winter. Spring of even-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. American literature, 1820-1900.

824. Seventeenth Century Literature
Fall of even-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. English nondramatic literature, 1600-1660, including Milton.

825. Colonial and Revolutionary American Literature
Fall of odd-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. American literature, from the beginnings to 1783.

829. Twentieth Century Literature
Fall of odd-numbered years. Spring. 3(3-0) May reenroll for a maximum of 12 credits. English and American literature, 1900 to the present, with attention to foreign backgrounds.

832. Approaches to Language
840. Concentration on individual student's writing, contemporary drama.
847. Exploration of the writing process through

845. Approaches to Language
Winter. Spring of odd-numbered years. Sum- mer of odd-numbered years. 3(3-0) or 5(3-0) May reenroll for a maximum of 12 credits. Investigation of applied linguistics and psycho- linguistics and their application to the reading process with particular emphasis on application to problems in the teaching of reading and literature.

849. English Teaching Workshop
Winter of odd-numbered years. 2 to 5 credits. May reenroll for a maximum of 12 credits. Workshop in the development of teaching materi- als and resources in English. Investigation of sources and bibliographies. Emphasis on seeking practical solutions to particular problems in the teaching of English.

855. Shakespeare
Winter. 3(3-0) May reenroll for a max- imum of 12 credits. Intensive study of selected plays.

862. Approaches to Literature
Spring, Summer. 3(3-0) May reenroll for a maximum of 12 credits. Major in English—Secondary School Teaching or approval of in- structor. Literary and reading resources; discussion of critical approaches to and techniques for teaching literature.

871. Methods of Literary Research
Fall. 3(3-0) May reenroll for a maximum of 12 credits. Bibliography and use of library: preparation of reports, reviews, and scholarly papers.

872. Methods of Research into Literary History of even-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. Graduate students. Concepts and procedures of research for investi- gating the teaching and learning of English language and literature. Examination of represen- tative studies and techniques for evaluating, designing, and conducting applied research.

877. Myth, Ritual and Folklore in Literature
Fall of odd-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. Inter- departmental with Romance Languages. The concepts, scholarship, and methods of study and research in myth, ritual, and folklore, with special attention to their use in literature and drama.

880. Proseminar for Master's Degree Candidates
Fall of even-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. Individual scholarly work under guidance.

885. Studies in the History of Literary Criticism
Winter of even-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. The history of literary criticism.

886. Studies in Modern Criticism
Spring of odd-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. ENG 885. Continuation of ENG 885.

895A. College Teaching of English Language and Literature: History and Issues
Fall of even-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. Appro- priate background in English and American literature, literary criticism, writing, and reading in the English language as academic subjects.

895B. College Teaching of English Language and Literature: Reading
Winter of odd-numbered years. 3(3-0) May reenroll for a maximum of 12 credits. Appro- priate background in English and American literature, literary criticism, writing, and reading in the English language as academic subjects.
Descriptions — English of Courses

980. Studies in English Language
Fall, Winter, Spring. 3(3-0) May reenroll for a maximum of 12 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 reenroll for a maximum of 12 credits. Special problems in English literature, beginning to 1600.

982. Seminar: Later English Literature
Fall, Winter, Spring. 3(3-0) May reenroll for a maximum of 12 credits. Special problems in English literature, 1600-1900.

983. Seminar: American Literature
Fall, Winter, Spring. 3(3-0) May reenroll for a maximum of 12 credits. Special problems in American literature, beginning to 1900.

984. Seminar: Twentieth Century Literature
Fall, Winter, Spring. 3(3-0) May reenroll for a maximum of 12 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 reenroll for a maximum of 12 credits. Forms, genres, and movements.

986. Seminar: American Literature and Culture
Fall, Winter, Spring. 3(3-0) May reenroll for a maximum of 12 credits. American literature in a cultural context, drawing upon popular and fine arts, the history of ideas, the history of social movements.

988. Advanced Writing for Doctoral Candidates
Fall. 3(0-0) May reenroll for a maximum of 12 credits. Admission to a doctoral program, approval of instructor. Training for writing dissertations and publishing in the sciences, humanities, and other fields. Includes a detailed analysis of each student's style, methods of organizing, practicing in editing, and individual conferences.

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

ENTOMOLOGY ENT

College of Agriculture and Natural Resources
College of Natural Science

201. Insects and Society (N)
Winter. 4(4-0)
Influence of insects on the human race from a global and historical perspective. Environmental and cultural factors and how they influence and interact with the insects.

250. Pests, Environmental Quality and Ecosystem Management (N)
Fall. 3(4-0)
Impact of pests and pesticides in ecosystems and society, with emphasis on integrated pest management and environmental quality.

301. General Entomology
Fall, Spring, Summer. Given at W. K. Kellogg Biological Station Summer term. Fall, Spring. 3(3-0) Summer. 3 credits. BS 211 and BS 212 recommended. Biological relationships of insects. Insect behavior, ecology, and classification. Metamorphosis and development of insects.

302. General Entomology Laboratory
Fall, Spring, Summer. Given at W. K. Kellogg Biological Station Summer term. Fall, Spring. 2(0-6) Summer: 2 credits. ENT 301 or concurrently. Insect diversity with emphasis on morphology, development, classification, identification, biometrics, and evolution. Stresses reproductive strategies and general adaptability as relates to the overall ecological success of insects.

303. Entomological Techniques
Spring. 2(0-5) ENT 301 or approval of department. ENT 302 recommended but not required. Field entomology, including collecting and rearing techniques and methods of specimen preparation and preservation. Practical experience in insect identification and biometrics. Collection required.

337. Forest and Shade Tree Entomology
Fall. 4(3-2) Three terms of natural science. Ecological relationships of insects and tree interactions. Society of insects and recognition of insect injury. Biological, chemical, silvicultural and integrated control methods. Insect collection required (see instructor during prior spring term).

401. Problems
Fall, Winter, Spring, Summer. 1 to 9 credits. May reenroll 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.

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.

415. Insect Behavior
Winter of even numbered years. 3(3-6) ENT 301, ENT 302, ZOL 313 recommended. Mechanisms and adaptive significance of communication, orientation, food and habitat selection and behavioral rhythmicity in insects.

418. Systematic Entomology
Winter. 4(1-5) ENT 301, ENT 302. General taxonomic course to acquaint the student with the various groups of insects.

420. Aquatic Insects

425. Agricultural Entomology
Fall. 4(3-2) One year of biological or agricultural sciences. Natural processes of insect populations and associated techniques that are important to agriculture.

438. Taxonomy of Immature Insects
Spring of even-numbered years. ENT 418. Identification of immature insects with particular emphasis on the Holometabola.

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

444. Insect Ecology
Fall of odd-numbered years. 3(3-0) One course in introductory entomology. Unique characteristics and principles of insect ecology. Trophic relationships, populations, climate, coexistence, competition, behavior, communities, and distributions.

450. Insect Physiology
Fall of even-numbered years. 3(3-4) ENT 301, ENT 302, 1 biology or physiology course; 1 year of chemistry including 1 term of organic. General and comparative physiology of insects, treating molecular, tissue and organ function. Laboratory exercises emphasizing mastery of sound experimental procedures.

455. Toxicology of Insecticides
Winter of odd-numbered years. 4(4-0) 1 term organic chemistry. Properties of insecticides. Mode of action, metabolization and movement in animals. Safety and potential hazards to humans and wildlife. Fate of insecticides in the environment.

460. Medical Entomology
Spring. 4(3-3) ENT 301, ENT 302, or approval of department. Distribution and biology of important arthropod vectors of diseases to humans, disease symptoms, life cycle of the infectious agent, reservoirs, urticating arthropods, anaphylactic reactions, myiasis, and prophylactic measures.

470. Nematode Diseases of Economic Plants
Spring. 4(3-3) B BS 212 or BOT 305. Interdepartmental with the Department of Botany and Plant Pathology. Major nematode diseases of economically important plants, with emphasis on diagnostic symptoms, nematode biology and principles of control.

475. Stream Ecology
Fall. 3(3-0) ENT 420, ZOL 398 or BOT 450 or F W 475 and ENT 421. Interdepartmental with the departments of Fisheries and Wildlife and Zoology. Administered by the Department of Fisheries and Wildlife. Biological, chemical, physical, and geological processes which determine the structure and function of stream ecosystems.