

## English (ENGL)

	<b>Credits</b>
<b>ENGL 110 - College Composition I</b> Guided practice in college-level reading, writing, and critical thinking. Includes process writing and an introduction to library research.	<b>3</b>
<b>ENGL 111 - Honors Composition I</b> Accelerated reading, writing, and critical thinking activities designed to enhance qualified students' well-developed skills of language use. Requires enrollment in the Scholars Program. Equivalent to ENGL 110.	<b>3</b>
<b>ENGL 112 - ESL College Composition I</b> Guided practice in college level reading, writing, and critical thinking, with special attention to the issues of usage encountered by non-native speakers of English. Includes process writing and an introduction to library research. Equivalent to ENGL 110.	<b>4</b>
<b>ENGL 120 - College Composition II</b> Advanced practice in college-level writing from sources and in applying rhetorical strategies. Requires library research and use of summaries, paraphrases, and quotations from relevant sources in analysis and persuasion essays. Prereq: ENGL 110	<b>3</b>
<b>ENGL 121 - Honors Composition II</b> Accelerated practice in college-level writing for qualified students with skills in research and argumentation. Essays using library research and summaries, paraphrases, and quotations from relevant sources. Requires enrollment in the Scholars Program. Equivalent to ENGL 120. Prereq: ENGL 111.	<b>3</b>
<b>ENGL 122 - ESL College Composition II</b> Guided advanced practice in college level writing from sources and in rhetorical strategies, with additional support related to higher level language acquisition and usage for non-native speakers of English. Equivalent to ENGL 120. Prereq: ENGL 112.	<b>4</b>
<b>ENGL 167 - Introduction to English Studies</b> An introduction to the different areas of English studies including literature, writing studies, and linguistics and the ways in which they are studied.	<b>3</b>
<b>ENGL 209 - Introduction to Linguistics</b> Entry-level knowledge for the scientific study of language, including such topics as phonetics, phonology, morphology, semantics, grammar, social and cultural dimensions, acquisition, variation and similarities among languages of the world, and related cultural history. Cross-listed with ANTH.	<b>3</b>
<b>ENGL 213 - Literary Publications</b> Theory and practice in the process of producing a literary magazine. Prereq: ENGL 120.	<b>3</b>
<b>ENGL 220 - Introduction to Literature</b> Reading and discussion of representative examples of poetry, drama, and fiction, with emphasis on the use of common literary terminology. Classic and contemporary works. Focus on enjoyment and appreciation of verbal art.	<b>3</b>
<b>ENGL 222 - Introduction to Poetry</b> Examination of poetic forms including the uses of figurative language and the techniques of rhythm and meter, as well as imagery and structure. Includes traditional and contemporary lyrics.	<b>3</b>
<b>ENGL 225 - Introduction to Film</b> General introduction to film studies, including analysis of narrative and stylistic elements of films for their artistic merits and their reflection of an influence on society.	<b>3</b>
<b>ENGL 226 - Poetry of Rock</b> Examination of rock lyrics as contemporary poems, using techniques of literary criticism to analyze their themes, their aesthetic principles, and their place in art and culture.	<b>3</b>
<b>ENGL 240 - World Literature Masterpieces</b> Study of representative cultural and literary materials from the ancient world to modern times.	<b>3</b>
<b>ENGL 251 - British Literature I</b> Survey of major works and writers in British literature from the Anglo-Saxon period through the 18th century.	<b>3</b>
<b>ENGL 252 - British Literature II</b> Survey of major works and writers in British literature from the Romantic Age to the present.	<b>3</b>
<b>ENGL 261 - American Literature I</b> Survey of major works and writers in American literature from the colonial period through the Civil War. Emphasis on the development of unique American values and literature.	<b>3</b>

	<b>Credits</b>
<b>ENGL 262 - American Literature II</b> Survey of major works and writers in American literature from the Civil War to the present. Includes traditional as well as experimental, innovative, and counter-cultural works and authors.	<b>3</b>
<b>ENGL 271 - Literary Analysis</b> Introduction to traditional and contemporary approaches in the study of literature and the fundamental skills required for the analysis of literary texts.	<b>3</b>
<b>ENGL 275 - Introduction to Writing Studies</b> A broad history of writing and rhetoric as well as an introduction to spheres of writing studies: creative, academic, professional/technical, and public writing. Prereq: ENGL 120.	<b>3</b>
<b>ENGL 301 - Peer Tutoring and Writing in the Disciplines</b> Introduction to individual writing instruction and conventions of disciplinary writing. In addition to classroom work and assignments, students will complete a practicum in the Center for Writers. Recommended for prospective educators, writing specialists in all fields, and peer tutors in the Center for Writers. Prereq: ENGL 120.	<b>3</b>
<b>ENGL 313 - Literary Publications II</b> Theory and practice in the process of producing a literary magazine. Prereq: ENGL 120	<b>3</b>
<b>ENGL 320 - Business and Professional Writing</b> Intensive practice employing the conventions of writing needed in professional genres and settings: writing for specific audiences and purposes. Inform, analyze, evaluate, and persuade. Prereq: ENGL 120, Junior standing.	<b>3</b>
<b>ENGL 321 - Writing in the Technical Professions</b> Intensive practice employing the conventions of professional genres to write about technology development and use for expert, business, and more general audiences. Prereq: ENGL 120, Junior standing.	<b>3</b>
<b>ENGL 322 - Creative Writing I</b> Imaginative writing with an emphasis on exploring multiple genres, developing critical awareness, and becoming acquainted with the literary fine arts. Prereq: ENGL 120, Junior standing.	<b>3</b>
<b>ENGL 323 - Creative Writing II</b> Imaginative writing with a concentration in one or two genres. Emphasis on developing critical awareness and becoming acquainted with the literary fine arts. Prereq: ENGL 120, Junior standing.	<b>3</b>
<b>ENGL 324 - Writing in the Sciences</b> The study and practice in written conventions of the sciences for academic, scientific, and public audiences. Prereq: ENGL 120. At least junior standing.	<b>3</b>
<b>ENGL 325 - Writing in the Health Professions</b> Study of and practice in language use and written conventions of the health professions for academic, scientific, and public audiences. Prereq: ENGL 120 and Junior standing.	<b>3</b>
<b>ENGL 326 - Writing in the Design Professions</b> This course provides intensive practice employing the conventions of those professional genres needed to write for professional contexts and audiences in design fields. Prereq: ENGL 120, Junior standing.	<b>3</b>
<b>ENGL 330 - British and American Women Writers</b> Investigation of the literary portrayal of women and its effects on society. Some consideration of problems specific to women writers.	<b>3</b>
<b>ENGL 331 - Contemporary Women Writers</b> Study of the language, imagery, themes, and genres in 20th century literature by women of various cultural, ethnic, and national backgrounds.	<b>3</b>
<b>ENGL 333 - Fantasy and Science Fiction</b> Study of social and psychological implications of fantasy literature and works of fiction concerned with the impact of science and technology on the human imagination.	<b>3</b>
<b>ENGL 335 - Multicultural Writers</b> Major literary figures within and outside the United States. Includes Asian, Mexican, and Canadian, as well as Native-American, Black, Asian-American, and Chicano writers.	<b>3</b>
<b>ENGL 336 - Literature and The Environment</b> Milestones of American writing about nature and culture from Thoreau to the present. Reading and analysis of literary encounters with place and issues that arise when the local is global. Prereq: ENGL 120.	<b>3</b>

	<b>Credits</b>
<b>ENGL 340 - 19th Century American Fiction</b> Selected fiction reflecting problems and ideas, emphasizing the shift from romanticism to realism and naturalism, of the 19th century. Representative writers: Cooper, Hawthorne, Twain, Jewett, James, and Wharton, and includes minority voices.	<b>3</b>
<b>ENGL 341 - 20th Century American Fiction</b> Selected fiction reflecting social, psychological, and literary trends in the 20th century. Includes multicultural and women authors, as well as experimentations in genre.	<b>3</b>
<b>ENGL 345 - Themes In American Culture</b> A multidisciplinary approach, including art, music, and literature, to various eras and themes in American cultural history.	<b>3</b>
<b>ENGL 357 - Visual Culture and Language</b> This course will cover the rise of visual culture and the impact this historical shift has made on print culture and writing. Students will produce information graphics, photo essays, videos, and other genres. Prereq: ENGL 120, Junior standing.	<b>3</b>
<b>ENGL 358 - Writing in the Humanities and Social Sciences</b> Theory and practice for writing multiple genres in the humanities and social sciences. Prereq: ENGL 120, Junior standing.	<b>3</b>
<b>ENGL 360 - Grammatical Structure/English</b> Examines the system of the English sentence. Emphasis on structures and components with attention to application in teaching, stylistic analysis, and editing.	<b>3</b>
<b>ENGL 377 - Modern Poetry</b> Experimentation and innovation in poetry from 1910 to 1945. American, English, and Irish poets, including such transnational writers as Eliot, Pound, H.D., D.H. Lawrence, and Auden. May be repeated. Prereq: ENGL 120.	<b>3</b>
<b>ENGL 380 - Shakespeare</b> Study of representative poetry, comedies, histories, and tragedies.	<b>3</b>
<b>ENGL 381 - American Road Book</b> A study of the American road narrative in cultural and historical contexts, including the rise of the automobile and tourism; the American dream; the frontier myth; race, class and gender; and national and individual identity	<b>3</b>
<b>ENGL 382 - Film Genres And Styles</b> Study of one or more film genres, styles, or movements, focusing on aesthetic conventions, cultural context, socio-historical significance, and critical approaches. May be repeated with change of topic. Prereq: THEA 115, ENGL 225, 271, or instructor approval.	<b>3</b>
<b>ENGL 385 - British Fiction</b> Examines significant works of British and their literary artistry. short and long fiction in terms of their cultural, social, and psychological content	<b>3</b>
<b>ENGL 389 - Non-fiction Prose</b> Examines non-fiction prose in its various forms as a significant literary genre capable of exploring cultural, social, historical, psychological, and philosophical matters with logic, emotional power, and literary artistry.	<b>3</b>
<b>ENGL 413 - Literary Publications III</b> Theory and practice in the process of producing a literary magazine. Prereq: ENGL 120	<b>3</b>
<b>ENGL 423 - Creative Writing Studio</b> Advanced creative writing with an emphasis on the student as working writer. Readings in creative and/or critical texts and participation in community events. Intensive workshop discussion, with the goal of producing a publishable manuscript. Prereq: ENGL 275, 322 or 323.	<b>3</b>
<b>ENGL 452 - History of the English Language</b> Development of the English language from its Germanic origins to the modern period.	<b>3</b>
<b>ENGL 453 - Social and Regional Varieties of English</b> Study of sociological factors as they relate to language (American English). Examines region, age, gender, ethnicity, self-identity, situation, profession, etc. and their relation to pronunciation, word choice, politeness, formality, turn-taking, etc. Students conduct original research.	<b>3</b>
<b>ENGL 454 - Language Bias</b> Application of current linguistic, rhetorical, and literary theory to examine and analyze the ways in which the social asymmetries of gender, sexuality, race, and ethnicity are reflected and sustained through discourse practices.	<b>3</b>
<b>ENGL 455 - International Technical Writing</b> Theories and practical applications of approaches to international technical documents, including globalization, localization, and translation preparations and procedures. Extensive use of case studies and cultural models. Prereq: ENGL 120, Junior standing.	<b>3</b>

	<b>Credits</b>
<b>ENGL 456 - Literacy, Culture and Identity</b> Reading, writing, research, and discussion of diverse types of literacy from functional to cultural to technological and their roles in culture and identity formation. Completion of related community projects. Prereq: ENGL 120, Junior standing	<b>3</b>
<b>ENGL 457 - Electronic Communication</b> This web-based class will explore issues related to electronic communication through selected readings, projects that allow students to develop skills and insight through experiential learning, and though reflection on the dynamics of online education itself. Prereq: ENGL 120.	<b>3</b>
<b>ENGL 458 - Advanced Writing Workshop</b> Writing, revising, and editing projects based on rhetorical principles. Frequent response from peers and instructor. Analysis of selected readings and students' own writing. Prereq: Any one of the following: ENGL 320, 321, 322, 323, 324, 325, 326 or 358.	<b>3</b>
<b>ENGL 459 - Researching and Writing Grants and Proposal</b> A rhetorical approach to researching and writing academic grants, business proposals, and related professional documents. Students develop a portfolio of professionally designed and edited documents as well as the vocabulary of grants writing and research. Prereq: ENGL 120 and Junior standing.	<b>3</b>
<b>ENGL 467 - English Studies Capstone Experience</b> Cumulative and integrative study for English majors of English language, literature, and composition. Prereq: ENGL 271.	<b>3</b>
<b>ENGL 471 - American Realistic Literature</b> Principles of American literary realism as exhibited in the major works of Howells, James, Twain, Crane, Chopin, Gilman, Norris, Wharton, Dreiser, and others. Combination varies.	<b>3</b>
<b>ENGL 472 - 20th Century American Writers</b> Intensive study of major American writers from 1900 to 1950	<b>3</b>
<b>ENGL 474 - Native American Literature</b> The development of literature by and about Native Americans is traced from 1850 to the present. Focus on Native American identity and contributions to the American culture.	<b>3</b>
<b>ENGL 476 - Topics in American Literature</b> Intensive study of a special theme, form, period, or group of writers central to the formation and development of American literature. May be repeated with change of topic.	<b>3</b>
<b>ENGL 480 - Medieval Literature</b> British poetry and prose from the beginning of the Middle Ages to 1500, excluding Chaucer.	<b>3</b>
<b>ENGL 482 - Renaissance Literature</b> Study of British writers of the 16th and 17th centuries.	<b>3</b>
<b>ENGL 483 - Topics in British Literature</b> Intensive study of a special theme, form, period, or group of writers central to the formation of British literature. May be repeated with change of topic.	<b>3</b>
<b>ENGL 485 - 18th Century Literature</b> Study of major writers: Dryden, Pope, Swift, and Johnson, with occasional excursions into the fictional territory of Richardson, Fielding, Sterne, and Smollett.	<b>3</b>
<b>ENGL 486 - Romantic Literature</b> Study of major British writers from the French Revolution to the coronation of Queen Victoria.	<b>3</b>
<b>ENGL 651 - Advanced English Grammar</b> Systematic examination of the structures and processes that shape English sentences; development of skills to analyze why certain structures are more or less appropriate. Prereq: ENGL 650.	<b>3</b>
<b>ENGL 652 - History of the English Language</b> Development of the English language from its Germanic origins to the modern period.	<b>3</b>
<b>ENGL 653 - Social and Regional Varieties of English</b> Study of sociological factors as they relate to language (American English). Examines region, age, gender, ethnicity, self-identity, situation, profession, etc. and their relation to pronunciation, word choice, politeness, formality, turn-taking, etc. Students conduct original research.	<b>3</b>
<b>ENGL 654 - Language Bias</b> Application of current linguistic, rhetorical, and literary theory to examine and analyze the ways in which the social asymmetries of gender, sexuality, race, and ethnicity are reflected and sustained through discourse practices.	<b>3</b>

	<b>Credits</b>
<b>ENGL 655 - International Technical Writing</b> Theories and practical applications of approaches to international technical documents, including globalization, localization, and translation preparations and procedures. Extensive use of case studies and cultural models. Prereq: ENGL 120, Junior standing.	<b>3</b>
<b>ENGL 656 - Literacy, Culture and Identity</b> Reading, writing, research, and discussion of diverse types of literacy from functional to cultural to technological and their roles in culture and identity formation. Completion of related community projects. Prereq: ENGL 120, Junior standing	<b>3</b>
<b>ENGL 659 - Researching and Writing Grants and Proposal</b> A rhetorical approach to researching and writing academic grants, business proposals, and related professional documents. Students develop a portfolio of professionally designed and edited documents as well as the vocabulary of grants writing and research.	<b>3</b>
<b>ENGL 671 - American Realistic Literature</b> Principles of American literary realism as exhibited in the major works of Howells, James, Twain, Crane, Chopin, Gilman, Norris, Wharton, Dreiser, and others. Combination varies.	<b>3</b>
<b>ENGL 672 - 20th Century American Writers</b> Intensive study of major American writers from 1900 to 1950	<b>3</b>
<b>ENGL 674 - Native American Literature</b> The development of literature by and about Native Americans is traced from 1850 to the present. Focus on Native American identity and contributions to the American culture.	<b>3</b>
<b>ENGL 676 - Topics in American Literature</b> Intensive study of a special theme, form, period, or group of writers central to the formation and development of American literature. May be repeated with change of topic.	<b>3</b>
<b>ENGL 680 - Medieval Literature</b> British poetry and prose from the beginning of the Middle Ages to 1500, excluding Chaucer.	<b>3</b>
<b>ENGL 682 - Renaissance Literature</b> Study of British writers of the 16th and 17th centuries.	<b>3</b>
<b>ENGL 683 - Topics in British Literature</b> Intensive study of a special theme, form, period, or group of writers central to the formation of British literature. May be repeated with change of topic.	<b>3</b>
<b>ENGL 685 - 18th Century Literature</b> Study of major writers: Dryden, Pope, Swift, and Johnson, with occasional excursions into the fictional territory of Richardson, Fielding, Sterne, and Smollett.	<b>3</b>
<b>ENGL 686 - Romantic Literature</b> Study of major British writers from the French Revolution to the coronation of Queen Victoria.	<b>3</b>
<b>ENGL 751 - Multi-Disciplinary Academic Writing</b> Practice of inter-disciplinary forms of writing, and independent research of writing norms and expectations in individual disciplines. Focus on developing clear, correct, and audience-appropriate documents. Major assignments are tailored to help write disquisitions and articles for publication.	<b>3</b>
<b>ENGL 752 - Writing: Invention to Innovation</b> Exploration of the use of rhetorical canon in writing, spanning a period from the Aristotelian concept of invention to the contemporary manifestation of innovation. Prereq: admission to English graduate program.	<b>3</b>
<b>ENGL 753 - Rhetorics, Poetics Of New Media</b> This web-based class will provide in-depth study of major new media theorists and require students to consider the research and teaching implications of new media for the humanities and social sciences. . Prereq: Graduate standing.	<b>3</b>
<b>ENGL 754 - Rhetorics of Science and Technology</b> The study and critique of the rhetorics of science and technology, informed by rhetorical theory and by the philosophy of and the social studies of science and technology. Prereq: Graduate standing or instructor approval.	<b>3</b>
<b>ENGL 755 - Composition Theory</b> Study of contemporary theories of teaching writing with frequent summary/response papers on assigned readings and a research paper on composition theory.	<b>3</b>
<b>ENGL 756 - Composition Research</b> Study of designs and basic statistics for writing research; analysis of current research; and a research project in composition.	<b>3</b>

	<b>Credits</b>
<b>ENGL 758 - Topics In Rhetoric and Writing</b>	<b>3</b>
Intensive study of a theory, theorist, or issue in rhetoric or writing with regard to relevance for critical and production practices in English studies. May be repeated with change of topic.	
<b>ENGL 759 - History of Writing Instruction</b>	<b>3</b>
The study of the history of writing instruction from antiquity to the present, with emphasis on relevance of writing instruction. Prereq: Graduate standing or instructor approval.	
<b>ENGL 760 - Graduate Scholarship</b>	<b>3</b>
Introduction to scholarship in English studies and to the nature and state of the discipline.	
<b>ENGL 762 - Critical Theory</b>	<b>3</b>
Study of contemporary literary theory and criticism.	
<b>ENGL 764 - Classroom Strategies For TA'S</b>	<b>3</b>
Introduction to current issues in composition pedagogy, research, and theory, focusing on how they inform teaching practices. Instruction on developing philosophy of and strategies for teaching through short position papers, literacy autobiography, and a sequence of assignments for ENGL 120.	
<b>ENGL 770 - Studies in American Literature</b>	<b>3</b>
Intensive study of a special period, theme, technique, or group of writers central to the formation, development, or flowering of American literature. May be repeated for credit with change in topic.	
<b>ENGL 780 - Studies in British Literature</b>	<b>3</b>
Intensive study of a special period, theme, technique, or group of writers central to the formation, development, or flowering of British literature. May be repeated with change of topic.	
<b>ENGL 782 - Studies in Irish Literature</b>	<b>3</b>
Intensive study of a special theme, form, period, group of writers, or individual writer (Joyce, Yeats) in Irish literature. May be repeated for credit with change of topic.	

## Engineering (ENGR)

	Credits
<b>ENGR 111 - Introduction to Engineering</b>	<b>1</b>
Designed to provide general engineering students with an opportunity to review, study, discuss, and evaluate various engineering professions as career choices. F, S	
<b>ENGR 310 - Entrepreneurship for Engineers and Scientists</b>	<b>3</b>
How to turn a great idea into a business by starting a company and/or profiting from a new invention. Developing a product, conducting patent searches, securing intellectual property rights, writing a business plan, obtaining financing, etc. are covered. F	
<b>ENGR 311 - History of Technology in America</b>	<b>3</b>
Development of tools, technology, and whole systems, especially the U.S. experience since 1700. Contributions of Jefferson, Richards, Edison and others as models of creativity as a foundation for the emergence of modern conceptions of progress.	
<b>ENGR 312 - Impact of Technology on Society</b>	<b>3</b>
Study of the impact of technology on the natural environment; discussion of values, ethics, citizenship, social responsibilities, and the relationship of humans to the environment.	
<b>ENGR 402 - Engineering Ethics and Social Responsibility</b>	<b>1</b>
Philosophical basis for ethical decisions, guidance for ethical decision making in engineering practice, ethics of social responsibility, professionalism, case studies, and codes of conduct for engineers. F, S	
<b>ENGR 489 - Collaborative Engineering Capstone</b>	<b>3</b>
Integration of engineering and architecture topics and job functions projects. Students will plan, design, develop, verify, produce/construct/service facilities and systems created to fulfill industrial, agricultural, urban, and business needs. Prereq: Senior standing and major departmental approval. F, S	
<b>ENGR 715 - Engineering Systems</b>	<b>3</b>
Interdisciplinary systems analysis approach to engineering problems. Mathematical and physical stochastic process and control systems.	
<b>ENGR 741 - Systems-Linear and Nonlinear Concepts</b>	<b>3</b>
Nonlinear and linear programming methods for engineering design optimization. Formulation and optimization of design problems from all areas of engineering.	
<b>ENGR 762 - Heat and Mass Transfer</b>	<b>3</b>
Theory and application of transport of heat and mass. Heat diffusion equation in several coordinate systems. Fourier series and transforms and Laplace transform techniques. Mass transfer examples. Introduction to simulations.	
<b>ENGR 770 - Quantitative Modeling</b>	<b>3</b>
Applications modeling and optimization methods. Domains: transportation, logistics, manufacturing, service systems scheduling, and supply-chain management. Decision models: linear programming and sensitivity analysis, transportation and assignment, network models and algorithms, and integer, dynamic and nonlinear programming. Prereq: MATH 265. Cross-listed with IME.	
<b>ENGR 771 - Probabilistic and Deterministic Methods</b>	<b>3</b>
Applications modeling. Domains include transportation, logistics, manufacturing, service systems scheduling, and supply-chain management. Quantitative models and tools include Markov chains, stochastic processes, queuing, deterministic and stochastic decision analysis, time series, forecasting, and regression modeling. Prereq: MATH 265, IME 460/660. Cross-listed with IME.	
<b>ENGR 780 - Electromagnetic Theory</b>	<b>3</b>
Physical concepts and mathematical solutions of Maxwell equations; boundary conditions, force, and energy equations; potential equations; Green's functions; wave equations, radiation, and propagation of electromagnetic waves. F/2	
<b>ENGR 789 - Advanced Research Methods in Engineering</b>	<b>3</b>
Advanced study of the philosophy, reasoning, design, methods, and procedures employed in conducting and disseminating scientific research. Includes a survey of current and original research with interpretation and assessment.	