ENGR 360. Water in Africa. 3 credits. Offered fall.
This course has a three-part focus: cross-cultural training, promoting health in developing countries, and using appropriate technologies for eradicating water-related illnesses. Project teams use course content as the foundation for developing and implementing service projects. This course is a service-learning course and addresses issues of social justice in West Africa.
ENGR 411. Fundamentals of Sustainable Engineering and Design. 3 credits.
This course is the first in a two-course sequence that provides a foundation in evaluating sustainable design and engineered systems. The material presented is a prerequisite for understanding the environmental, social, and economic impacts of design and technology. The topics may be covered in a more formal manner in both courses. The material integrates the economic, environmental, social and technical components throughout ENGR 411 and ENGR 412. Prerequisites: CHEM 131/131L, 132/132L or 133E/133LE, MATH 231-232 or 225.

ENGR 412. Sustainable Engineering and Design II. 3 credits. Offered fall, spring.
This course is the second in a two-course sequence that provides a foundation in evaluating sustainable design and engineered systems. The material presented further the understanding of the environmental, social, and economic impacts of design and technology by exploring the relationships between industrial and ecological systems. Prerequisites: Grade of "C-" or better in ENGR 312.

ENGR 413. Systems Analysis. 3 credits. Offered fall.
This course focuses on the concepts of systems thinking and analysis for complex engineered systems. Students will develop basic knowledge and tools to form a system, decompose it into parts, define interactions, perform analysis and apply control measures if necessary. Application of computational tools and mathematical modeling will be emphasized. Corequisite: ENGR 431.

ENGR 431. Engineering Design V. 3 credits. Offered fall.
This course is the fifth in the six-course 10-credit developmental design sequence. This project-based course provides instruction in collaborative project management, holistic design evaluation, social and community sustainability, design testing and marketing, principles of design marketing and accounting, and testing and analysis of prototypes. Prerequisite: Grade of "C-" or better in ENGR 332.

ENGR 432. Engineering Design VI. 3 credits. Offered spring.
This course is the sixth in the six-course 10-credit developmental design sequence. This project-based course provides instruction in collaborative design practices, capstone design project completion, holistic design analysis and design accounting and manufacturing. Prerequisite: Grade of "C-" or better in ENGR 431.

ENGR 472. Biological Treatment Processes and Reactor Design. 3 credits.
For engineering and environmental science students interested in biological reactor design. Water, wastewater and air treatment are emphasized. Students must be proficient in mathematics, chemistry and thermal sciences. Quantitative relationships are derived for characterizing water quality, designing biological reactors and modeling treatment systems. Systems are described by mass and energy balances that relate pollutant removal efficiency to process input parameters. Prerequisites: CHEM 131, CHEM 131L and either MATH 231 or MATH 225.

ENGR 474. Physical Chemical Treatment Processes. 3 credits.
For engineering and environmental science students interested in physical/chemical waste treatment. Wastewater, groundwater, air and hazardous waste treatment is emphasized. Students must be proficient in mathematics, chemistry and thermal sciences. Quantitative relationships are derived for characterizing wastes, designing treatment processes, and modeling treatment systems. Systems are described by mass and energy balances that relate pollutant removal efficiency to process input parameters. Prerequisites: CHEM 131, CHEM 131L, and either MATH 231 or MATH 225.

ENGR 478. Water Resources Engineering. 3 credits.
This course will provide an introduction to basic engineering principles used in both water supply management and water excess management. Hydrologic and hydraulic processes will be investigated using the fundamentals of fluid mechanics. Specific emphasis will be placed on water sources flows, distribution and control. Prerequisite: ENGR 311.

ENGR 480. Advanced Projects in Engineering. 1-4 credits. Offered fall, spring, summer.
Research projects, design projects or special topics in engineering which are of interest to the upper-division student. May be repeated for credit when course content changes. Projects or topics selected may dictate prerequisites. Students should consult the instructor prior to enrolling in the course. Prerequisite: Permission of the instructor.

ENGR 498A. Honors Engineering Design IV. 3 credits. Offered spring.
Engineering 498A is fourth in the six-course 10-credit developmental design sequence and first in the three-course 6-credit Honors Capstone project. This project-based course provides instruction in 1) Holistic design principles 2) Aesthetics and human interface in design, 3) Structured and unstructured problem solving, 4) Collaborative design, 5) Writing and communications, 6) Product modeling and Analytical prototyping. ENGR 498B. Honors Engineering Design V. 3 credits. Offered fall.
ENGR 499B is the fifth in the six-course, ten-credit developmental design sequence and second in the three-course, six-credit Honors Capstone project. This project-based course provides instruction in collaborative project management; holistic design evaluation; social and community sustainability; design testing and marketing; principles of design marketing and accounting; problem solving analyses; software tools; project management; and testing and analysis of prototypes.

ENGR 499C. Honors Engineering Design VI. 3 credits. Offered spring.
Engineering 499C is the sixth in the six-course, ten-credit developmental design sequence and third in the three-course, six-credit Honors Capstone project. This project-based course provides instruction in collaborative design practices; capstone design project completion; holistic design analysis; and design accounting and manufacturing.

English

Department of English

ENG 221. Literature/Culture/ideas. 3 credits.
This course will take a thematic approach to literature by examining multiple literary texts that engage with a common course theme concerned with the human experience. Themes address cultural, political, social, religious or philosophical aspect ideas through literature. Specific topics will vary.

ENG 222. Genre(s). 3 credits.
An examination of representative works in a literary genre, in a set of related literary subgenres, or in both a literary genre and one or more closely connected genres in other humanities disciplines.

ENG 235. Survey of English Literature: From Beowulf to the Eighteenth Century. 3 credits.
A general survey presented chronologically.

ENG 236. Survey of English Literature: Eighteenth Century to Modern. 3 credits.
A general survey presented chronologically.

ENG 239. Studies in World Literature. 3 credits.
Introduction to masterpieces of world literature with emphasis on non-Western literature. (May be focused regionally or topically)

ENG 247. Survey of American Literature: From the Beginning to the Civil War. 3 credits.
A general survey presented chronologically.

ENG 248. Survey of American Literature: From the Civil War to the Modern Period. 3 credits.
A general survey presented chronologically.

ENG 260. Survey of African-American Literature. 3 credits.
Survey of literature by African-American authors from the 18th century to the present.

http://www.jmu.edu/catalog/13
ENG/WRTC 290. Intermediate Composition. 3 credits.
This course stresses the argumentative and persuasive essay as well as grammar and usage. Prerequisites: WRTC 103 or equivalent and junior or senior standing, or permission of instructor.

ENG 293. Exploring Careers in English. 2 credits.
An introduction to academic and career opportunities in English. Students will research and shape academic and career interests, with particular attention to articulating the relationship between the reading, writing and analytical skills they develop as majors and their long-term career plans. Does not count as an English elective.

ENG 294. Internship in English. 1-3 credits.
Provides English majors with work experience in career fields they are interested in pursuing. A journal, internship report, research paper, bibliography and evaluation from the intern provider are required. Does not count as an English elective. Prerequisites: Major or minor status and approval of the internship director.

ENG 299. Writing About Literature. 3 credits.
This course will provide students with the skills and knowledge necessary for interpreting, researching and writing about literature. Students will learn basic literary terms, acquire an understanding of canon formation and transformation, and gain a knowledge of literary theories. Fulfills the College of Arts and Letters writing-intensive requirement for the major. Prerequisite: Declared English major.

ENG 301. Old English Language and Literature. 3 credits.
An introduction to the Old English language through selected readings in poetry and prose. Formerly ENG 418.

ENG 302. Special Topics in Literature and Language. 3 credits.
Study of a particular literary or linguistics topic. May be repeated for credit when course content changes but not more than once, except with the approval of the department head.

ENG 303. History of the English Language. 3 credits.
Introduction to the historical study of English including its Indo-European origins. May be repeated for credit when course content changes. Formerly ENG 419.

ENG 304. Modern Literature and Religion. 3 credits.
Using a variety of readings, this course explores twentieth century literary perspectives on the religious and literary culture of the western traditions. Genre, readings and emphasis may vary with the instructor.

ENG 305. Mythology. 3 credits.
Study of the nature and meaning of Greek myths as interpreted and reinterpreted in significant works of ancient and modern literature.

ENG 306. The Bible as Literature. 3 credits.
Study of Hebrew and Christian scripture as literary and cultural texts, which have influenced subsequent literature and culture.

ENG 307. Literature and Psychology: A Psychoanalytical Approach to Literary Readings. 3 credits.
This course will study the works of world literature authors from the perspective of psychoanalysis.

ENG 308. Introduction to Linguistics. 3 credits.
Introduction to the study of the various subfields of linguistics, including questions about the nature and use of language in general, with the English language as the primary example. Formerly ENG 418.

ENG 309. Traditional English Grammar. 3 credits.
Introduction to traditional grammar, probing its logic, system and history, with an examination of modern applications of conventional rules. Formerly ENG 421.

ENG 310. Modern English Grammar. 3 credits.
Introduction to modern English grammar with attention to the structure of the English language from a modern linguistic perspective. Formerly ENG 422.

ENG 311. Medieval Literature and Culture. 3 credits.
Studies in the literature and culture of the Middle Ages through selected Old English, Norse/Icelandic, Middle English, Old Irish, French, German, Latin and Arabic texts in translation.

ENG 313. Sixteenth Century British Literature. 3 credits.
Poetry and prose of the sixteenth century in Britain.

ENG 314. Seventeenth Century British Literature. 3 credits.
Poetry and prose of the seventeenth century in Britain.

ENG 315. Early Modern Drama. 3 credits.
Major works of British dramatists, excluding Shakespeare, from 1550-1660.

ENG 316. Shakespeare's Plays. 3 credits.
A study of Shakespeare's plays, with emphasis on pedagogical techniques for teaching drama in the classroom.

ENG 320L. Shakespeare on the Page and Stage in London. 3 credits.
Students will study the plays of Shakespeare currently in production in London and England with special emphasis on the productions of the Royal Shakespeare Company and the National Theatre. Course can be substituted for either ENG 317 (formerly 456) or ENG 318 (formerly 457) but may not be taken for credit in addition to both. Formerly ENG 458.

ENG 321. Restoration and Eighteenth Century Literature. 3 credits.
A study of poetry and prose (including the novel) written in England during the Restoration and eighteenth century.

ENG 322. Restoration and Eighteenth Century British Drama. 3 credits.
A study of British drama in the eighteenth century.

ENG 325. Romantic Literature. 3 credits.
A study emphasizing selected works of Romantic literature. Attention given to critical theories, intellectual and cultural movements, or poetic forms.

ENG 327. Gothic Literature. 3 credits.
A study of the origins, influence and transformations of Gothic fiction from the 18th century to the present.

ENG 329. Victorian Literature. 3 credits.
Study of British literature of the Victorian period with primary emphasis on poetry and nonfiction prose.

ENG 330. Nineteenth Century British Novel. 3 credits.
The development of the British novel in the nineteenth century and the study of representative works.

ENG 331. Studies in Poetry. 3 credits.
A study of select poetic works. Significant time periods of genres studied may vary. Course may be repeated as topic changes.

ENG 333. Modern Drama. 3 credits.
Drama from 1900 to 1960.

ENG 334. Contemporary Drama. 3 credits.
Drama from 1960 to the present.

ENG 340. Modern British and Irish Literature. 3 credits.
Literature from Britain and Ireland, 1900 to 1945.

ENG 341. Contemporary British and Irish Literature. 3 credits.
Literature from Britain and Ireland, from 1945 to the present.

ENG 342. Early American Literature. 3 credits.
Significant genres, writers and literary movements of the seventeenth and eighteenth centuries.

ENG 343. Antebellum American Literature. 3 credits.
American Literature of the early nineteenth century.

ENG 344. Late Nineteenth Century American Literature. 3 credits.
American literature of the late nineteenth century.

ENG/THEA 347. Playwriting. 3 credits.
Study of the process of writing plays. Consideration of plot, character, thematic material, conflict and dramatic structure. Emphasis on individual writing assignments.

ENG 352. The American Novel to 1914. 3 credits.
A study of the development of the American novel from its beginnings to the modern period.

ENG 355. Southern Literature. 3 credits.
Southern authors, especially those of the twentieth century.

ENG 356. Modern American Novel. 3 credits.
The American novel from 1914 to 1945.

ENG 357. Contemporary American Literature. 3 credits.
A study of contemporary American literature written since 1945.

ENG 358. Oral Literature. 3 credits.
This course is a study of oral literature, which may be organized by theme, geography or genre. The course examines the social, political and artistic reasons for the creation and popularity of this literature. May be repeated for credit when course content changes.
ENG 390. Introduction to Creative Writing – Fiction. 3 credits.
A basic workshop in reading and writing fiction. May be repeated for credit when course content changes.

ENG/WRTC 396. Advanced Composition. 3 credits.
Extensive exercises in expository writing, with emphasis on rhetorical types of composition, designed to develop sophistication of style in the student's writing.

ENG 397. Texts for Teachers I. 3 credits.
An examination of selected poems and plays of particular relevance to students enrolled in the secondary education pre-professional licensure program. (This course satisfies the genre requirement for the pre-professional licensure program.) Formerly ENG 440.

ENG 398. Texts for Teachers II. 3 credits.
An examination of selected fiction and non-fiction of particular relevance to students enrolled in the secondary education pre-professional licensure program. (This course satisfies the period requirement for the pre-professional licensure program.) Formerly ENG 441.

ENG 401. Advanced Studies in Medieval Literature. 3 credits.
Advanced literary and philological study of non-British Medieval or British Medieval texts written in cross-cultural dialogue with those written circa 500-1480 C.E. in Old Irish, Old Norse/Icelandic, Old French, Old and Middle High German, Old Castilian, Classical and Medieval Latin, and Arabic. Readings in the original or in translation. Topics may be determined by period or geography, culture or politics, theme or genre. Course may be repeated as topic changes.

ENG 402. Advanced Studies in British Literature Before 1700. 3 credits.
British literatures written prior to 1700, both within and without the British Isles. Topics may include Anglo-Saxon and Anglo-Norman literature, vernacular literature, neo-Latin literature, Chaucer, late-medieval literature, Tudor and early modern literature, Shakespeare, Milton, and seventeenth-century literature. May be repeated as course topic changes.

ENG 403. Advanced Studies in British Literature After 1700. 3 credits.
Advanced study of British literatures dating from 1700 to the present. Topics may focus on a particular period of literature (eighteenth century, Romantic, Victorian, Modernist, or contemporary), or topics may focus on a genre or them that engages multiple periods. Course may be repeated as topic changes.

ENG 404. Advanced Studies in Anglophone Literature. 3 credits.
Anglophone (English-speaking) literature from around the globe (including the Caribbean, Canada, Ireland, Australasia, Africa or India), in which identification with a particular nation, colonial status or imperial power is problematic or no longer applicable. Topic may focus on a particular theme or event, genre, time frame, formal or stylistic trend, author or set of authors, issue, or problem. May be repeated as topic changes.

ENG 407. Advanced Studies in American Literature. 3 credits.
Study of literature(s) of the United States and North America, from the Colonial Period through the 21st Century. May include writing in multiple genres: narrative prose, poetry, drama, nonfiction. Topics may be historically delimited or thematically organized; specific sections may focus on a group of authors, a literary movement, a historical moment, or a broad theoretical question. Course may be repeated as topic changes.

ENG 408. Advanced Studies in African-American Literature. 3 credits.
Study of literature produced by African-Americans, from the Colonial Period through the 21st Century. May include writing in multiple genres: narrative prose, poetry, drama, nonfiction. Topics may be historically delimited or thematically organized; specific sections may focus on a group of authors, a literary movement, a historical moment, or a broad theoretical question. Course may be repeated as topic changes.

ENG 409. Advanced Studies in African-American Literature. 3 credits.
Study of literature produced by African-Americans, from the Colonial Period through the 21st Century. May include writing in multiple genres: narrative prose, poetry, drama, nonfiction. Topics may be historically delimited or thematically organized; specific sections may focus on a group of authors, a literary movement, a historical moment, or a broad theoretical question. Course may be repeated as topic changes.

ENG 410. Advanced Studies in Author. 3 credits.
Study of the works of one (or two) British, American or Anglophone writers. May be repeated for credit when course content changes.

ENG 412. Special Topic Seminar. 3 credits.
Study of a literary school, movement, genre or some other significant literary or linguistic topic. May be repeated for credit when course content changes; credit may not be earned in both ENG 412 and ENG 512 unless course content changes.

ENG 413. Advanced Studies in Literature and Ideas. 3 credits.
Advanced study of the literary treatment of an organizing theme, which may be framed broadly as part of the human experience or within a tradition of studies in the humanities. Course content may include pertinent readings from other disciplines. Possible themes: love, death, nature, evil, the comic spirit. May be repeated as course topic changes.
ENG 414. Advanced Studies in Genre. 3 credits. Advanced study of works drawn from a specific literary or film genre or subgenre or a small, related set of (sub)genres. May be repeated as course topic changes.

ENG 415. Advanced Studies in Textuality and the History of the Book. 3 credits. Detailed literary, bibliographical, political and cultural analysis of the material features of texts as physical objects. Topics may include the relation between a book’s physical features and its intellectual contexts; the production, dissemination and receptions of texts; the history of manuscript, print and digital text technologies; the material history of reading and of literacy, and so forth. May be repeated as course topic changes.

ENG 417. Advanced Studies in Linguistics and the English Language. 3 credits. Advanced study of a particular topic in English linguistics or in English language studies. Course may focus on a particular subfield or linguistics, on particular linguistic theories, on an application of linguistic theory to literary texts or to other related fields, or on specific structural, historical, cultural, or other aspects of the English language. May be repeated as topic changes.

ENG 420. Advanced Studies in Theory and Cultural Studies. 3 credits. Advanced study of a topic or debate within contemporary critical theoretical or cultural studies discusses in the humanities. Course may be repeated as topic changes.

ENG 422. Advanced Studies in Gender and Sexuality in Literature. 3 credits. Advanced study of a topic using a gender and sexuality studies approach to literary texts. This course will explore how gender and sexuality and their representation in literature are shaped by social, cultural, historical and political contexts. Course may be repeated as topic changes.

ENG 430. Advanced Studies in Comparative Literature. 3 credits. Comparative study of selected world literature. May be repeated as course topic changes.

ENG 431. Advanced Studies in Caribbean Literature. 3 credits. Studies in the literary achievement of novelists, poets and dramatists of the Caribbean. May be repeated as course topic changes.

ENG 432. Advanced Studies in African Literature. 3 credits. A study of selected works by African writers, focused by theme, geography or genre. May be repeated for credit when content varies.

ENG 433. Studies in Arabic Literature. 3 credits. A study of Arabic writers. May be repeated for credit when content varies.

ENG/SPAN 434. Advanced Studies in Latin American Literature in Translation. 3 credits. This course will study Latin American literature in translation. The course will focus on the work of major Spanish-American authors. May be repeated as course content changes.

ENG/FR 435. Studies in French Literature. 3 credits. A study of selected works of French literature. Instruction is in English. May be repeated for credit when content changes.

ENG/GER 438. Studies in German Literature. 3 credits. A study of selected works of German literature. Instruction is in German. May be repeated for credit when course content changes.

ENG/ITAL 437. Studies in Italian Literature. 3 credits. A study of selected works of Italian literature. Instruction is in English. May be repeated for credit when content changes.

ENG/RUS 438. Studies in Russian Literature. 3 credits. A study of selected works of Russian literature. Instruction is in English. May be repeated for credit when course content changes.

ENG/SPAN 439. Advanced Studies in Major Authors of Literature in Spanish in Translation. 3 credits. This course will study the work of both Peninsular and Latin American authors in translation. The course will focus on major Spanish-speaking authors and their work, both in Latin America and in Spain. May be repeated as course content changes.

ENG/THEA 447. Advanced Playwriting. 3 credits. An advanced workshop with emphasis on developing full-length dramatic material. Prerequisite: ENG/THEA 347.

ENG 450. The Open Studio: An Interdisciplinary Approach to Creative Arts. 3 credits. Introduction to the interdisciplinary studio through discussion of the history of interdisciplinary art and exposure to contemporary examples from dance, theatre, music, creative writing, visual art, film and video. Emphasis on production of original work that evidences the use of another media or collaborative work by artists from different disciplines. Prerequisite: Permission of the instructor(s) and advanced skill level in one or more of the creative arts.

ENG 463L. Film Adaptations. 3 credits. The study of the process of adapting literature into feature films. Consideration is given to the original literary work, as well as to the changes undergone in its adaptation to film. (Taught in London). Prerequisites: SMAD 301; for non-majors: ENG 291 or admission to the cross disciplinary minor in creative writing; or permission of the instructor.

ENG/WMST 466. Advanced Studies in Women’s Literature. 3 credits. Advanced study of women’s literary achievements in several cultural and historical contexts. May be focused by theme. May be repeated as course content varies. Prerequisite: ENG 369 or ENG 369.

ENG 483. Narrative Form. 3 credits. The study, development and practice of narrative craft. Prerequisite: ENG 393 or permission of the instructor.

ENG 484. Poetic Craft and Creativity. 3 credits. The study, development and practice of poetic craft. Prerequisite: ENG 392 or permission of the instructor.

ENG 490. Special Studies in English. 3 credits. Independent study for students with high academic standing. Students may select work in (1) a literary type, period or author; (2) imaginative writing, or (3) linguistics. Approval of department head required; may be repeated for credit when course content changes.

ENG 493. Advanced Creative Nonfiction. 3 credits. An advanced workshop in the writing of creative nonfiction narrative, with emphasis on point of view, form and style. Prerequisite: ENG 391 or ENG 392 or ENG 393 or ENG 396, or permission of the instructor.

ENG 494. Advanced Poetry Writing. 3 credits. An advanced workshop with emphasis on developing sound poetic form, voice and vision. Prerequisite: ENG 392 or permission of the instructor.

ENG 495. Advanced Fiction Writing. 3 credits. An advanced workshop with emphasis on developing sound narrative prose form, style and vision. May be repeated for credit when course content changes. Prerequisite: ENG 393 or permission of instructor.

ENG 496. Advanced Topics in Creative Writing. 3 credits. Study of a specific and concentrated aspect of creative writing. Topics will vary semester to semester. May be repeated for credit when the topic changes. Prerequisites: ENG 391, ENG 392 or ENG 393, as appropriate to course content.

ENG 499. Honors. 6 credits. See catalog section “Graduation with Honors.”

Environment

Cross Disciplinary Studies

ENVT 200. Environmental Systems Theory. 3 credits. Explores three aspects of understanding the environment. First, the kind of problem the environment is and the thinking strategies that will best yield insights and understanding. Second, how humans create and/or respond to environmental issues and crises. Third, examination of past environmental changes and how humans have been affected by and responded to those changes. Final synthesis explores what we can and cannot do practically to respond to future changes. Does not satisfy elective credit or count as credit for the environmental management or environmental studies minor for geology or earth science majors.

ENVT 400. Capstone Seminar in Environmental Problem Solving. 3 credits. Integrates perspectives from three environment programs: environmental management, environmental science and environmental studies. The course is team taught using a case-study approach to environmental issues, emphasizing teamwork and student initiative. Topics vary. Prerequisites: Completion of 15 hours in declared environment minor or permission of instructor. Students wishing to complete more than one of the environmental minors (environmental studies, environmental science, environmental management) may receive dual credit for ENVT 400.

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