

COURSE DESCRIPTIONS

Chemistry 461 : Biochemistry of Fermentation

Fermentation is the process by which carbohydrates are converted to alcohol or lactic acid. This process is widely used in the manufacture of foods such as sauerkrauts, yogurts, salami, as well as the production of wines and beer. The course will utilize both lectures and lab experiments to study the biochemical processes of alcoholic fermentation. Areas of investigation will include yeast culture, carbohydrate chemistry, chemical composition of malt extracts, and alpha-acid content, among others.

Prereq: Organic Chemistry 321
1/2 semester (first half)

Education 330 (03): Special Topics in Education: Science Learning Seminar

This course is a practice-based seminar on learning science and teaching undergraduate peers. The course covers topics such as questioning strategies, learning theory, cooperative learning, facilitating discussion, student epistemologies, metacognition, argumentation, creating an inclusive learning environment, the nature and process of science, and qualities of an effective teacher.

Students will investigate relevant educational literature and engage in in-depth discussions about their own teaching and learning.

Students in this course are expected to be QSC tutors, graders, or Learning Assistants in Division I. Students focus on new pedagogical skills each week in their lab classes or tutoring sessions, and share their observations during discussion and in written work. The Seminar does not focus on specific science content or lab skills; rather it focuses on general skills applicable to science learning and teaching at the undergraduate level.

English 107 History and Drama: Science and Scientists

First, a brief review of how the general reader can become a critical reader of dramatic literature – and still find the experience delightful and enriching. Then, using Pirandello's *Henry IV* as a reminder of the challenges of plays about contemporary issues and personalities, we will discuss some works from the last sixty years that have addressed concerns of science and scientists. It may be just as interesting to discover that some dramatists have intriguing insights into this kind of subject as it is to realize that sometimes both humanists and scientists can speak the same language. Texts will include Brecht's *Galileo*, Kipphardt's *In the Matter of J. Robert Oppenheimer*, as well as more recent efforts to present Heisenberg, Bohr, and Feynman.

One-half course credit, second half, fall semester.

English 310 (2) : American Theater & Drama **English 310 = Theater 213**

This course will examine the rich dramatic heritage of the United States from the American Revolution to the present, with emphasis on the history of the U.S. stage and the work of major dramatists including Eugene O'Neill, Thornton Wilder, Tennessee Williams, Arthur Miller, and Edward Albee, among others. Plays to be studied include *The Contrast*, *Secret Service*, *Uncle*

Tom's Cabin, Long Day's Journey Into Night, A Moon for the Misbegotten, Awake and Sing!, The Little Foxes, Our Town, The Skin of Our Teeth, Mister Roberts, A Streetcar Named Desire, The Night of the Iguana, Death of a Salesman, The Crucible, A Raisin in the Sun, The Zoo Story, Who's Afraid of Virginia Woolf?, Glengarry Glen Ross, True West, Brighton Beach Memoirs, The Colored Museum, A Perfect Ganesh, Fences, Angels in America, How I Learned to Drive, and The America Play. The plays will be discussed as instruments for theatrical production; as examples of dramatic style, structure, and genre; and, most importantly, as they reflect moral, social, and political issues throughout the history of the United States. Students taking this course for credit toward the English major or minor must have taken at least one previous course in English or American literature. No more than one course taken outside the English Department will be counted toward the major or minor in English.

English 497 (1): The Body of the Other in British and Postcolonial Literature

How do British and Postcolonial authors write about colonial power, political violence, and their effects on the body? We will study authors from parts of the Caribbean and Africa, India, and Ireland, and we will focus on gender roles and race, with a special emphasis on the theory of the postcolonial body (that is, the intersections between gender and postcolonial theory).

Corporality has been a central issue in the dialogue between the center of the empire (London, Paris) and the "margins" (British and French colonies). How do colonial and postcolonial authors describe colonizing and colonized bodies? To understand and enjoy the texts, we will also study the political context of British and French imperialism and the anti-imperial resistance, as well as the major premises of Neocolonialism. We will discuss the themes of the exoticized body, the dislocated body, the traumatized body, the emasculated body, and the body as a site of inscription and control. The texts include Joseph Conrad's *Heart of Darkness*, Katherine Mansfield's stories, Virginia Woolf's *Mrs Dalloway*, Flann O'Brien's *Poor Mouth*, J.M. Coetzee's *In the Heart of the Country*, Zadie Smith's *White Teeth*, Aimé Césaire's *Notebook of a Return to the Native Land*, and Fatou Diome's *The Belly of the Atlantic*. Assignments include weekly blog posts, a presentation, and a 20-page research paper.

English 497 (2) Take Off to the Great White North: Contemporary Canadian Fiction

This course will introduce students to contemporary Canadian fiction, drawing on the foundation of criticism, themes, theories, and trends over the last half-century. We will complicate our understanding of Canadian fiction by focusing on issues of gender, postcolonialism, national identity, language, and race in the works of authors such as Alice Munro, Michael Ondaatje, Margaret Atwood, Michel Tremblay, Robertson Davies, Jane Urquhart, Douglas Coupland, and Yann Martel. Other areas of inquiry will include aesthetic or political concerns of Canadian authors, such as whether or not contemporary Canadian literature is more formally postmodern than American fiction or how contemporary Canadian fiction intersects with third-wave feminism. A portion of the course will also be comparative, looking at how Canadian literature differs (does it?) from its neighbor to the south in its exploration of similar themes and trends. Assignments will include written responses to texts and a substantial research paper.

History 320 : History of Political Thought--Medieval Political Theory (History 320 = Political Science 330)

In this course I want to argue that the medieval period is still vital for politics and political theory, but not necessarily in the same way as classical, Renaissance or early modern political theory. I want to make the case that the romances and histories of the period are just as important as the religious and legal texts. Many of the ideals that reached their fullest expression

in the medieval romances and histories like the savior king, courtly love and the knightly warrior exercise a strong grip on the modern imagination and are critical to the formation of deep and (mostly) unexamined political/cultural attitudes. Not only must we examine these attitudes, we must ask ourselves a key question: If we are obsessed, at some level, with these qualities, are we thus doomed to be forever separated from the 'Enlightened' or 'free' attitudes that are necessary for the success of modern political goals? In this course we will examine medieval authors like Augustine, Al-Farabi, Averroes, Boethius, Dante, Chretien de Troyes and Geoffrey of Monmouth; modern authors like Erich Fromm, Herbert Marcuse and Mark Twain; and modern films like The Seventh Seal, The Virgin Spring, The Lion in Winter, Becket, The Lord of the Rings, X2: X-Men United and Indiana Jones and the Last Crusade."

Mathematics 103: Probability

This course taken with Math 104 is the equivalent of Math 107. In Math. 103, topics include a brief introduction to probability, conditional probability, and expected values as well as the application of probabilistic reasoning to interesting problems in the areas of medical testing, investing, insurance, retirement annuities, and the analysis of rare events. Math. 103 does not count toward the mathematics major or minor. Credit will not be given to students who take this course who have already taken Math 107.

No Prerequisite
1st half-semester

Mathematics 104: Statistics

This course taken with Math 103 is the equivalent of Math 107. (103 is not a prerequisite for 104). Topics include paradoxes involving averages, correlation, and prediction. The classical approach to statistical reasoning is also presented, both the p-value argument to testing claims and the confidence interval approach to estimation. Math 104 does not count toward the mathematics major or minor. Credit will not be given to students who take this course who have already taken Math 107.

No Prerequisite
2nd half-semester

Mathematics 251 Mathematical Finance

An option gives the holder the right to purchase or sell an asset at a predetermined price at or before a predetermined time. We will spend most of this class giving an overview of the mathematical reasoning behind the pricing of options and we will derive the Black-Scholes pricing formula for call options.

Prerequisite: Math 112 (Calculus II)
2nd half-semester

Mathematics 252 - Mathematical Interest Theory

This course will involve a thorough treatment of the mathematical theory of interest, with special attention paid to calculating present and accumulation values for annuities (series of payments made at regular time intervals). Some topics include nominal and effective rates of interest and discount, force of interest, amortization schedules, sinking funds, and bonds.

Prerequisite: Math 112 (Calculus II) 1st half-semester

Mathematics 253 - Probability Models

This course covers probability material formerly covered in Math 227. Math 253 is an introduction to discrete and continuous random variables. Distributions considered include the hypergeometric, binomial, geometric, Poisson, uniform, normal, gamma, chi-square, t and F. We will cover the Central Limit Theorem, multivariate distributions, and transformations of random variables. Students taking this course are also encouraged to sign up for the follow-up course offered the second half of the semester, Math 353, Probability Models II.

Credit will not be given to students who take this course who have already taken Math 227.

Prerequisite: Mathematics 112

1st half-semester

Mathematics 353 - Probability Models II

This course is a continuation of 253. Topics include survival functions, hazard functions, order statistics, continuous and discrete distributions not considered in Probability Models I and mixed random variables. We will look at a wide variety of probability problems associated with insurance.

Prerequisite: Probability Models 1st half-semester

Philosophy 109-01—Perspectives on Philosophy: Knowledge and Skepticism

Questions asking which of our beliefs really constitute knowledge and how much knowledge we really have are closely related and have long occupied philosophers. Students in this course will develop and articulate answers to these questions for themselves in class discussion and written work as they read philosophers ranging from antiquity to the last century.

No prerequisite, but not open to junior or senior majors without permission of the instructor.

1st half semester.

Philosophy 109-02—Perspectives on Philosophy: Minds and Bodies

We seem to know things about our minds in very different ways than we know things about our bodies, but our minds are also intimately tied to our bodies. Since antiquity there have been some philosophers who held that minds and bodies were very different things while others held that they were two aspects of the same reality (usually holding that minds are aspects of bodies, but sometimes the opposite). Students in this course will explore these issues in class discussion and written work as they read a sampling of philosophers' views on them.

No prerequisite, but not open to junior or senior majors without permission of the instructor.

2nd half semester.

Philosophy 219—Topics in Ethics and Social Philosophy: Philosophy of the Human Person

An introduction to philosophical questions such as: "What does it mean to be human?" "What is a person?" "Who am I?" and "Who gets to decide?" Texts will include both Augustine and Rousseau's *Confessions*, and writings from Jean-Paul Sartre, Martin Buber, Charles Taylor, and Judith Butler.

No prerequisite.

Philosophy 349: Seminar in the History of Philosophy: Heidegger

Martin Heidegger (1889-1976) is arguably one of the twentieth century's most influential philosophers. He developed new methods for philosophical inquiry, and his analysis of the structures of human existence in his first major work, *Being and Time*, has influenced much subsequent work in phenomenology, hermeneutics, and existentialism. In this seminar we will undertake a close reading and discussion of *Being and Time* supplemented by commentaries and secondary essays.

Prerequisites: At least one prior course in philosophy. PHI 345 strongly recommended, but good readers who have taken PHI 140, 144, or 242 will find this seminar challenging but rewarding.

2nd half semester.

Physics 105: Adventures in Physics: Intuitive Quantum Physics

Quantum physics is fascinating, subtle, and strangely intuitive. In this course, we will build models to explain quantum tunneling, wave-particle duality, radioactivity, and atomic spectra. Along the way, we'll learn how about energy, probability, curviness, wave behavior, and the time-independent Schrodinger equation. I expect you to participate in discussions by raising questions, working in small groups and presenting your thinking to the class. Science is not done by stating facts -- doing science means developing an understanding and thinking about your learning as you are learning. In this class, you will do science!

Physics 277: Special Topics: Light

This course will be a general introduction to the properties, characteristics, and uses of light. Possible topics include optical instruments, fiber optics, optical resonators, and dispersive media. Although there is no formal lab, part of this course will consist of hands-on activities with light.

Prerequisites: Physics 111 and Math 112

Credit: 1

Political Science 330: History of Political Thought--Medieval Political Theory (Political Science 330 = History 320)

In this course I want to argue that the medieval period is still vital for politics and political theory, but not necessarily in the same way as classical, Renaissance or early modern political theory. I want to make the case that the romances and histories of the period are just as important as the religious and legal texts. Many of the ideals that reached their fullest expression in the medieval romances and histories like the savior king, courtly love and the knightly warrior exercise a strong grip on the modern imagination and are critical to the formation of deep and (mostly) unexamined political/cultural attitudes. Not only must we examine these attitudes, we must ask ourselves a key question: If we are obsessed, at some level, with these qualities, are we thus doomed to be forever separated from the 'Enlightened' or 'free' attitudes that are necessary for the success of modern political goals? In this course we will examine medieval authors like Augustine, Al-Farabi, Averroes, Boethius, Dante, Chretien de Troyes and Geoffrey of Monmouth; modern authors like Erich Fromm, Herbert Marcuse and Mark Twain; and modern films like *The Seventh Seal*, *The Virgin Spring*, *The Lion in Winter*, *Becket*, *The Lord of the Rings*, *X2: X-Men United* and *Indiana Jones and the Last Crusade*."

Religion 230- Topics In Asian Religion: Daoism

In this course we'll begin with the texts of classical Daoism (or Taoism): the *Dao De Jing* [*Tao Te Ching*] and the *Zhuangzi* [*Chuang Tzu*]. Reading them closely, we will focus on problems involved in their translation and interpretation, especially in light of hermeneutical theory, the secondary literature on Daoism, and recent archaeological discoveries of alternate versions of the *Dao De Jing*. We will then turn to the "religious Daoism" that emerged in the post-Han era. Here we will look at Daoist symbolism and practice, including art, ritual, poetry, alchemy, and later texts like *Seven Taoist Masters*. In so doing, we will test the common Western idea that "religious" and "classical" Daoism are radically different. We will conclude by looking at the nature and status of Daoism in contemporary Chinese-speaking communities, whether the Chinese mainland, Taiwan, or the United States. Part of the course work will be devoted to learning a core set of Chinese characters, and a few rudiments of Classical Chinese, although absolutely no prior knowledge of Chinese will be presupposed in any way, shape, or form whatsoever.

One course credit. Prerequisite: Religion 104, or the consent of the instructor.

Religion 280: Topics in American Religion: Sects and Cults in America

This course investigates the history, beliefs and practices of new, marginal, and dissenting American religious groups, which are often labeled "sects" or "cults." We will draw upon the sociology of religion to understand these terms and new religious movements in general. Primarily, we will focus on the history, theology, and practices of groups such as the Branch Davidians, Mormons, Pentecostals, the Peoples Temple, Scientology, Heaven's Gate, and the New Age movement.

One course credit. No prerequisites.

Religion 370: Contemporary Theology

This course will address themes present in Christian Theology during the latter half of the twentieth century to the present, looking at the role of scripture, Jesus, human experience (including race and gender issues), and our understandings of God. Readings will include the

work of Bill Placher, David Tracy, and Sallie McFague. Enrollment limited to 15.

One course credit. Prerequisite Religion 172, or Philosophy 242, or the consent of the instructor

Rhetoric 270: Rhetoric of Sport

This course uses issues and controversies of American sport culture as a vehicle for studying rhetoric and rhetorical theory. While often belittled as trivial or unimportant, sport plays an integral role in forming the social and political fabric of society. As a center of public attention, sport can be a microcosm of the concerns and issues facing society as well as a platform from which important ideas can be projected. That is to say, sport both reflects and shapes culture. We will examine some of the scholarship that approaches sport as an important area of academic study, including (1) the study of sports apologia, (2) rhetorical critiques of sport as a cultural and political issue, (3) the relationship of sport to issues of gender and race, and (4) the study of the rhetoric of sport films. Assignments will include writing two developed rhetorical analyses on sport focused topics, one extended essay revision, giving two oral presentations, and taking one or two exams. This course counts toward the Literature and Fine Arts distribution requirement.

Spanish 312 Studies in Hispanic Culture: Mexican Film

Taught in English. "Mexican Film" examines the historical, political, and theoretical development of Mexican Cinema. Students in the course will see and discuss one film a week. These landmark films will help us see the development of the important film makers and stars, as well as key moments in the political and theoretical understanding of a national cinema beyond the United States. This course counts toward the Spanish major, but is also open to any student interested in film and Hispanic culture.

Spanish 313 The Golden Age Comedia: Performance, Cognition, and the Spanish Theatrical Revolution

This course will explore Spanish theater and performance practices during the early modern period from a cultural and cognitive standpoint. It will provide an introduction to the theatrical revolution on the Spanish stage and a point of comparison with other theatrical practices in Europe and America at the time. We will focus, among other playwrights, on Cervantes, Lope de Vega, María de Zayas, Tirso de Molina, Ana Caro, and Calderón de la Barca, paying special attention to the contextual factors surrounding the representation and success of their work. We will consider theatrical performance in relation to human cognition, drawing from social, anthropological, phenomenological, and neuroscientific sources, as well as from the work of theorists such as Mary Thomas Crane, Bruce McConachie, Elizabeth Hart, and Howard Mancing. This course is taught in Spanish.

Theater 103 (1): Seminars in Theater: "The Lawyer as Storyteller in the Courtroom and on the Stage"

Connections between law and drama have occurred throughout the history of the theater. Performances, for example, of early Elizabethan drama were staged by promising barristers as part of their training at the Inns of Court. Today, the courtroom as a theater in which trials are witnessed or viewed publicly is a common occurrence. Similarly, the courtroom drama with its

tightly woven plot is a widely popular genre in novels, television, films, and on the stage. This class will investigate a docket of courtroom dramas, along with films, historical and theatrical materials related to this genre. Plays studied will include Lawrence's and Lee's *Inherit the Wind*, Archibald MacLeish's *Scratch*, Saul Levitt's *The Andersonville Trial*, Aaron Sorkin's *A Few Good Men*, Emily Mann's *Execution of Justice*, and John Logan's *Never the Sinner*.

½ course credit, (1st half of semester) Prof. Dwight Watson

Theater 103 (02): The Antihero in American Film

M: 1:10-4:00

W/F: 1:10-2:00

Charismatic, rebellious, and contemptuous of the rules of society, the antihero looms large in Western culture. From Satan in Milton's *Paradise Lost* to Tony Soprano to the most recent iterations of Batman, the antihero arouses our compassion even as he or she lives in the shadows of moral ambiguity. This course will examine the figure of the antihero as portrayed in twentieth-century American cinema. Grounding our discussion in work of scholars like Joseph Campbell and Marshall McLuhan, we will investigate what the antihero meant in a changing, unstable America from the Depression to the post-Vietnam era, as well as what the character means today. The films we will screen and discuss include *Little Caesar* (1931), *Gone with the Wind* (1939), *A Streetcar Named Desire* (1951), *Bonnie and Clyde* (1967), *Cool Hand Luke* (1967), *Taxi Driver* (1976), and *Unforgiven* (1992).

½ course credit, (2nd half of semester) James M. Cherry

Theater 213 American Theater & Drama

Theater 213 = English 310 (02)

This course will examine the rich dramatic heritage of the United States from the American Revolution to the present, with emphasis on the history of the U.S. stage and the work of major dramatists including Eugene O'Neill, Thornton Wilder, Tennessee Williams, Arthur Miller, and Edward Albee, among others. Plays to be studied include *The Contrast*, *Secret Service*, *Uncle Tom's Cabin*, *Long Day's Journey Into Night*, *A Moon for the Misbegotten*, *Awake and Sing!*, *The Little Foxes*, *Our Town*, *The Skin of Our Teeth*, *Mister Roberts*, *A Streetcar Named Desire*, *The Night of the Iguana*, *Death of a Salesman*, *The Crucible*, *A Raisin in the Sun*, *The Zoo Story*, *Who's Afraid of Virginia Woolf?*, *Glengarry Glen Ross*, *True West*, *Brighton Beach Memoirs*, *The Colored Museum*, *A Perfect Ganesh*, *Fences*, *Angels in America*, *How I Learned to Drive*, and *The America Play*. The plays will be discussed as instruments for theatrical production; as examples of dramatic style, structure, and genre; and, most importantly, as they reflect moral, social, and political issues throughout the history of the United States.

Students taking this course for credit toward the English major or minor must have taken at least one previous course in English or American literature. No more than one course taken outside the English Department will be counted toward the major or minor in English.