

# COURSE DESCRIPTIONS

## University and College Courses

### University of Wisconsin-Madison

**History 205. *The Making of the Islamic World: The Middle East, 500-1500.*** 3 credits. Cross-listed with Religious Studies Department. Development of society and culture in the Middle East and North Africa from the emergence of Islam (7th century) to early modern times. Texts included Albert Hourani's *A History of the Arab Peoples*, Michael Cook's *The Qur'an: a Very Short Introduction*, Robert Irwin's *Night and Horses and the Desert: an Anthology of Classical Arabic Literature*, and Ibn Khaldun's *al-Muqaddimah* as well as other scholarship and translated primary source materials.

**Philosophy 101. *Introduction to Philosophy.*** 4 credits. Spring Semester, 2018. This course will provide an overview of some central questions of philosophy, and explains how philosophers go about investigating them. The course will cover questions concerning the relation between mind and body, the nature of knowledge, the existence of the universe, moral obligation and value (what makes an action right vs. wrong?), and belief vs. nonbelief in God. Students will also learn logical reasoning skills, which will be applied when discussing these questions.

### Madison College

**English 1.** 3 credits. Critical reading, writing, listening, and speaking, for both exposition and argumentation. The course emphasized summarizing, analyzing, and synthesizing information from sources, and developed research and presentation skills. Texts for course included multiple academic papers and articles, and *Rules for Writers With 2016 MLA Update* by Hacker, Diana and Sommers, Nancy.

### Harvard Divinity School

**Summer Seminary for Unitarian Universalist Youth.** Program for Unitarian Universalist youth exploring the possibility of becoming a religious professional. Focused on ordained ministry and credentialed leadership in religious education and music, the program offered the opportunity to explore the call to ministry in all its forms, learn about life as a religious professional, chaplaincy, religious education and other religious professional career paths. Faculty included professors from Harvard Divinity School, MIT, and Yale's Andover-Newton Seminary.

## High School Courses

### History and Social Studies Courses

**AP U.S. History.** In-depth course that covered the history of the North American continent from the time of its earliest settlers through the events of September 11<sup>th</sup>. Focus was on understanding the events leading up to major turning points, analyzing documentary evidence and critically interpreting actions within the context of the times. Course covered colonization through the Cold War. Central themes of the course included the growth of participatory democracy, the role of ethnic and minority groups, the role of women, dissent and dissenters in American life, economic driving forces in American history, and the search for equality under the law. Text used was *American Pageant* by David Kennedy, et al.

**AP Human Geography.** Course covered the patterns of human population on earth, and the reasons for and consequences of population distributions from a global perspective. Course also included the impact of human movement on culture, industry and economics. Text used was *Human Geography-The Cultural Landscape*, by James Rubenstein.

**AP U.S. Government and Politics.** Course included analysis of the founding of the government, its workings, and the development of institutions, policies, and bureaucracies over the years. Course examined the origins of our system of government, the roles of the three branches of government, the protections promised by the Bill of Rights, the political process, and voter behavior. Course used many readings, online resources and a primary text, *American Politics Today* by William Bianco and David Canon.

**Honors Psychology.** Course covered the scientific study of human behavior and mental processes including the facts, principles, and phenomena associated with the major subfields within psychology. Topics included experimentation, information processing, learning and memory, motivation, development, language acquisition, and personality. Course also included critical analysis of psychological science, neuroscience and behavior, the concepts of nature vs. nurture, thinking and language, states of consciousness, cognition, sensation and perception, emotion, psychological disorders, therapy, and the methods psychologists use in their science and practice. Text used was *Psychology* by David Myers.

**Honors Social Psychology.** Course covered theories and methods in social psychology, person perception, social cognition, the self, attitudes and attitude change, prejudice, social influence, interpersonal attraction, personal relationships, behavior in groups, gender, aggression and helping behavior. Text used was *Social Psychology* by Taylor, Peplau, and Sears.

**Honors Macroeconomics.** Major topics included supply and demand, inflation, unemployment, gross domestic product, fiscal policy, monetary policy, the federal budget, and international trade. Emphasis placed on critical thinking skills through the understanding, application, and analysis of basic economic concepts and the current state of the U.S. economy. Text used was *Krugman's Economics for AP* by David Anderson and Margaret Ray.

**History of the U.S. Civil Rights Movement.** In-depth analysis of the pivotal historical events, court cases, protests, demonstrations, violence, internal and external conflicts, and leaders of the African American Freedom Struggle. Course also focused on successes and failures of the movement in a historical and cultural context. Texts included Howard Zinn's *A People's History*, Taylor Branch's *Parting the Waters, Eyes on the Prize* civil rights documentary 14-part television series, and *The Civil Rights Movement; a Photographic History, 1954-68* by Steven Kasher. Course included a field trip to Selma, Montgomery, and Birmingham Alabama to visit the Southern Poverty Law Center, historical sites, museums, landmarks, and monuments of the Civil Rights Movement.

## Science Courses

All science courses included a weekly laboratory and were designed to foster the development of skills in scientific inquiry, as well as to provide a strong foundation in scientific knowledge and principles.

**AP Biology.** Comprehensive course covering topics such as molecular biology, cells, genetics, phylogeny and ecology, with three hours of lab per week. Laboratory processes, analytical skills, and content were equally emphasized throughout the course, and combined to offer a deep understanding of biological concepts. Text used was *Biology* by Campbell and Reece.

**AP Environmental Science.** Interdisciplinary course covered the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Text used was *Environmental Science* by Daniel D. Chiras.

**Honors Physics.** Course covered kinematics, fluid mechanics, optics, nuclear physics, electricity and magnetism, and included a three-hour lab each week. Text used was *Physics: Principles and Problems* by Paul Zitzewitz.

**Honors Chemistry.** Covered typical first year college chemistry topics, including atomic structure, bonding, acid/base chemistry, reaction rates, and electrochemistry using the text, *World of Chemistry* by Zumdahl, Zumdahl and DeCoste. Course covered advanced

problem solving and conceptual explanations for the behavior of matter and had a weekly laboratory.

**Honors Biology.** Course covered the study of ecology, plants, homeostasis, and the study of human body systems. Also encompassed a thorough study of genetics and evolution by natural selection, and included a weekly laboratory. The text used was *Biology: Exploring Life*, by Campbell, et al.

**Honors Earth Science.** Course encompassed geology, weather, atmospheric and oceanic science, and space science. Text used was *Earth Science* by Spaulding and Namowitz. Course included a weekly laboratory.

**Honors Astronomy.** Course covered measurements, scientific notation, significant figures, order of magnitude, scaling models, scientific method, analysis and interpretation of cosmic data, historical perspectives, law of gravity, laws of motion, spectrum and basic spectroscopy; structural description of the planets, meteors, asteroids, comets, stars, stellar evolution and remnants including white dwarfs, neutron stars, black holes the Milky Way galaxy, dark matter, and quasars. Text used was *New Astronomer* by Carole Stott.

**Spectroscopy Analysis.** For this project-based course students used the 20 meter radio telescope at the National Radio Astronomy Observatory in West Virginia to probe the structure of the Milky Way Galaxy. Also trained to access the remotely controlled telescopes on the Skynet network. Training included how telescopes and electronic cameras work, how to use the Skynet network, and some basic astronomy. Had access to the radio telescope as well as other visible light telescopes around the world. On this Skynet network, students requested images, specifying the object/location to be observed, the length of the exposure, the filter(s) to be used, etc. Students used the 20 meter radio telescope to take spectral data along the plane of the Milky Way Galaxy. They used this data to determine how many spiral arms are in each direction. From this determination, they inferred the basic structure of our galaxy. Students also worked on an independent or group project using data collected and analyzed from the Skynet network of telescopes.

**Anatomy and Dissection.** Course included a rigorous study of Darwin, evolution, classification, the five kingdoms, and the history of anatomy. Each student dissected his or her own specimen. For each specimen, the students determined what defines the phylum, the diversity of the phylum, and learned the anatomical terms, functions, and locations of important anatomical structures. Specimens included: owl pellet, planarian, mussel, earthworm, crayfish, starfish, amphioxus, grasshopper, perch, frog, snake, rat, rat brains and spinal cords, forensic pig, sheep brain (including detailed dissection of the outer coverings, motor and sensory areas, cortex and memory areas, deep brain areas and brain evolution, cranial nerves and brain stem). Later, the human brain and neuroscience were covered, including: neurons, synapses, the peripheral nervous system and reflexes, the spinal cord and central nervous system. Course included weekly laboratories, creating models, neuroscience technology of brain imaging, PET

scanning, MRI, CAT scans, microscopy and discussion of neuroscience microscopy techniques, staining and specimens.

**Farming and Sustainability.** Studied farming and sustainability with a weekly shift at Vermont Valley CSA (2014) and Roots Down Community Farm (2015). Involved in all aspects of vegetable harvest and post harvest including washing, bagging, bunching, weighing, counting and sorting vegetables, weeding, trellising, transplanting, and mulching.

## Mathematics Courses

**AP Calculus BC.** Course reviewed the main topics from Honors Calculus (rules and applications of integrals and derivatives) then extend these concepts to parametric equations, vector-valued functions, polar equations, sequences, and series. Text was a continuation of *Calculus* by Larson, Hostetler, and Edwards.

**Honors Calculus.** Course included topics such as advanced function operations, trig identities, and conic sections. Course included extensive review of pre-calculus concepts, limits, rate of change of a function, derivatives, applications of derivatives, integration, and applications of definite integrals. Text was *Calculus* by Larson, Hostetler, and Edwards.

**Honors Algebra II/Trigonometry.** Course built upon algebra and geometry skills, and covered basic trigonometric functions and their applications. Course also covered quadratics and other functions, logarithms, and exponential functions. Concepts studied included polynomials, transformations of functions, trigonometry, statistics, and probability. Text used was *Algebra & Trigonometry* by Robert Blitzer.

**Honors Geometry.** Course covered the properties and relationships of objects in two and three dimensional space, with a heavy emphasis on formal proof. Included inductive reasoning, performing investigations and making conjectures, and deductive reasoning as they use those conjectures to “explain why” in other situations. Topics included vocabulary, special angles, triangles, polygons, quadrilaterals, circles, area, volume, and trigonometry. Text used was *Geometry for Enjoyment and Challenge*.

## World Language Courses

**French 1, 2, 3, and 4.** **French 1** course included the practice of basic grammar and phrases in conversational situations in order to begin developing speaking skills. Emphasis placed on developing listening skills. **French 2** focused on acquiring communication skills through studying various cultural topics like food, leisure activities, and student life in French-speaking countries. **French 3** and **French 4** courses emphasized the practice of basic pronunciation, conversational situations, role-playing,

descriptions, expansion of vocabulary useful to everyday situations, and grammar and usage study. Cultural aspects were included in each unit. Courses continued the development of speaking and comprehension skills through grammar development and vocabulary expansion. Texts and resources included *Real French Level I High School*, *Real French Level II High School*, and Rosetta Stone French Levels I, II, III, IV. Self-directed and tutored.

## English and Literature Courses

**AP English Language and Composition.** Self-directed and self-studied rhetoric course focused on the analysis, synthesis, and evaluation of complex nonfiction texts from writings in the arts, history, social science, politics, science and other areas of study. Critical reading, content, organization, mechanics of written work, frequent writing, frequent rewriting, research, and rhetorical strategies were the backbone of this course. Texts included Strunk, William, Jr., and E. B. White's *Elements of Style*, Zinsser, William K's *On Writing Well: The Classic Guide to Writing Nonfiction*, Aufses, Robin Dissin, Renee Shea and Lawrence Scanlon's *Conversations in American Literature: Language, Rhetoric, Culture*.

**AP Literature and Composition.** Course was organized in a small-group, discussion-based format. Consisting of five homeschooled students and a parent/educator, we met bi-weekly for three hours to analyze and discuss American Literature and a special unit on Shakespeare. During class, students presented papers based on their analysis, participated in group discussions, and completed impromptu writing assignments.

The reading list included sonnets and the play *Othello* by Shakespeare, writings by Ralph Waldo Emerson, Henry David Thoreau, *Moby Dick* by Herman Melville, poetry by Walt Whitman, Emily Dickinson, Edwin Arlington Robinson, Carl Sandburg, William Carlos Williams, Marianne Moore, Elizabeth Bishop, Robert Lowell, and Sylvia Plath, *The Adventures of Huckleberry Finn* by Mark Twain, *The Awakening* by Kate Chopin, *Death Comes to the Archbishop* by Willa Cather, *Long Day's Journey into Night* by Eugene O'Neill, *As I Lay Dying* by William Faulkner, and *The Grapes of Wrath* by John Steinbeck.

**Honors 20<sup>th</sup> Century American Literature.** Course was organized in a small-group, discussion-based format. Analyzed and discussed Twentieth Century literary works. Students presented papers based on their analysis, participated in group discussion, and completed impromptu writing assignments.

The reading list included: *To the Lighthouse* by Virginia Woolf, writings by Nietzsche, Freud, M. Weber, P. Valéry, poetry by T.S. Eliot, Alfonsina Storni, Federica García Lorca, Jorge Luis Borges, Pablo Neruda, Allen Ginsberg, Gary Snyder, Donald Hall, Billy Collins, Seamus Heaney, and Adrienne Rich, *As I Lay Dying* by William Faulkner, *The*

*Sun Also Rises* by Ernest Hemingway, *Nausea* by Jean-Paul Sartre, *The Stranger* by Albert Camus, *Invisible Man* by Ralph Ellison, *Endgame* by Samuel Beckett, *Beloved* by Toni Morrison, *Things Fall Apart* by Chinua Achebe, *Ceremony* by Leslie Marmon Silko, and *The Handmaid's Tale* by Margaret Atwood.

**Honors World Literature.** Course explored literature from around the world, focusing on Latin and Central American, Asian, and Russian literature. The primary emphasis was on close reading of the literary works while considering the historical and cultural context, local concerns, and universal questions. Students researched, discussed the works, wrote and presented papers that focused on rhetorical strategies, and provided constructive feedback. Works included *Like Water for Chocolate* by Laura Esquivel, *The House of the Spirits* by Isabel Allende, poetry by Pablo Neruda and Octavio Paz, *One Hundred Years of Solitude* by Gabriel García Márquez, *The Tao of Pooh* by Benjamin Hoff, *Strange Tales From a Chinese Studio* by Pu Songling, *Midnight's Children* by Salman Rushdie, *The God of Small Things* by Arundhati Roy, poetry by Rabindranath Tagore, *Rashomon and Other Stories* by Ryunosuke Akutagawa, *Norwegian Wood* by Haruki Murakami, *Kitchen* by Banana Yoshimoto, *Three Sisters* by Anton Chekhov, and *Crime and Punishment* by Fyodor Dostoyevsky.

**Gender Studies in Literature.** Course explored feminist theory through a close reading of classic and contemporary works of literature and theory while considering the historical and cultural contexts of each text. Focused on research, discussion, and formal writing. Texts included *How to be a Woman* by Caitlin Moran, essays by Rebecca Solnit, *Feminism is for Everybody* by bell hooks, Lynn Povich's *The Good Girls Revolt; How the Women of Newsweek Sued Their Bosses and Changed the Workplace*, Kate Chopin's "Desiree's Baby" and *The Awakening*, "A Vindication of the Rights of Woman" by Mary Wollstonecraft, Jeanette Winterson's *Why Be Happy When You Could Be Normal*, Sojourner Truth's "Ain't I a Woman," *The Handmaid's Tale* by Margaret Atwood, Betty Friedan's *The Feminine Mystique*, and Virginia Woolf's *A Room of One's Own*.

**Novel Writing** Workshop focused on the elements of novel writing including genre, structure, characterization, plot, subplot, pacing, setting, mood, tone, dialogue, literary devices, exposition, revising and rewriting. Workshop also included daily writing goals, short writing assignments, analysis of published pieces, constructive feedback, and regular readings.

**Creative Writing** Workshop focused on writing an average 45-60 minutes per class. Models and examples of writing found in a variety of genres such as non-fiction, fiction, narratives, poetry, and others were provided to direct attention to both form and content. Course designed to stimulate and suggest, to guide and illustrate. Students rewrote pieces and engaged in the community of writers constructively.

**Plays of Gilbert and Sullivan, George M. Cohan, and William Shakespeare.** Study of characters, themes, literary devices, and historical context through research, discussion, rehearsal and performance. In-depth study of verse, the use of sound and imagery, and detailed analysis of the theme and historical context of each work. Course

included multiple performances of each George M. Cohan and Gilbert and Sullivan play. Plays included Gilbert and Sullivan's *H.M.S. Pinafore*, *Ruddigore*, and *The Mikado*, George M. Cohan's *Forty-Five Minutes From Broadway*, and *Othello* by Shakespeare

**Online Writing Satire for the Internet.** Second City four-week intensive online satire writing course. Learned how to form a strong comedic point of view on topical news and pop culture events. Brainstormed, drafted and rewrote short pieces in the style of *McSweeney's*, *Shouts and Murmurs* and *The Second City Network*. Internet presence, pitching, and submission guidelines also covered.

## Physical Education Courses

### ***Physical Education: Competitive Games and Sports, Strength and Conditioning***

Course included regular training and competitive games of ultimate frisbee, soccer, basketball, volleyball, as well as weight training.

## Art Courses

### ***Art Education: Fundamentals of Drawing, Painting, Sculpture, Mixed Media***

Course included methods and techniques to improve drawing skills, including proportion, perspective, and shading. Course also focused on slab-building, coil building, pinch and hand-sculpting, exploring 2D mediums, watercolor, acrylic paint, and collage.