

Cognate Courses at Arcadia University

Global Perspectives...Personal Attention...Real-World Integrative Learning Experiences

Available to students in a variety of master's degrees, predominantly in Education and Humanities.

Art and Design Courses (FA)

Studio Courses

All classes in Art: Enrollment limited. Students meet at established class times when so listed on the semester class schedule.

Studio Fees: Studio courses may have a fee for materials purchased by the Department and used in class (yarn, clay, inks, etc.). Students may ask the instructor at the beginning of the course for an approximate cost.

401, 402

Advanced Drawing

Spring

This introduction to contemporary concepts in drawing provides a method of approach to representation and abstract forms. Evaluations are given in relation to entry-level skills and techniques. Three hours of lecture, weekly critique and independent work.

Prerequisites: A basic background in art and/or art history and some experience in two-dimensional art.

410

Intermediate Painting I

Fall

Studio work emphasizes continued development of perceptual vision. Subjects include still life, landscape and the figure. Emphasis is placed on individual solutions to problems posed by the instructor or developed by the student.

Three critique and lecture hours weekly plus independent work.

Prerequisites: A beginning course in painting and permission of the instructor.

411

Intermediate Painting II

Spring

This course emphasizes the further understanding of theoretical aspects of painting. Students explore in theory and in practice different attitudes in painting which include abstraction as well as work done from memory and imagination. This course is the bridge which is designed to help students make the transition to a more personal and individual way of working.

Three critique and lecture hours weekly plus independent work.

Prerequisites: At least 24 semester hours of credits in studio and art history, including two courses in painting and permission of the instructor.

412, 413

Advanced Painting I and II

Fall, Spring

This course is designed to help students develop and explore individual problems in painting, working toward the development of a personal style of expression. In addition, students learn to clarify and focus their ideas, thus bringing greater intensity to their work. Six studio and critique hours weekly plus independent work.

Prerequisites: At least 24 semester hours of studio and art history, including two courses in painting, and permission of the instructor.

418

Advanced Printmaking

Fall, Spring

This is an exploration of lithographic techniques including color, photographic processes and experience with both stone and metal plates. It includes historical investigation of the print as a means for expressing attitudes of artists toward the world. Three hours of lecture, weekly critique and independent work.

Prerequisites: A basic course in printmaking and portfolio review by the instructor.

431

Ceramics I

Semi-independent work in painting with increased individual responsibility. Offers critiques as a means of encouragement toward making a stronger creative statement. Includes discussion of the role of the artist in society and the latest developments in contemporary art. Provides help in relating to today's art world and lays the foundation for continued involvement in future art. Substantial independent work in painting. Includes group and individual projects.

Prerequisites: At least 24 semester hours of credits in studio and art history, including two courses in painting, and permission of the instructor.

432

Intermediate Ceramics

Fall, Spring

Advanced projects in ceramics. Three hours of lecture, weekly critique and independent work.

Prerequisites: A basic course in ceramics and permission of the instructor.

Cognate Courses at Arcadia University

433

Advanced Ceramics

Fall, Spring

Substantial independent work in ceramics.

Includes group and individual projects.

Prerequisites: At least 24 semester hours of credits in studio and art history, including two courses in ceramics and permission of the instructor.

442

Intermediate Metals and Jewelry

Fall, Spring

Advanced projects in metals and jewelry.

Three hours of lecture, weekly critique and independent work.

Prerequisites: A basic course in metals and jewelry and permission of the instructor.

443

Advanced Metals and Jewelry

Fall, Spring

Substantial independent work in metals and jewelry. Includes group and individual projects.

Prerequisites: At least 24 semester hours of credits in studio and art history, including two courses in metals and jewelry, and permission of the instructor.

450, 451

Advanced Graphic Design

Fall, Spring

Substantial independent work in graphic design. Includes group and individual projects.

Prerequisites: At least 24 semester hours of credits in studio and art history, including two courses in graphic design, and permission of the instructor.

461

Printmaking Workshop

Special studies in art involving a project carried through under the guidance of one instructor.

Possible projects include continuing experience in three-dimensional design, representational drawing, or other studio area. Interior or graphic design majors might arrange for a workshop experience in their field. **Prerequisite:** permission of the major adviser and special studies coordinator.

481

Advanced Photography

Fall, Spring

Substantial independent work in photography. Includes group and individual projects.

Prerequisites: At least 24 semester hours of credits in studio and art history, including two courses in photography, and permission of the instructor.

487

Internship

Individually designed program to develop special skills not addressed in the regular curriculum.

Prerequisites: Minimum GPA of 3.0 and background relevant to the internship.

589

Independent Research: Studio Art

Directed individual project in a studio area involves faculty approval and review of the project, progress and finished work. A paper or related historical study may be related to the finished project.

Prerequisites: Three graduate courses in the Humanities at Arcadia University, experience in the designated studio area and approval of the instructor and the Master of Arts in Humanities Coordinator.

Art History Courses (AH)

421

History of Modern Architecture

Fall, even years

This study of the development of architectural style in the 20th century focuses on important examples of Philadelphia architecture.

Prerequisites: A survey course in art history and permission of the instructor.

426

Seminar: 1900 to 1950

Fall

This advanced seminar on Fauvism, Cubism, Dadaism, Futurism, Surrealism, Expressionism and other movements of the first half of the century focuses on their developments in the '40s and '50s in Europe and America.

Prerequisites: A survey course in art history and permission of the instructor.

428

Seminar: Contemporary Art

Spring

This advanced seminar in current art and its background in the '60s and '70s includes methods and problems in modern art criticism.

Prerequisites: A survey course in art history and permission of the instructor.

460

Controversial Issues in Art and Society

This course focuses on the censorship of controversial art in the 20th century. Issues such as obscenity, pornography and censorship are examined. Politics, religion, race and gender are

Cognate Courses at Arcadia University

investigated as critical factors in the censorship of art.

Biology Courses (BI)

404

Genetics

Fall

This study of the classical and modern views of the name of the gene, its transmission and its function includes microbial and population genetics. Three class hours and three laboratory hours weekly.

421

Human Genetics and Development

Spring

This study of human heredity and embryological development with emphasis on underlying molecular and cellular mechanisms considers current advances in understanding the human genome, gene expression in development, and major human genetic and developmental syndromes. Three class hours and special projects (no laboratory).

425

Cell Biology

Fall

Cell structure and function at the molecular level: enzymes, membranes, respiration, photosynthesis, protein targeting, intracellular trafficking, information transfer and storage. The laboratory emphasizes modern biochemical and molecular technique. Three class hours and three laboratory hours weekly.

429

Ecology

Fall

This is a study of relationships between organisms and their environments, including evolution, natural selection, nutrient cycling, population regulation and ecosystem description. Three class hours and three laboratory hours weekly. Field trips.

Prerequisite: One year of zoology; or permission of the instructor.

433

Molecular Biology

Spring

This study of the molecular structure and functioning of the gene includes in-depth investigation of current areas of molecular research in biological fields such as medicine, development, population biology and evolution. The laboratory involves techniques of molecular biology including DNA purification and analysis,

cloning and the polymerase chain reaction. Three class hours and three laboratory hours weekly.

440

Biochemistry

The study of the chemistry of life processes with applications to medicine, forensics, and a variety of other fields. This course will introduce students to the basic concepts in biochemistry as well as the principles governing the structure and function of macromolecules, as well as the metabolism of these molecules in the cell. Three class hours weekly.

Prerequisites: CH201 or permission of the instructor.

460

Topics in Biology

In-depth exploration of a selected topic in the biological sciences. Scheduled topics for future years include immunobiology and conservation biology. Emphasizes current research and methodology.

Prerequisite: Permission of the instructor.

589

Independent Research

Individualized study to include selection and specific statement of problem; guided individualized execution of experiment, observations, or library research; statement of conclusions. May be conducted on campus or in off-campus research facilities.

Prerequisites: Two graduate courses in Biology at Arcadia University and permission of the Department Chair.

Chemistry (CH)

401

Physical Chemistry I

Fall

This study of the limitations of the degree of completion of chemical reactions and physical processes by natural law examines the gaseous state, liquid state, solid state, thermodynamics, homogeneous chemical equilibria and phase equilibria from both experimental and conceptual viewpoints. Three class hours and three laboratory hours weekly.

Prerequisites: The equivalent of Arcadia courses CH 203, PH 202 or PH 212, MA 202.

402

Physical Chemistry II

Spring

This continuation of CH 301 considers the limitations on the rate of change by natural law. It explores the concepts of solutions, heterogeneous equilibria, electrochemistry,

Cognate Courses at Arcadia University

chemistry kinetics, quantum mechanics and surface phenomena. Three class hours and three laboratory hours weekly.

Prerequisite: The equivalent of Arcadia course CH 301.

403

Biochemistry

Spring

This course is a study of the chemistry and metabolism of carbohydrates, lipids, proteins, nucleic acids, vitamins and hormones, along with selected topics in comparative biochemistry, cytochemistry, chemical genetics, bioenergetics, enzyme kinetics, electrochemistry and acid-base equilibria. Laboratory work emphasizes independent research and methods of biochemical research. Three class hours and four laboratory hours weekly.

Prerequisites: The equivalent of Arcadia courses BI 325, CH 202–203.

404

Instrumental Methods of Clinical Analysis

Spring

This study of the theory and practice instrumental analysis includes electrochemical, spectrophotometric, chromatographic, mass spectral and nuclear magnetic resonance methods of analysis as background for the separation, identification and analysis of chemical substances. Three class hours and four laboratory hours weekly.

Prerequisites: CH 203, CH 301, CH 302 highly recommended.

405

Inorganic Chemistry

Spring

This survey of the representative and transition elements in the context of atomic and molecular structure introduces organometallic and solid-state principles as the foundation for understanding coordination theory and the biochemistry of inorganic cations. Laboratory work emphasizes the preparation, properties and characterization of selected inorganic and bioinorganic compounds that employ low and high temperature, vacuum and physicochemical techniques with both aqueous and non-aqueous systems. Three class hours and three laboratory hours weekly. Offered in odd years.

Prerequisites: CH 202 and CH 203; CH 301 and CH 302 highly recommended.

406

Advanced Organic Chemistry

Fall

This course is advanced study of selected topics not covered in the introductory course, including:

Huckle Molecular Orbital Theory; correlation of structure and activity by linear free energy relationships, acidity functions and Bronsted Catalysis Law; symmetry and stereochemistry; pericyclic, electrocyclic and sigmatropic reactions; kinetics and kinetic isotope effects; and application of spectroscopic techniques. Laboratory component involves individual multi-step syntheses and molecular modeling projects. Three class hours and four laboratory hours weekly. Offered in odd years.

Prerequisites: CH 202 and CH 203; CH 301 and CH 302 highly recommended.

407

Polymers and Biopolymers

Fall

A coherent introduction to modern polymer chemistry designed for students interested in chemistry, physics, engineering and biochemistry, this course specifically aims to broaden the perspective of students in the different technical areas to the point where they can appreciate the scope and importance of polymers, biopolymers and contemporary polymer technology. Emphasis is placed on the nature and synthesis of polymers; biological polymers and their reactions; thermodynamics and kinetics of polymerization; and physical characterization, fabrication, testing and uses of both natural and synthetic polymeric materials. Four class hours weekly. Offered in even years.

Prerequisites: CH 201, CH 202.

433

Statistical Thermodynamics

(Also listed as PH 333)

Spring

The principles of thermodynamics are investigated from a modern statistical point of view based upon ensemble theory. This includes Maxwell-Boltzmann, Fermi-Dirac, and Bose-Einstein statistics, transport phenomena, thermal interactions, kinetic theory and applications to a variety of molecular systems. Offered in odd years.

Prerequisites: CH 102, PH 212, MA 202, CH 301 and CH 302; or permission of the Chair if taken concurrently with CH 302.

435

Modern Chemical Concepts

Continuation of CH 101. Introduces the principles of chemical energetics, chemical equilibrium, reaction mechanisms, chemical kinetics, electrochemistry and radiation chemistry. Applies chemical principles to the reaction of inorganic and organic substances from a quantitative experimental point of view. Three class hours and three laboratory hours weekly.

Prerequisite: CH101.

Cognate Courses at Arcadia University

436

Modern Chemical Concepts II

Examination of the principles and theory of chemical equilibrium in the context of quantitative chemical analysis. Includes selected traditional analytical laboratory techniques frequently applied to analyses of systems of biological and environmental interest. Also introduces instrumental techniques of analysis.

Prerequisite: CH102; or permission of the chair.

437

Audio-Visual Workshops

Introduction to chemical research, the chemical literature, creative thinking, experimental design, treatment of errors and oral and written communication of scientific results. Provides an opportunity to work in a selected research area under the supervision of one or more staff members on campus (or in off-campus research facilities). Requires a minimum of ten laboratory hours weekly. Prior to beginning the research project, three copies of project outline must be submitted to the department chairperson for approval.

Prerequisites: At least four courses in chemistry and/or permission of the department chair.

439

Organic Chemistry Teacher

Introduction to chemical research, the chemical literature, creative thinking, experimental design, treatment of errors and oral and written communication of scientific results. Provides an opportunity to work in a selected research area under the supervision of one or more staff members on campus (or in off-campus research facilities). Requires a minimum of ten laboratory hours weekly. Prior to beginning the research project, three copies of project outline must be submitted to the department chairperson for approval.

Prerequisites: At least four courses in chemistry and/or permission of the department chair.

442

Analytical Chemistry for Teachers

Study of the correlation of acid-base theory, reaction mechanisms, molecular structure, chemical energetics and spectroscopy to the chemical and physical properties of organic functional groups. Chemistry and Physics 130 Laboratory work stresses the synthesis, separation, identification and analysis of selected organic compounds using both micro- and macroscale techniques. Three class hours and three laboratory hours weekly.

Prerequisite: CH102; or permission of the department chair.

443

Physical Chemistry for Teachers

Introduction to chemical research, the chemical literature, creative thinking, experimental design, treatment of errors and oral and written communication of scientific results. Provides an opportunity to work in a selected research area under the supervision of one or more staff members on campus (or in off-campus research facilities). Requires a minimum of ten laboratory hours weekly. Prior to beginning the research project, three copies of project outline must be submitted to the department chairperson for approval.

Prerequisites: At least four courses in chemistry and/or permission of the department chair.

451

Quantum Chemistry and Chemical Physics

(Also listed as PH 351)

(Spring)

The foundations of quantum chemistry and its applications to chemical system are explored. The Schrodinger wave equation, the harmonic oscillator, the hydrogen atom, and matrix mechanics are examined. Special emphasis is placed on group theory and application to spectroscopy. Offered in even years.

Prerequisites: CH 102, PH 202 or PH 212, MA 202, CH 301 and CH 302; or permission of the Chair if taken concurrently with CH 302. MA 452 recommended.

489

Chemical Research

(Fall, Spring)

This introduction to chemical research, the chemical literature, creative thinking, experimental design, treatment of errors, and oral and written communication of scientific results provides an opportunity to work in a selected research area under the supervision of one or more staff members on campus (or in off-campus research facilities). It requires a minimum of 10 laboratory hours weekly. Prior to beginning the research project, three copies of project outline must be submitted to the Department Chair for approval.

Prerequisites: at least four courses in Chemistry and/or permission of the Chair.

503

General Principles of Toxicology

This course provides the qualitative and quantitative principles of toxicodynamics, toxicokinetics applicable to the study of potentially harmful effects of chemicals on living organisms, particularly humans. Through lectures and student-lecturer subject interactions, the course also covers: applications of the above

Cognate Courses at Arcadia University

principles; toxicity study and safety evaluation of medicinal and non-medicinal; and clinical, environmental, occupational, veterinary, forensic, and community toxicology.

504

Instrumental Methods of Analysis II

(Spring)

This continuation of the study of the theory and practice of instrumental analysis includes electrochemical, chromatographic, X-ray, diffraction, mass spectral, and other modern methods associated with the separation, identification and analysis of chemical and biological importance. Three class hours and four laboratory hours weekly.

518

Instrumental Analysis in Forensic Toxicology and Chemistry

This course is a graduate level course designed to familiarize the student with the principles and application of chromatographic and mass spectroscopic instrumentation in use in both forensic toxicology and forensic chemistry analyses. In this course, students will learn the fundamental principles of instrumental operation, the design and function of their various component parts and how their properties can be selected or adjusted to solve analytical problems. The course is designed to instill proper practices for chemical hygiene, laboratory safety, instrument maintenance and data assessment and interpretation. This course will fully prepare the students for their upcoming coursework involving application of the instrumentation for toxicological and chemical analysis.

Computer Science Courses (CS)

400

Introduction to Structured Programming

This is a first course in programming with a high-level language. It assumes no previous programming experience; students with proficiency in a structured programming language may waive this course. The language used is Visual Basic.

407

Problem-Solving with Algorithms and Programming I

(Fall, Spring)

This introduction to the understanding of computer systems, the use of structured programming concepts, algorithm development, debugging and data analysis is taught with a

high-level programming language. Currently the language is Java.

408

Problem-Solving with Algorithms and Programming II

(Fall, Spring)

Continuation of CS 407. Topics considered include recursion, dynamic memory allocation (linked lists) and an introduction to professional programming techniques.

Prerequisite: CS 407.

409

Data Structures

(Fall)

This course is an application of analysis and design techniques to algorithms which act on data structures.

Prerequisite: CS 408.

415

Theory of Computation

This is an introduction to the theoretical basis of computing. Topics include a review of graph theory; network models; grammars; languages and automata; turing machines; computability.

Prerequisites: CS 201 and MA 230 or MA 322 or MA 302.

428

Modern Programming Languages

(Fall, Spring, Summer)

This introduction to a contemporary computer language such as Ada, PROLOG, LISP, Visual Basic, Java, SAS, or C++ may be repeated for credit with permission of the Department Chair.

Prerequisite: CS 408.

454

Database Management Systems Design

(Fall)

This detailed study of design and implementation of a database management system includes file security and some form of query into the system.

Prerequisite: CS 408.

458

Operating Systems

(Spring)

This is a study of the major areas of computer operating systems principles, the architecture of computer systems at the register-transfer and programming levels of system description and the interrelationships between the operating system and the architecture of computer systems.

Prerequisites: CS 408, CS 409.

Cognate Courses at Arcadia University

462

Computer Organization and Architecture (Fall)

This advanced course in computer system organization includes logic, design, data representation and transfer, digital arithmetic, digital storage and accessing, control and input/output reliability.

Prerequisites: CS 408, CS 409

469

Management Information Systems

Analysis and design of computer-based information systems for business applications. Study of relationships between various categories of information system architectures and organizational strategic and management requirements. Prerequisites: Familiarity with microcomputer software such as Excel and ACCESS.

470

Applied Computer Graphics

This introduction to the theory and methodology of computer graphics develops underlying principles for the representation of objects and surfaces with computers, including translation, rotation scaling motion, parallel and perspective projection and hidden lines and surfaces. It integrates class usage of the computer.

Prerequisite: CS 407.

472

Data Communications

(Odd years)

This study of the aspects of developing and designing data communication networks includes identifying and defining the proposed system, analyzing the type of message, determining the total traffic, developing alternative configurations, calculating the network cost, implementation and follow-up evaluation.

Prerequisites: CS 408, CS 227, MA 230.

474

Compiler Design

This study of the translation, loading and execution of a higher level language includes syntax analysis of simple expressions and statements, organization of a compiler, design and implementation of a simple compiler.

Prerequisites: CS 408, CS 409.

476

Organization of Programming Languages

This is a study of programming languages specification and analysis, comparing their features and limitations.

Prerequisites: CS 408, CS 409.

487

Special Topics in Computer Science

This seminar in advanced topics of computer science may be repeated for credit.

Prerequisites: CS 408, CS 409.

589

Independent Research

Directed research or project in an advanced area of computer science.

Prerequisites: Three advanced courses in computer science and approval of the Department Chair.

490

Capstone Course I

(Fall)

This study of system analysis and design leads to a significant computer project to be implemented in CS 491.

Prerequisite: CS 354; or permission of the Chair.

491

Capstone Course II

(Spring)

This course focuses on application of state-of-the-art techniques in software design and development. Includes implementation of capstone project designed in CS 490.

Prerequisite: CS 490.

Environmental Studies (ES)

Offered in cooperation with the Schuylkill Center for Environmental Education (SCEE).

Note: Class size is limited to 14 for all SCEE classes that require field trips: ES 501, ES 403, ES 404, ES 505, and ES 511.

501

Introduction to Environmental Studies

(6 credits; Summer, Fall, SCEE)

This introductory course is designed to provide the necessary background in the natural and social sciences as they relate to environmental studies and the procedures required to investigate ecological systems. It includes field and lab work, field trips and lecture. The focus is on terrestrial and saltwater ecosystems.

502

Field Natural History

(Fall, SCEE)

This course is study in the field, the characteristics and life histories of vascular plants, mammals, birds, reptiles, amphibians, and

Cognate Courses at Arcadia University

fungi. It focuses on taxonomic classification, field identification, and scientific collecting.

503

Meteorology (Spring, SCEE)

This exploration of meteorology as a science utilizes discussions, laboratories, field trips, guest speakers and films. It focuses on the principles of weather and the evolution of climate and its synergistic role in biological and geological evolution.

504

Human Ecology: Use of Natural Resources (Summer, SCEE)

This is an intense course that studies the interaction of humankind's political, social and technological activities with the environment. It explores the topics of energy, water use, solid waste, soil conservation, regional planning, hazardous waste, drinking water and other topics through field trips and guest speakers.

Prerequisites: ES 501, and at least one other ES content course recommended.

505

Earth Science (Spring, SCEE)

This introduction to physical geology emphasizes processes involved in rock formation and alteration of the lithosphere. It includes actions of wind, water, chemical substances and living organisms during weathering and erosion. Also stressed are the role of plate tectonics on continental and ocean basin evolution and human impact on mineral resources. It requires laboratory activities and some Saturday field trips.

506

Society and the Environment (Spring, Summer, SCEE)

Designed to provide a clearer understanding of how environmental value systems evolve for individuals, groups, political systems, nations, cultures and civilizations, this course examines a broad range of environmental issues facing the human race from the perspective of various value systems.

Prerequisites: ES 501 and either ES 502, ES 503 or ES 505 are recommended.

507

Urban Ecology (Spring, odd years, SCEE)

An exploration of the depth and breadth of ecological concepts that are involved with urban settings, this course utilizes the city environment as the classroom, with topics such as the city as a classroom; energy flow in the city; schoolyard ecology; populations and communities; urban geology; city water; solid waste; and city wildlife. This course consists of class work, fieldwork in urban settings close to the SCEE, and two long Saturday field trips.

511

Aquatic Ecology (Fall, SCEE)

Through field trips and laboratory experiences, this course is an investigation of the basic ecological concepts that permit aquatic systems to function. Topics include pond, stream, river and fresh water marsh ecology, basic water chemistry, and human impact on aquatic resources.

561

Special Studies in Environmental Education (Summer)

This course is designed to provide an overview of various ecological concepts and/or environmental education curricula.

History Courses (HS)

420

Topics in American History (Fall, odd years)

This is an investigation of the issues and interpretations of a major topic or period in American history through readings, reports and group discussions. Possible topics include the Civil War and Reconstruction; the Age of Enterprise: 1877–1917; the Emergence of Democracy: 1789–1840. May be repeated for credit on a different topic.

422

Sports in America

Sports are a multibillion dollar part of America culture in the 21st century. Sport has been integral to this nation's development. Sports in America traces how sport developed from informal activities to the spectacle of today's professional sports. Sports have become part of America's culture and Sports in America studies how it has been impacted by and has impacted society. All of the social movements of the 20th century find sports as an important aspect from the Progressive Era through the fight for homosexual rights. Sports have also been portrayed by media and the entertainment industry. Students of Sports in America will view sports movies to analyze how the sports and history are portrayed on film. Students will study and debate the course that Sports have taken in American history. Open to all majors.

425

European Fascism: Fascist Italy and Nazi Germany

This course focuses on Fascist Italy and Nazi Germany. Origins, nature and demise of fascism are discussed. Particular attention is paid to the crisis that produced fascism; to the hyper-nationalism and racism of the Italian and German

Cognate Courses at Arcadia University

movements, respectively; to the outbreak of World War II; and to the Nazi holocaust against the Jews. Offered in 2005 and alternate years.

426

Age of Dictators—Hitler and Stalin

This comparison of Nazi Germany and Stalinist Russia, and of their respective leaders, Hitler and Stalin, examines the roots of Nazism and Communism; the personality development of Hitler and Stalin; their rise to power; what they did with their power; their great showdown in World War II; and the legacies and significance of Nazism and Communism to the modern world.

530

Recent America, 1900 to 1945

Selected political, economic, social and foreign policy problems in American history from the Progressive movement to the end of World War II. Includes supervised reading, research and group discussions. Offered in 2006 and alternate years.

431

Contemporary America, 1945 to Present

This intensive seminar examines the events and issues of the post-war era. Possible topics for research and discussion include the Cold War, the Fair Deal, McCarthyism, Vietnam, the New Left, Watergate and others as appropriate. Offered in 2006 and alternate years.

435

Vietnam Wars

Examines the origins, experiences, and consequences of the Vietnam War. Readings, discussions and assignments will focus on the political, social, and military forces that shaped the contours of the conflicts between 1945 and 1975. Central themes include the emergence and evolution of Vietnamese nationalism, the global Cold War, the American anti-war movement, and how tens of millions of Southeast Asian and American lives were transformed by the conflicts. In addition, significant attention also is paid to the ways that the war has continued to have an important impact in the years since the cessation of fighting—from Vietnam's postwar economic development and lingering social environment scars to the United States' Vietnam-influenced foreign policy, domestic politics and popular culture.

436

Women in Western Society

This study of the place of women in Western History concentrates on the following: early Christianity, the Renaissance, the Great Witch Hunt; Modern Views on Women including J.S. Mill and Sigmund Freud, Modern Feminism, and

a cross-cultural comparison via Chinese footbinding and African-Asian genital mutilation.

440

Ancient Greece, from Homer to Alexander the Great

This course introduces students to the culture and personalities in the classical Greek world. It focuses on the achievements of ancient Greek civilization until Alexander the Great's conquests. Topics include: The emergence of Greek civilization; Homer; the rise of Athens and Sparta; the wars against Persia; the flowering of classical culture; the Peloponnesian War; everyday life; sexuality; the status of women; the rise of Alexander the Great and his imperial conquests.

441

Special Studies in Ancient History: Ancient Rome

The rise and fall of Ancient Rome and the emergence of early Christianity. Topics include Rome's rise to empire; gladiators; slavery; everyday life and sexuality; persecution of early Christianity; the rise and triumph of the Christian Church; and the destruction of the empire by German and other invasions

442

The Italian Renaissance

Even years

What was the Italian Renaissance, and what kind of society produced it? This course ranges widely across this famous phenomenon, including art, politics, sex and religion. Topics include the origins of the Renaissance; Florence, the leading city; Leonardo da Vinci; Michelangelo; the lives of women; and how and why the Renaissance came to an end.

444

Women/Man's World

Supervised fieldwork in institutions or agencies. Requires the preparation of a detailed proposal, in consultation with the Health Education Program Director, outlining the objectives of the fieldwork and how they are to be achieved. The proposal must be approved by the coordinator one month prior to registration for HE490. During the fieldwork experience, status reports will be required. Prerequisites: completion of all required coursework and permission of the program coordinator.

445

The City in American History

This seminar explores the development of urban society in North America from colonial commercial towns to today's troubled network of older metropolitan centers and suburbs. Topics

Cognate Courses at Arcadia University

for study and discussion may include the shaping of modern cities through growth, migration, and politics; cultures—ethnic, class, commercial, and otherwise—of the city; suburbanization and the “urban crisis;” and the future of urban America.

446

The Soviet Union

This study of the Soviet Union from the Revolutions of 1917 until the present begins with the last tsar and deals with the causes and nature of the revolutions, the political regimes since Lenin and the impact of Communism on life in Russia, particularly under Stalin.

450

Turning Points in Western History

This course examines key turning points in Western History. It begins with Ancient Israel and its religious revolution, through the emergence of the West’s global dominance, beginning in the 15th century, thence to the responses of indigenous peoples and their struggle for political independence, finally to 9/11 and the current U.S. led war on international terror.

455

The World at War, 1914 to 1945

This course examines the origins, nature, variety, impact and legacy of the multiple wars in the period from World War I to World War II. It focuses on World War I; Soviet Russia and communist class warfare as social war of radical modernization; Fascism/Nazism and war as nationalist-racist expansionism; Japanese imperialism; and World War II.

456

Civil War and It’s Aftermath: 1850-1890

Intensive examination of the origins and course of the Civil War, Reconstruction, and the emergence of an industrial society on the verge of great power status. Offered in even years.

460

Modern Italy

Course covers the dramatic, eventful history of modern Italy including the wars of national unification, rise of fascism, disastrous defeat in World War II, rise of the mafia, surge of political terrorism in the sixties, recent economic prosperity, and the current dilemmas of illegal immigration, all in international context.

466

World in Turmoil: The Mediterranean World, from the Fall of Rome to the First Crusade

The period from the fall of Rome and triumph of Christianity through the rise of the Arabs and Islam and thence the collision of the two faiths in the first crusade is of momentous historical significance. It saw: the shattering of a six-hundred year old empire that had embraced the entire Mediterranean world; the replacement of a classical pagan civilization by a new otherworldly religious vision; a time of troubles plagued by mass migrations, wars and invasions; the rise of yet another monotheistic religion which, with the Arab invasions, would come to dominate huge swathes of the Mediterranean world; and the paradigmatic collision of the two rival exclusivist monotheisms in the era of the crusades.

By the end of the eleventh century, the world that Rome had unified for six centuries had fragmented into Latin/Germanic kingdoms in the West, the Greek/Byzantine Empire in the east, and the Arab Empire in Iberia, North Africa, and the Middle East. Thus was set the fundamental juxtaposition of civilizations in the Mediterranean world that endures through to the present. This era of profound transformation is examined through key episodes and turning points that illuminate the essence of the transformations that took place.

477

Labor in American History

Labor in American History studies the struggles of labor from the days of slavery and indentured servitude to the perils of outsourcing in a service oriented economy. The student will learn about the fight to organize labor and the constant tension between labor, management and government. Students will explore labor from many different perspectives as well as research developments in their own future careers.

480

Dangerous Continent: Europe 1945-2005

Examining Europe’s main events and processes during the years from 1945 to 2005. Coming after a disastrous half-century of the Great Depression, political extremism, and two world wars, Europe’s history after World War II is often seen as less momentous and essentially peaceful. In fact, this view is something of an illusion. While there were no world wars or great economic disasters between 1945 and 2005 Europe continued to be a key flashpoint for crucial, sometimes truly historic, developments – from the beginnings of the Cold War to the European powers’ loss of their vast overseas empires, from the fall of communism in the miraculous revolutions of 1989-91 to the

Cognate Courses at Arcadia University

disastrous disintegration of Yugoslavia in the early 1990s, from the sudden, unexpected presence of a large Muslim minority and all the tensions and dilemmas this presented to the al-Qaeda attacks of 2004 and 2005 in Madrid and London and the riots by youths of Muslim African heritage across France, in 2005.

The first date allows us to see how Europe attempted to begin anew, after the worst war in history, where Europe was one of the main theaters of operations. The latter dates allow us to see, in stark relief, how Europe had changed over the subsequent six decades and how it is now grappling with its new, unexpected religious and ethnic diversity.

485

Topics in History

The content and prerequisites for this course vary on the nature of the topic covered.

589

Independent Research

Independent project involving the selection of an historical topic of individual interest and value. Requires the preparation of a research paper under faculty guidance.

Prerequisites: at least two graduate courses in history at Arcadia University and permission of the Department Chair.

International Peace and Conflict Resolution (IP)

501

Introduction to Peace Studies & Conflict Resolution

This course provides a graduate level introduction to the interdisciplinary field of Peace and Conflict Studies, its relationship with other academic disciplines, and to careers in the field of conflict resolution. It draws upon a variety of disciplines, especially in the social sciences, to examine the interrelationship between personal, collective, national and global levels of violence and war and efforts to reduce it. Course objectives include familiarity with: the causes, symptoms and dynamics of conflict, violence, and war (from interpersonal to global) and conflict resolution.

502

Research Methods in Conflict Analysis & Peace Science

This course provides an essential introduction to the systematic analysis of conflict and to the

relationships that exist across the social sciences that inform our understanding of social conflict and the emerging field of Conflict analysis and Peace Studies. As such, the seminar introduces the basic approaches of conflict analysis and peace studies research. It familiarizes students with the diverse tools that are used to understand and analyze the emergence and evolution of conflict in a variety of settings. Initial sessions provide the intellectual foundation and theoretical framework for conducting conflict analysis and its relationship to principles in mediation and conflict resolution. Subsequent sessions apply the framework to selected domestic and international disputes and explore appropriate strategies for their resolution.

503

Culture and Conflict

Cultural differences among members of any group are frequently the source of misunderstanding and can lead to conflict. This course analyzes variables, trends, communication and conflict. Its focus is to gain cultural self-awareness, a new frame-work for understanding others, and strategies to makes progress through differences. Specific cultures and conflicts will be analyzed, compared and contrasted.

504

Foundations of Conflict Analysis

This course focuses on developing a student's ability to think critically, research effectively and build strong arguments. Through a combination of lecture and workshop style classes, student practice these skills while working on a research project relevant to their interest and course of study

505

Topics in Contemporary Conflict Resolution

This course is the second of two core courses needed for the online International Peace and Conflict Resolution Certificate Program. It is designed to follow and compliment IP501 and prepare the students for their chosen specialization. The primary goal of this course is to assist the student in understanding the constructs of contemporary conflict and match them to conflict resolution practices today. It looks at the way that conflict has changed in the second half of the twentieth Century, away from interstate to more intrastate conflict, and examines how this has affected conflict resolution practices. First by examining the reason for this change and the change in response needed to

Cognate Courses at Arcadia University

prevent, manage and resolve these conflicts. The course will draw on current examples of conflict and identify topics often related to conflict. Topics included in this course are: Gender, identity, health, refugees and human rights.

507

Foundations of Peace Education

This six-week online seminar course is the second in a series of four courses in the Graduate Certificate in Peace Education. The target audience for this course includes teachers who are already teaching or hope to teach in the U.S. public school or private school system. This course is fully online and asynchronous in order to support the needs of the working professional. Five units including audio lectures, course readings and writing assignments are easily accessed via Blackboard. Course covers the historical, cultural and political influences of U.S. based public education and examines the role of the federal, state, and local governments in educational policy, funding, assessment standards, and curriculum and instruction. Additionally, it assists students in developing a rationale for building and implementing multicultural curricula and develop strategies for deconstructing institutional and instructional barriers of multicultural and peace education. Note: This course will replace IP505.OL: Topics in Contemporary Conflict Resolution as the second course in the Peace Education Certificate Program. The first course in the series is IP501.OL: Introduction to Peace and Conflict Resolution. This course is not part of a Pennsylvania Department of Education Teaching Certificate and not related to teaching requirements

511

Introduction to International Law

This seminar introduces MA candidates to the fundamental rules and principles of public international law, including the concept of state sovereignty, implementation methods, the sources of international law and their significance, etc. Particular emphasis is placed on the peaceful settlement of disputes, including arbitration and international adjudication, and the rules governing the use of force and the responsibility for unlawful acts on the international plane. MA candidates, moreover, learn about legal reasoning and methodology, research methods in international law, and the use of international law in the course of conflict resolution.

512

International Protection of Human Rights

This seminar introduces MA candidates to the existing international norms and systems for the protection of human rights, including the United Nations, Inter-American, European, and African treaty systems and various specialized treaties and supervisory bodies. In addition, selected substantive rights will be discussed in detail, with an emphasis on a comparative analysis of the systems. A substantial part of the seminar is devoted to two simulations. Students will play the roles of individual petitioners, government agents, and international judges when handling human rights complaints from their initial stages to the handing down of final judgments. MA candidates will thus be enabled to apply their knowledge of legal reasoning and methodology in practice.

515

Mediation and Conflict Coaching

Conflict Transformation in general can be divided into three main areas based on the role of the conflict specialist. Conflict specialists work toward transformation as third party neutrals, as advocates, and as justice facilitators. In each area the conflict worker aims at empowering the disputants to make their own decisions, actively have a say in the processes, in short, author their own histories. This course focuses on two of those three areas: Mediation and Conflict Coaching. In this class students will learn the process and major skills in mediation (neutrality) and conflict coaching (advocacy). As an online course students will interact with other students, multimedia and various websites, and with the teacher. This course will give students a good sense of what happens in mediation and conflict coaching as well as practical exposure to the skills and strategies needed to be effective in both.

Note: This course will replace IP533 Conflict Transformation in the IPCR Conflict Management and Restorative Justice Certificate

520

International Security

The purpose of this course is to provide a thorough and in-depth analysis of international security issues, themes, theories and cases. We will examine security from three levels of analysis: the international system, state and domestic level politics and individual decision-makers. Within each level of analysis we will study various theories used to explain the

Cognate Courses at Arcadia University

sources of instability and stability in order to understand what drives state and actor behavior in terms of: foreign policy, war, cooperation, and expansion. We will also look at central themes in international security and a few cases where theories can be applied to help us understand crises, conflicts and instability. We will address questions like: what are the main threats to international security? How are these threats addressed or not by states and international actors? Why do states have, or not, nuclear weapons, and what role do international organizations and non-state actors play in security?

521

International Organizations in Dispute Resolution

International governmental (IGOs) and nongovernmental organizations (NGOs) are among the most important actors in international relations. After learning about their legal status and political role in the contemporary international system, candidates study universal, regional, and sub-regional IGOs working in a broad range of fields (e.g. the United Nations, the Organization of American States, the Council of Europe, and the European Union, OSCE, NATO, the World Bank, etc.) and analyze NGOs and their role in peace and conflict resolution and their interaction with states and IGOs.

522

Conflict Resolution in Deeply Divided Societies

This course focuses on understanding the phenomenon of conflict and war in deeply divided societies and to differing paradigms for building peace. The course first lays a foundation for interpreting the diverse landscape that has increasingly given rise to violent conflict during the transition to globalization and liberalization in the aftermath of the Cold War. The course then applies these perspectives to different concepts of peace building using current perspectives from the field of conflict resolution and from selected case studies of international and regional efforts to resolve conflict in divided societies.

523

Post Conflict Relief & Development

Fourteen of the twenty poorest countries are currently in or emerging from conflict. As a result, NGOs and their donors are increasingly grappling with the fine line between "development" and "relief." The first half of this course will examine traditional development approaches. Students

will learn about the different roles of donors (NGOs, bi-lateral, multi-lateral, and foundations), the relationship between donors and recipients, strategies, impact and effectiveness. The second half of the course will examine international efforts to consolidate and to jump-start a nation's social, economic, and political recovery from conflict. Students will then examine the continuum between development and relief, and the challenges it poses for the international community.

524

Conflict Management

Conflict is a normal and an inevitable part of our daily lives. It is present in most personal relationships, in homes, in schools, in the workplace, and among groups in our society. Conflict is often associated with destructive outcomes such as aggression, anger, damaged relationships, violence, and wars. However, conflict has a positive and productive side. Conflict presents an opportunity for personal change and transformation, strengthened relationships, improved communications, problem solving, collaboration, and social change. How conflict is managed influences whether conflict outcomes are constructive or destructive.

The objectives of this course are to increase awareness, develop skills, and gain knowledge of constructive conflict management processes and approaches. We will begin with deconstructing conflict and exploring how our personal histories affect our perceptions regarding conflict and our conflict styles. Interpersonal communication skills such as active listening and assertiveness will be developed. Students will be introduced to mediation, negotiation, and nonviolent action from both a practical and theoretical standpoint.

525

International Security

The purpose of this course is to advance a thorough and in-depth analysis of international security issues, themes, theories and cases. The course examines security from three levels of analysis: the international system, state and domestic level politics and individual decision makers. Within each level of analysis, the course studies various theories used to explain the sources of instability and stability in order to understand what drives state and actor behavior in terms of: foreign policy, war, cooperation, and expansion. It also looks at central themes in international security and a few cases where theories can be applied to help us understand crises, conflicts and instability. The course

Cognate Courses at Arcadia University

addresses questions such as: What are the main threats to international security? How are these threats addressed or not by state and international actors? Why do states have, or not, nuclear weapons, and what role do international organizations and non-state actors play in security?

527

Peace Education I: Theory & Principles

This course will provide a brief overview of the history of education as it has been employed for social change. It will explore Education for Transformation, Popular Education and Experiential Learning theories. The course will focus on the principles of peace culture as it applies to the classroom as well as overall school climate. Students that take this course can expect to develop basic knowledge of interpersonal conflict resolution and communication processes as well as understand how class, gender and race-bias are embedded in public education.

528

Peace Education II: Methodologies and Practical Application

This course will explore the methods teachers, counselors and conflict interventionists use to build a culture of peace in educational settings. Students will be required to investigate how these methods are applied in real world situations and learn how to evaluate their efficacy. Students will be assigned weekly readings containing peace education methods, case studies of practical application and theoretical framework of monitoring and evaluation of methods. Depending upon enrollment size, students will be assigned work groups where they will be required to respond to cohorts' postings. Topics covered in this course include: identification of one's own triggers and biases when dealing with students and school communities in conflict; the evaluate efficacy of various peace methods such as support groups, youth leadership programs, social justice curriculum, peace circles, peer mediation, victim offender conferencing and other restorative justice practices as they apply to specific school-community needs.

529

Advanced Mediation

This course is a practicum in advanced mediation/facilitation process. Students will examine the range of strategies available for managing conflict, including techniques that have proven most constructive in the field of peace

and conflict resolution: consensus-based and transformative mediation.

The first part of the course introduces students to the basic framework of mediation and examines three faces of leadership, how cultural differences affect communication, a study of the eight tools needed to mediate, and conduct simulations for several of the strategies for interpersonal, community and international mediation. The second part of the course is focused on a Practicum, examining conflict in a variety of contexts.

531

Law and Politics of International Migration

International governmental (IGO's) and nongovernmental organizations (NGO's) are among the most important actors in international relations. After learning about their legal status and political role in the contemporary international system, candidates study universal, regional, and sub-regional IGO's working in a broad range of fields (e.g. the United Nations, the Organization of American States, the Council of Europe, and the European Union, OSCE, NATO, the World Bank, etc.) and analyze NGO's and their role in peace and conflict resolution and their interaction with states and IGO's.

532

Advanced Seminar in International Law

This course focuses on areas of international law that are of special policy relevance to the field of peace and conflict resolution. Following a module format, students explore this evolving field through case studies, court decisions, and emerging international norms and agreements. Previously titled as: International Law II

533

Conflict Transformation

A practicum in the mediation process. It examines the range of strategic choices available for managing conflict, including techniques that have proven most constructive in the field of peace and conflict resolution: consensus-based mediation. The first part of the course introduces students to differing approaches to managing and resolving conflict, how the mediation process works and variety of contexts in which it is likely to be used with success. The second part of the course is devoted to designing and conducting a mediation on a selected case in contemporary international relations.

Cognate Courses at Arcadia University

534

Treaties in International Law

Introduces current issues on globalization, regional integration and economic development from an international law perspective. Topics covered include globalization, dispute settlement within regional integration agreements and GATT, human rights, the environment, and arms control. The approach will emphasize the role of treaty law in promoting international cooperation and conflict resolution through the study of the 1969 Vienna Convention on the Law of the Sea. Students will become familiar with treaty-making, negotiation and interpretation techniques.

535

Economics, the Environment and Development

This course examines a new class of conflict that has risen to prominence in the international arena: conflict that is rooted in environmental degradation and resource scarcity. The course covers emerging concepts of environmental security, that, together with other sources of tension, such as poverty, social inequity and ethnic intolerance are increasingly leading to violent conflict. Principles of international economics, regional development and the role of international organization are addressed as well as new paradigms for environmental conflict management and sustainable development.

536

Conflict Analysis

This course will explore the theory, methods and ethical perspectives of conflict analysis. The focus will be on root causes of contemporary conflict as it is acted out in inter-communal society. The goal of this course will be to expose students to the various qualitative methodologies peace builders use in mapping both inter-communal and international conflicts in order to develop critical thinking regarding a particular method's efficacy. Students will be assigned weekly readings by leaders in the field as well as case studies, and will be required to post responses. Depending upon enrollment size, students will be assigned work groups where they will be required to respond to cohorts' postings.

537

Restorative Justice

Restorative Justice has grown exponentially over the last 30 years, from a handful of programs offering victim/offender conferences to hundreds of programs worldwide and has become a social

movement. Very few people disagree with the need for to reform the present criminal justice system and suggestions for change abound: from privatizing prisons, to making laws more just and fair, to getting tough on crime, to creative experimental new programs in education, Restorative Justice is a growing social movement that begins with a fundamental rethinking of the very nature of what justice is. RJ offers a model that facilitates a vision of justice that is participatory for those involved in and affected by harmful behavior, potentially empowering to victims, offenders, and, in some cases, the affected community, and holds the goal of making right (as much as possible) the harm caused by the offending behavior. At present RJ is a fairly broad umbrella of practices, including victim-offender mediation, family group conferencing, peacemaking circles, victim-offender dialogue in crimes of severe violence, truth and reconciliation commissions, and others. The present course compares the ethos and implications these programs as they impact and/or challenge current judicial practices, explores strengths and weaknesses of Restorative Justice in current discussion, investigates emerging areas of practice such as in prison populations and schools, and traces the role of facilitators in Restorative Justice practices. As a social movement, Restorative Justice is inherently political, aiming to change the status quo. Therefore questions such as, "How can Restorative Justice change the body politic in terms of its understanding about justice?" "Who are the stakeholders in the present system and how can they be addressed?" and "What role can Restorative Justice play outside of the legal code or judicial system?" are raised.

541

Media in Conflict Resolution

542

International Health and Human Rights Seminar

This course explores relationships between contemporary political, socioeconomic, cultural, environmental and demographic conditions and their impact on health and human rights from an international perspective. A major focus of the course is the evolution of health care delivery systems and governmental and non-governmental responses to health and human rights challenges. Other topics addressed include structural adjustment, population dynamics, child survival policies, water and sanitation, HIV/AIDS, appropriate technologies, international organizations, traditional healing, pharmaceutical policy, and human resources development.

Cognate Courses at Arcadia University

543

Perspectives on Peace

Although religious differences often create barriers to peace making, and at times, people create conflict in the name of their religion, all the major religious traditions also have roots that go deep into the soil of peace making and peaceful living. This class explores the roots of peace making in Buddhism, Islam, Judaism, Christianity, Hinduism, Indigenous American Religions, and others, and from these roots build bridges of common ground, understanding and acceptance of the other. In addition to the five major religious perspectives studied, students will have an opportunity to explore a religious tradition of their own choosing and present a paper on it for class. The class will include lectures, large and small group discussions, role plays, visiting speakers, videos and student presentations.

585

Special Topics in International Peace and Conflict Resolution/International Studies (IS)

440

Law, Disorder & Globalization

In the late 20th century, there was a global turn towards criminalization and incarceration as responses to social problems—to “disorder.” While justified by claims about increases in crime, this “penal turn” often precedes such increases, and so cannot be explained by crime rates alone. The politics of crime are a useful way to examine many social and political changes, such as the criminalization of poor and African-American youth and “urban decline” in U.S. inner cities. This course will examine how these politics help construct inequality in the U.S.; we will also consider how they shape international relationships between the U.S., Europe, and nation-states in Latin America and Africa. As part of this, we will examine how criminalization creates social hierarchies, in which some types of people and some nation-states are seen as inherently criminal and disorderly. We will discuss a range of specific cases that allow us to understand the factors that motivate the penal turn, exploring the ways the penal turn has material consequences that encourage future criminalization, such as for-profit prisons.

530

Social Life of War: Political, Cultural and Identity Processes in Global Conflict

This course explores war and violent conflict from a socio-cultural perspective. Not only do war and

violent conflict result in humanitarian crises at the social level and atrocities and tragedy at the personal level, but they also fundamentally alter people's social worlds, life trajectories, imagined communities and understanding of their position in time and space. As economic and political structures become destabilized or changed, war and violent conflict radically rupture social realities in ways that outlive the original conflict. The course explores the ways in which war and violent conflict reshape social structures, create new cultural processes in reaction to altered reality, and reconstitute identities. Students read and discuss ethnographic accounts that show how war and violent conflict are experienced at the personal, cultural and social level. This course enhances and complicates understandings of what conflict is and what it means for people and social groups who are forced to endure it.

Mathematics Courses (MA)

402

Introduction to Analysis

(Spring, odd years)

This course is an introduction to the language, fundamental concepts and standard theorems of analysis.

Prerequisites: MA 203 and MA 221.

403

Topics in Analysis

This in-depth study of selected topics in real or complex analysis proceeds on the assumption that a more advanced and deeper understanding of mathematics can be both useful and interesting to teachers and students who are not research mathematicians. It features self-contained presentations, using concrete models for abstract concepts. For example, Fourier analysis is presented based upon the vibrations of musical strings. It focuses on the needs of secondary school mathematics teachers.

Prerequisite: MA 402.

422

Abstract Algebra

(Spring, even years; summer, odd years)

This introduction to groups with emphasis on developments leading to factor groups and group homomorphisms includes introductory study of rings and fields.

Prerequisites: MA 221; or permission of instructor.

Cognate Courses at Arcadia University

423

Number Theory

Individualized study in a selected area. Suggested topics include real variable (construction of the real numbers, metric spaces, properties of Riemann and Lebesgue integrals), topology (introduction to the theory of topological spaces). Prerequisites: senior standing and permission of the department chair.

425

Introduction to Number Theory

This survey of topics in the theory of numbers includes divisibility, Euclidean algorithm, linear Diophantine equations, congruences, number theoretic functions, primitive roots, quadratic residues and special topics such as Fibonacci numbers, cycle graphs and continued fractions. **Prerequisites:** Two courses in Calculus; or permission of the instructor.

430

Graph Theory and Combinatorics

(Fall, odd years)

Graph theory topics include planar graphs, Euler and Hamiltonian circuits, graph coloring, trees, depth-first and breadth-first search, and network algorithms. Combinatorial topics include arrangements and selections, generating functions, recurrence relations, pigeon-hole principle, and inclusion-exclusion. This course includes applications to computer science and business.

Prerequisites: MA 221 and MA 203.

431

Modern College Geometry

(Spring)

This examination of selected topics from Euclidean geometry and projective geometry introduces current software.

Prerequisite: Calculus II; or permission of the instructor.

441

Probability

(Fall)

This course is a study of discrete combinatorics, discrete and continuous random variables of one and two dimensions, expectations, commonly used probability models and normal approximation.

Co-requisite: MA 203.

442

Mathematical Statistics I

Spring

This is a study of probability theory, sampling theory, sampling distribution, confidence intervals and hypothesis testing and related topics.

Prerequisites: Courses equivalent to Arcadia courses MA 441 and MA 203.

443

Mathematical Statistics II

Fall

This course includes analysis of variance, analysis of covariance, multiple regression, multivariate methods. It employs the use of computers to analyze large sets of data. SAS programming language to analyze large sets of data.

Prerequisite: MA 442.

452

Differential Equations

(Spring, odd years)

This course is an in-depth examination of theory and methods of solution of differential equations. It includes computer utilization and applications.

Prerequisite: MA 203.

456

Numerical Analysis

Mathematical analysis of interpolation procedures, polynomial approximations, numerical differentiation and integration. Includes their applications to computers.

Prerequisites: Calculus III and proficiency in a high-level programming language.

460

Topics in Group Theory

Investigation of groups and their properties. Emphasizes applications of group theory as illustrated by work with crystal structures, group designs, symmetries both in art and nature and the work of M.C. Escher. Features classroom application of an abstract topic through student and instructor examples.

461

History of Mathematics

(Summer)

This historical development of the major ideas in mathematics begins with the Greek mathematicians and continues until the beginnings of the Calculus and group theory. It emphasizes the lives, times and contributions of the leading mathematicians in this 2000-year period. It stresses the contribution of problems unsolved and solved to further development of mathematical thought.

501

Survey of Math I

Cognate Courses at Arcadia University

502

Survey of Math II

Historical development of the major ideas in mathematics, beginning with the Greek mathematicians and continuing until the beginnings of the Calculus and group theory. Emphasizes the lives, times and contributions of the leading mathematicians in this 2000-year period. Stresses the contribution of problems unsolved and solved to further development of mathematical thought.

505

Probability and Statistics

Mathematical analysis of interpolation procedures, polynomial approximations, numerical differentiation and integration. Includes their applications to computers. Prerequisites: MA203, CS201; or permission from the instructor.

Music Courses (MU)

401

Seminar in Musicology

(Summer, odd years)

This seminar in the science of the study of music offers a chronological approach to history, literature and materials of music with special emphasis on research techniques, bibliography, reference materials and developing scholarly writings.

Prerequisites: One course each in music and literature.

403

Music in the Baroque Era

This is a comprehensive period course to further the understanding of significant developments in music during the Baroque period (1600–1750). It emphasizes composers, literature, styles and analysis of selected works.

406

Chamber Music

This is a chronological survey of chamber music from the origins to the present day. It emphasizes composers, works, stylistic tendencies, forms, analysis and performance considerations.

407

Survey of Opera

(Fall, Summer, odd years)

This is a brief history of the development of the opera from the 16th century to the present. It surveys the music and plots of standard operas. It includes detailed study and recognition of musical themes as related to the characters and the plot.

408

20th Century Music

(Fall, even years)

This is a detailed study of the composers, trends, styles and techniques in music beginning with the breakaway from Romanticism through the present day. It considers various philosophies, aesthetics and media.

409

Symphonic Literature and Analysis

This comprehensive study of composers and masterworks in the symphonic idiom from the 18th century to the present day emphasizes literature, style, structure and analysis.

410

Survey of Music in America

(Spring, odd years)

This is a comprehensive survey of music in America from primitive music through the present day. It emphasizes the contributions of American composers, performers, conductors, musicologists and educators. It focuses on significant literature and social, economic and nationalist causes affecting musical trends.

426

Practical Comprehensive Theory

This review of theory, harmony and counterpoint with emphasis on materials, techniques and pedagogy includes practical application and analysis combined with evaluation of contemporary techniques.

441

Swing and the Big Bands

(Fall, Spring, Summer)

This is a comprehensive study of the Swing Era and the Big Bands from the roaring twenties, through the great depression and World War II, with an emphasis on the music and those who created it, against the background of the social economic and political aspects of the times, and the technological developments that contributed to the spread of the art form.

474

Music in the Classical Period

(Spring, even years)

This study of 18th century styles, composers and masterworks stresses the techniques of listening and evaluation.

475

Modern Arranging Seminar I

(Spring, Summer, odd years)

This is a comprehensive study and practical application of existing and original materials for various kinds of professional and school performing organizations. The course is designed

Cognate Courses at Arcadia University

to acquaint students with the art of arranging in order to enhance their skills and perspective in the creative utilization of functional materials for practical use.

Prerequisites: A basic knowledge of music theory and harmony; MU 101 and MU 102 or the equivalent.

476

Seminar in Composition I

(Spring, Summer, odd years)

This is a seminar in creative work in the various techniques, devices, and methods of organization employed in the art of composition. The course is designed to acquaint the students with the various organizational styles of composing music, with the general objective of having them develop choices of their own in order to establish unique compositional languages.

Prerequisites: A basic knowledge of music theory and harmony, MU 101 and MU 102 or the equivalent; basic music history and literature.

689

Independent Research

Independent project in an area of individual special interest.

Prerequisites: Two graduate courses in music at Arcadia University and approval of the Department Chair. Not open to Special Status students.

Philosophy Courses (PL)

400

Ethics

Examination of theories of the nature, function and ground of moral judgement through the works of such philosophers as Aristotle, Hume, Mill and Kant. Includes contemporary value conflicts (e.g. capital punishment, abortion, truth-telling). Incorporates lecture and discussion.

405

Ethics of War

Consideration of the ethical issues arising from war. Topics include the development of just war theory (from Augustine to Walzer), arguments for and against pacifism; conventions of international law (Geneva Conventions and beyond); certain issues of modern war (strategic bombing, weapons of mass destruction, declarations of war, terrorism, guerilla war, hostage taking, espionage, rights of prisoners, interrogation. Some case studies, such

as Peloponnesian War (Thucydides), Crusades, medieval siege warfare, American Civil War (prisoner of war camps, Sherman's march to the sea), World War I (Lusitania, gas, aerial bombing), World War II (strategic bombing and Dresden, Hiroshima, Pearl Harbor, prisoner of war camps, assassination of Yamamoto, trial of Yamashita, Nuremberg Trials), Algerian War (Battle of Algiers, torture), Vietnam (My Lai, assassination, use of napalm), and Iraq (Guatánomo, Abu Ghraib, For upper level students and graduate students.

408

The Greek Mind

Overview of the roots of Western philosophy from the pre-Socratic period through Socrates, Plato, Aristotle and leading Hellenistic thinkers. Incorporates lecture and discussion.

409

Modern Philosophy

Survey of philosophy from the 17th through the 19th centuries, from Bacon to Nietzsche. Includes the responses to the scientific revolution, the roots of rationalism and empiricism and the romantic reaction of the 19th century.

423

Philosophy in Literature

Study of basic philosophical issues as expressed in significant works of literature. Includes such leading figures of the 19th and 20th centuries as Nietzsche, Dostoyevsky, Santayana, Kierkegaard, Sartre, Camus and others.

455

(How) Do We Know What We Know? Truth, Media, Politics

This course might be thought of as a combination of a course in epistemology, philosophy of science, and the ethics of journalism. The purpose of it is to raise questions as to the relationship between the problems philosophers discuss when they think of issues of truth and knowledge and the problems journalists have as they go about their profession. In particular, how do voters know what they are getting when the vote for a candidate in these days of spin rooms, sophisticated, poll-driven ads, "gotcha" questions—and when the voting public is segmenting into ever narrower politically defined niches.

Cognate Courses at Arcadia University

485

Special Studies in Philosophy

689

Independent Research

Individual project in philosophy under the direction of a member of the department. Prerequisites: two graduate courses in philosophy at Arcadia University and approval of the department. Not open to special status students.

Religion Courses (RE)

417

Religion and Its Expression in Literature

Through the readings of this course, the student will become acquainted with writers who have religious and spiritual ideas, concerns, questions and doubts. Some of the topics explored are: religious imagery, religion as an institution, historical and cultural influences, identity and community, authority and justice, atonement and redemption, meditation and harmony with nature. Selected authors are: James Baldwin, Berthold Brecht, Albert Camus, Nathaniel Hawthorne, Lao-tzu, Peter Matthiessen, Ian McEwan, Arthur Miller, and John Patrick Shanley.

420

Archeology and Religion

The class explores the use of archeology as a method of studying physical structures, scriptures, practices, and ideas that are associated with religion. The class addresses way in which archeology discovers artifacts and produces new descriptions of ancient ways of life. The course analyzes the way that archeology serves as a method of verifying or challenging the historical claims of many religions. Topics include the biblical archeology of the Holy Lands, the Exodus and the monarchy, the archeology of ancient Egypt, the underwater explorations off the west coast of India and the city of Alexandria, and the Mayan civilization and the practice of time-keeping, astronomy, and construction of temples and cities based upon the cosmos. The course includes a trip to the Penn Museum of Archeology, and guest speakers on related topics.

422

Religion & Personality: Psychology of Religion

Is religion beneficial or harmful to mental health? Does religion balance and heal the self or it is a

wish fulfillment, an illusion and neurosis? The conflict between Freud and Jung over the nature of religion is examined. The course explores Fowler and faith and the stages of religious development, James and altered states of consciousness, Maslow and peak experiences, cognitive psychology and Buddhism, and the role of the brain in religious experiences. The potential therapeutic effects of religious experience are assessed.

425

How Climate Change, Geography, and Technology Shape Religion

The course explores of impact of climate change, geography, and technology on religion during the period of 11,000 BCE to 200 BCE. Utilizing scientific methodologies such as climatology, ethnobotany, biological anthropology, archeology, evolutionary psychology, and cultural ecology, the course uncovers the material forces that shape religion after the end of the ice age. Among the issues to be considered are the global warming that accompanies the end of the ice age, the development of agriculture and the subsequent population explosion, aggrandizers and the emergence of religious elites, the use of megaliths and stone monuments to honor the dead and urban life. The course continues with an examination of the crisis of meaning that occurs in the age of empires and the emergence of the concept of individual salvation during the Axial Age. Finally, the course speculates, as we enter into the age of information and the potential of a new period of global warming, as to the impact of climate change, social media, and new technologies on the character of religion.

426

Dawn of Humanity and The Origins of Religion

The course examines evidence for the earliest forms of religious experience that mark the appearance of Homo sapiens in the Paleolithic and Neolithic periods. This evidence is explored from a multidisciplinary approach including cognitive and evolutionary psychology, biological anthropology, neuroscience, archeology, archeoastronomy and art history. A key consideration is the cognitive evolution of the brain and the power of brain to harness its own spiritual energy and power. Among the themes of the earliest manifestations of religious experience to be studied are archaic burial rites, Venus figurine, cave paintings, shamanism and burial mounds and henges. The link between these early forms of religions experience and later forms of religion will be outlined.

Cognate Courses at Arcadia University

428

The Future in Science and Religion

The class explores the influence of science on religion and culture in the modern and postmodern worlds. The course focuses on four themes of creation: the universe, life, human consciousness, and ecology of the earth. First, the class examines the sacred cosmology of Western Culture that is based upon the creation narratives of Genesis. Then, the class examines the scientific challenge of astronomy, biological evolution, the neuroscience and human consciousness, and the ecology movement. Issues such as Galileo and the Inquisition, the Theory of the Big band, evolution and intelligent design, human consciousness and religious experience, and ecology and global warming are examined. Graduate Humanities students as well as undergraduate majors in Biology, Chemistry, Physics, Psychology, Anthropology and Sociology are encouraged to enroll.

456

Topics in Biblical Studies

485

Special Topics: Religion

Theater Arts Courses (TH)

410

Theatre Production and Instruction

Review of theory, harmony and counterpoint with emphasis on materials, techniques and pedagogy. Includes practical application and analysis combined with evaluation of contemporary techniques.

420

Ritual to Theatre

This course begins by examining the place of ritualization as part of our biological heritage and then explores the cultural uses of ritual, performance and ceremony in both informal and formal interaction from a cross-cultural vantage point. Finally, the course examines a number of avenues by which traditions of performance may be integrated into the artistic investigation of self and society.

Prerequisite: Permission of the program Coordinator.

430

Directing for the Stage

This course is intended as an introduction to directing for the stage. The principles of working

with actors and leading a team of designers accompany a series of small assignments leading to a final directing project. The course includes theory and practice in play directing: play selection, play script interpretation, composition, movement, business management, casting, rehearsal, performance, director/designer and director/actor relationships. We will focus on perception and expression as a means of drawing inner and physical expression from others. It requires prompt preparation of scripts, direction of scenes and one-act plays, and theatre laboratory. Studio course with lab requirement.

Prerequisites: Two theater classes 200 level or above; permission of the program Coordinator.

440

Styles in Acting

The course is intended as a means to deepen and challenge the advanced actor's craft by applying acting skills toward the execution of several acting styles. The course seeks to provide students with abundant means of expression, derived from a study of many techniques, producing a flexibility which is not contradictory to their need-for-truth but will develop their range of creative freedom. Style, from whichever epoch, consists of form and content, the two being inseparable.

Prerequisite: Permission of the program Coordinator.

442

Acting and Directing for the Camera

Performance-oriented course designed to explore basic directing problems as they apply to work in front of the camera. Analyzes texts from dramatic literature, screenplays and teleplays. Includes performance and taping of scenes.

444

Acting Shakespeare

(Also listed as EN 450)

The course begins with helping the student to feel the very heartbeat of the work, the students/actors have to know how to decipher and understand a text that may feel strange on the tongue, and they have to discover the text's tone and tempo, mine its inner richness, and learn how to speak the text with ease. Lectures cover background with studio work and seminars built around improvised scenes along with scenes and monologues that are to be rehearsed outside the class for performance and critique during class.

Prerequisite: Permission of the program Coordinator.

Cognate Courses at Arcadia University

450

Play and Screenwriting

Fall, Spring

Using the creative approach, the course examines several forms of scriptwriting (e.g., playscript, the screenplay and scripts for audio/visual media), introduces tools of critical analysis through critique of student's original work, and presents practical aspects of marketing the stage of screenplay.

Prerequisite: Permission of the program Coordinator.

461

Seminar: Modern Drama

(Also listed as EN 461)

(Fall, Spring)

Founded on the premise that drama is a reflection of the values of the culture that created it, this course introduces students to the main movements in European and American theatre and drama of the past 120 years. After identifying the origins of these movements in continental Europe, students discover how these same movements found expression in contemporary theatre. The course also examines the changes in theatre practice during the period of time that it covers.

Prerequisite: Permission of the program Coordinator.

465

Children's Theatre

(Fall, Spring)

This study of theory and practice in play production for child audiences explores production techniques, the interrelationship with creative dramatics and children's literature, and the role of children's theatre in modern education. This is a course in the multiple aspects and practices of children's theatre in America. The course examines the theatrical conventions and structures of this distinct area of theatre. The course explores the multiple areas of children's theatre from performance to puppetry. The course includes writing a paper on a children's theatre or practitioner in America. The art of children's theatre is a loss of our present inhibition and a willingness to rediscover the child within. Students discuss and explore all areas of performing for children.

Prerequisite: Permission of the program Coordinator.

470

Advanced Workshop in Theatre

Individual or small-group projects in acting styles, directing full-length plays, scene and lighting design, theatre management, or other theatre areas. May involve directing or designing of a major college production, a formal advanced

class, or other approved topics. **Prerequisite:** individualized projects require the approval of the instructor or Director of Theatre.

540

Special Studies in Theatre Arts

This is an advanced course on special topics such as Solo Performance, Performance: From Ritual to Theatre, Autobiographical Adaptations: Ethnographic method of playwriting and performance; Spirituality and Theatre; Movement Theatre and the New Vaudeville, or New Perspectives on Theatre Adaptation. The course is designed as a means of addressing the interdisciplinary nature of the art of theatre and poses subjects of interest to students and faculty.

Prerequisite: Permission of the program Coordinator.