

## Humanities and Social Sciences

The Department of Humanities and Social Sciences provides a means for exploring human experience and is dedicated to the growth and support of the educated student. It provides a core curriculum that promotes effective communication skills, critical thinking, teamwork, information literacy, professionalism, ethical decision-making, and negotiation skills. Through study in these courses, students gain historical, cultural, social and global awareness, thereby challenging the intellect and instilling a basis for lifelong learning.

### *Curriculum*

The Humanities and Social Sciences curriculum provides 12 to 15 credits of courses for each technical program. All Humanities and Social Science courses require students to write, read, research, and to participate in discussions, group projects, and presentations. All of these skills are necessary ingredients for the successful student in any technical program, higher education, or in the workforce.

Two standard three-credit English courses, EN130 College Composition I, and EN140 College Composition II, are required for all students in the first two semesters.

The goal of these writing courses is to develop cognitive, as well as effective written and oral communication skills, which are supported and advanced by the technical programs. Students are expected to become independent writers, thinkers, and researchers by evaluating and assessing their own approaches and processes.

The department also offers many elective courses to satisfy the remaining 6 to 9 credits required. The remaining electives must include at least one course in Social Sciences. While the electives are designed to promote lifelong learning, these courses also build on the critical thinking, reading, and writing practiced in College Composition I and II. Throughout all courses, the department aims to instill a sense of professionalism, as well as socio-cultural and ethical awareness.

### *Outcomes*

Upon successful completion of the courses in the Department of Humanities and Social Sciences, the student will be able to:

- Demonstrate the ability to communicate effectively in various contexts, including personal and professional.
- Use information literacy, critical reading and thinking skills for professional and lifelong learning.
- Contribute effectively to a team with strong communication and sound negotiation skills.
- Express an awareness of historical, socio-cultural, global, and ethical issues.

### *Faculty*

Jackie Cornog, Chair; Jeff Van Dreason, Co-Chair

Instructor Staff: Sharon Bonk, Alexander Danner, Brittanie Greco, Michael Grigelevich, Ellen O'Keefe

**EE254 NETWORKING FOR END USERS 4 CREDITS**

This course is intended for those who need to install, configure, troubleshoot, repair computers or instrumentation to connect to the local area network in the workplace. Connections to wired 802.3 and wireless 802.11 networks will be discussed. *(Offered in the spring)*

**EL110 CIRCUIT THEORY I 4 CREDITS**

Introduction to basic DC Circuit Theory. Topics include introduction to SI units and a study of Ohm's Law and Kirchoff's Voltage and Current Laws; series, parallel, and series-parallel circuit analysis, and power and energy relations and analysis. Theory and application of inductors and capacitors. National Electrical Code application of DC Theory. Topics reviewed and reinforced in the accompanying laboratory exercises. *(Offered in the fall)*

**EL127 ELECTRICAL DESIGN AND LAYOUT I/ NEC I 5 CREDITS**

An introduction to the National and Massachusetts Electrical Codes and study of the fundamentals of electrical design, based on the requirements of these codes. Topics focus on residential applications and include polarity identification of systems and circuits; safety rules for working on electrical systems; electrical symbols; factors affecting conductor size and type of insulation; application of switches; and an emphasis on circuit wiring diagrams. Application of general wiring methods, boxes, fittings and cabinets. Laboratory included. *(Offered in the fall)*

**EL129 ELECTRICAL DESIGN AND LAYOUT II/ NEC II 5 CREDITS**

A continuation of the topics covered in EL127. Continued study of the National and Massachusetts Electrical Codes and fundamentals of electrical design. Topics include requirements for calculating branch circuit sizing and loading; principles of overcurrent protection; grounding and bonding; residential special purpose outlets; and Service-Entrance equipment and calculations. Laboratory included. Prerequisite EL127 *(Offered in the spring)*

**EL213 CIRCUIT THEORY II 4 CREDITS**

Continuation of topics covered in EL110. Emphasis will be on basic AC circuit concepts as applied to the generation of single-phase alternating current voltages. Analysis of Peak and RMS voltages. Study of the differences between sinusoidal and non-sinusoidal waveforms. Analysis of power in AC circuits and the effects of inductive and capacitive elements on electrical systems. Study and analysis of the relationships between voltage, current, and impedance in AC circuits. National Electrical Code application of AC Theory. Topics reviewed and reinforced in the accompanying laboratory exercises. Prerequisite EL110 *(Offered in the spring)*

**EL 214 LOW VOLTAGE SYSTEMS AND CONTROLS 4 CREDITS**

Topics include Fire Warnings and Security Systems, Fiber, Data and Communications Wiring and Systems. Study will focus on the application of the current National and Massachusetts Electrical Codes as they pertain to these systems. *(Offered in the fall)*

**EL222 ELECTRICAL DESIGN AND LAYOUT III/ NEC III 4 CREDITS**

Continued study of the National and Massachusetts Electrical Codes and fundamentals of electrical design as they pertain to Commercial applications. An introduction to a variety of wiring methods, including EMT, RMC, IMC, PVC, and types AC and MC cable. Topics include interpreting blueprints and specifications; calculating types of luminaires and their application; electrical loads; motor and appliance circuits, and feeder sizing. Laboratory included. Prerequisite EL127, EL129 *(Offered in the fall)*

**EL229 ELECTRICAL DESIGN AND LAYOUT IV/ NEC IV 4 CREDITS**

Continued study of the National and Massachusetts Electrical Codes with emphasis on advanced topics, including hazardous locations and requirements for special occupancies. Other topics include commercial branch circuits, feeders and electrical services; feeder diagram calculations; motor and motor control installations; motor load calculations; and principles of grounding systems and equipment. Laboratory included. Prerequisite EL127, EL129, and EL222 *(Offered in the spring)*

**EL240 ELECTRICAL MACHINERY I 4 CREDITS**

Study of the operating characteristics of single-phase and three-phase transformers, voltage and current transform ratio, transformer modeling. Effects of loads, voltage regulation, losses and efficiency. Study of the operating characteristics of DC generators such as shunt, compound, series and separately excited generators, voltage build-up, regulation and efficiency. Study of the operating characteristics of DC motors, counter emf, torque and starters. Study of single-phase and three-phase AC generators and motors. Laboratory included. Prerequisite EL110 and EL213 *(Offered in the fall)*

**EL241 ELECTRICAL MACHINERY II 4 CREDITS**

Continuation and advanced coverage of topics presented in EL240. Emphasis will be on the principles and characteristics involved in the modern day commercial and industrial usage of various electrical motors, generators, control circuits, transformers, pilot devices, schematic and ladder diagrams, and the introduction to the operation, connections, and programming of PLC's for the control of electrical machinery. Laboratory exercises with operating actual electro-mechanical machinery will allow students hands-on experience with the topics presented in classroom study. Students will be presented with the areas of the National Electrical Code that are pertinent to the material covered. Prerequisite EL240 *(Offered in the spring)*

## ACADEMIC COURSE DESCRIPTIONS

**EL243 PHOTOVOLTAIC DESIGN AND INSTALLATION 4 CREDITS**  
This 4-credit course will introduce students to the basic principles of photovoltaics. Topics will focus on site selection, panel types, storage centers, system design, and system application. Upon course completion, students will be able to install basic system components in accordance with the National Electrical Code and OSHA. Topics focus on photovoltaics and wind energy technology. The course prepares students for the North American Board of Certified Energy Practitioners (NABCEP) PV Entry Level exam. Prerequisite TS201, EL127, EL129, EL222, EL110, EL213, and EL240 (*Offered in the spring*)

**EN080 ACADEMIC LANGUAGE SKILLS 4 CREDITS**

**EN090 ACADEMIC LANGUAGE SKILLS 7 CREDITS**  
This Academic Development course is designed for English speakers of other languages who have a foundation in English structures and vocabulary that enables them to participate in social settings. The purpose of the course is to further develop language skills in order to facilitate the students' participation in an academic environment by using an integrated skills approach that focuses on: effective strategies for critical reading, rhetorical patterns, grammatical structures that often prove troublesome to second language learners, academic listening and comprehension and note-taking. In addition, the course will provide opportunities for students to develop effective discussion skills for the college classroom. (*Offered in the fall, spring, and summer*)

**EN091 READING AND WRITING FOR ACADEMIC SUCCESS 4 CREDITS**  
This Academic Development course integrates the development of both critical reading strategies and academic writing skills. Students are introduced to the writing process and a deeper understanding and application of academic writing conventions. In order to enhance their participation in an academic environment, students will develop critical reading, thinking, and writing skills by working through a set of high-interest readings. (*Offered in fall, spring, and summer*)

**EN110 ORAL COMMUNICATIONS 3 CREDITS**  
This course is intended to provide students with a basic understanding of the communication process and to enable them to develop their communication competence in various contexts. We will study the styles of speech used in these contexts, and will explore issues of audience, purpose, and tone. The course aim is to develop an awareness of the many ways in which we communicate with one another, and to promote confidence and overall speaking skills. The course will provide numerous and varied opportunities for students to practice communication techniques. At the conclusion of the course, all students should be knowledgeable of the elements of effective communication and capable of recognizing and participating in varied contexts. (*Offered in the fall and spring*)

**EN112 INTRODUCTION TO PROFESSIONAL COMMUNICATION 3 CREDITS**  
This course is intended as an introduction to provide students with a basic understanding of the communication process and to consider their competence as workplace communicators. The course focuses on gathering, organizing, and presenting written, oral, and visual information. Team-building skills are developed through collaborative learning environments. Technical communication skills are emphasized. (*Offered in the fall and spring*)

**EN130 COLLEGE COMPOSITION I 3 CREDITS**  
This course invites students to investigate the ways in which language is used in various settings. By examining how language is connected to issues of identity, students see the importance of using spoken and written communications appropriate to particular contexts. The course is structured around three main projects: a memoir where students explore their own experiences with language and identity, and two ethnographic studies where they look closely at two distinct communities, one informal and one professional, to see how people interact in those settings. The course calls for frequent informal written responses that build toward larger formal texts. Students are invited to become reflective of their writing processes as they are involved in a constant process of revising. They receive feedback from their instructor and classmates, and discuss many ideas and concepts in groups. (*Offered in the fall, spring, and summer*)

**EN140 COLLEGE COMPOSITION II 3 CREDITS**  
A continuation of College Composition I, this class considers many written genres while focusing on such issues as work, social class, culture, and identity. By examining these issues through the genres of journal articles, oral history, narrative, short story, poetry, drama, and film, students will build on their abilities to work reflectively, develop their responses, and incorporate the voices of others into their own texts through the use of quotations. Students will have the opportunity to write texts similar to the ones they are reading, as well as academic essays. Through the practice of close reading and expository writing, students will develop the ability to comment on not only specific genres, but also on the world around them. They will also have the opportunity to participate in the kinds of group and presentational work that might be practiced in a professional setting. Prerequisite: EN130 (*Offered in the spring and summer*)

**EN320 TECHNICAL COMMUNICATION 3 CREDITS**  
Principles of effective communication on both the employee and organizational levels are emphasized in this course. Students create professional written documents and there is a strong emphasis on oral communications. Through class discussions, working groups, and formal presentations, students will consider and present on various workplace scenarios. These situations will provide students the opportunity to practice negotiation, conflict management, ethical decision-making, leadership roles, and presentation skills. Professionalism in all forms of communication will be expected. (*Offered in the fall*)

**OP243 PRINCIPLES AND PRACTICES IN OPTICIANRY IV 3 CREDITS**  
 This course is designed to educate students in the technical skills of performing various procedures within the ophthalmic visual assessment area of a dispensary. The course will present technical equipment procedures, maintenance and use, as well as the skills needed in assisting Optometrists and patients with various procedures such as administering medicines and pharmacology identification and uses.

The clinical portion of this course will offer students an opportunity to gain real life exposure to the designing, fitting and dispensing of prescription eyewear in an optical business setting. The students will learn to operate an optical business, as well as the intricacy of quality patient care.

The optical shoppe is open during the regular academic year and is operated by the students under the direct supervision of licensed opticians. The operating clinic offers students the opportunity to learn the practical aspects of opticianry through weekly presentations and assignments, as well as actual patient care.

**OP245 VISION ASSESSMENT 3 CREDITS**  
 This course is designed to instruct the student in the theories behind the various tests given during a routine refraction. Topics include anatomy and physiology of the eye (review), mechanics of ametropias, epidemiology and etiology of refractive errors. Trends in visual acuity and accommodative / convergence relationships in the myopic, hyperopic and presbyopic eye will be discussed. Also included will be problems in binocular vision and retinoscopy.

**PH102 PHYSICS 3 CREDITS**  
 This course is an introduction to physics of mechanics and basic concepts in chemistry, including the study of motion, Newton's Laws, energy, conservation laws, physics of matter, temperature, heat transfer, the atom, the periodic table, chemical bonding, the Mole, and balancing chemical equations. There is no lab co-requisite for this course. *(Offered in the spring and summer)*

**PH 201 PHYSICS FOR ELECTRICIANS I 3 CREDITS**  
 This course is an algebra-based introduction to physics for students in the electrical technologies. Topics include but are not limited to, temperature, heat and its effects, electromagnetic waves, luminous flux and intensity, illumination, coulomb's law, electrical fields, magnetic fields, force on current carrying wire, and Faraday's Law. Prerequisite: MA 120. Co-requisite: PH 204 *(Offered in the spring)*

**PH 204 PHYSICS LAB 1 CREDIT**  
 This lab focuses on supporting the topics in PH 202. This lab offers the opportunity to practice laboratory techniques, data collection, and written reports. Topics include but are not limited to, temperature, heat and effects of heat, and mechanical waves. *(Offered in the spring)*

**PH212 PHYSICS I 3 CREDITS**  
 This course is an algebra-based introduction to the physics of mechanics that includes, a math review (algebra, geometry and trigonometry), scalars and vectors, force, mass, equilibrium, torque, acceleration, gravity, Newton's Laws, work, energy, power, impulse, momentum, circular motion and rotation of rigid bodies. Prerequisite: MA115 or MA120. Co-requisite: PH215 *(Offered in the fall)*

**PH215 PHYSICS LAB I 1 CREDIT**  
 This lab focuses on supporting the topics in the physics lectures, PH212 and PH222. This lab offers the opportunity to practice laboratory techniques, data collection, and written reports. Topics include kinematics and mechanics. *(Offered in the fall)*

**PH222 UNIVERSITY PHYSICS I 3 CREDITS**  
 The topics of PH212 are covered using calculus. A math review is not included. Co-requisite: MA240 and PH215 *(Offered in the fall)*

**PH223 UNIVERSITY PHYSICS II 3 CREDITS**  
 The topics of PH213 are covered using calculus. Prerequisite: PH222, Co-requisite: PH225 *(Offered in the spring)*

**PH225 PHYSICS LAB II 1 CREDIT**  
 This lab focuses on supporting the topics in the physics lectures for PH223. This lab offers the opportunity to practice laboratory techniques, data collection, and written reports. Topics include: mechanics, thermodynamics, harmonic motion, electric charge, and optics. Prerequisite: PH215 *(Offered in the spring)*

**SS105 TWENTIETH CENTURY HISTORY 3 CREDITS**  
 A concentration on major world events including significant social, economic and political shifts and changes viewed through various media including film, fiction, historical articles and non-fiction essays. Through discussions, written responses, presentations and creative projects, students will not only engage in historical studies, but will also use analytical and critical thinking skills to consider the ethical implications of historical events and to determine how accurately history is recorded, taught and represented in education, art, politics, the media and society.

**SS109 TECHNOLOGY AND SOCIETY 3 CREDITS**  
 This course examines the role of technology in contemporary social life. An overview of technological evolution and its impact on society from the Industrial Revolution to the present is explored, with emphasis on current technologies and the debates surrounding them. Through discussion, papers, projects, and presentations, students explore the impact of particular technologies on various aspects of human life, including society's increasing reliance on technology and the consequences on human existence.

## ACADEMIC COURSE DESCRIPTIONS

**SS115 INTRODUCTION TO PSYCHOLOGY 3 CREDITS**  
A basic course introducing the major content areas of psychology as a scientific study of human behavior and mental processes through an acquaintance with the fundamental process of human behavior. Topics include: the nature of psychology, biological processes, human development, individual differences, personality and mental health.

**SS135 INTRODUCTION TO ANTHROPOLOGY 3 CREDITS**  
An introductory course that studies human cultures across time and place in their various environmental and historical contexts. The majority of the course focuses on cultural anthropology, and the evolution and development of human societies. Some topics explored might be community, kinship, religion, economic structure, and political order. In addition, the ways in which culture shapes experience is discussed, and students will be called to recognize their role as both creators and byproducts of culture.

**SS205 CONTEMPORARY SOCIAL ISSUES 3 CREDITS**  
A course that analyzes in both empirical and theoretical terms many of the social problems currently facing Americans. Among these are deepening inequality and poverty among working and middle-class Americans, particularly racial minorities, women, and youth; related problems of racism and sexism; growing unemployment; deterioration of the health system; crime; and war and militarism. Strategies and political options for solving these problems are considered.

**SS215 RACE, CLASS, AND GENDER 3 CREDITS**  
This course will provide an analysis of society based on the interrelationships between these three factors and their influence on our social structure and behavior. There will be special focus on the ways in which any type of minority status impacts the social experience and the definition of personal and cultural roles. Both historical and contemporary perspectives will be explored through selected articles and films. Prepared and thoughtful discussion will be integral to the student's experience.

**SS233 FILM AND SOCIETY 3 CREDITS**  
Through the analysis of film and television as a text, this course explores social issues such as race, class, gender, politics, education, religion, social and historical change, and considers the ways film affects and is affected by society and social behavior. Students will reflect on the connections between film and society through in-depth discussions, presentations, readings, written responses, and research.

**SS235 FINANCIAL PLANNING AND PRINCIPLES 3 CREDITS**  
A study of the economic system in today's world: economic principles, money and banking, investments, insurance, risk management, real estate and other related subjects of interest. The course will provide a framework for personal economic planning and effective economic decision-making.

**SS245 PHOTOGRAPHY AND THE HUMAN CONDITION 3 CREDITS**  
This course provides students with a general introduction to photography as an art form and reflection of the human condition. In this course, students will study the history of photography, famous photographers and photographs, photographs as a record of their subject, and also the artistic value of photographs. Students will explore various photographs to consider not only their aesthetic value, but also the relationships between artist, subject, and audience, as well as the social, historical, and cultural significance of these images. Students will pay particular attention to the stories photographs tell, from their subject matter to the way they are composed. Students will consider these stories when viewing and also when taking photographs, telling stories of their own.

**SS255 SELECT TOPICS IN PSYCHOLOGY 3 CREDITS**  
An exploration of the ways in which human behavior and mental processes relate to everyday life. Basic concepts of psychology are introduced with special emphasis on their application to the students' understanding of themselves and their interactions with others.

**SS265 EXPLORING ETHICAL ISSUES 3 CREDITS**  
This course invites students to explore specific ethical dilemmas that arise in societal and professional settings and to consider how to approach and resolve these issues. Students have the opportunity to develop their abilities to reason and debate scenarios involving ethical questions. By developing practical models for thinking and refining techniques of approaching ethical dilemmas, students will pay particular attention to issues that arise in social and industrial settings.

**SS304 SOCIETY IN COMICS, MANGA, AND GRAPHIC NOVELS**  
Through an exploration of comics as text, this course will explore the role that comics and cartoons have played as forms of social critique, commentary, education, and protest throughout modern society. Students will examine a variety of forms, including editorial cartoons, comics, journalism, memoir/biography, literary fiction, and even manga and superheroes. Students will look at how these works have attempted to influence opinion on a range of social issues, including race, class, gender, politics, education, and religion, and will further reflect on how comics engage in social commentary through in-depth discussions, presentations, readings, written responses and research.

**SS309 GLOBAL TOPICS IN SUSTAINABILITY 3 CREDITS**  
Through study of films, readings, websites and political policy, students will explore ethical, economic and ecological principles of sustainability. Focus will be placed on discovering real ways individuals, organizations, and governments can manage resources in a responsible manner, with minimal impact on natural surroundings and climate. Discussion of solutions will include technological innovation, government and corporate policy, community organizations and individual advocacy.