Courses of Study

Courses of instruction at Hartwick College are offered primarily by departments, organized into three main divisions: the Division of Humanities, the Division of Physical and Life Sciences, and the Division of Social and Behavioral Sciences. These divisional groups indicate characteristic approaches to learning.

The humanities generally use the approach of studying human documents and artistic achievements. Courses of study offered by departments in the Division of Humanities include art, classics, English, French, German, music, philosophy, religion, Spanish and theatre arts.

The physical and life sciences provide experience in the scientific method as exemplified by laboratory and field research. Courses of study offered by departments in the Division of Physical and Life Sciences include biochemistry, biology, chemistry, computer and information sciences, geology, mathematics, medical technology, nursing and physics.

The social and behavioral sciences provide the experiences of gathering and analyzing social data. Courses of study offered by departments in the Division of Social and Behavioral Sciences include anthropology, economics, education, history, management, political science, psychology and sociology.

Courses of study offered by departments appear alphabetically by discipline in this catalog.

Course numbers indicate the following:
100-199 - introductory courses;
200-299 - courses, some of which are introductory, normally open to freshmen, sophomores and juniors;
300-399 - courses normally open to sophomores, juniors and seniors;
400-499 - courses normally open to juniors and seniors.

In addition, courses designated by the special code (W) fulfill the Level 3 requirement under the College-wide Writing Competency Requirement (see page 8).

Courses in the 100-199 and 200-299 series generally should be completed in the freshman and sophomore years.

Any course which meets a Curriculum XXI requirement has a notation at the end of its description, e.g., (NTW), (MWE), (SBA), etc. While some courses may be eligible to meet more than one requirement, the student must choose which requirement the course is to fulfill. A course may be used only once toward Curriculum XXI.

The College reserves the right to cancel any course which has an enrollment of fewer than eight students at the end of the preregistration period.

ACCOUNTING AND FINANCE

Accounting

Accounting’s focus on the preparation, communication and use of economic information for decision making is especially relevant in an information age. Accounting-based information is the central means of communicating within a business and to the business' stakeholders (e.g., employees, owners and creditors). It has been referred to as the language of business.

Hartwick's demanding accounting program requires and develops critical thinking, analytical ability and effective communication. At its core is decision making. The goal of Hartwick's accounting program is to develop well-rounded individuals who understand the role of accounting within society, possess a solid accounting foundation and are able to use their education in decision making. They should be able to adjust to a dynamic, continually changing economic environment, recognize the need for continual learning and be able to assist the profession in responding to future challenges.

Business leaders who have a strong accounting background have a significant competitive advantage and many chief executive officers are certified public accountants (CPA) or certified management accountants (CMA). As commercial, industrial and governmental organizations continue to become more complex and more global in scope, they will seek accounting students with good quantitative backgrounds and refined communicative ability. Hartwick's accounting program is designed to prepare graduates to meet these demands. The interdisciplinary accounting program coupled with Hartwick's distinctive Curriculum XXI requirements, offers students a quality accounting education within a liberal arts and sciences setting, an attractive combination to most organizations.

The two major tracks within accounting are financial reporting with a focus on external users (financial accounting), and the preparation, communication and
use of information within an organization (managerial accounting). In recognition of these alternative tracks, and to meet the varying needs of Hartwick students, two alternative interdisciplinary accounting majors and a minor are offered. The two accounting majors are the Accounting-CPA major and the General Accounting major. The use of computers is integrated throughout all the department’s courses, especially utilizing the Internet for research, spreadsheets for analysis, and accounting software programs currently used by small business.

The Accounting-CPA major is a registered licensed program that provides all the required technical courses for Hartwick students to sit for the professional CPA exam. Its focus is financial accounting. In addition to preparing, communicating and using information, the questions and dilemmas that underlie generally accepted accounting principles is investigated.

The General Accounting major allows students more flexibility within the accounting discipline. For example, students can choose courses that focus on managerial accounting and work toward taking the CMA exam and becoming professional management accountants. Students who complete the B.A. program in General Accounting are not eligible for CPA licensure.

The accounting minor offers advantages to all Hartwick students. It is a natural complement to majors in economics, information science, management and mathematics, among others. The minor helps prepare students for careers in business or in organizations that interact with business. It also provides an excellent foundation in the language of business for students planning to pursue graduate study in management.

A result of the interdisciplinary nature of the accounting program is the ease in double majoring (e.g., accounting and economics, information science, or management) or minoring in a related discipline (e.g., economics, finance, or management). For additional information, contact the department.

Finance Minor

Careers in finance include corporate finance officer, stockbroker, portfolio manager, financial analyst, banker and financial consultant. The three main areas of finance are corporate finance, investments and financial institutions. The finance minor will provide a foundation in these areas as well as in the related disciplines of accounting and economics.

A focus of the minor is corporate finance, which involves decision making within a firm. Corporate finance topics include underlying finance theory, financial analysis and planning, bond and stock valuation, working capital management, strategic long-term investment and financing decisions, and international financial management. Students majoring in accounting that are interested in a career in corporate finance should consider taking the Certified in Financial Management (CFM) exam.

The finance minor also will be beneficial for a student considering a career as a professional chartered financial analyst. The first of three professional exams tests finance, accounting, economics and quantitative methods. The interdisciplinary finance minor’s courses in finance, accounting and economics are a good beginning in preparing for this professional exam.

Faculty

Accounting and Finance Faculty Stephen A. Kolenda, CPA, Chair; Thomas G. Sears, CPA; Priscilla Z. Wightman, CPA

Courses

141 Principles of Accounting I The first of two courses designed to provide the fundamentals of accounting; focuses on the underlying concepts of accounting and their application to organizations with an emphasis on the sole proprietorship. The course takes the student through a full accounting cycle including the maintenance of journals and ledgers, and the preparation and analysis of external financial statements. Also examined in detail are various accounting systems, cash, receivables, inventory valuation, depreciation methods and liabilities. Prerequisite: None.

142 Principles of Accounting II A continuation of the underlying theoretical framework of accounting, with application to partnerships and corporations. Manufacturing companies are introduced along with expanded coverage of service and merchandising firms. Topical coverage includes the Statement of Cash Flows, revenue and expense issues, bonds, and stockholder’s equity. The course also covers issuing stocks and bonds, understanding the time value of money, preparing the Statement of Cash Flows, and expanded analyzing of financial statements. Prerequisite: Acco 141.

247 Managerial Accounting I The decision making role of the accountant in the planning, controlling and evaluation activities is analyzed. Emphasis is placed on review of modern organizations and their related problems in the areas of cost behavior analysis, choice of costing system, establishing standards and evaluating performance, short-term decision making and
### Accounting and Finance

**Requirements for the CPA Major** include 18 courses from the following:

<table>
<thead>
<tr>
<th>16 Required Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Courses (12 courses):</td>
</tr>
<tr>
<td>141 Principles of Accounting I</td>
</tr>
<tr>
<td>142 Principles of Accounting II</td>
</tr>
<tr>
<td>247 Managerial Accounting I</td>
</tr>
<tr>
<td>310 Business Law I</td>
</tr>
<tr>
<td>311 Business Law II</td>
</tr>
<tr>
<td>321 Intermediate Accounting I</td>
</tr>
<tr>
<td>322 Intermediate Accounting II</td>
</tr>
<tr>
<td>342 Taxation I</td>
</tr>
<tr>
<td>348 Statistical Analysis in Operations</td>
</tr>
<tr>
<td>421 Auditing</td>
</tr>
<tr>
<td>422 Advanced Accounting</td>
</tr>
<tr>
<td>490 Senior Thesis</td>
</tr>
</tbody>
</table>

**Economics and Finance Courses (3 courses):**
- 201 Microeconomic Principles (Econ)
- 202 Macroeconomic Principles (Econ)
- 327 Financial Management I (Fina)

**Recommended Elective Courses for Alternative Accounting Tracks:**
- Financial Accounting:
  - 421 Auditing
  - 422 Advanced Accounting
  - 431 Accounting Theory
  - 395, 495 Internship in Accounting

- Managerial Accounting:
  - 348 Statistical Analysis in Operations
  - 349 Managerial Accounting II
  - 395, 495 Internship in Accounting

Although completion of the general accounting major does not qualify students to take the CPA exam, it provides valuable information for preparing to sit for the CMA and CFM exams. Students who wish to take the CPA exam should complete the requirements of the accounting CPA major.

Grades for all courses required for the major (including those from other departments) are used to calculate the average in the major for Departmental Distinction.

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long-term capital budgeting. Also covered are responsibility accounting, divisional performance measurement and control, and evaluation of cost centers. Prerequisite: Acco 142.

**310 Business Law I** An examination of the legal forms of business enterprise and an analysis of specific sections of the uniform commercial code dealing with contracts, sales, commercial paper, bailments, secured transactions, suretyship, guaranty and bankruptcy. The essential principles of the law are applied to typical business management problems and the decision-making process. No prerequisite. (SBA)
311 Business Law II A continuation of Business Law I's examination of the modern American legal system's relationship with business. Continuing to emphasize the application of the Uniform Commercial Code, this course examines real and personal property laws, as well as employment-related topics such as labor laws and the Occupational Safety and Health Act. Governmental regulation is explored in antitrust and consumer protection (including product safety, credit and advertising laws). Several current topics are analyzed through case analysis, including the role of the corporate lawyer and the rise of white-collar and computer-related crime. Prerequisite: Acco 310. (SBA)

321 Intermediate Accounting I A concentration on the analysis of accounting data with an emphasis on the synthesis of theory with problem application. Intermediate level topics include cash, receivables, inventory valuation, and the use and disposal of long-term assets, both tangible and intangible. Prerequisite: Acco 142.

322 Intermediate Accounting II A continuation of the analytical approach begun in Intermediate Accounting I. Topics include contingent and long-term liabilities (including pensions, taxes, and leases), the stockholders' equity section, the Statement of Cash Flows, and the application of income and expense recognition principles. The technical rules, alternative presentations, and ethical dimensions of financial disclosures are also explored. Prerequisite: Acco 321.

342 Taxation I A study of the federal tax structure and current laws and regulations contained in the Internal Revenue Code. Emphasis is placed on the theoretical foundation and practical application of various tax components as they relate to individuals (including computerized tax preparation). Also included is an introduction to corporation and partnership taxation. Students are introduced to the process involved in creating tax law and will use the Code and related regulations and rulings to research tax policies. Prerequisite: Acco 142.

344 Taxation II An emphasis on tax provisions as they relate to partnerships, corporations, estates and trusts. There is also analyses of tax topics involving more complex areas relating to individuals and a greater emphasis on research techniques. Prerequisite: Acco 342.

348 Statistical Analysis in Operations This course focuses on providing products and services and includes an analysis of the production/operations function in manufacturing, service and other non-manufacturing firms. Topics include productivity, competitiveness, quality, forecasting, product and service design, facilities layout and location, work environment design, and inventory management. Tools used include statistics, decision theory, forecasting techniques, linear programming and learning curves. Prerequisite: Acco 247. (SBA)

349 Managerial Accounting II Through use of a textbook, readings, problems and cases, this course provides expanded coverage of Managerial Accounting I topics such as costing systems (job order, process, operations, activity based), budgeting, standard costs and performance evaluation, and cost-volume-profit analysis. In addition, there is a focus on international
considerations and quality control related issues. This course provides useful preparation for the Certified Management Accounting examination. Prerequisite: Acco 247.

421 Auditing A study of auditing concepts and procedures with emphasis on analytical techniques and tools, such as statistical sampling and the application of electronic data processing. Also examined are professional ethics, legal responsibility, internal control evaluation, evidence gathering and audit reporting. Prerequisite: Acco 142. (SBA)

422 Advanced Accounting An examination of complex areas of accounting including governmental and not-for-profit fund accounting, partnerships (organization and liquidation), and corporate combinations. Also covered is home/branch office and franchise accounting, as well as multinational corporate accounting issues Prerequisite: Acco 322.

431 Accounting Theory A capstone course with expanded coverage of the various trends and controversies in accounting. Current literature and the views of practicing professional accountants are examined in such areas as accounting in a multinational economic environment, ethical disclosure practices and reaction to governmental regulation of accounting rules. Prerequisite: Acco 322.

490 Senior Thesis This final course requires each accounting major to write, in consultation with an accounting faculty member, a research paper which demonstrates the ability to investigate and analyze some current accounting issue/topic and effectively communicate the results of the research. The thesis integrates accounting's conceptual framework, and should include the formulation of a hypothesis capable of public defense. Prerequisites: Acco 322 and senior standing

395, 495 Internship in Accounting This course provides opportunities to further the professional career development of students. Placements are designed to utilize academic concepts in a work setting and to bring practical knowledge of a functioning business back to the classroom. Prerequisites: junior or senior standing, accounting major/minor or finance minor, permission of the department, and satisfactory internship qualifications.

Finance Courses

327 Financial Management I Analysis of the conceptual framework of financial management, theories and procedures relevant to the effective utilization of capital and asset management. Topics include working capital management, forecasting, capital budgeting, evaluation of sources of capital, as well as expanding previous coverage of financial statement analysis. Prerequisite: Acco 142. (SBA)

328 Financial Management II Through use of a textbook, readings, problems and cases, the course will provide expanded coverage of the content of Financial Management I. Topics include finance theory and the economic environment in which it is applied, forecasting, working capital management, capital budgeting, dividend policy, determination of a firm's optimal financial structure and international finance issues. Prerequisite: Fina 327. (SBA)

345 Personal Financial Planning Recent national debates about Social Security, health care and other issues that impinge on the economic position of every individual and family strongly suggest that careful planning is imperative for personal financial security. This course is designed to consider the various financial decisions that people ought to make and to describe some of the methods for determining future financial needs. The analysis includes the assessment of family net worth, credit considerations, insurance requirements, and family budgeting, with a focus on investment planning and retirement planning. Prerequisites: Fina 327.

360 Investment Analysis and Financial Markets This course focuses on the securities markets and analytical techniques for the valuation of securities. Topics covered include financial markets, portfolio theory and management, valuation of financial securities, as well as the international dimensions of these areas. Prerequisite: Fina 327.

381 Financial Institutions This course investigates the intermediary functions that financial institutions provide for savers and investors, with emphasis on the central position of banks. Financial institutions covered include insurance companies, mutual funds, and pension funds. Interest rates and the role of the Federal Reserve system are examined. Prerequisite: Econ 202. (SBA)

395, 495 Internship in Finance This course provides opportunities to further the professional career development of students. Placements are designed to test academic concepts in a work setting and to bring prac-
tical knowledge of a functioning business back to the classroom. Prerequisites: Prerequisite: junior or senior standing, accounting major/minor or finance minor, permission of the department, and satisfactory internship qualifications.

ANTHROPOLOGY

Anthropology is devoted to the holistic study of humankind, understanding and explaining human beings in all of their diverse aspects at all times and places. Teasing out the origins of Homo sapiens from fossilized bones, discovering the common humanity among different cultures, exploring why contemporary peoples do what they do—all are part of this wide-ranging and fascinating field.

Anthropology at Hartwick addresses three major sub-areas: cultural anthropology, biological anthropology and archaeology. Cultural anthropologists explore the varying beliefs and practices of the world’s societies, both non-Western and Western, in contemporary and historic times. Biological anthropologists investigate the interaction of culture and biology in the evolution of and current biological diversity within the human family and our nearest relatives. Archaeologists reconstruct the ways of life of past societies by excavating and interpreting their artifacts and other material remains. Thus, anthropology bridges the natural sciences, the social sciences and the humanities.

The study of anthropology can broaden students’ perspectives on and understanding of other people and cultures as well as their own. Courses in the discipline are valuable components of an education designed to prepare students for a future characterized by growing social and global interdependence.

Students majoring in anthropology take a core of preliminary courses in cultural and biological anthropology and archaeology followed by seminars that survey anthropology’s particularly rich historical and theoretical insights. Students may use electives to specialize in one of the three major sub-areas and in a particular culture area of the world (e.g. native North America, Africa, Europe, Asia). At the philosophical level, students are guided toward an awareness of the ethnocentrism implicit in our own Western ways of thinking as well as toward a sensitivity to the traditions of other, non-Western cultures. In addition, all students are encouraged to master the more practical anthropological skills in courses dealing directly with field, museum, lab, computer and other analytical methods.

The department offers a number of special opportunities: a field school in archaeological excavation; off-campus programs in other countries; courses, training and exhibitions dealing with the many unique collections of North American Indian artifacts found in the Yager Museum; and the Hardy Chair Lecture Program featuring world-renowned anthropologists. Students especially interested in museum work can complete Hartwick’s museum studies concentration in addition to the anthropology major or minor.

Hartwick’s anthropology graduates have successfully taken on a diversity of career challenges from law and medical school, business, education, international relations and government service to archaeological excavation and doctoral programs in anthropology. They have used their understanding of people and their similarities and differences to pursue careers in museums, community relations, journalism, human resources management and social services. Whatever their specific goals, however, anthropology students emerge with a conscious appreciation of and sensitivity to the critical issues of cross-cultural differences, as our society engages in increasingly intensive relationships with peoples of other cultures and languages.

Faculty
Anthropology Faculty: Connie Anderson, chair; David Anthony; James Igoe; Michael Stone; Michael Woost

Courses
105 Introduction to Anthropology An introduction to anthropology and the study of human culture. Basic concepts, aims and methods of biological, archaeological and cultural anthropology. Emphasis on the origins of humankind, the relationship of the human past to present and the comparative study of contemporary cultures. Required preparatory course for anthropology majors. (NTW) or (SBA)

223 Cultural Anthropology The comparative study of cultures and societies. The nature of culture and its relation to society; patterns, similarities and differences found in material culture, language, and kinship; economic, political and religious institutions of different peoples; and their interpretations. Required core course for anthropology majors. Prerequisite: Anth 105. (NTW) or (SBA)

225 Fundamentals of Archaeology The systematic study of the fundamental principles of method and theory in archaeology: establishing cultural chronologies, reconstructing extinct life ways and interpreting the archaeological record. General theory in archaeology. Contemporary archaeology. Required core course for anthropology majors. Prerequisite: Anth 105. (SBA)
## Anthropology

### Requirements for the major:
Design a program, with the guidance of an advisor, which includes a minimum of 12 approved courses, distributed as follows:

<table>
<thead>
<tr>
<th>One preparatory course:</th>
<th>105 Introduction to Anthropology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four core courses:</td>
<td>223 Cultural Anthropology</td>
</tr>
<tr>
<td></td>
<td>225 Fundamentals of Archaeology</td>
</tr>
<tr>
<td></td>
<td>235 Biological Anthropology</td>
</tr>
<tr>
<td></td>
<td>388 Classics of Anthropological Thought</td>
</tr>
<tr>
<td>At least one area course, selected from:</td>
<td>237 Peoples and Cultures of...</td>
</tr>
<tr>
<td></td>
<td>239 Old World Prehistory</td>
</tr>
<tr>
<td></td>
<td>241 Native North American Prehistory</td>
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<td></td>
<td>335 Third World Studies...</td>
</tr>
<tr>
<td>Five additional anthropology courses, including two at the 300 level</td>
<td>490 Senior Seminar/Cultural Dynamics</td>
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<tr>
<td>(must earn a minimum grade of C)</td>
<td>497 Senior Thesis</td>
</tr>
</tbody>
</table>

### Requirements for the minor:
With an advisor, design a program with a minimum of seven approved courses, distributed as follows:

<table>
<thead>
<tr>
<th>105 Introduction to Anthropology</th>
</tr>
</thead>
<tbody>
<tr>
<td>One area course, selected from:</td>
</tr>
<tr>
<td>237 Peoples and Cultures of...</td>
</tr>
<tr>
<td>239 Old World Prehistory</td>
</tr>
<tr>
<td>241 Native North American Prehistory</td>
</tr>
<tr>
<td>335 Third World Studies...</td>
</tr>
</tbody>
</table>

| 223 Cultural Anthropology         |
| 225 Fundamentals of Archaeology   |
| 235 Biological Anthropology       |
| 388 Classics of Anthropological Thought |

| Two additional anthropology courses, including: |
| At least one course at or above the 300 level |

Grades for all courses taken in anthropology are used to calculate the average in the major for Departmental Distinction.

### 235 Biological Anthropology
A review of current evolutionary theory as it applies to the fossil evidence of human evolution; human genetics and natural selection today; genetics and environmental factors in the origin of humans; introduction to primate behavior and ecology. Required core course for anthropology majors. Lectures and laboratory. Prerequisite: Anth 105. (SBA)

### 237 Peoples and Cultures (of selected areas)
Survey of peoples and cultures of different regions of the world including: Native North America, Mesoamerica, South America, Pacific Islands, Africa, the Middle East, Caribbean, American Southwest, Asia. Specific emphases depending on instructor. May be taken more than once for credit. Prerequisite: Anth 105. (NTW) or (SBA)

### 239 Old World Prehistory
A survey of major developments in Old World prehistory including: the origin of technology, food production and complex civilizations. Emphasis on Near East and Europe. (SBA)

### 241 Native North American Prehistory
Survey of major developments of the prehistory of North America from the peopling of the continent to the arrival of Columbus. Emphasis on the origins of domestication and development of complex societies. (SBA)

### 250 Topics in Anthropology
Special topics of current interest are considered in depth. Examples: Ethnohistory; Utopian Societies; Language and Culture; Political Anthropology; Applied Anthropology; Contract Archaeology; Anthropology of Music; etc. More than one topics course may be taken for credit. Prerequisite: Anth 105 or as specified.

### 305 Hunters and Gatherers
Comparative analysis of hunting and gathering societies in today’s world as well as the prehistoric past. Emphasis on specific cultural groups and environments to demonstrate diversity and continuity; examination of such societies as exemplars of “human nature.” Prerequisite: Anth 105. (NTW) or (SBA)

### 307 Sex and Gender
A critical examination of anthropological data and theory on sex and gender, comparison of biological and social explanations, stereotyping of sex roles in different societies and the gender component in social relations. Prerequisite: Anth 105. (NTW) or (SBA)

### 311 Kinship and Marriage
Fundamentals of social organization and the formation of groups; marriage, family, kinship and descent; social stratification and alliance in cross-cultural perspective. Prerequisite: Anth 105. (NTW) or (SBA)

### 322 The Anthropology of War
Cross-cultural description of warfare and organized violence, and critical
evaluation of explanations of the causes of war. Consequences of war for demography, biology and culture. Peaceful and violent means of conflict resolution. Prerequisite: Anth 105. (SBA) or (NTW)

325 Material Culture Analysis in Anthropology Firsthand experience in laboratory and quantitative analysis and interpretation of prehistoric and contemporary ethnographic artifacts: implements of chipped stone, bone, wood, pottery, basketry, ritual objects. Three perspectives will be emphasized: technology, function and style. The behavioral and cultural implications of the analyses will allow students to see for themselves how economic, stylistic, symbolic and chronological interpretations are made from material culture. Prerequisite: Anth 105. (SBA)

326 The Anthropology of Religion The relation of religious belief and practice to patterns of culture and society; mythology, magic, sorcery, witchcraft, sacrifice, supernatural beings, shamanism, divination and totemism in traditional and modern societies with focus on non-Western traditions; religion and culture change. Prerequisite: Anth 105. (NTW) or (SBA)

327 Psychological Anthropology A study of personality development in cross-cultural and historical perspective: an examination of the biosocial basis of the self; socialization patterns, life cycle characteristics and configurations of adult personality in various cultures; contrasts in primitive and modern cognitive styles; contrasts in definitions of mental health and illness. Prerequisite: Anth 105. (NTW) or (SBA)

335 Third World Studies Studies of selected areas such as: Africa south of the Sahara, China, India, the Islamic world, Latin America, the Pacific and Southeast Asia. An examination of the precocolonial kinship, economic, political and religious systems and related ecological and population patterns; the impact of European expansion upon them; the rise and fulfillment of independence movements; and contemporary political, economic, social, ecological and population patterns—all viewed in the perspective of the world as a system of interdependent societies and states. Prerequisite: Anth 105 or Soci 105. May be taken more than once for credit. (NTW) or (SBA)

340 Primate Behavior and Ecology Comparative analysis of non-human primates, and application to questions of human evolution and biological bases of human behavior. Primate taxonomy, evolution and ecology are studied for their relevance to primate behavior and adaptation. Prerequisite: Anth 105. (SBA)

341 Cultural Ecology Analysis of the relationships between culture and environment: the ways in which populations adapt to and transform their environments; ways in which environments condition cultural development. Prerequisite: Anth 105. (NTW) or (SBA)

346 Race and Human Variability Scientific and popular conceptions of “race.” Genetics and adaptation to environmental (and social) stress, including intense cold and heat, high altitudes and disease. Survival through natural and cultural selection. Prerequisite: Anth 105. (SBA)

347 Human Evolution Human biological and cultural evolution from 5 million to 20,000 years ago: what happened, why, and what kinds of evidence are appropriate and available? A review of the evidence and the interpretations drawn from it. Prerequisite: Anth 105. (SBA)

348 Anthropology of Development The analysis and interpretation of the historical expansion of the world economic system and its cultural foundations. The notion of development also is examined from a variety of perspectives that look at the problems currently facing the global system: environmental degradation, population problems, Third World debt, famine, etc. This leads to questions about whether the concept of development still has any relevance in the contemporary world system, particularly for members of the underdeveloped world. Prerequisite: Anth 105. (NTW) or (SBA)

350 Topics in Anthropology For description see Anth 250.

361 Medical Anthropology Anthropological approach to the study of health problems. The use of clinical, ecological and ethnographic material to study the causes and effects of disease on humans. The impact of population growth and migration; human contact through time and space on societies around the world. A bridge between the health sciences and anthropology. Prerequisite: Anth 105. (SBA)

388 Classics of Anthropological Thought The history and integration of anthropological theory as social science. An introduction to anthropology’s great thinkers; major issues of 19th and 20th century thought. Required core course for anthropology majors. Prerequisite:Anth 105, 223 and 237. (SBA)

421 Field Research in Archaeology Excavation and analysis of archaeological materials. Prerequisites: Anth 105,Anth 225, or permission of instructor.

490 Senior Seminar/Cultural Dynamics Seminar on classical and modern theories of social change and continuity. Required core course for anthropology majors. Prerequisite: Near completion of major in anthropology, especially 223 and 388.

497 Senior Thesis in Anthropology Student initiated project of substantial scope done under faculty guidance. Integration of theory, method and fact in cultural, biological or archaeological anthropology. Prerequisite: Consent of anthropology faculty supervisor.

ART AND ART HISTORY

Producing art as a means of personal expression and studying art in its historical context enriches the life of every student. Although each approach can be pursued independently, study of the links between the two provides valuable insight into our cultural roots, both Western and global. Art challenges each of us to discover and invent ways to communicate ideas through visual forms. Further, art speaks to us about the past, helps us to confront the present and prepare for the future. Art encourages us to understand and explore a vast range of traditional and non-traditional ideas, materials and forms.

Students may choose from two major programs: a major in art, with an emphasis in studio art, or a major in art history. Both of these programs culminate in a Bachelor of Arts degree. The department also offers a studio minor, an art history minor and a minor in documentary photography. A special interdisciplinary minor in graphic communications is available for students interested in computer imaging and design. Please refer to Graphic Communications Minor.

The major in art includes core courses in studio art and art history, which are to be taken during the first two years. In addition to the core program, the studio art emphasis includes upper-level work in art history and a three-course sequence in one of the following studio areas: painting, drawing, ceramics, photography, printmaking, sculpture, glassblowing and visual communications. Special opportunities to study letterpress and book arts are available through directed study tutorials.

During the second year, declared art majors participate in the sophomore review, which helps them assess their individual progress and goals within the major. The core courses in studio art must be completed successfully before the student majoring in art may participate in the Junior Review, a one-week exhibition with group critique held in Foreman Gallery, Anderson Center for the Arts. Successful completion of the Junior Review is required before an art major may begin the senior project. Junior Review is scheduled for Spring Term; students considering a full junior year abroad may petition the department by spring of their sophomore year to postpone their Junior Review to fall of their senior year. The senior project, an exhibition of original works, normally earns one course unit and is held in the Foreman Gallery at the end of the Spring Term senior year.

The major in art history is designed for the student interested in researching and writing about the history of ideas through the study of works of art and their makers. This program includes three core art history survey courses, normally taken in the first year. The surveys serve as the foundation for six additional art history courses required for the major, which introduce the student to the discipline of art history through an investigation of a variety of historical styles, techniques and ideas. Art history majors also are required to take two studio arts courses; this hands-on experience enables the student to directly engage skills and concepts used by artists, and to understand how different materials and tools affect the creative process.

A required senior seminar, which includes the senior thesis, is held in the fall of the senior year and consists of original art historical research. In the spring of the senior year, students, through an oral presentation, present their research to the art and art history faculty.

The department also offers a varied schedule of art events, including visiting artist and art historian lectures, art films and art exhibitions, which are designed as part of the student’s education. Studio and art history majors are required by department policy to attend out-of-class events sponsored by the department. All seniors in both majors are required to attend the art history thesis presentation and the reception for the senior project in art exhibition.

A number of special study opportunities offered
by the department further enrich the art program at Hartwick. Individualized instruction in studio classes gives students the opportunity to work closely with professional artists. The full-time faculty is joined each semester by resident artists–specialists who teach courses in such areas as glassblowing, graphic design, letterpress and drawing–and by prestigious visiting artists who conduct occasional workshops or lectures. Past visiting artists have included Richard Artschwager, John Wood, Kay WalkingStick, Paul Soldner, Olivia Parker, Michael Bramwell and Ik-Joong Kang.

Other special opportunities include department-sponsored study programs in Europe, the Caribbean and New York City. In addition, students may do advanced work or independent study with a professional in a medium or area of special interest. They also may intern with professional artists or art historians in a variety of fields including book illustration, advertising, photo-journalism, gallery and museum management, and art history research. Students interested in curating exhibitions for museums or galleries are encouraged to gain experience through internships supervised by appropriate department faculty, or by taking museum studies courses offered through Yager Museum. Students are encouraged to consider completing the interdisciplinary Museum Studies Minor.

Two special on-campus initiatives, Round House Press and the Design Resource Center, offer students the opportunity to develop professional skills in fine arts printing and computer-assisted graphic design.

All majors in the department take courses in other disciplines as part of their liberal arts and sciences education. The background and experience gained by students of art and art history at Hartwick has enabled them to begin careers in a wide range of art-related fields. Others pursue graduate study at such institutions as Otis Art Institute, Columbia University, Rochester Institute of Technology, Syracuse University, Washington University, Pratt Institute, Rutgers University and the State University of New York at Albany.

Potential studio art majors are required to submit a portfolio for review, either as prospective students applying for admission to the College, or later as “undeclared” students selecting a major course of study.

Faculty
Art and Art History Faculty: Gloria Escobar, chair; Elizabeth Ayer; Fiona Dejardin; Roberta Griffith; Katharine Kreisher; Terry Slade; Phil Young, David Zeiset

Resident Artists: Erik Halvorson; Joseph Mish; Elizabeth Schoonmaker; Ron Wilcox

Courses
The courses described below, open to both majors and non-majors, offer instruction in studio art and art history from introductory to advanced levels. All students are invited to enroll in 100-level courses as well as certain introductory courses in art history (203, 204, 206, 207, 209), printmaking (231, 331), photography (241) and ceramics (270, 271), for which previous studio or art history is helpful, but not required. For some introductory studio courses in painting and sculpture (221 and 262), students may request the instructor’s permission to waive prerequisites. Those who are neither majoring nor minoring in art also may take upper-level courses when they have fulfilled the prerequisites.

Certain drawing courses (212, 217) can be repeated at the 300 level with permission of the instructor to fulfill the intermediate level in the drawing concentration. Students may repeat certain advanced courses up to three times each: 421, 431, 441, 461, 471, 481.

102 World Art History I: Ancient Art This course surveys major monuments in architecture, painting, sculpture in Western Europe, the Near East, Egypt, China, India and the Americas from prehistory through 1000 C.E. Using a chronological framework students are introduced to the fundamentals of art history including developing skills in formal analysis, iconography and the comparative method. Emphasis will be on the social, political and cultural context of objects. Suitable for non-majors. (CPA or NTW)

103 World Art History II: Middle Periods (10th-17th Centuries) As a continuation of Art 102, this course surveys the major monuments of art history from 1000 C.E. through the 17th century. Architecture, painting, sculpture and printmaking created in countries and cultures throughout the world, including Japan, China, Islam, Africa, the Americas and Western Europe are investigated. This course introduces students to art historical methods, concepts and definitions and stresses the relation of objects to their political, social and cultural context. Suitable for non-majors. (CPA or NTW)

104 World Art History III: Art of the Modern World This course explores the world of art from the 18th century through the present and emphasizes art made in Europe, Africa, Japan, China, Australia, etc. Although the course acknowledges the arts of the
Art and Art History

**Requirements for the major in art:** Minimum of 13 courses, distributed as follows:

**Four core courses in art** (to be taken in the first two years):
- 112 Drawing and 2-Dimensional Design B (majors) or 111 Drawing and 2-Dimensional Design A (open)
- 161 3-Dimensional Design and Drawing
- 121 Color and Composition
- 212 Drawing/The Figure or 217 Drawing/Works on Paper

**Three core courses in art history** (to be taken in the first two years):
- 102 World Art History I: Ancient Art
- 103 World Art History II: Middle Periods (10th-17th Century)
- 104 World Art History III: Art of the Modern World

**Two courses in Art History above the 100 level.**
- One must be at the 300 or 400 level.
- It is required that one course be 402 Art: 1945 to Present.

**Three courses in the same studio area:** at 200, 300 and 400 level. Upper-level occasionally done by directed study.

**Junior Review** (not a course, but an assessment)

**490 Senior Project in Art:** Junior Review must be successfully completed before beginning the senior project.

**Requirements for the major in art history:** Minimum of 12 courses, distributed as follows:

**Three core courses in art history** (to be taken in the first year):
- 102, 103, 104 World Art History I, II, III

**Two courses in studio art, selected from:**
- 111 Drawing and 2-Dimensional Design (A) or 112 Drawing and 2-Dimensional Design (B)
- 121 Color and Composition
- 161 3-Dimensional Design and Drawing or other studio courses for which there is no prerequisite, for which prerequisite is fulfilled or by permission of instructor.

**Six additional art history courses,** distributed as follows:

**Two courses selected from:**
- 301 Greek & Roman Art History
- 302 Medieval Art History
- 303 Italian Renaissance Art History
- 401 Northern Renaissance Art History

**Requirements for the minor in studio art** (with a major in another department): A minimum of six courses, distributed as follows:

**Two of the following core courses:**
- 111 Drawing and 2-Dimensional Design (A) or 112 Drawing and 2-Dimensional Design (B)
- 121 Color and Composition
- 161 3-Dimensional Design and Drawing

**Three additional studio courses:**
- Above the 100 level

**One art history course:**
- Any art history course without a prerequisite

**Requirements for the minor in art history** (with a major in another department): A minimum of six courses, distributed as follows:

**Three core courses:**
- 102, 103, 104 World Art History I, II, III

**Two additional art history courses:**
- Above the 100 level

**One studio art course,** selected from:
- 111 Drawing and 2-Dimensional Design (A) or 112 Drawing and 2-Dimensional Design (B)
- 161 3-Dimensional Design and Drawing
- 231 Printmaking I or 331 Printmaking II
- 241 Photography I
- 262 Sculpture I
- 271 Ceramics I

**Requirements for the minor in art or art history,** which accompanies a major in the other field within the department: Art or art history majors are encouraged to complete a minor within the department. The significant overlap between the two majors requires the student to complete
**Art and Art History**

the major as described in the catalog and then, in consultation with his or her advisor, complete six additional courses in the minor beyond those required to fulfill the major.

**Requirements for the minor in documentary photography:** A minimum of six courses, distributed as follows:

**Four courses in art and art history:**
- 111 Drawing and 2-Dimensional Design (A) or 112 Drawing and 2-Dimensional Design (B)
- 207 History of Photography
- 241 Photography I
- 441 Photography III

**One Directed Study:** Documentary Photography (or Photography IV)

**One Internship:** At a magazine, newspaper, publications or public relations office, or an A-V department.

Students are also encouraged to complete one of the interdisciplinary minors in Museum Studies or Graphic Communications.

*Grades for all courses taken in art are used to calculate the average in the major for Departmental Distinction.*

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**Americas**, these areas are covered more thoroughly in Art 204. Art of the Modern World introduces students to modern and contemporary media including photography and performance, and especially addresses issues of race, class and gender as they relate to the creation of art objects. This course introduces students to art history as a discipline by focusing on art historical methods and approaches. Suitable for non-majors. (CPA or NTW)

**111 Drawing and 2-Dimensional Design A** (open)

Using black and white media and various processes (photography and printmaking), students explore basic concepts in drawing and design. The formal elements, their qualities and interactions (line, shape, value, texture, mass, pictorial space, etc.) are investigated in the creative pursuit of compositional variety, visual cohesiveness, and issues of meaningful content. Images and issues from a wide range of perceptual, cultural, historical, and contemporary contexts will be examined. Recommended for non-majors or those with little previous experience as well as those who declare the studio major after their first semester at Hartwick. (CPA)

**112 Drawing and 2-Dimensional Design B** (majors)

Using black and white media and various processes (photography and printmaking, and computer-imaging), students work on advanced skills and development of content in drawing and design. Because the formal elements (line, shape, value, texture, etc.) are investigated more deeply, emphasis is placed upon creative pursuit of compositional variety, visual cohesiveness, and the significant issues of content. Images and issues from a wide range of cultural, historical, and contemporary contexts are examined. Professional presentation of completed work is included. This is a core course offered for art majors. Those who declare later should take Art 111 as soon as possible in their academic career. (CPA)

**118 Web Site Development** This introductory design course focuses on web information design and the study of the visual conventions of information transfer including basic hypertext markup language (HTML), the creation of quick loading images and textures, portable document files, forms, links and scripts. The emphasis will be on understanding and manipulating web-specific computer application programs that mask the programming language and therefore reduce the need for technical programming training. The course focuses on developing the artist-designer in the persons using these programs: special attention is given to design issues associated with the inherent variables of web construction and browsing. Permission of instructor required. Offered January Term.

**121 Color and Composition** Students study and critique various color theories while developing projects primarily using drawing and painting materials, although when appropriate, other formats such as photography, printmaking or computer-imaging, are examined. Emphasis is placed on strengthening the student's ability to manipulate color and composition while investigating the relationships between formal aspects and content. Examples are taken from a wide range of cultural, historical and contemporary contexts. Prerequisite: Art 111 or Art 112 or by portfolio review. This is a core requirement for studio majors.

**161 3-Dimensional Design and Drawing** In this course, students investigate basic three-dimensional design components such as line, color, mass, form,
structure and surface. Students experience the design process through the synthesis of drawing and fabrication of three-dimensional forms using paper, wood, plaster, clay and other materials. Participants learn to use hand tools and shop equipment in the execution of the projects. Students also may be introduced to sculptural materials and processes including glass and metal. This is a core course. Art majors should take this course during their first year. (CPA)

203 Arts of the Americas This course surveys the arts of the Americas from prehistory through the present. The course emphasizes the native arts of the Americas in the broadest sense by examining the work of native cultures, immigrant cultures with special attention to African-American art and Latino art, and the dominant white culture after the 15th century. Hence the course contrasts Western arts with non-Western art in order to show how different cultures make art for very different reasons. The course, like the other art history surveys, addresses art historical methods and approaches, definitions and concepts. Suitable for non-majors. (CPA or NTW)

204 Women and Art This course studies women and their place in the history of western and "non-western" art. The course especially emphasizes underlying issues of racism and sexism. Although the focus of the course is on women as creators of painting and sculpture, it also addresses how women have been images by men. Various art historical approaches are applied in order to examine the cultural, economic, political and social restrictions that have shaped women's relationship to the visual arts. Suitable for non-majors. (CPA or WHS)

206 History of Chinese Imperial Art The survey of Chinese Imperial Art begins with Shang Dynasty pottery and bronzes from the second millennium BCE and continues through 1912 and the fall of the Ch'ing Dynasty. Chinese history, literature and religion will be discussed in order to explain the works of art, their meaning and the society in which they were produced. Open to all students. (NTW)

207 The History of Photography This lecture course covers the history of photography from its invention in 1839 to recent developments. Contemporary artistic and historical contexts of photographers and movements are discussed. Emphasis is on photography as artistic expression and the ongoing dispute between the straight and the manipulated image. Open to all students. (CPA)

209 The History of Architecture The course is designed to address major architectural developments in world architecture with a concentration on Western architecture. Students examine the monuments in a cultural, social and political context. Open to all students. (CPA)

212 Drawing/The Figure Drawing from the human form, students interpret the structure, anatomy, movement, mass, volume and weight of the human figure in various two-dimensional media, emphasizing expressive and design elements. Offered alternate years. Prerequisite: Art 111 or 112 or by permission of the instructor. This course is an alternative core requirement for studio art majors. Can be taken at the 300-level with permission of the instructor to fulfill intermediate level in drawing sequence for students concentrating in drawing.

213 Visual Communication I This course introduces the student to typography in design. Students study typographic forms, functions and creative possibilities found in digital media. Type and image are explored as it is used in computer application programs for page design, bezier-based illustration and pixel-based imaging. Programs may include QuarkXPress, Adobe Illustrator and Adobe Photoshop. Prerequisite: Art 111 or 112 or permission of instructor.

214 Papermaking Workshop Students make images on and with handmade paper. Diverse techniques of manipulating handmade paper are explored: sheet-forming, laminations, use of vacuum table, casting and spraying of three-dimensional forms, and handmade paper books. Students are expected to produce both individual works and editions. Offered alternate years. Prerequisite: Art 111 or permission of the instructor. (CPA)

215 Illustration This course focuses on the creation of provocative visual images that are able to compete in the commercial market. It begins with analyses of illustrators past and present and proceeds to outline professional methods for executing and presenting work. Through exposure to a variety of media and techniques, practical studio assignments, slide presentations and field trips, students gather the knowledge and experience to prepare them for employment in the field. Also covered are methods of production, avenues for expression and preparation of one's résumé and portfolio. Appropriate for students with drawing and/or painting skills seeking commercial direction to market their talents, as well as further development of basic skills. Prerequisites: Art 111 or 112. Offered every 2-3 years. Can be used as one of the courses in the draw-
Prerequisite: Art 213. For art majors completing a concentration with special permission.

216 Visual Communication II This course is designed to advance the computer techniques acquired in Art 213. The course covers surface in design by introducing students to the study of the inter-relationships of point, line, shape, color, texture and pattern. Historical sources as well as current sources in all media are brought to the computer for digital manipulation and specific expression. Programs may include QuarkXPress, Adobe Illustrator, Adobe Photoshop. Prerequisite: Art 213. For art majors completing a concentration in Visual Communication, two additional prerequisites are required: one fundamentals course (Art 121) and one course selected from the areas of photography (Art 241), printmaking (Art 231, 331), and drawing (Art 212, 215, 217). While it is best to complete prerequisites before beginning 216, one of the additional courses may be taken concurrently.

217 Drawing/Works on Paper Working with paper as a surface to receive drawings and as a design material in itself, students explore new media and more advanced concepts. Course focuses on investigations into contemporary issues, and includes some drawing from the figure and other sources, with a goal of developing stronger and more personal visual statements. Students may work on projects which integrate other techniques such as printmaking, photography, illustration, papermaking, etc. Prerequisite: Art 111 or Art 112, or by permission of instructor. Course is an alternative core requirement for studio art majors. Can be taken at the 300-level with permission of instructor to fulfill intermediate level in drawing sequence for students concentrating in drawing.

221 Painting I This course, based primarily on the use of oils, offers instruction in a range of materials and techniques from early Western historical processes to the present. Various supports, scales, color and other formal elements are examined in light of compositional explorations and development of content. By means of direct observation (e.g., the figure) and other conceptual problems, students begin to examine the possibilities of this painting medium in the expression of personal statements. Examples are taken from different cultural, historical and contemporary settings. Prerequisite: Art 121, or by permission.

222 Painting: Water-Based Media Students exploit a variety of water-based painting techniques and conceptual ideas in order to expand their understanding of these painting media. Materials may include watercolor, gouache and water-soluble pencils. Prerequisite: Art 111 or 112. No prerequisite, but Art 111 or 112 is recommended. (CPA)

231 Printmaking I: Intaglio/Relief Students learn the intaglio process (drypoint and etching on inked metal plates) and relief printing (linoleum and woodblock). Introduction to the letterpress encourages them to combine text and image. Editions (limited series of identical prints on paper) are required. Collagraphs and unique monoprints may be included as experimental projects. No prerequisite, but Art 111 or Art 112 is recommended. (CPA)

232 Round House Press This course, which generally meets in January Term, addresses one specific aspect of contemporary printmaking, such as "Monoprints" or "Artist's Books"; themes change from year to year. Through monoprinting, the most versatile and "painterly" of the printmaking techniques, students learn to make prints and books using methods of addition and subtraction, stencils, chine collé, xerox transfers and viscosity printing. Through production of unique artists' books, students learn about sequencing images, combining text with image, and using letterpress. Round House Press was established in 1992 to promote professional creative projects related to printmaking courses. Here students work with visiting artists from diverse backgrounds who complete small editions of prints and books. Students experience first-hand the artist-printer collaborative relationship by assisting visual artists who are working on projects similar to their own. (CPA)

241 Photography I Students learn the fundamentals of camera handling, film development, and black and white printing. The emphasis of the course is on decision-making, image-making and the development of ideas. Students provide their own 35mm cameras with variable aperture and shutter speed. Yellow and red filters are recommended, and flash may be used. For majors and non-majors. No prerequisite, but Art 111 or Art 112 is recommended. (CPA)

250 Topics in Art The topic is announced prior to registration. Previous topics in art and art history have included "History of the Print" and "Commercial Photography." Offered occasionally. Prerequisites depend on the topic. Please see schedule for current offering and curriculum designations.
262 Sculpture I The course teaches basic skills in sculptural processes and introduces students to the language and concepts associated with sculpture. Students make sculptures using the following processes: modeling (clay, wax and plaster), carving, mold-making (plaster, silicone and latex), metal fabrication and lost wax bronze casting. Prerequisite: Art 161.

264 Foundry The focus of this course is to explore and execute sculptural forms cast in bronze using the ancient technique of lost wax casting. All students participate in foundry operating procedures. (CPA)

270 Worldwide Ceramics Students study and research selected examples of functional and non-functional ceramics and clay artifacts from different countries and cultures, dating from 4500 BCE to contemporary times. The focus of the course is on Pre-Colombian hand-built ceramics from Mexico, Central America and South America; works from China and Japan, and Native American ceramics also are studied. Besides studying the works from a historical point of view, students actually make, decorate and fire ceramic hand-built forms, which replicate those examined in the lectures. Several field trips complete the course. Open to all students. (NTW)

271 Ceramics I The plastic characteristics of clay are explored through experiments in construction, throwing on the potter’s wheel, handbuilding and other means of fabrication. Students experiment with mass, color, and texture in functional and non-functional objects. Participants learn to operate kilns and to maintain the studio and the equipment. (CPA)

301 Greek & Roman Art History The study of ancient art begins with Bronze Age civilizations from around the Aegean Sea and continues to the age of Constantine, around C.E. 315. Course content includes architecture, painting, sculpture, ceramics and minor arts, all studied in relation to the philosophies and histories of the civilizations that produced them. Offered alternate years. (WHS)

302 Medieval Art History The course assesses iconographic and stylistic developments in Christian art from the Late Antique/Early Christian period through Romanesque and Gothic. Monuments from Western Europe as well as Byzantine and Islamic art forms will be examined. Documenting changes in architectural principles, in elaborate pictorial programs and in preferences for certain media serves as evidence for understanding the particular circumstances surrounding the execution of the works. Offered alternate years. Prerequisite: Art 102 or Art 103.

303 Italian Renaissance Art History The study of Renaissance art in Italy includes the Proto-Renaissance of Tuscany, the early Renaissance in Florence, and the arts of the High Renaissance in Rome and Northern Italy. Course content includes works by Giotto, Brunelleschi, Leonardo da Vinci, Michelangelo and Titian. Their art, and others, will be explored in the context of concurrent social, religious and artistic developments. Offered alternate years. Prerequisite: Art 103.

304 Baroque Art History This course explores concepts of the baroque in its broadest sense through the investigation of recurring ideas, themes and media. Major 17th and 18th century artists such as Bernini, Caravaggio, Rembrandt, Rubens, Poussin, Velasquez, Vermeer and Watteau are included in the course content. Works of art of astonishing variety document not only contemporary artistic trends but also advances in philosophy, science, economics and the development of the modern state. Offered alternate years. Prerequisite: Art 103.

305 19th Century Art History This course begins in the 18th century with the French Revolution and proceeds to explore the major art movements of Neo-Classicism, Romanticism, Realism and Impressionism while emphasizing the breakdown of tradition that paves the way for 20th century modernism. Artists and their works are studied within the context of social, political, technological and aesthetic developments. Offered alternate years. Prerequisite: Art 104. (WHS)

306 20th Century Art History The course begins in the 1880s and concentrates on the vast variety of "isms" that occur in the first half of the 20th century. From Fauvism through Abstract Expressionism, the course covers the work of such artists as Matisse, Picasso, Duchamp, Kahlo, Dali and Pollock, among others. All artistic movements are studied within their social, political and cultural contexts. Prerequisite: Art 104. (WHS)

307 Off-Campus Study in Art History or Studio (up to 3 course units) Students study various topics on location, for example: Early Renaissance Art in Florence or Drawing and Painting in the Caribbean (offered January terms). Prerequisites depend on the topic. Permission of instructor required for enrollment.

312 Drawing/Works on Paper Working with paper, students continue to improve skills acquired in 112
Drawing and 2-Dimensional Design. Assignments focus on exploring new media and more advanced concepts. Students work toward integrating materials and techniques with concepts and formal ideas. Prerequisites: Art 112 or 211, 212 and permission of instructor.

316 Visual Communication III This computer media course covers space in design through the study of spatial construction conventions of one point, two point, isometric, aerial perspective, photography and 3-D imaging, culminating in the design and construction of actual three-dimensional objects. Programs include those used in 213 and Art 216 as well as 3-D software such as Infini-D. (Additional courses in photography, printmaking, drawing, painting, sculpture and ceramics, which emphasize either the transformation or construction of 3-D objects, would prepare the student for upper level work in visual communications. It is strongly recommended that art majors explore one or more of these areas.) Prerequisite: Art 216.

317 Visual Communication IV This computer course completes the sequence of visual communication courses and addresses time in design through the study of linear imaging conventions including natural life cycles, the evolution of forms over time, historical progressions, story board mapping of space and time, performance, animation, film and video. Software includes previously used programs as well as Macromedia Director and/or other animation programs. Course work in any of the following: film-making, video art, TV production, dance, theatre, set design, installation art and performance art, are extremely useful and strongly recommended. Prerequisite: Art 316

321 Painting II Students continue to develop skills learned in Painting I (221), and they are encouraged to clarify and cultivate emerging personal approaches to painting while continuing to experiment. Work can be done in a variety of media such as oils and acrylics. Prerequisite: Art 221 or by permission of instructor.

331 Printmaking II: Lithography/Silkscreen Students investigate traditional stone lithography and contemporary plate lithography and may experiment with photo-litho techniques. In the second half of the term, students learn water-based silkscreen techniques which may be used alone or in combination with lithography. Color registration methods expand the image-making possibilities of the medium. Editions are required. Printmaking II may be taken before Printmaking I. No prerequisites but Art 111 or Art 112 recommended. (CPA)

341 Photography II The course introduces the photography student to a variety of materials and techniques, including archival processing of black-and-white images. Students learn the basics of color photography and studio lighting. Special projects may include serial images, composite printing, photo-collage, hand-coloring and infrared photography. Prerequisite: Art 111 or 112 and Art 241.

350 Topics in Art The art history or studio topic is announced prior to registration. Previous courses have dealt with subjects such as Impressionism, jewelry and metalsmithing, and photo-printmaking. Offered occasionally. Prerequisites depend on the topic. Permission of instructor required for enrollment. Please see schedule for current offerings.

361 Sculpture II Students continue to explore basic sculptural methods. Emphasis is placed on realizing sound three-dimensional concepts, experimenting with diverse materials and improving skills. Traditional and contemporary sculptural concepts involving construction, mixed media and environmental works are presented. Students are encouraged to manipulate various materials such as wood, metal, plaster, clay, fiber, etc. Prerequisite: Art 262.

371 Ceramics II Students continue to experiment with the plastic characteristics of clay learned in Ceramics I (271) or Worldwide Ceramics (270), or Ceramic Workshop (TIA 250). Advanced methods of construction, throwing and other means of fabrication are employed to create both functional and non-functional objects. Along with research and experiments in glazing, students work on a more advanced level in kiln firing procedures and in maintenance of the equipment and studio. Prerequisites: Art 161 and Art 271, or Art 270.

401 Northern Renaissance Art History The art of the 15th and 16th centuries in the Netherlands and Germany represents a transitional period between the Middle Ages and the Baroque. The course traces shifts in patronage and the status of the artist, along with new developments in media (oil painting, graphics). From van Eyck to Bruegel, differing artistic expressions reflect the move to the modern world. Offered alternate years. Prerequisite: Art 103

402 Art: 1945 to the Present The course completes the study of art of the 20th century, concentrating on art now referred to collectively as Post-Modern. It investigates significant artistic movements such as Abstract
Expressionism, Pop Art, Minimalism, and Conceptual Art and explores the rich diversity of media that appears after 1945. This study places the artists and their art in a political, social and cultural framework. Offered alternate years. Prerequisite: Art 104.

421 Painting III Students work toward evolving personal, individual approaches to painting on an advanced level. The imaginative manipulation of formal ideas and concepts takes place on an individual basis. Philosophical and theoretical issues about painting are addressed. Can be repeated as Painting IV. Prerequisite: Art 321.

431 Printmaking III Each participant selects one of the major printmaking methods as a means to create images. Instruction emphasizes individual concerns. Students are expected to produce portfolios, which demonstrate advanced levels of both technical and aesthetic expertise. Can be repeated as Printmaking IV. Prerequisites: Art 111 or 112 and Art 231 or 331.

441 Photography III Advanced students select one of three areas for further exploration: 1. the view camera and large-format photography; 2. color photography; 3. contact negatives and alternative processes such as blueprint, gumprint or photo-printmaking (if Printmaking I or II has been completed). Photography as an inventive form is stressed. Students are expected to visit photography exhibitions to expand their understanding of the medium. Can be repeated as Photography IV. Prerequisite: Art 341 or permission of instructor. (CPA)

450 Topics in Art The topic of this advanced seminar is announced prior to registration. Previous courses included "Advanced Foundry," "Impressionism," and "American Art." Offered occasionally. Prerequisites depend on topic. Permission required. Please see schedule for current offerings.

461 Sculpture III The course is designed to broaden the advanced art students' knowledge of three-dimensional aesthetic concepts, materials and techniques. Students concentrate on refining individual attitudes through involvement with sculptural form and process. In class, students explore current issues and trends through art periodicals and field trips. Completed projects are expected to exhibit high-quality workmanship and profound treatment of aesthetic issues. Can be repeated as Sculpture IV. Prerequisites: Art 361.

471 Ceramics III Clay as an art medium for both pottery and sculpture is explored by students on an advanced level. Students may learn basic glaze calculation in order to formulate their own glazes. Personal, creative ideas are realized in individual projects. Instruction emphasizes individual concerns. Students participate in all levels of kiln firing and studio maintenance. Can be repeated as Ceramics IV.

490 Art History Research and Methods: Senior Thesis The seminar is designed to improve the art history major's critical, analytical, writing and research skills. Stress is placed on development of library skills, analysis of visual and written material, and the study of art history as a discipline. Students are introduced to the history of art history by studying how the various methods of and approaches to art history were invented, developed or adopted. The course is mandatory for all art history majors and includes the senior thesis in art history. However, non-art history majors who are interested may take the topics course, The History of Art History, which is offered concurrently. Non-majors will be expected to do a senior thesis. Both courses are offered in the Fall Term and must be taken in the student's senior year. Prerequisites: Art 102, 103, 104, and at least one additional art history course at the 300 level.

490 Senior Project in Art The Senior Project, required of all studio art majors, represents a culmination of the student's studies. A proposal conceived and written in consultation with the student's academic advisor and two project advisors, must be reviewed by the entire department before work is begun on the project. An exhibition of the completed studio work is presented in the late spring at the Senior Projects Exhibition in Foreman Gallery. The Senior Project is normally undertaken for one course unit, but depending on scope and complexity, may be expanded to two course units. Questions about developing a Senior Project should be directed to the student's advisor. Prerequisite: Successful completion of Junior Review.

495 Senior Internship in Art or Art History An internship in an art-related field. The student should arrange to do this internship with the appropriate faculty supervisor.

Letterpress and Glassblowing: These are arranged as Directed Study projects, which can be taken at the 200, 300 and 400 level. Students meet faculty members individually or in small groups.

Glass students explore as a sculptural material the physical properties and characteristics of the hot glass process at the introductory, intermediate, and advanced levels. Students investigate hands-on glassblowing techniques and processes such as sandblasting, glass
casting, mold making, kiln working, and cold working fabrication. Certain prerequisites have been established in ceramics and sculpture for students taking a sequence of glass courses. Please consult with faculty in these areas.

Letterpress students learn the basics of typography, typesetting, page design, book design and the operation of two presses. Students also learn the various forms of illustration that are compatible with letterpress work. Past projects designed by students include books of original poetry, short stories and graphics. Other ephemeral projects include work on posters, calendars, invitations, portfolios and a wide variety of smaller printed items. (Letterpress and book art instruction are also given to students enrolled in Printmaking courses, the Papermaking Workshop and Visual Communications I.)

BIOCHEMISTRY

Biochemistry, the interface between chemistry and biology, is concerned with the chemistry of biological reactions, and the regulation of these reactions. This rapidly growing field of study includes the investigation of chemical changes in disease, drug action and other aspects of medicine as well as in nutrition, genetics and agriculture. The work being done in biochemistry in terms of medical, pharmaceutical and genetic engineering research will have increasing impact on our society. It is imperative, therefore, that people involved in research and businesses in these areas not only are capable scientists, but are educated to deal with moral and ethical questions arising from the advance of biochemical knowledge. The study of biochemistry as part of a liberal arts and sciences education fosters the development of the broad perspective and analytical abilities necessary to deal with such questions. Biochemistry functions under the direction of the departments of biology and chemistry, and students seeking additional information should contact the chair of either department.

Requirements for a major in biochemistry include courses in biology, chemistry, and biochemistry as well as auxiliary courses in mathematics and physics. A required senior research project involves laboratory and library work, interpretation of data, and oral and written reports of the results.

In addition to the independent research required for their senior project, biochemistry majors often assist with faculty research or do collaborative research with a professor.

Biochemical advances in the knowledge of the action of natural hormones and antibiotics promise to aid in the further development of pharmaceuticals. In addition, discoveries resulting from biochemical research, including work being done in medical, pharmaceutical and genetic engineering, continue to open up new frontiers. Hartwick’s major in biochemistry offers excellent preparation for entry-level positions in biochemistry research or for graduate work in the field. Students interested in attending medical school also obtain an exceptionally good science background through a major in biochemistry.

Faculty/Coordinator
Walter O. Nagel

Courses
405, 406 Biochemistry I, II An in-depth study of the organic chemistry of the molecular components of cells including proteins, enzymes (kinetics and mechanisms), coenzymes, nucleic acids, lipids and carbohydrates. The metabolism and biosynthesis of these constituents including glycolysis, Krebs cycle, pentose shunt, electron transport, glycogen synthesis, and lipid oxidation and synthesis will be studied. The energy transformation involved in and the regulation of these pathways will also be discussed. Special topics to be included are hormone biochemistry, biochemical genetics (replication, transcription and translation of genetic material), recombinant DNA, photosynthesis and membrane chemistry. Prerequisites:Chem 202 and 303 (or by permission of the instructor), and Biol 201. Bioc 405 is prerequisite for Bioc 406. (LAB)

491 Senior Research The student must develop an original research idea into a research proposal to be approved by the biochemistry committee, perform the library and laboratory work required by the proposal, interpret the data collected, and report the findings of the research orally in an open forum and as a written thesis. This course usually spans the regular terms of the school year for a half-unit each term.

BIOLOGY

To study biology is to explore the amazing diversity of life from the fundamental processes taking place among the molecules of cells, to the interaction among populations of living creatures throughout the biosphere. For students majoring in other disciplines, courses in biology can acquaint them with the language and methods of scientific inquiry and provide knowledge
for life in a future that will be increasingly influenced by science and technology.

Students who major in biology at Hartwick will find a program designed to encourage the development of biologists. Appropriate integration of instruction and research in the areas of biochemistry, genetics, development, anatomy, physiology, systematics, behavior, population dynamics, ecology and evolution provide a background in the important biological disciplines, and an acquaintance with the biological characteristics of a variety of organisms.

As an introduction to the field of biology, entering majors must successfully complete foundation courses in Principles of Biology I and II (104 and 105) and Genetics (200). These three introductory courses are prerequisites for all core courses in the biology curriculum. Students are then ready to move into the biology core areas: Molecular Biology and

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**Biochemistry**

**Requirements for A.C.S. approved major:** All of the requirements listed below for the biochemistry major including 404 Instrumental Analysis (Chem) and 110 Inorganic Chemistry (Chem)

**Requirements for the major:** 20* courses distributed as follows:

**Seven courses in chemistry:**
- 107, 108 General Chemistry I, II or 109 Accelerated General Chemistry
- 201, 202 Organic Chemistry I, II
- 203 Analytical Chemistry
- 303, 304 Physical Chemistry I, II

**Four courses in biology:**
- 104, 105 Principles of Biology I, II (Biol)
- 200 Genetics (Biol)
- 201 Molecular Biology of the Cell (Biol)

**Three courses in biochemistry:**
- 405, 406 Biochemistry I, II
- 491 Senior Research

**Two courses in mathematics:**
- 121, 122 Calculus I, II (Math)

**Two courses in physics:**
- 201, 202 General Physics I, II (Phys)

**Two additional courses** selected from the following:

**Chemistry:**
- 404 Instrumental Analysis
- 405 Physical Organic Chemistry
- 410 Inorganic Chemistry

**Biology:**
- 210 Microbiology
- 300 Animal Development
- 302 Plant Physiology
- 304 Animal Physiology
- 327 Comparative Physiology
- 425 Immunology

**Physics:**
- 165 Electronics

**Biochemistry**

**Requirements for the major:** 20* courses distributed as follows:

**Seven courses in chemistry:**
- 107, 108 General Chemistry I, II or 109 Accelerated General Chemistry
- 201, 202 Organic Chemistry I, II
- 203 Analytical Chemistry
- 303, 304 Physical Chemistry I, II

**Four courses in biology:**
- 104, 105 Principles of Biology I, II (Biol)
- 200 Genetics (Biol)
- 201 Molecular Biology of the Cell (Biol)

**Three courses in biochemistry:**
- 405, 406 Biochemistry I, II
- 491 Senior Research

**Two courses in mathematics:**
- 121, 122 Calculus I, II (Math)

**Two courses in physics:**
- 201, 202 General Physics I, II (Phys)

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As an introduction to the field of biology, entering majors must successfully complete foundation courses in Principles of Biology I and II (104 and 105) and Genetics (200). These three introductory courses are prerequisites for all core courses in the biology curriculum. Students are then ready to move into the biology core areas: Molecular Biology and
Developmental Genetics, Organismal Anatomy and Physiology, and Ecological and Evolutionary Biodiversity. Students must take two courses from each of these core areas (six total) in any sequence that best suits their interests and goals.

Biology majors are required to take courses in general and organic chemistry, physics and mathematics. They may also do internships in fields related to their special interests and career plans.

The excellent laboratory facilities, which are fully accessible to students, contribute to the high quality of Hartwick’s biology program. A variety of research tools used routinely by students include spectrophotometer (general and research), phase/fluorescence microscopes with photomicrography attachments and image analysis capability, liquid scintillation counter, electrophoresis and chromatography equipment, growth chambers, physiographs, computers, computer-interfaced physiographs, oscilloscopes, and a variety of field equipment that permits the capture and handling of wild animals. A three-room greenhouse, the Hoysradt Herbarium, an electron microscope facility, a tissue culture laboratory, a histology laboratory and an NSF-funded DNA fingerprinting laboratory also are available for student use. Our new science facility includes centers for biotechnology, environmental science and policy, and science communications. The Biological Field Station at Pine Lake provides an opportunity for the study of relatively undisturbed terrestrial and aquatic ecosystems.

A major in biology prepares students for a broad range of careers, including jobs in applied research and technical work in biology. They are well prepared for graduate work in biology and for professional study in medicine, dentistry, veterinary science, physical therapy, and other pre-allied health fields. By taking the required education courses in addition to their major requirements, students are eligible for secondary school teacher certification and can gain experience in environmental education at the new R. R. Smith Environmental Field Station.

Tropical Biology

There are opportunities for the biology major to gain experience in field studies of tropical ecosystems. The geographical locations that are presently visited are The Bahamas, Costa Rica, Thailand, and the Galapagos. Expertise among the biology faculty in tropical biology include areas of ecology, systematics, microbiology, natural history, conservation biology and marine biology. One or more of these courses are usually offered every year, and students who take the beginning course in one of these locations may return a second time to perform a special project and/or their senior research under the direction of the returning faculty member.

Robert R. Smith Environmental Field Station at Pine Lake

The research facility at the Pine Lake Environmental Center provides an excellent opportunity for the study of local ecosystems in close proximity to the main campus. These ecosystems include nearly 1,000 acres of a mixed northeastern deciduous forest, a 12-acre kettlehole lake, bogs, and streams. The newly built state-funded Field Station provides laboratory space for classes as well as student/faculty collaborative research projects. As a Hartwick Biology major, you can carry out research on birds, mammals, reptiles, amphibians, fish, insects, other invertebrates, plants, fungi, and microorganisms as part of our biology courses or as individual research projects.

Faculty

Biology Faculty: M. Richard Segina, acting chair; Mary Allen; Allen R. Crooker; Douglas A. Hamilton; Michael Murphy; Stanley K. Sessions; Linda A. Swift

Courses

104, 105 Principles of Biology (3 one-hour lectures and 1 three-hour laboratory weekly). The conceptual foundations for advanced study in biology emphasizing characteristics unifying all living organisms. The central theme of evolution will be used to study organismal anatomy and physiology, and development. The second term will focus on cell structure and function, genetics, communities, and ecology. Laboratories will emphasize experimental design, data analysis and scientific report writing. Biol 104 is a prerequisite for Biol 105. Biology majors only, others by permission. Biol 104, 105 are prerequisites for core area courses for the biology major. Alternative ways of meeting this requirement are possible with approval of the biology faculty. (LAB)

107 Basic Biology (3 one-hour lectures and 1 two-hour laboratory weekly). An exploratory course for non-majors designed to enable the student to better understand the role of biology in everyday life. The course includes a survey of the diversity of animals and plants, how they reproduce and develop, and their ecological and evolutionary relationships. Selected topics include such areas as biodiversity, environmental science and genetic engineering. The laboratory is designed to give the student first-hand experience using scientific techniques and methodology in the exploration of biologi-
Biology

cal phenomena. This course counts toward satisfying the laboratory science requirement. Open only to students with no college biology credit. (LAB)

110, 111 Human Anatomy and Physiology (A) (3 one-hour lectures and 1 three-hour laboratory weekly). An introductory lecture/laboratory course emphasizing the important concepts, terminology, and interrelationships of human structure and function. Introductory concepts as well as the skin and musculoskeletal and nervous systems are covered in Biol 110; Biol 111 emphasizes discussion of all other body systems including endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive. (LAB)

150 Topics in Biology Seminar discussions for non-majors in areas of biology of specific interest to the individual instructor. Taught by the staff. A student may take only one 150 topics course except as otherwise authorized by the instructor. Those courses which have a laboratory will fulfill the general College laboratory requirement.

201 Molecular Biology of the Cell* (3 one-hour lectures, 1 three-hour laboratory weekly). This course examines the structure-function relationships of cellular components by integrating molecular biology, biochemistry and cell biology of the cell. Topics include cell transport, receptor function and signaling systems, cytoskeleton and extra cellular matrix, ion balance and bioelectricity, contractility, energy utilization, membrane structure and inter-cellular communication. The laboratory emphasizes the current techniques used in cellular studies, including cell culture, PCR, immunological techniques and basic biochemical analysis. Prerequisites: Biol 104, 105, 200. (LAB)

205 Invertebrate Zoology* (A) (3 one-hour lectures and 1 three-hour laboratory weekly). Comparative study of the major groups of invertebrate animals. The course is organized around three fundamental themes: (1) functional body architecture as it relates to ecology (Bauplan or “adaptive zone”), (2) developmental patterns and life history strategies and (3) evolution and phylogenetic relationships. These three themes are used as a common thread to tie the animal phyla together in a logical and interesting way. The laboratory portion includes field trips to fresh-water and marine ecosystems. Prerequisites: Biol 104, 105, 200. (LAB)

210 Basic Microbiology (3 one-hour lectures, 1 three-hour laboratory weekly). This course covers the major groups of microorganisms important in human health: viruses, Eubacteria, protozoans, and fungi. The following topics and their relation to microorganisms and human disease will be covered: the history of medical microbiology, microbial physiology, cell biology, genetics, growth, and immunology. Prerequisites: Biol 110, 111.

215 Microbiology (3 one-hour lectures, 1 three-hour laboratory weekly). This course begins with a survey of the major groups of microorganisms: viruses, Archaeabacteria, Eubacteria, protozoans, and fungi. The remainder of the course focuses on the biology of the viruses, Archaeabacteria, and Eubacteria. Topics covered include: the scientific study of microorganisms, microbial physiology, cell biology, genetics, molecular biology, replication, growth, systematics and evolution, microorganisms and human diseases, and applied and environmental microbiology. Prerequisites: Biol 104, 105, 200.

221 Vertebrate Zoology* (3 one-hour lectures, 1 three-hour laboratory weekly). Study of evolution of adaptive diversity in form and function among living and extinct species of fishes, amphibians, reptiles (including dinosaurs), birds and mammals. Includes a survey of the local vertebrate fauna and associated ecosystems. The laboratory portion includes comparative anatomy, morphometric and functional analyses of vertebrate body designs, as well as field expeditions to Pine Lake and other nearby areas, and visits to museum collections. Prerequisites: Biol 104, 105, 200 or permission of instructor. (LAB)

223 Horticulture (3 one-hour lectures and 1 three-hour laboratory weekly). A study of cultivated plants including studies on plant growth and development and techniques of horticulture. Laboratories will include the greenhouse in learning various techniques of horticulture. (LAB)

230 Introduction to Environmental Science (3 one-hour lectures weekly). The purpose of this course is to learn about ecosystems and the effects that human activities have on them. Emphasis will be on exploration of ways to find lasting solutions to basic ecological imbalances that have accompanied the expansion and technological development of human populations throughout the world. The course is one of the required choices for students in the Environmental Science and Policy Program. The course includes lectures, class discussions, research projects and field trips.

235 Ecology and the Environment (2 one and a half-hour lectures and 1 two-hour laboratory weekly). Study of the basic principles of ecology including energy flow, nutrient cycling, population dynamics and
Biology Major

Requirements for the major: As an introduction to field of Biology, entering Majors must successfully complete foundation courses in 104 & 105 Principles of Biology I & II and 200 Genetics. (These three introductory courses are prerequisites for all Core courses in the Biology curriculum). Students are then ready to move into the Biology Core Areas: Molecular Biology and Developmental Genetics; Organismal Anatomy and Physiology; and Ecological and Evolutionary Biodiversity. Students must take two courses from each of these Core Areas (six total) in any sequence that best suits their interests and goals, to include one in plant sciences and one in animal sciences. The courses that they may select from the three Core Areas are as follows:

Molecular Biology and Developmental Genetics:
- 201 Molecular Biology of the Cell
- 300 Animal Development
- 301 Plant Development
- 321 Electron Microscopy
- 420 Developmental Genetics
- 425 Immunology

Organismal Anatomy and Physiology:
- 205 Invertebrate Zoology
- 215 Microbiology
- 221 Vertebrate Zoology
- 302 Plant Physiology
- 304 Animal Physiology
- 350 Neurobiology
- 428 Comparative Physiology
- 430 Vertebrate Physiology

Ecological and Evolutionary Biodiversity:
- 303 Ecology

In addition...

Senior Research Project
The Biology Research Project begins in the Spring Term of the Junior year when students take the Junior Research Methods course (0.5 course units), at which time they will develop a research project proposal. They will then conduct the research during the following Fall and Spring Terms (total of 1.0 course unit, or 0.5 units per term). The research must be completed by the end of Spring Term, written up as a thesis, and presented at the annual Biology Symposium.

Internships and Off-Campus Experiences
Biological majors are encouraged to do internships on or off campus. Most internships are graded and one internship counts toward the GPA in the major, but internships can not be used to substitute for a core course.

Additional requirements
- 107 & 108 Chemistry or 109 Chemistry (Chem)
- 201 & 202 Organic Chemistry (Chem)
- 140 & 141 Physics or 201 & 202 Physics (Phys)
- 108 Statistics or 121 Calculus (Math)
- Senior Comprehensive Examination

Grades for all courses taken in biology plus courses required for the major from other departments are used to calculate the average in the major for Departmental Distinction.

succession. Four major topics of concentration are the ecosystem, community, population and comparative ecosystems. Environmental issues are also presented within the course context. The laboratory component is either a field or laboratory investigation. Nearly all aspects of the course are taught at Pine Lake. This course is one of the required choices for students in the Environmental Science and Policy Program. (LAB)

250,350,450 Topics in Biology Lectures, seminar discussions for non-majors and majors in areas of biology of specific interest to the individual instructor. Taught by staff. An individual may take only one topics course during the year except as otherwise authorized by the instructor. Recent topics have included: Island Biology, Natural History of Costa Rica, Ethnobiology, Exercise Physiology, Biomechanics, Neurobiology, and Microbial Ecology.

300 Animal Development* (A) (3 one-hour lectures and 1 three-hour laboratory weekly). Study of the patterns and processes of animal growth and development, from fertilization to aging and death. The topics include embryology and morphogenesis, regeneration, cell differentiation, gene expression, growth factors and morphogens, pattern formation, and the evolution of development. Laboratory is designed to enable students to obtain experience with living embryos; tissues and cells; and develop such skills as microsurgery, tissue culture, cytogenetics, histology, immunocytochemi-
istry and microscopy. Prerequisites: Biol 104, 105, 200. (LAB)

301 Plant Development* (P) (3 one-hour lectures, 1 three-hour laboratory weekly). Structure of the principle plant tissues and their origins. Topics covered include the molecular genetics, embryology and development of vegetative and reproductive organs, as well as their control by hormones, light and environment. The laboratories include plant tissue culture and other procedures that emphasize the lecture material. Offered on an alternate-year basis with Biol 302. Prerequisites: Biol 104, 105, 200. (LAB)

302 Plant Physiology* (P) (3 one-hour lectures, 1 three-hour laboratory weekly). Basic concepts of plant growth, metabolism and transport. Topics covered include photosynthesis, plant hormones, movement of water and food, flower initiation and leaf fall. The laboratories consist of experiments designed to emphasize lecture material. Offered on an alternate year basis with Biol 301. Prerequisites: Biol 104, 105, 200. (LAB)

303 Ecology* (3 one-hour lectures, 1 three-hour laboratory weekly). Study of abiotic and biotic factors controlling distribution and abundance of organisms in terrestrial and aquatic environments. Major aspects covered include physiological ecology, population and conservation biology and community ecology. Laboratories are conducted mainly at the Pine Lake campus and utilize natural populations of animals and plants. Prerequisites: Biol 104, 105, 200, for biology majors or permission of instructor. (LAB)

304 Animal Physiology* (A) (3 one-hour lectures, 1 three-hour laboratory weekly). The major physiological processes of tissues, organs and systems in animals, including responsiveness to stimuli, circulation, movement, digestion, respiration, excretion, hormonal regulation and reproduction. Examples will be drawn from all phylogenetic levels, with emphasis on mammals and human studies. Laboratory will emphasize use of a computer interfaced physiological work station to collect data, experimental design, data analysis and scientific report writing.

305 Plant Biology* (P) (3 one-hour lectures and 1 three-hour laboratory weekly). A survey of major classical groups of the Plant Kingdom with a focus on their reproductive biology. Groups include cyanobacteria, fungi, algae, mosses, ferns, gymnosperms, and flowering plants. The structures and characteristics of flowering plants will be examined in detail, emphasizing the characteristics of the major families. Laboratories will involve microscopic and macroscopic analysis of members of the groups discussed in lecture. Prerequisites: Biol 104, 105, 200. (LAB)

321 Electron Microscopy* (3 one-hour lectures and 1 three-hour laboratory weekly). The theory and practice of the preparation and examination of biological specimens by light microscopy, transmission and scanning electron microscopy, x-ray microanalysis and image analysis. Lecture will emphasize the theory behind specimen preparation, instrumentation and interpretation of subcellular ultrastructure. In the laboratory, students will prepare specimens, which they will then examine and photograph with the electron microscopes. Prerequisites: Biol 104, 105, 200 or permission of the instructor. (LAB)

322 Plant Morphology* (P) (3 one-hour lectures, 1 three-hour laboratory weekly). An in-depth study of major plant groups including classification, anatomy morphology and ontogenetic studies. The laboratories relate to the lecture material. Offered on alternate year basis with Biol 323. Prerequisites: Biol 104, 105, 200. (LAB)

323 Plant Systematics* (P) (3 one-hour lectures, 1 three-hour laboratory weekly). A study of characteristics and relationships of selected vascular plant families. Plant families will be examined in terms of gross morphology, classification and evolutionary relationships. Offered on alternate year basis with Biol 322. Prerequisites: Biol 104, 105, 200. (LAB)

325 Forest Ecology* (6 hours of combined lecture/laboratory weekly). An upper division course for majors designed to follow the general ecology course. The lecture portion of the course examines the historical, ecological and biogeographic factors that have contributed to the determination of “community structure” in forests primarily from the northeast U.S. The laboratory entails a detailed analysis of a section of forest at Pine Lake. Prerequisites: Biol 303. (LAB)

392 Junior Research (1/2 unit course) Research methods preparing students for the Senior Project. Meets once a week. Must be taken before Biol 490 and in addition to four course units.

420 Developmental Genetics* (3 one-hour lectures weekly; seminar format). Advanced study of current research on the molecular and cellular mechanisms
that control growth, development and regeneration in organisms. Topics include the control of gene expression, cell-cell interactions, the cell cycle and growth control, oncogenesis, homebox genes and homeotic mutations, pattern formation and the role of development in evolution. Prerequisites: Biol 300 or 301, or permission of the instructor.

425 Immunology* (3 one-hour lectures, 1 three hour laboratory weekly). A study of the basic processes involved in the immune response. Topics covered will include the structure and function of the immune system, cellular basis of the immune response, immunopathology, autoimmunity and the use of immunology as a research tool. Prerequisites: Biol 104, 105, 200. (LAB)

428 Comparative Physiology* (A) (3 one-hour lectures weekly). Advanced study emphasizing a comparative physiology of animals taken from all phylogenetic levels, with an emphasis in the area of environmental adaptations. Topics covered include temperature regulation, mechanisms of salt and water exchange, circulation, mechanisms of gas exchange, metabolic and physiological responses to oxygen deficiency regeneration and metamorphosis, etc. Prerequisite: Biol 304 or permission of instructor.

430 Vertebrate Physiology* (A) (3 one-hour lectures, 1 three-hour laboratory weekly). Advanced study of the physiology of tissues, organs and systems in verte-
brates with particular emphasis on the mammals. Topics include neurophysiology, circulatory physiology, muscle physiology, digestive and respiratory physiology, osmoregulation, hormonal regulation and reproductive physiology. Prerequisite: Biol 304 or permission of instructor. (LAB)

435 Behavioral Ecology (3 one-hour lectures weekly). An advanced examination of animal behavior that is set in an ecological/evolutionary context. The underlying theme of the course is that behavior cannot be understood without placing an organism in its past and present environment. The subjects covered include the inheritance of behavior, feeding behavior, dispersal and migration, territoriality, the evolution of mating systems and the evolution of complex animal societies. Prerequisites: Biol 303 or permission of instructor.

436 Evolution* (3 one-hour lectures weekly). Study of the patterns and processes of organismal evolution. Topics include the historical development of the current theory of evolution, population genetics, molecular evolution, adaptation, speciation and biodiversity, paleontology, phylogenetic reconstruction and the evolution of development. Prerequisites: Biol 104, 105, 200, or permission of instructor.

490 Senior Project (Arranged individually - 1/2 unit fall, 1/2 unit spring) Independent field, laboratory or library studies on selected topics in biology. Students will participate in a symposium, where study results will be presented. Before beginning the study, departmental approval must be obtained. Prerequisite: Biol 392.

CHEMISTRY

Chemistry, the study of matter, focuses on how substances are formed and transformed by chemical reactions. The study of chemistry gives students a working knowledge of chemical principles allowing them to perform chemical experiments; initiate and sustain research projects; and to think abstractly, conceptualizing reactions and relationships as they analyze data and draw conclusions. The student gains an appreciation for the methods and spirit of modern science.

The chemistry department, whose program is approved by the American Chemical Society’s Committee on Professional Training, offers chemistry majors two tracks of study:

Bachelor of Science: this track is recommended for students anticipating graduate study in chemistry or careers in industrial chemistry and is normally taken for departmental certification to the American Chemical Society.

Bachelor of Arts: this track offers a broader general education, which has fewer required courses in the major program. It is recommended for students desiring careers in areas where chemistry knowledge is useful but not necessarily the main focus, like secondary education, health professions or law.

Students pursuing either track obtain a broad base in chemistry through required courses in analytical, inorganic, organic and physical chemistries, as well as mathematics and physics. Upper level courses, including an original senior research project, enable students to probe more deeply into specific areas.

Majors in the B.S. program complete a year-long senior thesis research project which culminates in oral and written reports of their findings. For students completing the B.A. track, the senior project is a full-time January Term research project. The research projects may be carried out on campus or at an approved off-campus research facility.

The department faculty believe strongly that experimental work and research are central in the development of a scientist and regard laboratory study as the strongest aspect of the chemistry program. To facilitate such study, modern equipment and instruments are used by all chemistry students in laboratory work beginning in their first year and continuing throughout their college career.

To further promote the development of research skills, students are encouraged to participate as early as possible in ongoing faculty research projects and to design their own projects as their abilities increase. In addition, there are opportunities for collaborative research or internships in nearby university, hospital and industrial laboratories. Majors also may take advantage of internships in a variety of career fields which require a knowledge of chemistry.

Chemistry majors have a wide range of career options available to them. Bachelor of science majors may opt directly for careers in industry in areas such as chemical analysis, pollution control, research and development in manufacturing, and product quality control. They also may pursue advanced study in chemistry, which can lead to a wide range of careers in research, college teaching or industrial management.

Majors with a bachelor of arts may choose such careers as environmental analysis, industrial sales, business administration, geochemistry, secondary school teaching, art conservation and political consulting. Alternately, one may pursue professional studies in optometry, dentistry, medicine, engineering and law.
Faculty
Chemistry Faculty: Walter O. Nagel, chair; Paul T. Buckley; Mark S. Erickson; Lawrence A. Mirarchi; Meredith E. Newman; Susan M. Young

Courses
100 Chemistry, Science and Life (lecture and laboratory) An introduction to the language and principles of chemistry emphasizing its philosophical aspects. Along with basic chemistry, topics include the role of models in science; the nature of scientific knowledge; science and culture; and current issues dealing with chemical aspects of energy, food, drugs and the environment. This course counts toward satisfying the laboratory science distribution requirement. Open only to students with no college chemistry credit. Offered January Term, although not necessarily every January. (LAB)

102 Chemistry in Today’s Society (3 one-hour lectures and 1 two-hour laboratory weekly) Selected areas of chemistry designed to enable the student to understand better the role of chemistry and technology in modern society. The course will examine such areas as polymers, and their role in everyday products; acids and bases in household products; radioactivity, its use and abuse; and petrochemicals, energy and other uses. Open only to students with no college chemistry credit. (LAB)

105 Fundamentals of General, Organic and Biological Chemistry (3 one-hour lectures and 1 three-hour laboratory weekly) An introduction to those basic principles and facts needed for an understanding of the chemistry of the human body, in particular, and of life systems, in general. This course is designed primarily for persons preparing for or continuing in the humanities or social sciences who are interested in health-related topics and who desire a broader survey of chemistry than is usually provided by a traditional chemistry course. Major areas are: some background principles apply to all chemistry, some background chemistry of carbon compounds (organic) and the fundamentals of human biochemistry. Prerequisite: high school chemistry and algebra. (LAB)

107, 108 General Chemistry (3 one-hour lectures, 1 three-hour laboratory weekly) Basic principles and calculations of chemistry. Topics include major reaction types, reaction stoichiometry, thermodynamics, chemical kinetics, atomic and molecular structure and properties, chemical equilibrium, electrochemistry and selected topics in descriptive inorganic chemistry. The main emphasis is on problem solving and the interpretive application of principles. Prerequisites: high school chemistry and three years of high school mathematics are strongly recommended. Chem 107 is a prerequisite for 108. (LAB)

109 Accelerated General Chemistry (3 two-hour integrated lab-lectures weekly) This course is designed for students who have a strong high school chemistry background, and will consolidate the more challenging aspects of Chem 107 and 108. It therefore satisfies the 107-108 prerequisite for enrollment in upper level science courses, and is not open to students who have already completed 107-108. Topics include atomic and molecular structure, stoichiometry, thermodynamics, equilibrium and kinetics. Prerequisites: high school chemistry, three years of high school mathematics and permission of the Department of Chemistry. (LAB)

110 Inorganic Chemistry I (3 one-hour lectures, 1 three-hour laboratory weekly) This course focuses on the isolation of inorganic chemicals from natural sources; inorganic synthesis; and important uses of synthetic inorganic compounds especially in the areas of materials science, industrial chemistry and biology. Theoretical interpretation of these chemical processes will be developed. Prerequisite: Chem 108 or Chem 109. (LAB)

201, 202 Organic Chemistry (3 one-hour lectures and 1 four-hour laboratory weekly) A study of the preparation and properties of the compounds of carbon. Modern theories are used to interpret structures and reactions. Required of all chemistry and all biology majors. Prerequisites: Chem 107 and 108, or 109; 201 is prerequisite for 202. (LAB)

203 Analytical Chemistry (3 one-hour lectures and 1 four-hour laboratory weekly) Analytical Chemistry utilizes the reactivity of chemical species in order to detect their presence and quantify their concentrations. Topics include the chemical principles of analytical methods, data handling, gravimetric, volumetric, and electrochemical techniques. Laboratory emphasizes precision and accuracy in analysis. Prerequisite: Chem 108. (LAB)

315 Environmental Chemistry (3 one-hour lectures, 1 four-hour laboratory weekly) This course examines the transport, reactions and effects of chemical species in aquatic, terrestrial and atmospheric environments. Topics will include some or all of the following: acid precipitation, water pollution and treatment, hazardous
Chemistry

Requirements for A.C.S. approved major: 14* courses in chemistry and 5 in mathematics and physics, distributed as follows:
107, 108 General Chemistry I, II or 109 Accelerated General Chemistry

Six core courses:
110 Inorganic Chemistry
201, 202 Organic Chemistry I, II
203 Analytical Chemistry
303, 304 Physical Chemistry I, II
301 Advanced Laboratory Methods

Four advanced level courses:
404 Instrumental Methods
410 Advanced Inorganic Chemistry
490 Senior Thesis research- 2 course units
One additional 400-level course

Three courses in mathematics:
121,122,221 Calculus I, II, III (Math)

Two courses in physics:
201, 202 General Physics I, II (Phys)

One course in computer science:
105 FORTRAN Programming (Cosc)

Course equivalent to Chem 410 must be completed at Hartwick or cooperating institution.

Pre-Engineering Hartwick B.A. degree (3 years at Hartwick and 2 at Columbia University or College of Engineering and Applied Sciences or at Clarkson University): 17* courses distributed as follows:

B.A. track with General Physics I, II and substitution of 391 Junior Research for 491 Senior Research

Three additional mathematics courses:
220 Linear Algebra (Math)
221 Calculus III (Math)
311 Differential Equations (Math)

One course in computer science:
105 FORTRAN Programming (Cosc)

Recommended sequence of courses for the A.C.S. approved major:
B.A. students follow the same sequence, substituting electives for courses below that are not required in their program.

Freshman year
General Chemistry I, II or Accelerated General Chemistry
Inorganic Chemistry (if Accelerated General Chemistry taken)
Calculus I, II

Sophomore year
Organic Chemistry I, II
Inorganic Chemistry (if not taken freshman year)
General Physics I, II
Calculus III

Junior year
Physical Chemistry I, II
Analytical Chemistry
Instrumental Methods
Advanced Laboratory Methods

Senior year
Advanced Inorganic Chemistry
Additional 400 level chemistry course
Senior Thesis Research
waste treatment, soil chemistry, pesticide behavior, ozone depletion and smog formation. The laboratory introduces basic procedure in environmental monitoring (air, water and soil sample collection and analysis). Prerequisite: Chem 108 or 109. (LAB)

292 Sophomore Year Research (half-course unit per year) Each student shall work the equivalent of one afternoon per week during the two regular terms on a laboratory research project associated with a member of the chemistry faculty. Prerequisite: permission of the Department of Chemistry.

301 Advanced Laboratory Methods (5 seven-hour labs and lecture weekly, January Term) A study of laboratory methods used in modern research situations. Equipment and methods such as catalytic hydrogenation, vacuum-line techniques, electrochemical and photochemical synthesis which are inappropriate for large general courses will be studied. Prerequisites: Chem 201, 202, 203. (LAB)

303, 304 Physical Chemistry (3 one-hour lectures, 1 four-hour laboratory weekly) Advanced theories, laws and principles of chemistry. The course will include thermodynamics, electrochemistry, molecular structure, kinetics and spectroscopy. Prerequisites: Chem 108 or 109; Math 122; Phys 140, 141 or 201, 202. Chem 303 is a prerequisite to 304. (LAB)

302, 304 Physical Chemistry (3 one-hour lectures, 1 four-hour laboratory weekly) Advanced theories, laws and principles of chemistry. The course will include thermodynamics, electrochemistry, molecular structure, kinetics and spectroscopy. Prerequisites: Chem 108 or 109; Math 122; Phys 140, 141 or 201, 202. Chem 303 is a prerequisite to 304. (LAB)

391 Junior Research (5 seven-hour labs weekly, January Term) A full time research course. Each student shall work full time on a laboratory research project at the junior level, developed in collaboration with a member of the chemistry faculty, or a person approved by the chemistry faculty, at some outside research agency. The project includes laboratory work, reading and oral reports on papers in the primary chemical literature, oral and written reports on the work done. (LAB)

392 Junior Year Research (half-course unit per year) Each student shall work the equivalent of one afternoon per week during the two regular terms on a labo-
404 Instrumental Methods of Analysis (3 one-hour lectures, 2 three-hour laboratories weekly) The theory and use of modern instrumentation in analytical chemistry. Topics include methods based upon absorption of electromagnetic radiation, chromatographic separations and mass spectrometry. Laboratory emphasizes hands-on use of analytical instrumentation. Prerequisites: Chem 203, 303. Offered on petition of at least three students. (LAB)

405 Physical Organic Chemistry (3 one-hour lectures, 1 four-hour lab weekly) Methods of determining reaction mechanisms. The principles of thermodynamics, kinetics and quantum mechanics are used to determine the reaction pathways of organic chemicals including concerted electrocyclic reactions, acid and base catalyzed reactions, substitution reactions and elimination reactions. Prerequisites: Chem 201, 202, 303, 304. Offered on petition of at least three students. (LAB)

410 Advanced Inorganic Chemistry (3 one-hour lectures weekly) Modern theoretical and descriptive inorganic chemistry with emphasis on physical and chemical principles. Prerequisites: Chem 303, 304.

450 Selected Topics in Organic Chemistry (3 one-hour lectures weekly) Topics studied selected according to interest and needs of individual students. Possible topics include: polymers; heterocyclic compounds; natural products; medicinal products; stereochemistry; carbohydrates; and other subjects examined in depth by discussions, reading and problems, with emphasis on current literature. Prerequisites: Chem 201, 202. Offered on petition of at least three students.

450 Selected Topics in Physical Chemistry (3 one-hour lectures weekly) Topics studied selected according to interest and needs of individual students. Possible topics include: statistical mechanics, quantum mechanics, chemical applications of group theory, thermodynamics, kinetics, electro-chemistry, radiochemistry. Subjects examined in depth by discussions, reading and problems, with emphasis on literature. Prerequisites: Chem 303, 304. Offered on petition of at least three students.

450 Selected Topics in Analytical Chemistry (3 one-hour lectures weekly) Topics selected according to interest and needs of individual students. Subjects examined in depth by discussions, reading and problems with emphasis on the literature. Prerequisite: Chem 404. Offered on petition of at least three students.

490 Senior Thesis Research (1-year course) A year-long research project. The student must develop an original research idea into a research proposal to be approved by the chemistry department, perform the library and laboratory work required by the proposal, interpret the data collected and report the findings of the research orally in an open forum and as a written thesis. Two course units of credit will be given as .5 unit each for fall and spring terms and 1 unit for January Term. Prerequisite: Chem 301 or 391.

491 Senior Research (5 seven-hour labs weekly, January Term) A full-time research course. Each student shall work full time on a laboratory research project at the senior level, developed in collaboration with a member of the chemistry faculty, or a person approved by the chemistry faculty, at some off-campus research agency. The project includes oral and written reports on the work done.

CLASSICS

In a future characterized by continuity with past cultural achievements and tradition, it is important to understand and appreciate the roots of Western cultural tradition. The opportunity to analyze the contributions which the Greek and Roman peoples have made to this tradition is provided through the study of classics at Hartwick.

In order that students may appreciate the breadth and influence of these two cultures, the classics course offerings at Hartwick embrace a number of disciplinary areas—language, history, literature, mythology, art and philosophy. The contributions of these cultures to a wide range of disciplines make study in classics an especially worthwhile component of a liberal arts and sciences education, and students majoring in a variety of disciplines will find such study relevant to their academic programs.

Courses in classics are offered through the Department of Modern and Classical Languages. Students who wish to major in the field of classics, or to develop a concentration in the discipline in combination with some other area of study, may do so under the Individual Student Program option in consultation with faculty in the department. (See page 9 for information on Individual Student Programs.) While the selection of courses depends upon the student’s interests and direction of study, a concentration in Greek
and Roman studies would ordinarily include work in the language, history, literature and culture of the area.

On-campus study is complemented by educational study tours of Greece and Rome offered periodically by the department during January Term. These off-campus programs focus on significant works of ancient art and archaeological remains in order to deepen students’ understanding of ancient history, literature and culture acquired in the classroom.

In addition to the courses listed in this section, the following related courses are described elsewhere in the catalog:

**English:**
- 220 Western Literature (Engl)
- 320 Classical Theatre & Drama (Engl)

**History:**
- History of Ancient Greece (Hist)
- 208 History of Republican and Imperial Rome (Hist)

**Philosophy:**
- 341 Ancient Philosophy (Phil)

**Political Science:**
- 338 Foundations of Political Philosophy (Posc)

**Faculty**

**Part-time Faculty:** Nancy MacDonald

**Courses**

**205 Seminar in Greek Civilization** An introduction to the art and archaeology of ancient Greece through a survey of the major trends and developments in architecture, sculpture, vase painting and the other arts in successive historical periods. Specific attention is focused on relating the principal sites and artifacts to be visited to this larger cultural context. This course is offered only when needed as a preparatory course for those students participating in the January Term in Greece. (CPA)

**206 Seminar in Roman Civilization** An introduction to the art and archaeology of ancient Rome from its beginnings through the Imperial period, examining in addition the contributions made by the Etruscan and Greek cultures. Specific attention will be given to those monuments and sites which will be studied during the January Term. This course is to be taught only when needed as a preparatory course for those students participating in the January Term in Rome. (CPA)

**210 January Term in Greece** An exploratory study of the civilization of ancient Greece through visits to significant museums and archaeological sites. The places to be visited include Athens, Sounion, Eleusis, Hosios Loukas, Delphi, Corinth, Mycenae, Epidaurus, Olympia and the island of Crete. Offered from time to time.

**211 January Term in Rome** An exploratory study of the civilization of ancient Rome through visits to significant museums and archaeological sites. In addition to visits to the major points of cultural interest in Rome, this program will include excursions to Ostia, Tivoli, Tarquinia, Praeneste, Pompeii and Herculaneum. Offered from time to time.

**221 Classical Mythology** (Same as Engl 221) An introductory survey of the myths and legends of the Greek and Roman gods and heroes most commonly encountered in the art, architecture and literature of these two peoples. The vital place which these tales occupied in the fabric of Greek and Roman societies will be emphasized. (MWE)

**250 Topics in Classics** An examination of particular subject areas or themes which are not ordinarily treated and which are considered to be of special importance to the understanding of Western civilization. Examples include “Classical Mythology in Western Literature, Art and Music,” and “Women in Antiquity.” (MWE)

**Greek**

The following courses are offered from time to time when there is sufficient interest and may be available as directed studies.

**101, 102 Elementary Greek** A two-term sequence at the introductory level for those students who have no prior knowledge of Greek.

**101 Elementary Greek I** Introduction to classical Greek grammar, vocabulary and pronunciation. (LN1)

**102 Elementary Greek II** Continuation of classical Greek grammar. Prerequisite: Greek 101. (LN2)

**215, 216 Intermediate Greek** First term: selected readings in prose and poetry; advanced grammar. Prerequisite: Greek 101, 102 or equivalent. (LN3) Second term: Greek epic: Homer. Prerequisite: Greek 215.

**Latin**

The following courses are offered from time to time when there is sufficient student interest and may
be available as directed studies.

**101, 102 Elementary Latin** A two-term sequence at the introductory level for those students who have no prior knowledge of Latin or who need to review the fundamentals of the language. Students should consult with the instructor to ensure correct placement in this sequence.

**101 Elementary Latin I** Introduction to Latin grammar, vocabulary and pronunciation. (LN1)

**102 Elementary Latin II** Continuation of the study of Latin grammar and readings of classical authors. Prerequisite: Latin 101 or 1 or 2 years of high school Latin. (LN2)

**215,216 Intermediate Latin** First term: selected readings in prose and poetry; advanced grammar. (LN3)

Second term: Latin poetry. Prerequisite: Latin 101, 102 or equivalent.

**321, 322 Readings in Latin Literature** First term: lyric and elegiac poetry. Second term: selections from the Roman historians. Prerequisite: Latin 215, 216 or equivalent.

**COMPUTER & INFORMATION SCIENCE**

An understanding of computers, as well as of the world in which they are being used, will be essential in the technologically and culturally complex world of the 21st century. As computers become valuable tools in nearly every field, it is important that those involved in their development and use understand not only the technology but the human needs it can serve and the implications for society. The study of computers within the framework of a liberal arts and sciences education can provide this understanding. In addition, students majoring in other disciplines will find a knowledge of computers useful in their future careers—whether they plan to become educators or scientists, artists or economists. And working with computers can strengthen logic and problem-solving skills that will prove valuable in both their personal and professional lives.

The Department of Computer and Information Science at Hartwick offers major programs in computer science and information science, as well as a minor in each area. While the two major programs differ in focus, each provides students with a solid technical background and a broad, general foundation that prepares them for a variety of career opportunities rather than one specific job. At the same time, their study of computers within the context of a broader liberal arts and sciences education prepares majors to evaluate the potential and limitations of future advances in technology, and to adapt to changes within their profession.

The major in computer science emphasizes the scientific and mathematical dimensions of the field. It is for the student who wants to work on the cutting edge in developing the software necessary to run the computers of tomorrow. Students develop proficiency in programming by learning several commonly used programming languages, and they develop a broad and deep understanding of operating systems, computer architecture, programming languages and advanced programming techniques. Electives are chosen from exciting topics such as computer graphics, parallel processing, artificial intelligence, microprocessors, computer networks and optimization techniques.

The major in information science is geared toward students who want to use computers effectively in the modern business world. It is designed to produce skilled and creative individuals to manage the information, computer systems and people needed by businesses in the 21st century. Building on a solid foundation in programming, information science majors learn how to analyze and solve the complex data processing problems of modern organizations. In advanced courses in systems analysis and design students use advanced computer assisted software engineering (CASE) tools which automate the software design process. Elective courses are chosen from a diverse list including small business systems, computer networks, programming languages, artificial intelligence and data structures. Courses in information science emphasize projects where students learn by doing real-life projects.

Each major program culminates with a required senior project which involves independent study in a selected area related to the focus of a student’s major and future career plans. Courses in the humanities and social and behavioral sciences complement study in both major programs. Students graduate understanding not only computers, but people, and how people and machines can work together to solve problems. Majors in each program also are encouraged to do internships which provide experience in the application of theoretical knowledge to real life situations. (While strongly recommended by the department, internships normally may not be counted as one of the courses required for the major or minor.)

Easy access to the College’s excellent computer facilities enhances the study of computer and information sciences at Hartwick.

Some Hartwick graduates with a major in com-
puter science or information science have gone on to do graduate study in their fields before beginning their careers. Others have begun work immediately in a variety of industries and businesses, in careers ranging from systems analysis, to applications programming, to sales, to management.

**NOTE:** Double majors in computer science and information science, or a major in one and a minor in the other, are not permitted because of the high degree of overlap in requirements.

**Faculty**

*Computer and Information Science Faculty:* Robert C. Gann, chair; Susan R. Carbone; Davis B. Conley; Robert C. Gann; John C. Moulton; Rosemary D. Paradis

**Courses**

**101 Introduction to Computers** A literacy course providing an introduction to the nature and use of computers. Topics include the history of computers and information processing, the use of computers in problem solving and computers in modern society. Students learn to use a word processor and a spreadsheet, and learn to use other software packages to develop computer applications. This course is for students not planning to major or minor in computer or information science. (MLC)

**120 Introduction to Programming** A first course in computer programming. Topics include the structure of programs; scalar data types; input and output; operators and expressions; the control of flow, functions and arrays. Emphasis will be placed on structured programming and software engineering using C++. Prerequisite: Attain Level III or above math proficiency. (MLC)

**135 Visual Programming** An introduction to visual programming addressing typical business applications. Programming assignments will utilize object-based, event-driven programming techniques. Emphasis will be placed on program design, form design, file processing, database processing, and data validation. This course currently is taught in Visual Basic. Prerequisite: Grade of C or better in Cosc 120. (MLC)

**180 Survey of Computer Systems** An introduction to information processing and the use of computers for algorithmic problem solving. Covers scope, major contributions, tools, and current status of computer science. Topics include modern computer hardware, operating systems, networks, database systems, and artificial intelligence. Makes use of common office application software. Prerequisite or corequisite: Cosc 120. (MLC)

**225 Advanced Programming Techniques** An advanced course in structured programming emphasizing software engineering, algorithms and data structures. Topics include dynamic memory allocation, stacks, queues, linked lists, searching, sorting, recursion and binary search trees. Prerequisite: At least a C in Cisc 120. (MLC)

**240 Computer Organization and Assembly Language** Assembly language programming and an introduction to computer architecture. Topics covered include the representation of data and instructions in the computer, the central processing unit, memory and addressing modes, subprocedures, input/output, systems programming, and macros. Prerequisite: at least a C in Cosc 225. (MLC)

**305 Artificial Intelligence** An introduction to machine intelligence. Topics include search techniques, game playing, automated reasoning, problem solving, natural language understanding, knowledge representation, expert systems, pattern recognition, computer vision, robotics, machine learning and neural networks. Prerequisite: Cosc 225. Offered when there is sufficient student interest. (MLC)

**310 Systems Analysis and Design** An introduction to software engineering and the system development life cycle. Topics include techniques for describing process flows, data flows, file design, input/output design and program specification. Emphasis will be placed on information gathering and reporting activities, on the analysis phase and the interaction of the various participants in the system process. There will be a group project. Prerequisite: Cosc 135 or permission of the instructor. (MLC)

**315 Database Management** An overview of database systems. The hierarchical network and relational data models will be studies. Topics covered will include the principles of good database design, query languages, file and system structure, and database security and integrity. There will be several database projects. Prerequisites: Cosc 135, 225, or permission of the instructor. (MLC)

**320 Programming Languages** Concepts of programming languages. Topics include the history of pro-
## Requirements for the major in computer science
15 courses in computer & information science and mathematics, as follows:

### Four core courses in computer and information science:
- 120 Introduction to Programming
- 135 Visual Programming
- 225 Advanced Programming Techniques
- 240 Computer Organization and Assembly Language

### Five upper level courses in computer and information science:
- 320 Programming Languages
- 325 Data Structures
- 430 Operating Systems
- Two additional courses at or above the 200 level

### Five courses in mathematics:
- 121 Calculus I (Math)
- 122 Calculus II (Math)
- 220 Linear Algebra (Math)
- 221 Calculus III (Math)
- One of the following:
  - 375 Optimization Techniques
  - 385 Theory of Computation
  - 308 Probability and Statistics (Math)
  - 320 Introduction to Abstraction (Math)
  - 326 Discrete Mathematics (Math)
  - 337 Number Theory (Math)
  - 371 Numerical Analysis (Math)
  - 381 Mathematical Modeling (Math)

### 490 Senior Project

## Requirements for the minor in computer science
Six courses in computer & information sciences, distributed as follows:

### Five core courses in computer and information science:
- 120 Introduction to Programming
- 225 Advanced Programming Techniques
- 240 Computer Organization and Assembly Language
- One of the following:
  - 320 Programming Languages
  - 325 Data Structures
- Two additional courses

**Note:** Introduction to Computers cannot be used as one of these courses

## Requirements for the minor in information science
Six courses in computer & information sciences and one course in mathematics, distributed as follows:

### One course selected from
- 315 Database Management
- 360 Systems Design and Implementation
- 380 Small Business Systems

### One elective at the 200 or above level
- 108 Statistics (Math)

Grades for all courses taken in Computer and Information Science are used to calculate the average in the major for Departmental Distinction.

Violation of the College Computer Use and Abuse Policy or misuse of the college computing resources can result in disciplinary action, including but not limited to dismissal from the major.
325 Data Structures An advanced course in data structures and algorithm analysis and design. Data structures covered include stacks, queues, linked lists, binary trees, graphs, heaps, trees and B-trees. Algorithms include searching, sorting, hashing and other algorithms for information storage and retrieval. Prerequisites: at least a C- in Cosc 240, Math 121. (MLC)

330 Computer Networks An overview of data communication and computer networking. Topics include network structure, network architecture, network protocols and algorithms used in network programming. Several local area and wide area networks will be studied, including the Hartwick and Internet networks. Prerequisite: Cosc 225. Offered alternate years. (MLC)

335 Computer Graphics Concepts of computer graphics. Topics include graphics devices and systems, interactive graphics, ray tracing, raster graphics, three-dimensional viewing and transformations, light and color theory, and hidden line and surface elimination. Prerequisites: Math 121, at least a C- in Cosc 225, Math 220 suggested. Offered alternate years. (MLC)

340 Microprocessors Software and hardware considerations in using a microprocessor. Machine language, registers, addressing modes, stack manipulations, subroutines, interrupts, computer architecture, types of memory, data buses, memory-mapped input-output, interfacing. Applications to industry and business. Prerequisite: Cosc 240. Offered when there is sufficient student interest. (MLC)

350 Topics in Computer Science Possible topics include computer simulation, automata theory, parallel programming, algorithm analysis and design, and expert systems. Prerequisite: Cosc 225. Offered when there is sufficient student interest. (MLC)

360 Systems Design and Implementation Advanced study of systems development and implementation. Emphasis on the use of structured analysis and design techniques to produce design specifications. Programming and testing of information systems that satisfy user requirements. Prerequisites: Cosc 135 and Cosc 310. (MLC)

371 Numerical Analysis (Same as Math 371) The development of numerical methods and their associated error analysis. Non-linear equations, systems of linear equations, interpolation, numerical differentiation and integration. Programming of appropriate algorithms with emphasis on accuracy and efficiency. Prerequisites: Math 220, 221, and Cosc 120. Offered alternate years. (MLC)

375 Optimization Techniques (Same as Math 375) A survey of some of the methods used to obtain optimal solutions to linear problems. Emphasis on linear programming, simplex algorithm, duality transportation and assignment problems, shortest route and maximum flow problems, game theory decision trees. Additional topics may include integer programming, dynamic programming, PERT-CPM, graph theory, queuing theory. Prerequisites: Cosc 120 and Math 220. (MLC)

380 Small Business Systems Office information and decision support systems are examined in relation to business data and information systems. Emphasis on data and record management, electronic filing and retrieval systems, word processing, list processing, micrographics, telecommunications. Includes person/machine interface, current and future technological trends and impact on information processing and the office environment. Prerequisites: Cosc 310 and permission of instructor. Offered alternate years. (MLC)

385 Theory of Computation An advanced survey of the theory of computation. Topics include regular languages, context-free languages, the Church-Turing Thesis, decidability, reducibility, time complexity, space complexity, and intractability. Prerequisites: Math 220, 221, and Cosc 225. Offered when there is sufficient student interest. (MLC)

425 Language Design and Implementation Design and implementation of compilers: lexical analysis, parsing, semantic actions, optimization and code generation. Prerequisite: Cosc 325. Offered when there is sufficient student interest. (MLC)

430 Operating Systems Design and implementation of computer operating systems: input/output, interrupts, memory management, processor scheduling, job management, file handling and protection. Prerequisite: Cosc 325. (MLC)

490 Senior Project Supervised independent study with oral and written presentations. Students select
topics from such areas as compilers, operating systems, programming languages, theoretical foundations, artificial intelligence, expert systems, graphics, computer architecture, systems design and analysis, database systems, software engineering, and systems management. May involve a programming project. Prerequisites: Cosc 325 for computer science majors, Cosc 240 and 310 for information science majors, plus permission of the department.

**ECONOMICS**

Hartwick students who choose to major in Economics first build a solid foundation in economic theory and learn to think analytically. Further work applies these principles to a wide range of contemporary issues. Off-campus study, whether through an internship or our study abroad programs is actively promoted to help students address these issues directly.

Complemented by the Hartwick liberal arts and sciences education, economics majors learn to appreciate the political, historical, social and psychological discoveries which influence developments within the discipline. Departmental offerings emphasize the student as researcher, peer-mentoring, and the close trust required in forming working and personal relationships among faculty and students.

Students who earn the B.A. in Economics are prepared for careers in a variety of fields. Recent graduates have put their knowledge to work in business, e-commerce, government agencies, the Federal Reserve, securities and commodity trading, international banking, and lobbying. Others have pursued a Ph.D. in economics, or advanced study in law, public policy, education, and business.

**Faculty**

**Economics Faculty:** Laurence J. Malone, chair; Peter J. Alexander, Brendan M. Cunningham, Carli Cochi Ficano

**Courses**

201 **Microeconomic Principles** An introduction to price determination in input and output markets under a variety of market structures. These principles are used to analyze current economic problems such as minimum wage laws, environmental and common property resources, mergers and acquisitions, and regulatory policy. No prerequisite. (SBA)

202 **Macroeconomic Principles** A survey of economic problems facing the national economy and theories developed by economists to inform public policy used to manage aggregate demand. Topics include inflation, unemployment, fluctuations in aggregate economic activity, government budgets and debt, the banking system and monetary policy. No prerequisite. (Econ 201 need not be taken before Econ 202) (SBA)

203 **Quantitative Economics** An introduction to the theoretical and analytical framework used in modern economics. Students are first introduced to core theoretical concepts and then use the mathematical methods of calculus to construct formal models. These models can then be translated into empirical specifications and tested using econometric techniques.

301 **Microeconomic Theory** Focus on standard neo-classical decision-making processes. An emphasis on game theoretic analysis. Prerequisite: Econ 201, 202, and 203. (SBA)

302 **Macroeconomic Theory** The causes and consequences of inflation and unemployment and how these problems are described and theoretically analyzed through national income and product accounts. Monetary and fiscal stabilization policies are emphasized, with careful consideration given to balance of payments issues, trade deficits and the effect of changes in the value of the dollar. Prerequisite: Econ 201, 202 and 203. (SBA)

303 **Econometrics** The method by which real world data is used to test economic theory and/or make predictions about future economic events. Presents regression analysis as a tool with which the statistical relationship between a wide range of economic variables may be rejected or validated. Equal time is devoted to understanding the process of formal empirical analysis, econometric theory and the direct application of theory to analysis. The course culminates with students preparing an analytical research paper on a specific question of personal interest. Prerequisites: Econ 201, Econ 202, Econ 203 or permission of the instructor. (SBA).

304 **The International Economy** A two-part examination of exchange relationships between nations. Part one incorporates tools of economic analysis to consider the timeless questions of tariffs, balance of payments and exchange rates. Part two utilizes the theoretical understanding of part one to consider macro-economic policy formation and implementation in an open market setting. Close consideration is given to the composition and pattern of international trade and
the effectiveness of barriers to trade. Prerequisite: Econ 201 and 202 or permission by instructor. (SBA)

311, 211 Topics in American Economic History An exploration of economic causes and consequences pertaining to the development of the national market in the United States. Recent seminar topics have included: the origins and development of plantations, the emergence of multinational corporations from 1850 to 1900, and nineteenth and twentieth century labor history. Common readings are discussed in a highly interactive setting and each participant will undertake a research project which investigates a specialized theme. No prerequisite at the 200 level. Prerequisite: Econ 201 or 202 or permission of the instructor at the 300 level. (SBA)

312 Banking and Financial Markets Investigates the intermediary function that financial institutions provide for savers and investors, with emphasis on the central position
of banks. Considers the creation and usefulness of a variety of financial assets; the term structure of interest rates; the question of the optimal regulation of depository institutions; and the distinguishing features of such financial institutions as insurance companies, mutual funds, pension funds and finance companies. Includes discussion of recent legislation concerning financial markets and financial institutions, and consideration of international developments. Prerequisite: Econ 202. (SBA)

313, 213 Classical Political Economy Examines the economic, political and philosophical “visions” in Adam Smith’s Wealth of Nations, Karl Marx’s Capital, and John Maynard Keynes’ General Theory. The development of the liberal ideal of unrestrained individual freedom is traced through the ways these economists interpreted the social reality of their time. The evolution of the analytical concepts of neoclassical economics are also considered, and the contemporary relevance of these works is discussed throughout the course. No prerequisite at the 200 level. Prerequisite: Econ 201 or 202 or permission of the instructor at the 300 level. (SBA)

314, 214 Economic Development Examines various explanations for the disparate levels of economic well-being among nations, both historically and currently. Issues to be discussed include the potential trade-off between economic growth and societal equity, miracles and failures, the sustainability of certain development plans, the feasibility of “trickle down” development, and innovative development techniques at both the grassroots and macro levels. The course culminates with students creating and defending development plans for a nation of their choice. No prerequisite at the 200 level. Prerequisite: Econ 201 or permission of the instructor at the 300 level. (SBA)

315, 215 Economics of Government Policy A critical look at contemporary domestic policy issues using the tools of theoretical and empirical economic analysis, institutional analysis and the history of social policy. Potential topics include crime, child care, education, medical care and social security/long term care for the elderly. A significant portion of the course will be devoted to independent student assessment of current policy initiatives—specifically their costs and benefits—and the design of policy reform initiatives. No prerequisite at the 200 level. Prerequisite: Econ 201 and Econ 203 or permission of the instructor at the 300 level. (SBA)

316, 216 Economics of Race and Gender Utilizes economic analysis to shed light on the difficult social issues of race and gender in contemporary United States society. Potential topics include labor and credit market discrimination, employment and housing segregation, the male-female and black-white wage gap, labor market participation, divorce and domestic violence. While neo-classical economic theory will serve as a point of departure for each issue, the assumptions behind the theory will be carefully scrutinized and empirical evidence in support of and/or against the theory will be brought to bear. No prerequisite at the 200 level. Prerequisite: Econ 201 and Econ 203 or permission of the instructor at the 300 level. (SBA)

318, 218 Environmental Economics An application of economic logic to a major political issue. The analysis includes: externalities and market failure, comparison of command-and-control strategies with market-incentive strategies, evaluation of costs and benefits of alternative proposals, consequences of court decisions to resolve environmental disputes, the effects of public policies on environment quality and the basic elements of natural resource economics. No prerequisite at the 200 level. Prerequisite: Econ 201 or 202 or permission of the instructor at the 300 level. (SBA)

319 Game Theory The study of non-cooperative multi-player decision problems. Covers static games of perfect information through dynamic games of incomplete information. Explores refinements of equilibrium concepts through perfect Bayesian equilibrium. A modest exploration of evolutionary equilibria. Prerequisite: Econ 301 or Math 121. (SBA)

321 International Economic Policy An in-depth exploration of contemporary policy-making issues in the international economy. Possible topics include: trade relations and managed trade, protectionism, balance of payments disparities, wage inequalities, trading blocs, development and underdevelopment, transition economics and financial market volatility. Participants will discuss common readings and undertake a substantial research project on a particular area of interest. Prerequisite: Economics 304 or permission of the instructor. (SBA)

322 Labor Economics Uses economic theory to analyze topics related to employment. The processes by which businesses determine the quantity, quality and compensation levels of their employees and individuals decide whether, how much and where to work are examined. The course begins with the primary building blocks of labor economics: labor supply and labor
demand. It then narrows its scope to look more closely at policy-relevant issues such as welfare reform, labor unionism, unemployment and the minimum wage and appropriate investments in education. A significant portion of the class will be devoted to independent student research on a relevant topic of personal interest. Prerequisite: Econ 201 or 202. (SBA)

323 Mathematical Economics Exploration of constrained and unconstrained optimization of functions of several variables. Detailed study of nonlinear systems. Prerequisites: Econ 203 or Math 121. (SBA)

324 Securities and Investments The concepts of financial return and risk applied to publicly held corporate securities, obligations of federal, state and local government entities and the effect on portfolio construction. Options to buy equities–rights, warrants and the call market–are studied. The implications of institutional portfolios are also considered. Prerequisite: Econ 202. Not open to freshmen. (SBA)

350, 250, 150 Selected Topics in Economics Special topics of current interest. Subjects of these courses will be announced before registration. (SBA)

395, 495 Internships in Economics Opportunities for career development and applied work for Economic students. Placements are designed to test academic concepts in a work setting and to bring the practical knowledge of a functioning business or institution to the classroom. Prerequisites: Economics major or minor, permission of the department and satisfactory internship qualifications. May be taken for 1-4 units, but only one unit may count toward the major requirement.

490 Senior Thesis and Seminar in Economic Research The Senior Thesis Seminar represents a substantial research project on a topic of interest. Students will meet periodically with faculty and peers to present work-in-progress. The seminar is required of all majors, and concludes with submission of the completed thesis.

EDUCATION

The Hartwick College teacher preparation program seeks to foster middle childhood (grades 5-9) and adolescence (grades 7-12) level educators who are reflective and can articulate a sound rationale for their educational practices.

Hartwick’s education program is based on four axioms:
• Effective teachers excel in their academic major.
• Effective teachers are firmly grounded in a liberal arts and sciences background.
• Effective teachers operate from sound principles of teaching and learning.
• Effective teachers integrate those principles into meaningful experiences in middle level and adolescence-level classrooms.

Close collaboration with schools in central New York and the capital/NYC region accommodates opportunities for classroom teaching experiences. Hartwick’s Department of Education enjoys partnerships with over 14 school districts staffed by skilled in-service teachers and administrators who are dedicated to the propagation of excellence in education.

Since there are many means of learning (internship, study abroad, volunteer work, work-study programs, course work, field practica, directed study, and others), education students are encouraged to negotiate an appropriate teaching-learning path. Efforts are made to design, develop, and implement a personalized preservice teacher program that is directed toward professional objectives and requirements for NYS teacher certification while supporting each student’s interests and experiences.

All advising for an education concentration is conducted with the Department of Education faculty in collaboration with the student’s major content advisor.

Areas of Certification

HARTWICK STUDENTS WHO DESIRE TEACHER CERTIFICATION DO NOT MAJOR IN EDUCATION. Education is a concentration that is coupled with a major. The following majors are registered through the NYSED for middle level and adolescence level certification:
• Social Studies (with majors from History, Political Science, Anthropology, Sociology, Economics, and Psychology*)
• Mathematics
• Biology, Chemistry, Physics, Earth Science
• English
• French, German, Spanish
(* Psychology is an approved major for middle level certification, not adolescence level.)

The music department offers K-12 teacher certification. See the Department of Music catalog entry for information specific to this program.

Entering the Education Program

To qualify for certification through the College, the student must:
Education

- Be in their sophomore year.
- Complete the three-step interview with education department faculty.
- Maintain a G.P.A. of 3.0 or higher in major.
- Provide proof of a commitment to learning-teaching.

**Program Requirements**

Students who wish to secure initial certification must satisfy the following:
- Be registered in an academic major. (Check the catalog for discipline-specific requirements.)
- Complete Curriculum XXI requirements.
- Complete all education courses (or equivalent experience arranged with department faculty).

**Recommendation for Certification to NYSED**

Upon successful completion of requirements of this program and passing the NYSED (New York State Education Department) battery of teacher exams, students qualify to be recommended for middle childhood or adolescence initial teacher certification. Reciprocity with most states and commonwealths allows students to secure certification in other locations with minimal effort.

The application for initial teacher certification must be submitted to NYSED by the registrar within six months of the completion of student teaching.

**Department of Education Requirements Prior to Student Teaching Practica**

Before an education student may participate in the capstone student teaching practica, the following must be filed with the Coordinator of Teacher Education:
- Statement of Intent to Student Teach.
- Department of Education Advisor Recommendation.
- Content Area Department* Recommendation.
- Degree Audit demonstrating G.P.A. of 3.0 or higher in content area.
- Degree Audit demonstrating grades of C or above in all education courses.
- 120 hours of field experience (including minimum 60 hrs. of START).
- Junior year oral presentation.
- Documentation summarizing Department of Education Exit Interview.
- Teaching Portfolio including video, binder w/ academic course work, model lesson plans, sample assessments.

(*Social Studies student recommendations include input form all appropriate departments.)

**Regulations:**

Teacher certification programs at Hartwick College are subject to the rules and regulations of the State Legislature, Commissioner of Education, Board of Regents, and NYSED.

- Of the 120 hrs. of field experience required by the Department of Education prior to student teaching, 60 hours must be coordinated through HartwickSTART program.
- Students working toward teacher certification are expected to supplement their pedagogical experience with a minimum of 20 hours in the area of special education, e.g., working as tutors in resource rooms, working as aides with special needs students included in regular classrooms in effective inclusion situations, etc. This component of START prepares Hartwick education students to learn to identify and to make accommodations for students within a full range of disabilities and special health-care needs through this field requirement.

**Fifth Fall Alternative Student Teaching Program**

The Fifth Fall option allows students who are not able to fit student teaching in their senior year to complete the practicum postgraduate. This program is only for Hartwick graduates who have completed all education department requirements except student teaching. Students pay a fee equal to the cost of one Hartwick unit, receive no credit, and fulfill all New York State Education Department requirements for secondary certification.

**Hartwick START (Student Teacher Aides Reaching Teens)**

Hartwick START is a program that gives Hartwick College students the opportunity to work in a local school as a teacher aide as their federally funded work-study job. Students work between 6 and 10 hours per week, depending upon their individual schedules, in all phases of education—public, private, pre-school, elementary, middle and high school. As aides, they assist classroom teachers in various ways. By far, the most common task of a Hartwick START participant is individualized or small-group tutoring. Much of the one-on-one tutoring takes place in the realm of special education and involves working with students who need extra attention to succeed in the inclusive classroom environment. In addition, Hartwick START students have worked one-on-one with foreign students who are developing English language skills, students who have fallen behind in their studies because of medical absences, and students who are ineligible for extra-curricular activities, including sports, and wish to re-earn their eligibility. Tutoring tends to be interdisciplinary and presents a challenge to the Hartwick student who must be proficient in many subject areas.

The Hartwick START program assists in the transition between high school and college and creates the opportunity for even first-year college students to...
Experience school from the post-graduate viewpoint. Hartwick START students learn about school administration and politics, while observing and experiencing educational practices as diverse and individualized as the teachers they assist.

The greatest benefit of the program, other than the obvious benefit of free labor to the school systems, is to the students who aspire to become teachers. The practical experience they gain as they participate in START, coupled with their coursework at Hartwick, helps them to be better prepared to enter a school as a student teacher and, ultimately, to be a more effective classroom teacher.

Faculty:
Jose Maldonado-Rivera, Department Chair; L. Jean Palmer-Moloney (another full-time faculty member, beginning Fall 2000)

Courses

FYS 150 (First Year Seminar)—Education in Contemporary American Society
American society is rapidly coming to grips with a magnitude of challenges facing childhood, middle childhood, and adolescence education. The issues and controversies covered in class include: school financing, creationism v. evolution in the classroom, bilingual education, multicultural education, sexual education, moral education, affirmative action in education, desegregation and school busing, curriculum standards, homosexuality in the classroom, and religion in the classroom. Students are expected to read assigned papers and outline their stances on the controversies/issues. The classes centers on structured debates. Student assessment is based on class participation, essays, and a portfolio. Offered fall semester.

220 Social and Philosophical Foundations of Education
Students explore how philosophy and sociology inform educational practice and examine how philosophical and sociological analyses may be used for thinking about educational issues and constructing rational curricula. The course targets two outcomes for students: (1) to gain an understanding of the development, structure, and function of institutions that have influenced the shape of contemporary American schools and (2) to define and articulate a personal philosophy of education. The course focuses on the philosophical stances and the socio-cultural forces (including the impact of culture, heritage, socioeconomic level and factors in the home, school, and community on students’ readiness to learn) that have worked to shape and constrain education today. Offered every semester.

304 Psychological Foundations of Education
Students examine educational and psychological principles and theories applicable to childhood, middle childhood, and adolescence age learning. Particular attention is given to human growth and development, motivation and theories of learning and teaching. Students examine the major learning theories derived from psychological research and explore their implications for educational practice. This exploration focuses
Education

on three areas: (a) development, (b) learning theory, and (c) instructional theory. The course is designed to help pre-service teachers use psychological research findings to make informed decisions in educational practice. Offered every semester.

320 Interdisciplinary Curriculum and Instruction: Theory & Practice Students investigate curricular and pedagogical issues common to all content areas in middle childhood and adolescence levels of education. Through an examination of both curriculum and instruction theory and practice, each student will have opportunities to strengthen her/his philosophical base prior to student teaching. Presented in seminar-style, this class requires active student participation through reaction writings and dialogue on assigned readings; debates and discussions; and formal presentations. The overall objectives for this course work to challenge each student to: (1) understand the writings and ideas of various curricular theorists, (2) gain knowledge, comprehension, and application skills to understand traditional and non-traditional education paradigms, (3) analyze and evaluate contemporary curricular and instructional themes related to current educational trends, and (4) understand, analyze, and evaluate variables that affect curriculum and instruction, including community, diversity, politics, money, technology, and facilities/materials. Offered every semester. Prerequisites: Educ 220 and Educ 304.

3XX Content Specialty Teaching Methods
325/328 Teaching Middle Level & Adolescence Level English & Social Studies
326 Teaching Middle Level & Adolescence Level Math
330 Teaching Middle Level & Adolescence Level Science
335 Teaching Middle Level & Adolescence Level Foreign Language
(325-335): Students are required to enroll in one course that corresponds with their certification field. The study, development and implementation of curriculum and instruction for teaching a specific subject (student’s certification concentration in English, math, social studies, science or foreign language). The methods course comprises two components: content study and field practice. At the college, education students explore and practice specific curriculum and instruction models endemic to their concentration field based on current, sound educational research. Then education students spend at least 5 hours of course time in a middle level classroom (grades 5-9) and 5 hours of course time in an adolescence level classroom (grades 9-12) working directly with students. Offered spring semester. Prerequisite: Educ 220, 304, 320.

372 Educational Lyceum Series (.5 unit credit, taught as a series of mini courses)
Substance Abuse
Education students obtain the knowledge to recognize abuse of tobacco, alcohol, or drugs and how to create a safe and nurturing environment free of alcohol, tobacco, and other drugs and to foster health and learning of all students and to develop a sense of community and respect for one another.

Middle Level Child Development
Education students focus on the social and emotional development of students at the middle childhood level. In keeping with the educational philosophy endorsed by the National Middle Schools Association, Hartwick education students learn how the social and emotional development of the middle level child relates to academic performance. The pre-service teachers center their learning on what it takes to teach the whole student who is at the middle level of childhood.

Middle Level Instructional Practice
Education students work with in-service middle level teaching professionals to explore the characteristics of and opportunities offered by middle level team teaching. Strategies for interdisciplinary work are covered.

Reading & Writing Across the Curriculum
Education students focus on reading and writing in all content areas and in all aspects of education. Pre-service education students learn how to detect student reading and writing difficulties and where to for help. Attention is given to working with students at the middle level and adolescence levels and with students who are English language learners.

Confidence and Animation in the Classroom:
Education students engage with Hartwick theater arts faculty in a workshop setting to refine “delivery” techniques for teaching and to develop an understanding of “presence” in the classroom.

Identifying & Working with Special Needs Students
Education students learn the wide range of disabilities, from learning to emotional, and learn various ways to accommodate for these disabilities. Hartwick students spend a minimum of 10 hours working in field settings with local school district special education professionals and special needs students as part of the requirements for this class.

381 Assessment and Evaluation (.5 unit credit) The course explores the theory and methods by which learning is assessed and evaluated. A variety of assessment and testing practices are reviewed. Students
develop an assessment toolbox in their particular subject specialty. The use of computers to facilitate and enhance evaluation and assessment is emphasized. This course is linked to Educ 382.

**382 Educational Technology** (.5 unit credit) The course explores the diversity of software and hardware available to teachers for enhancing instruction and facilitating course administration. Students learn to use a variety of software to produce instructional materials, develop multimedia presentations and facilitate administrative duties. Students become familiar with the use of graphic and presentation (Photoshop, PowerPoint), spreadsheet (Excel), database (Access) software, and educational software pertinent to their content specialty. This course is linked to Educ 381 (Assessment and Evaluation).

**390 Alternative Educational Field Experience** The course places students in non-traditional educational settings with students from diverse cultural, socioeconomic and geographic backgrounds. Students are required to observe, interact, supervise and/or teach for a minimum of 120 hours. Internship may be during summer, January Term or Fall/Spring Term. Readings on the sociological dimension of schools, students and teachers, provide for formal context reflection of the experience. Requires writing a brief proposal and approval by Education Committee.

**480 Interdisciplinary Reflective Student Teaching Seminar** (0.5 unit credit) Reflective seminar concurrent with 491-492.

**491-492 Supervised Student Teaching** (4 units credit) (Fall semester) Prerequisites: Educ 220, 304, 320, 3XX (methods), 380, and 381.

491 **Middle Childhood Level** Observation and supervised teaching for seven weeks in middle level grades (5-9).

492 **Adolescence Level** Observation and supervised teaching for seven weeks in adolescence level grades (9-12).

**ENGLISH**

Our mission is to lead students to a deep appreciation of literature and the quality of writing which ensures its beauty and endurance.

The love of words and joy in the creative use of language form the basis of literary study. That study emphasizes the rich heritage and diversity of American and British literature and includes works from other cultures. The department teaches a disciplined approach to reading this literature and writing about it, from a wide range of critical perspectives.

Students come to realize that language and the imagination can create worlds which, like ours, delight, disturb and challenge. The study of literature, therefore, helps students understand the world they live in and their places in it. Exploring our diverse literary heritage requires students to engage in a sensitive, subtle search for meanings. Through analysis, debate, critique and dissent, they become better able to formulate and express their own ideas.

The study of literature reminds us that all people have voices and that much of our greatest literature has challenged prevailing cultural norms. The individual’s encounter with literature has always been a crucial part of the process of transformation, of self-definition; for poems, stories, novels and plays record our blindness, our follies and our crimes just as surely as they record our insights, our virtues and, occasionally, our genius. We study literature, literary theory, writing and culture-history not just to affirm our beliefs and traditions, but to examine them critically.

In keeping with its emphasis on written expression, the department offers a variety of courses in creative and expository writing. Creative writing courses use literary study, workshops and individual conferences to help student poets, novelists, essayists and playwrights understand the creative process and create afresh imagined worlds. Courses in the Writing Competency Program employ several rhetorical and pedagogical strategies to ensure that students graduate knowing how to write well. The Writing Center works in concert with writing and literature courses and across the disciplines, helping students from all majors achieve skill, precision and grace in their writing.

Our mission includes maintaining and staffing the following programs:

**Program I. Literature Courses for Majors:** a wide range of courses, including period surveys, major author courses and topic-oriented courses.

**Program II. Intermediate and Advanced Expository Writing:** courses in essay writing, business writing and journalism for students who aspire to become professional writers. These courses support a writing minor and the English major with emphasis in writing.

**Program III. Creative Writing:** basic, intermediate and advanced courses in the writing of fiction and poetry, which meet the creative and performing
English majors are strongly advised to attain an intermediate-level competence in a foreign language, especially if they plan to do graduate work in English. Other recommended courses include Introduction to the Bible; courses in art, music, history and philosophy; and literature courses in the Department of Modern and Classical Languages.

No later than the fall of their junior year, English majors design and formally propose a four-course concentration in a specific area of literary study or in creative writing. Each student presents a written rationale for this concentration at a Preliminary Junior Review conducted by the student's advisor and another department faculty member of the student's choosing. These faculty determine the coherence and feasibility of the concentration, review the student's writing, and help the student to plan a program ensuring that the student will have taken the necessary "Approaches" course in critical methodologies prior to writing a Senior Project. The faculty members at the Preliminary Junior Review may approve the proposed concentration as submitted, return it to the student for revision, or forward it to the whole department for its decision.

During the spring of their junior year, majors complete a formal review of their course selections with their advisor and another department member, whom they choose. The Junior Review helps to ensure that majors will complete all college and department requirements on time and will have taken a variety of period and genre courses.

English majors must complete a senior project, usually during January Term. The project includes a long paper that explores a particular author or subject in depth and an oral review by the student’s study advisor and another department member selected by the student.

English majors who plan to earn teaching certification in secondary English are required to take Advanced College Writing and The Anatomy of English before student teaching and to have earned a 3.0 average in their major by the start of the semester before they student teach with allowance for exceptions in extraordinary circumstances. Such students should obtain a copy of the department’s “Policy on Student Teachers” from the department chair no later than their sophomore year. Students must meet the requirements outlined in this policy statement to qualify for student teaching.

The department offers various other opportunities for special study outside the classroom. Students meet and interact with prominent writers through the Visiting Writers Series. Nobel laureates Joseph Brodsky and Derek Walcott, Pulitzer prize winners Donald Justice and M. Scott Momaday, Poet Laureate Robert Pinsky and such well-known authors as Jamaica Kincaid and Joyce Carol Oates have given readings and led student workshops. English majors also write for and edit Word of Mouth, the College literary magazine, and Hilltops, the student newspaper. Recommended students work as tutors at the Writing Center, gaining valuable experience and academic credit, as well.

The department encourages its majors to do internships in fields such as journalism, law and publishing. Hartwick English majors graduate with verbal and analytical skills that serve them well in a wide variety of occupations, including law and medicine, libraries and museums, corporate and government agencies, and publications and communications.

**Faculty**

**English Faculty:** Robert R. Bensen, chair; David C. Cody; Terrance R. Fitz-Henry; Carol Frost; Susan Navarette; Kim H. Noling; Margaret K. Schramm; Julia P. Suarez; Thomas J. Travisano; Marilyn C. Wesley; Emily Wilson-Orzechowski

**Other Faculty:** Nejla Camponeschi; Neil Cunningham; Ellen Dasmy; Alan Hirsch; Gerald Ianovici; Louise Roberts; Melora Wolff

**Courses**

**101 Writing Tutorial** (half course unit) Practice in writing short compositions and review of English grammar. Required of, and open only to, students placed at Level 1 of the Writing Competency Program as preparation for Level 2. Does not count toward majors or minors in English. Offered fall and spring.

**110 Composition** Basic expository writing taught as a process leading to a product, with ample opportunity for the professor to intervene in, and the student to practice, the stages of the process. Includes assigned readings, conferences with the instructor (at least two per term), peer review and rewriting. Instruction in how to do library research, how to prepare a bibliography and how to document sources. One paper based on intensive investigation of a single subject required. Students write a minimum of 20 finished pages, including the investigative paper. Does not count toward majors or minors in English. Offered fall and spring.
111 Composition Workshop (half unit course) Emphasis on the writing and particularly the revision of various short compositions in preparation for successful participation in a Level 3 (W) course. Open to Level 2 students and to transfer students who have taken composition elsewhere but have been placed at Level 1 or 2. Does not count toward major or minor in English. Permission required.

115 Principles of Public Speaking Psychological, physical and intellectual problems involved in speaking before an audience; classroom application of these principles in various types of formal speaking; constructive criticism from the instructor and fellow students. Does not count toward majors or minors in English. Offered fall and spring.

150 Topics in Literature for Freshmen These courses, designed especially for the first-year student, approach the understanding of literature through topics and themes, such as "Robert Frost," "On Keeping a Journal," "The Rhythms of Poetry," "Children in War" and "Imperial Nightmares." Fundamental skills of reading, writing and interpreting literature are emphasized. Open to first-year students and to others by permission of the instructor. Offered fall and spring.

200 Business Writing Extensive practice in writing memos, letters and brief reports as solutions to communication problems with which persons in managerial positions must deal. Study of the strategies of effective, tactful writing and the theory on which they are based. Covers writing within a business, organization or governmental agency as well as external communications with customers, clients or other firms or agencies. Open to students at Level 4, to others by permission of the instructor. Limited to 20. Does not count toward the English major or minor in literature. Offered fall and spring.

205 Journalism Theory and practice of writing news stories, editorial opinion, feature articles and columns. Comparative study of current newspapers and news magazines. Introduction to copy editing, design, layout and production of news publications. Does not count toward the English major or minor in literature. Prerequisite: Level 4 writing ability. Offered annually.

208 The Anatomy of English A systematic, practical and analytic study of the structure and function of words, phrases and clauses in the English language with emphasis on the recognition of form and the analysis of function. This basic syntax course is designed for those students who wish to enrich their knowledge of and satisfy their curiosity about the English language through an in-depth study of authentic materials by authors from diverse backgrounds. It is required of those students planning to teach secondary English and must be completed before student teaching. It is recommended to English majors and minors, those planning to tutor at the Writing Center, and those serious about writing as a career.

210 Advanced College Writing Emphasis on developing a clear, engaging style through a rigorous study of the elements of college writing. Several papers will be drafted, critiqued and thoroughly revised to empower students to write cogently and confidently in academic situations. Prerequisite: Level 4 writing ability. Limited to 20. Does not count toward the English major or minor in literature. Required for writing emphasis, writing minor and student teaching. Offered yearly.

213 Introduction to Creative Writing The course will approach reading as a way to develop the imagination of the writer of both poetry and short fiction. Students will read widely in both genres, write poems and short stories in response to the readings, and participate in workshop discussions of their writing. The class will also consider relations between poetry and fiction, in terms of both their historical development and contemporary practice. Several short analytical essays on the assigned readings as well as the students’ original poetry and fiction will be expected. (CPA)

215 Oral Interpretation Reading aloud of English prose and poetry. Emphasis on poise, voice and gesture toward an expressive and imaginative oral interpretation of literature. Limited to 20 students. Offered alternate years. (CPA)

220 Western Literature I An exploration of the foundations of Western literature through classics of the Hellenic, Medieval and Renaissance periods. Such writers as Homer, Sophocles, Virgil, Dante and Cervantes. (MWE)

221 Classical Mythology (Same as Clas 221). An introductory survey of the myths and legends of the Greek and Roman gods and heroes most commonly encountered in the art, architecture and literature of these two peoples. The vital place which these tales occupied in the fabric of the Greek and Roman societies will be emphasized. May be taken for either English or classics credit. (MWE)
### Requirements for the major with a concentration in literature:

Minimum of 12 courses, distributed as follows:

**Two courses at the 200 level:**
- 230 English Literature I
- 240 American Literature I

**Eight courses at the 300/400 level,** distributed as follows:
- Two courses in literature before 1800, selected from:
  - 320 Classical Theatre and Drama
  - 321 Drama to 1850
  - 325 The Novel I
  - 330 Old English
  - 331 Chaucer
  - 335 English Renaissance
  - 336 and 337 Shakespeare I and II
  - 340 17th Century English Literature
  - 345 18th Century English Literature
  - 350 Selected Topics in Literature Before 1800
- 450 Seminar in Literature Before 1800

At least three 300/400-level courses must be part of a four-course literature concentration designed by the student and approved by the department no later than fall of the junior year. A concentration may be in a single literary genre, an historical period, a topic, an author or combination of authors, or in cultural studies. One of the four courses may be a creative writing course or a relevant course from another department. Senior seminars and directed studies, exclusive of the Senior Project, may count if appropriate, as may the before-1800 courses at the 300/400 level required above.

**Requirements for the major with a concentration in creative writing:**

Minimum of 13 courses, nine in literature, four in creative writing, distributed as follows:

**Two courses at the 200 level:**
- 230 English Literature I
- 240 American Literature I

**Nine courses at the 300/400 level,** distributed as follows:
- Two courses in literature before 1800, selected from the list at left
- At least three 300/400-level courses must be part of a four-course **creative writing concentration** designed by the student and approved by the department no later than fall of the junior year.
- 450 Seminar in Selected Topics
- 490 Senior Project—may be either in creative writing or in literature

One of the above 300/400-level courses must be an Approaches (A) course.

**The balance of the 13 required courses must be literature courses at any level.**

**Requirements for the major with an emphasis in writing:**

16 courses, distributed as follows:

**Eleven courses** distributed in the same fashion as those for the major with a concentration in literature

**A total of five courses in writing:**
- 210 Advanced College Writing
- Four additional courses in writing, at least two at the 300/400 level, selected from the following. One course unit of 300 Teaching Assistant in Composition may be counted toward the emphasis.
- 200 Business Writing
- 205 Journalism
- 213 Introduction to Creative Writing
- 300 Teaching Assistant in Composition
- 305 Advanced Journalism
- 310 Creative Writing - Nonfiction
- 311 Creative Writing - Fiction
- 312 Creative Writing - Poetry
- 411 Fiction Workshop
- 412 Poetry Workshop
- 295, 395, 495 Internship

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**Grades for all courses taken in English above 111 are used to calculate the average in the major for Departmental Distinction.**
222 Western Literature II An exploration of major European and Latin American literary works of the Enlightenment, Romantic and Modern eras, studied in translation. Includes such writers as Voltaire, Goethe, Rousseau, Dostoyevsky, Tolstoy, Kafka, Lorca, Borges and Marquez. (MWL)

230 English Literature I A survey of major works, figures, movements in English literature from the beginnings to the 18th century. Includes *Beowulf* and such major writers as Chaucer, Spenser, Shakespeare, Milton, Donne and Johnson; others at the discretion of the instructor. Offered fall and spring. (MWE)

231 English Literature II A survey of major works, figures and movements in English literature from the early 19th century through the 20th including such Romantic authors as Blake, Wordsworth, Coleridge, Byron, Shelley, Keats; such Victorians as Tennyson and Browning; and such moderns as Yeats, T.S. Eliot, Woolf. Offered fall and spring. (MWL)

237 Reconstructing Shakespeare’s Company A simulation of the workings of Shakespeare’s theatrical company as it prepares to produce one of his comedies for the Elizabethan public theatre. Students take on roles both as characters in the comedy, to be produced in a workshop performance at the end of the course, and as members of the acting company. Activities include script analysis, discussions of Elizabethan culture and theatrical practice, and improvisations based on research into the period. Laboratory sessions are devoted to rehearsal. Counts in the theatre major as a course in theatre history. (Cross-listed as Thea 237) (CPA)

240 American Literature I A study of selected works of leading American authors through the Civil War, including Bradstreet, Poe, Emerson, Thoreau, Hawthorne, Melville, Whitman, Douglass, Fuller and Dickinson. Stress is on the growth of a uniquely native voice in our literature, from its origins in early writers to its expression in the later Romantic writers. Offered fall and spring. (MWL)

241 American Literature II A study of selected works of leading American authors since the Civil War, such as Dickinson, Twain, Gilman, Wharton, Cather, Frost, Hemingway, Faulkner, Hurston and Wright. Stress is on major cultural and literary movements. Offered fall and spring. (MWL)

245 African American Literature A study of the narrative construction of black identity in major works in key African American literary forms: slave narratives, autobiographies, and fiction. Includes works by such writers as Frederick Douglass, Harriet Jacobs, Richard Wright, Ralph Ellison, and Toni Morrison. (MWL)

250 Topics in Literature A study of various authors, themes, movements, genres, with attention to their historical context. Topics include African American Literature, The Short Story, Supernatural Horror in

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Requirements for the minor in literature:
Minimum of six courses, distributed as follows:

- **230 English Literature I**
- **240 American Literature I**

One 300-level course in literature before 1800:
- From list under major in literature

One 300-level course in literature after 1800,
- selected from:
  - 322, 326, 355, 360, 365, 372,
  - 373, 374, 375, 377, 378, 380,
  - 382, 384, and 386
Also Engl 350 and 450 in literature after 1800

Two additional literature courses:
- To be selected in consultation with student’s advisor

Requirements for the minor in writing: Minimum of six courses, distributed as follows:

Five courses in writing:
- 210 Advanced College Writing
- Four additional courses in writing, selected from the list under the major with an emphasis in writing

One literature course:
- Should be a survey, genre, or period course above 100 level
Literature, and Women and Science Fiction. Offered yearly.

255 Women and Fiction Close reading of novels and short stories by women writers such as Atwood, Chopin, Gilman, Morrison, Walker, Welty, and Woolf, with a focus on both aesthetic elements and women's issues.

260 Caribbean Literature The course will introduce students to a major body of literature written in the Caribbean region. The course will focus on the engagement of the literature with Native American life, European colonialism, the African diaspora, the formation of creole language and society, and the problems and potential of the hybrid cultures of the Caribbean. Readings include the literature of discovery and exploration, as well as contemporary writers from the French and Spanish Caribbean, such as Césaire, Glissant, García Márquez and Carpentier. Writers in English include Brathwaite, Goodison, Jamaica Kincaid, Lovelace and Walcott. (NTW)

300 Teaching Assistant in Composition (half course unit) Training and practice in the teaching of writing. Students will serve as tutors in the Writing Center under supervision of the coordinator. Open to students of strong writing ability regardless of major. Consent of coordinator required early in term preceding enrollment. May be taken twice. Offered every term.

305 Advanced Journalism Using the basic skills of reporting and writing, students will progress to a more complex story-telling in individual and group projects. Types of news projects include participatory journalism, interpreting data, features, profiles and localizing U.S. and international news. Students will compile a portfolio of their work and design a résumé for use in future job searches. Does not count as a literature or creative writing course. Prerequisite: English 205 or permission of the instructor.

310 Creative Writing: Nonfiction Practice in writing a variety of kinds of nonfictional prose. Readings in the New Journalism, study of professional writing in such periodicals as The Atlantic Monthly, The New Yorker and The New York Times. Prerequisites: Level IV writing ability and permission of the instructor. Does not count as a literature course.

311 Creative Writing: Fiction Practice in the writing of fiction; exercises in theme and technique. Workshop and conference. Readings in the short story and the theory of fiction. Does not count as a literature course.

312 Creative Writing: Poetry Practice in the writing of poetry; exercises in form. Readings in prosody poetics and contemporary poetry. Does not count as a literature course. Offered alternate years. (CPA)

320 Classical Theatre and Drama Tragic and comic plays of the classical world will be studied in the context of the theatre in which they were first performed. Plays by Aeschylus, Sophocles, Euripides, Aristophanes, Menander, Plautus, Terence and Seneca will be read. The objective of the course is to attempt definitions of tragedy and comedy, to consider their interrelatedness in the theatre and in theory, and to discuss the nature of genre. (MWE)

321 Studies in Drama to 1850 Close study of a selected group of plays of the late medieval through early modern periods, with attention to the nature of drama as a genre. Recent emphases have been Renaissance Drama Exclusive of Shakespeare and Restoration Comedy. Offered alternate years. (MWE)

322 Studies in Modern Drama Analysis of representative plays since 1880 from the rise of realism through naturalism and expressionism and concluding with avant garde theatre. Works by such playwrights as Ibsen, Strindberg, Chekhov, Shaw, O’Neill, Brecht, Giraudoux, Miller, Ionesco and Beckett are included. Offered alternate years. (MWL)

325 The Novel I A study of major English novelists of the 18th and early 19th centuries, including Defoe, Richardson, Fielding, Sterne, Mary Shelley and Austen. Offered alternate years. (MWL)

326 The Novel II Such major novelists of the 19th and early 20th centuries as the Brontes, Dickens, George Eliot, Hardy, James, Lawrence, Joyce, Forster, Woolf, Faulkner and Morrison. Offered yearly. (MWL)

330 Studies in Old English Literature Old English will be studied with daily practice in translation and oral performance. Works to be read include Appolonius of Tyre, Battle of Brunanburg, Elene, The Wanderer, selections from the New Testament and representative portions of Beowulf.

331 Chaucer Chaucer will be read with close attention to the texts in their original form. There will also be daily practice in reading Middle English aloud. Works to be read include The Book of the Duchess,
Parliament of Fowles, Troilus and Criseyde, The General Prologue and a representative sample of the Canterbury Tales. Offered alternate years. (MWE)

335 Studies in English Renaissance Literature Such writers as Malory, More, Wyatt, Sidney, Spenser and Marlowe. (MWE)

336 Shakespeare I History, lyricism and high comedy. Texts will be drawn from the major histories, especially the Richard II - Henry V series; from such lyric dramas as Romeo and Juliet and Midsummer Night's Dream; and from such festive comedies as Much Ado About Nothing, As You Like It and Twelfth Night. Offered yearly. (MWE)

337 Shakespeare II Beginning with Hamlet, the major tragedies and late romances will be read with careful attention to the text, not only for meaning but also for Shakespeare's performance conception of each play. Offered yearly. (MWE)

340 Studies in 17th Century English Literature Poetry and prose of the early and middle 17th century; such writers as Jonson, Herrick, Herbert, Donne, Marvell, Vaughan, Traherne, Brown and Milton. Offered alternate years. (MWE)

345 Studies in 18th Century English Literature Such major figures from the period 1660-1798 as Dryden, Behn, Wycherley, Swift, Pope, Johnson and Boswell. (MWL)

350 Selected Topics Advanced study of a wide range of literary topics. Recent examples include Contemporary Southern Writers, Native American Literature, Emily Dickinson and her World, The Return of King Arthur, and Women and Poetry. Open to sophomore majors and above, to others by permission of the instructor.

355 English Romantics Blake, Wordsworth, Coleridge, Byron, Shelley, Keats and such essayists as Lamb, DeQuincey and Hazlitt. Offered alternate years. (MWL)

360 Victorian Literature Major themes and figures in poetry and fiction, 1832-1900, including Tennyson, Browning, Arnold, Carlyle, Ruskin, Emily Bronte and Wilde. Offered alternate years. (MWL)

365 Modern British Literature Major trends and writers of British poetry and prose from 1914-1960, including Auden, Conrad, Forster, Joyce, Lawrence, Thomas, Woolf and Yeats. Offered alternate years. (MWL)

372 The American Romantics Concentrated study of such major 19th-century American writers as Hawthorne, Poe, Emerson, Thoreau, Melville, Whitman. (Ordinarily no more than three authors are covered.) Offered alternate years. (MWL)

373 The Gilded Age Concentrated study of such major American writers of the late 19th and early 20th centuries (1865-1917) as Jewett, Twain, James, Dreiser, Norris, and Cather. Offered alternate years. (MWL)

374 Modern American Literature A close study of major American authors of the present century to 1945. A balance between poets and novelists is maintained. Includes such major poets as Frost, Eliot, Stevens, Pound, Moore and Williams; and such major novelists as Hemingway, Faulkner, Fitzgerald, Wright and Welty. Offered at least every other year. (MWL)

375 Contemporary American Literature A close study of American authors since 1945 including such poets as Lowell, Roethke, Ginsberg, Plath, Bishop and Rich; and such fiction writers as Nabokov, Bellow, Cheever, Updike, O'Connor, Barth and Morrison. Offered at least every other year. (MWL)

377 Contemporary Southern Writers Novels and short fiction by Southern writers. The course opens with writings by William Faulkner, Eudora Welty, and Flannery O'Connor. The bulk of the term is spent reading the works of such authors as Pinckney Benedict, Bobbie Ann Mason, Jill McCorkle, Jayne Ann Phillips, Reynolds Price, and Peter Taylor. An anthology provides selections published within the past two or three years. (MWL)

378 American Indian Literature American Indian literature has been shaped by ancient tradition and the historical experience of American Indian life. Readings will include such early writers as Eastman, Winnemucca, McNickle and E. Pauline Johnson to help us understand the growth of literature as an Indian expressive art. Works by such writers of the American Indian Renaissance (1969 to the present) as Momaday, Silko, Erdrich, Harjo, Revard, Welch, and Alexie address contemporary problems in reservation and urban life, and the place of traditional cultures in sustaining Indian community and identity. (NTW)

380 Major American Authors Courses under this head-
ing seek to enhance our understanding of the life and works of one or more important American authors such as Hawthorne, Melville, Whitman, Dickinson, Faulkner, Frost, Stevens, Bishop, Lowell, Oates, and Morrison. In general the emphasis is on the close reading of a body of work with a framework of cultural contexts, theoretical constructs, and critical traditions. (MWL)

382 Issues in American Literature and Culture Advanced study of selected issues in American literature and culture, exploring the incisive, imaginative responses of American writers to their times, and examining the way literature is shaped by, and helps us to shape, cultural contexts. Courses taught under this heading include the Civil War in American Literature, American Ethnic Literature, African American Women Writers, and New England Women Writers. May be repeated with different course content. (MWL)

384 Studies in American Poetry Advanced study of an aspect of American poetry. Specific courses will explore an important circle of poets, a period, an artistic form, or a historical issue or cultural problem confronted by American poets. Courses taught under this heading include Four Modern Poets, Four Contemporary Poets, Contemporary Poetry, and American Women Poets. May be repeated with different course content. (MWL)

386 The American Novel A study of novels that explores central issues of American culture, history, and consciousness as well as generic features of the developing American novel. Includes works by such writers as Henry James, Theodore Dreiser, Edith Wharton, Willa Cather, John Steinbeck, William Faulkner, and Ralph Ellison. (MWL)

390 Using Contemporary Theory An introduction to some recent approaches to literature, such as deconstructive, reader-response, psychological, feminist, cultural, and materialist theories. The course offers practical experience in using these methodologies in reading and writing about literature. Offered as an Approaches (A) course.

391 Modes and Methods of Scholarship This course serves as an introduction to the art of scholarship, a guided tour of the tools of the scholarly trade, and a prelude to the process of writing a Senior Thesis. Particular emphasis is placed on research methods and technologies that will facilitate critical analysis of a wide range of important texts. Offered as an Approaches (A) course.

411 Fiction Workshop Practice in writing longer forms of fiction and in producing the finished short story. Workshop and conference. Prerequisites: English 311 and permission of instructor. Offered alternate years. (CPA)

412 Poetry Workshop Practice in writing poetry. Students will be expected to produce a manuscript of finished poems. Workshop and conference. Prerequisites: English 312 and permission of instructor. Offered alternate years. (CPA)

450 Seminar in Selected Topics Concentrated study of a limited literary subject, such as a single author, a particular movement, a theme and, occasionally, a single work. Recent examples: Four Contemporary Poets, Joyce Carol Oates, Victorian Women Novelists, Medieval Love Poetry, and The Family in Shakespeare. Open to junior and senior English majors, to others by permission of the instructor. Limited to 15. Offered fall and spring.

490 Senior Project During January Term of their senior year, majors must complete a directed study on an author or topic approved by the department Committee on Individual Studies. A paper of at least 20 to 30 pages is required. Students will arrange for an informal oral review of the paper involving themselves, the study advisor and one other member of the department. Open only to senior English majors. Prerequisite: Level 4 writing ability and one Approaches (A) course.

ENVIRONMENTAL SCIENCE AND POLICY MINOR

Our program of study in environmental science and policy is based on the idea that understanding and solving the current environmental problems facing us requires broadly trained professionals who can think independently. These professionals, whatever their field of expertise, must have a balanced educational background that is firmly rooted in the physical and life sciences as well as in economics and political science. Our program is designed to provide students with just such a balance, and helps them prepare for either graduate school or employment in environmental occupations in both public and private sectors.

Students enrolled in the Environmental Science
Environmental Science and Policy Minor

Requirements for the minor in environmental science and policy: Seven courses selected as follows:

1. **One introductory course**
   - 230 Intro. to Environmental Science (Biol) or 110 Environmental Geology (Geol)

2. **Two science lab courses outside of major,** chosen from:
   - 235 Ecology and the Environment (Biol)
   - 250 Limnology (Biol)
   - 250 Tropical Biology: Bahamas, Costa Rica or the Galapagos (Biol)
   - 303 Ecology (Biol)
   - 325 Forest Ecology (Biol)
   - 102 Chemistry in Today’s Society (Chem)
   - 315 Environmental Chemistry (Chem)
   - 109 The Global Environment (Geol)
   - 302 Surficial Geology (Geol)
   - 305 Groundwater Hydrology (Geol)
   - 316 Geochemistry (Geol)
   - 314 Thermodynamic and Statistical Physics (Phys)

3. **276 Environmental Economics** (Econ);

4. **244 Environmental Politics and Policy** (Posc);

5. **At least one elective course outside the major,** chosen from:
   - 341 Cultural Ecology (Anth)
   - 348 Developmental Anthropology (Anth)
   - 250 Nature Writing (Engl 250)
   - 205 Environmental History (Hist)
   - 336 Public Administration (Posc)
   - 322 Population and Ecology (Soci)

   Any science course not already taken from the above choices (under 2.)

6. **410 Capstone Seminar** (Intr)(meets CIS requirement):
   - Senior Seminar in Environmental Assessment
   - A particular department also may recommend that students take courses relevant to the environmental science and policy minor as part of the major requirements. Check individual departments for specific requirements.

Economics majors substitute an elective from 5. for this requirement.

Political Science majors substitute an elective from 5. for this requirement.

Students interested in the minor should consult with the coordinator of the program, Dr. Meredith Newman.

FINANCE (see page 35)

FRENCH

To learn a new language is to open a door to the ideas and insights of another country, offering students a liberating experience which broadens their perspec-
tive on the world and on their own language and culture as well. Hartwick’s French program, offered through the Department of Modern and Classical Languages, introduces students to the rich Francophone world through courses in French literature and civilization as well as in French language. Whether students pursue courses in French as part of their liberal arts and sciences education, or complete a major or a minor program in the language, they gain a breadth of perspective and useful skills that will prove valuable in the coming years.

Students who have never studied French should register for Elementary French 101; French 101, 102 and 201 constitute the introductory sequence. (Only 200 level and beyond courses may be counted toward the major or minor in French.) After consulting with the French staff, students majoring in other disciplines may enroll in any French course for which they are qualified.

Students who wish to pursue an in-depth study in French may major solely in French, or combine it with a second major in another discipline. French majors also may earn teacher certification in the language. Students with a strong interest in more than one discipline also might choose to combine a major in that discipline with a minor in French. Requirements for the major, as well as the minor, in French are designed to assure that students receive a balanced program of courses in language, culture and civilization, and literature. Course choices within these areas, and the need to select additional courses to complete their programs, offer students the flexibility to tailor their studies to their interests and career plans.

In addition to the requirements for the major or minor, the French staff recommends that students take a minimum of one year of another language. Because study abroad enhances and reinforces classroom learning, allowing students to use their language skills and experience the culture firsthand, the faculty also recommends that all students majoring or minoring in the language participate in at least one study abroad program. The department conducts a January Term program in France in alternate years; students also may enroll in selected Junior Year Abroad programs administered by other colleges. Hartwick has agreements with the central college program in Paris and the Syracuse University program in Strasbourg.

Faculty members encourage students to go beyond the minimal requirements for the major in French to develop a background in at least one com-

### Requirements for the major:

Design in consultation with the French staff a program consisting of a minimum of 10 courses, distributed as follows:

**201, 202 Intermediate French I, II**

One intermediate level workshop or skills course, selected from:
- 230 Theatre Workshop
- 231 Oral Interpretation of Poetry
- 235 French for Business
- 240 Readings in French
- 241 Composition and Grammar Review
- 242 Pronunciation and Phonetics
- 315 Translation Workshop

**321, 322 Survey of French Literature I, II**

One Topics in Literature course, selected from:
- 341 Literary Movements
- 344 Major Authors
- 347 Themes or Genres
- 400 Advanced Literary Studies

**One course in French Civilization:**
- 160 French Civilization

**Two additional courses in French**

**490 Senior Project:** May be done in conjunction with an internship

### Requirements for the minor:

Design in consultation with the French staff a program consisting of a minimum of seven courses, distributed as follows:

**201, 202 Intermediate French I, II**

One intermediate level workshop or skills course, selected from:
- 230 Theatre Workshop
- 231 Oral Interpretation of Poetry
- 235 French for Business
- 240 Readings in French
- 242 Pronunciation and Phonetics
- 315 Translation Workshop

**One course in French Literature:**
- 321, 322 Survey of French Literature I, II

**One topics course**, preferably of an era complementary to the survey course chosen, selected from:
- 341 Literary Movements
- 344 Major Authors
- 347 Themes or Genres

**Two additional courses in French**

Grades for all courses taken in French are used to calculate the average in the major for Departmental Distinction.
plementary field. French literature should be understood in terms of its sources, the tradition of literary analysis, contemporary events and artistic movements. French civilization should be perceived in terms of its values, material conditions, institutions and geography. French culture has acquired its distinctive qualities through contact with other cultures. A list of courses in other departments which provide background in these areas is available from the French staff.

Language graduates are prepared for a range of career opportunities in a variety of fields, as well as for graduate and professional study. Recent Hartwick graduates with a major in French are employed in careers in journalism, banking, teaching, international relations, import-export business, government, travel and translation.

An agreement with the University of Nice-Sophia Antipolis allows one graduating French major per year to spend a year in Nice as a paid lecturer in English.

Faculty
French Faculty: Mary Snider
Part-time Faculty: Janis Lambr, Mark Wolf and instructors from France

The Language Department also participates in a teaching agreement with the University of Nice-Sophia Antipolis and will normally have a native of France teaching two courses per semester.

Courses
101, 102 Elementary French A two-semester sequence at the introductory level for students who have no prior knowledge of French or who need to review the fundamentals of the language. Students who need review must be placed in the appropriate course by members of the staff.

101,102 Elementary French I and II The Elementary French I and II sequence is designed to help students develop basic communicative skills in listening, speaking, reading, and writing while introducing students to the culture of France and the francophone world. Prerequisite: consult with French staff except where student has had absolutely no prior French, in which case there is no prerequisite. (101 LN1, 102 LN2)

160 French Civilization An introduction to the civilization, history, culture, art, architecture and geography of France. Taught in English. Required course for students participating in an off-campus program to France.

201 Intermediate French I This course offers the student an opportunity to reinforce and expand previous learning in vocabulary, grammar and comprehension. Unlike earlier courses, this one focuses upon giving the student an idiomatic grasp of French. Oral practice, language laboratory. Prerequisite: Fren 102 or equivalent. (LN3)

202 Intermediate French II This course continues the focus upon the fluency and idiomatic use of French. Selected readings will be used to study literary tenses and to increase vocabulary. The course will include conversations, discussions, compositions to improve language skills and comprehension. Prerequisite: Fren 201 is normally taken before 202. NOTE: All courses beginning with 230 and after have the prerequisite of Fren 201, 202 or their equivalent.

210 Conversation and Culture A beginning conversation course to develop fluency, vocabulary and pronunciation. Where needed, occasional grammar review. Conversation topics will relate to French life and culture. Some use of language laboratory. A useful preparation for off-campus programs in French-speaking locations. Prerequisites: Fren 202 or permission of instructor.

212, 215, 218 Literature courses taught in English Each of these may be repeated for credit when offered with a different topic. Offered on an occasional basis.

212 Literary Movements An in-depth study of a particular movement, period or school in French literature. Possible topics: the classical theater, surrealism, existentialism, etc. May be repeated for credit. When repeated, this course bears the numbers 213 or 214. (MWL)

215 Major Authors A study of representative works by one or more authors. Possible topics: Camus and Sartre, Voltaire and Rousseau, Malraux, Stendhal, Montaigne, etc. May be repeated for credit. When repeated, this course bears the number 216 or 217. (MWL)

218 Themes or Genres A study of a recurrent theme or specific genre. Possible topics include: Novels of Adventure and Imagination, Psychological Novels, Philosophical Tales, The Short Story, Selected Essayists, The Literature of Commitment, etc. May be repeated for credit. When repeated, this course bears the numbers 219
230 **Theatre Workshop** Preparation of dramatic readings of French plays. Principles of French pronunciation and speech are applied in rehearsal of the plays. Discussion of selected examples from such dramatists as Anouilh, Cocteau, Camus, Ionesco, Montherlant, Molière, etc. Required listenings of recorded plays. Prerequisites: Fren 202 or permission of the instructor. Offered on an occasional basis.

231 **Oral Interpretation of Poetry** The understanding of poetry involves an appreciation of its sounds and rhythms. Introduction to French versification, oral drills, the interpretative recitation of several major French poems. Tapes, recordings, language laboratory. Prerequisite: Fren 202 or permission of the instructor.

235 **French for Business** A study of French business practices, commercial writing and terminology. Readings, videos and class discussion will address French commerce and business etiquette, France’s role in the European Union and its attempts to face future economic challenges. Prerequisite: Fren 202 or permission of the instructor. Offered on an occasional basis.

240 **Readings in French** Readings from various fields in order to increase reading comprehension. The distinctive construction and tenses of written French will be studied. Prerequisites: Fren 201, 202. Offered on an occasional basis.

241 **Composition and Grammar** Review Practice in the writing of French on a broad range of assigned subjects and open-ended research topics. Particular attention is given to verb tenses. Items to be reviewed and drilled will emerge from the needs of the class. Prerequisites: Fren 201, 202. Offered on an occasional basis.

242 **Pronunciation and Phonetics** Study of the phonetic properties of the French sound system. Drills and practice. Correction of pronunciation problems. Language laboratory. Prerequisite: Fren 201 or 202. Offered on an occasional basis.

285 **French Term Abroad** The French term abroad is usually offered on alternate years during January Term.

315 **Translation Workshop** Grammatical and stylistic problems involved in translating passages from French into English and from English into French. Short, stylistically varied written selections and some work with audiovisual material are used. Prerequisites: Fren 202 or permission of instructor. Offered on an occasional basis.

321, 322 **Survey of French Literature** A chronological introduction to the major authors, movements, genres and themes in French literature. These courses should, if possible, be taken in sequence. Prerequisite: Fren 202.

French 321 **The Middle Ages**, The Renaissance and the 17th and 18th Centuries. (MWE)

French 322 **The 19th and 20th Centuries.** (MWL)

341, 344, 347 **Literature courses taught in French** These courses correspond to Fren 212, 215, 218. As with other courses for the major readings, papers and exams are in French. Each of these may be repeated for credit when offered with a different topic. Prerequisite: Fren 202.

341 **Literary Movements** An in-depth study of a particular movement, period or school in French literature. Possible topics: the Pléïade, the classical theatre, romanticism, realism and naturalism, symbolism, surrealism, existentialism, etc. May be repeated for credit. When repeated, this course bears the number 342, 343. (MWE or MWL, depending on topic)

344 **Major Authors** A study of representative works by one author: Rabelais, Montaigne, Racine, Molière, Voltaire, Diderot, Stendhal, Balzac, Flaubert, Zola, Gide, Claudel, Proust, Sartre, Camus, Beckett, etc. May be repeated for credit. When repeated, this course bears the numbers 345 or 346. (MWL)

347 **Themes or Genres** A study of a recurrent theme or a specific genre. Possible topics are: Novels of Adventure and Imagination, Psychological Novels, Philosophical Tales, The Short Story, Selected Essayists, The Literature of Commitment, Exile and Alienation in 20th Century Fiction, etc. May be repeated for credit. When repeated, this course bears the numbers 348 or 349. (MWL)

400 **Advanced Literary Studies** A reading, discussion and literary analysis course for seniors and other highly qualified students. This course will focus on one or more authors, a topic or period. Prerequisites: French 321 and 322. Offered on an occasional basis. (MWL)
485 French Term Abroad The French term abroad is usually offered on alternate years during January Term.

490 Senior Project Required of all majors. A thesis or other appropriate work which demonstrates the student’s proficiency in French.

GEOLOGICAL AND ENVIRONMENTAL SCIENCES

Geology includes the study of the continents, the oceans, the atmosphere and the Earth’s magnetic and gravitational fields. It encompasses the physical, chemical and biological sciences, and is concerned with the Earth’s history and the processes operating in and on the Earth, including the formation of its surface features, and the erosion and deformation of this surface. The more that is known about the Earth’s materials, formation and structure the better we can appreciate, use and preserve our planet. This understanding is at the heart of many economic, social and environmental issues—oil and mineral exploration; safe disposal of industrial and municipal wastes; preservation of groundwater supplies; the choice of sites for dams, nuclear power plants and high-rise buildings—issues that will become more complex as demands on the earth and its resources increase.

Study in the discipline also can help students develop reasoning and analytical skills that can prove useful throughout their lives. Geology is an inductive science that requires creativity—geologists develop hypotheses, sort through the available data and determine the most logical theory supported by that data. As they look at the evolution of the earth, its animals and their environments; the formation of microscopic crystals; the global movement of continents; the changes that have occurred over millions of years—they are constantly asking, What were the conditions when this occurred? Why did it happen? How?

The study of geology as part of a broader liberal arts and sciences education prepares students to become better informed citizens, able to make reasoned judgments that will guide the regulation, protection and development of our environment in the coming century. In addition, a minor in geology can complement major study in a variety of other disciplines, from chemistry to political science.

Courses required for a major in geology are selected to give students a broad background in the field. Introductory courses cover the origin, composition, structure and history of the Earth. In subsequent courses, students study minerals, igneous and metamorphic rocks; fossils and the sedimentary rocks in which they are found; the deformation of rocks and the way in which data is gathered and recorded in the field. An understanding of basic concepts necessary for work in geology is gained through required courses in chemistry, physics and calculus.

During the junior year, majors present to the department study proposals for the required Senior Project (490). The project includes both laboratory and field work. Majors are encouraged to go beyond the minimal requirements, taking additional courses in chemistry, computer science and mathematics. Students interested in teaching secondary school earth science can obtain certification by taking required psychology and education courses.

Careers are available in several areas for graduates with undergraduate degrees in geology; however, better opportunities are available to individuals with a graduate degree. Consequently, capable geology students at Hartwick are encouraged to attend graduate school, and a number of recent graduates have done so. Others are employed in the energy, mineral and environmental science industries.

Faculty
Geology Faculty: Robert Titus, chair; Eric Lee Johnson; Meredith Newman; Laura Wasylkeni

Courses

107 Physical Geology (3 one-hour lectures weekly plus one 1-2/3 hour lab weekly, one weekend day field trip) Origin, composition, and structure of Earth. Also covers the rock cycle, identification of common minerals and rocks, formation of igneous, sedimentary, and metamorphic rocks, determination of rock ages, plate tectonics, local geology, earth resources, and climate change. (LAB)

108 Historical Geology (3 one-hour lectures, 1 1-2/3-hour lab weekly) A history of Earth since its origin. Topics include the origin and development of the continents, the origin and evolution of life, the appearance of evolution of man, and major climate changes and their effects on man. (LAB)

109 The Global Environment (3 one-hour lectures, 1 1-2/3 hour lab weekly) This course focuses on the whole environment, from the center of the Earth’s core to the top of its atmosphere. We examine the scientific aspects of processes thought to be responsible for global change, with emphasis on interactions between the
**Requirements for the major:** A minimum of 16* courses, distributed as follows:

**Core Curriculum**

**Seven courses in Geology:**
- 107 Physical Geology, or 110 Environmental Geology
- 108 Historical Geology
- 206 Mineralogy
- 208 Structural Geology
- 311 Field Geology or off-campus Field Camp
- 309 Sedimentation and Stratigraphy
- 490 Senior Project

In addition, a student must choose one of the following program tracks, depending on the student’s future plans:

**Track I Geology**
- 307 Petrology
- 316 Geochemistry
- One elective in geology
- 107, 108 General Chemistry or 109 Accelerated General Chemistry (Chem)
- 141, 142 Principles of Physics I, II or 201, 202 General Physics I, II (Phys)
- 121, 122 Calculus I, II (Math)

**Track II Environmental Geology**
- 305 Hydrogeology
- 316 Geochemistry
- One elective in geology
- 107, 108 General Chemistry or 109 Accelerated General Chemistry (Chem)
- 141, 142 Principles of Physics I, II or 201, 202 General Physics I, II (Phys)
- 121, 122 Calculus I, II (Math)

**Track III Geophysical Education +**
- 109 The Global Environment, or 230 Introduction to Environmental Science, or 235 Ecology of the Environment (Biol)
- Meteorology or equivalent course off campus
- 163 Astronomy (Phys)
- One field practicum (student teaching)

*Course load is reduced by one if 109 Accelerated General Chemistry is taken instead of General Chemistry 107, 108.

**Requirements for the minor:** Minimum of nine courses, distributed as follows:

**Five courses in Geology, two at 200 level or above**
- 107, 108 General Chemistry or 109 Accelerated General Chemistry (Chem)
- 140, 141 Principles of Physics I, II (Phys)
- 107 Basic Biology (Biol)
- 235 Ecology and the Environment (Biol)

**One course in mathematics or computer science**
- 108 Statistics, 120 Pre-Calculus, 121 Calculus I (Math), or 120 Introduction to Programming (Cosc)

Grades for all courses required for the major (including those from other departments) are used to calculate the average in the major for Departmental Distinction.

**Requirements the Environmental Science and Policy Minor:** Seven courses distributed as follows:

**Introductory course:**
- 100 Introduction to Environmental Science

**Three science courses selected from:** It is strongly recommended that science majors select 303 Ecology and social science and humanities majors select 235 Ecology and the Environment (Biol)

**Environmental Science**
- 250 Tropical Biology: Bahamas, Costa Rica or the Galapagos (Biol)
- 250 Geology and Alpine Lake Chemistry of Switzerland (Chem)
- 276 Off-campus Field Studies (Geol)
- 302 Surficial Geology (Geol)
- 303 Ecology (Biol)
- 305 Groundwater Hydrology (Geol)
- 314 Thermodynamic & Statistical Physics (Phys)
- 315 Environmental Chemistry (Chem)
- 316 Geochemistry (Geol)
- 325 Forest Ecology (Biol)

**Environmental Studies**
- 102 Chemistry in Today's Society (Chem)
- 109 The Global Environment (Geol)
- 110 Environmental Geology (Geol)
- 230 Environmental Biology (Biol)
- 235 Ecology and the Environment (Biol)
- 250 Tropical Biology: Bahamas, Costa Rica or the Galapagos (Biol)
- 250 Geology and Alpine Lake Chemistry of Switzerland (Chem)
- 276 Off-campus Field Studies (Geol)

**Two social sciences or humanities courses outside the major selected from the following:**
- FYS Changes in the Land (Hist)
- 205 Environmental History (Hist)
- 244 Environmental Policy and Politics (Posc)
- 276 Environmental Economics (Econ)
lithosphere, hydrosphere, atmosphere and biosphere. Topics include the history of global change from the formation of the Earth to the present, the magnitude and rate of change, the processes of plate tectonics and the physical environment as driving mechanisms for change, global catastrophes as catalysts for change, and human intervention and how it affects the rate and magnitude of change. (LAB)

110 Environmental Geology (3 one-hour lectures) This course is a general survey of the role geology plays in the environmental sciences. A description of the major geologic hazards, earthquakes, volcanoes, landslides, erosion, etc. An introduction to hydrogeology from the point of view of water use problems. A discussion of energy, mineral and soil resources. Problems of air, soil and water pollution.

203 Planetology This course covers the geology, chemistry, and physics of the sun, planets, meteorites and moons of our solar system. The course focuses on the origin and evolution of the solar system and the geologic development of the planets and their moons. Hands-on lab activities (some of them outdoors) explore the size of the solar system, the role of plate tectonics and volcanism in the development of moons and planets, and the possibility of discovering life on other worlds. Offered during January Term.

204 Geology of the Bahamas Field, laboratory and lecture study of the geology of the Bahamian carbonate bank. Principles of carbonate geology including the petrology, paleontology and sedimentary environments of limestones will be offered. Offered occasionally in January Term on San Salvador Island. (LAB)

205 Paleontology (3 one-hour lectures, 1 1-2/3-hour lab weekly) Introduction to the morphology, paleontology and evolution of fossil organisms with emphasis on the invertebrates. (LAB)

206 Mineralogy (3 one-hour lectures plus one 1-2/3 hour lab weekly, one weekend field trip). Physical properties, chemical properties, crystal structure, and geological occurrences of minerals. Introduction to optical properties of minerals and modern techniques of identifying and analyzing mineral chemistry, structure and surface properties. Offered alternate years. Prerequisites: Introductory geology course and Chem 107 or permission of instructor.

208 Structural Geology (3 one-hour lectures, 1 three hour lab weekly, 1 three day field trip) Covers the dynamics and deformation of the Earth with emphasis on Tectonic processes responsible for mountain building. Students learn techniques used to study and interpret deformed rocks both in the field and in the laboratory. Prerequisite: Geol. 107, Math 121 (LAB).

275 Geology of Hawaii and Grand Canyon (January Term) The course includes the study of sedimentary rocks in Death Valley or the Grand Canyon (for about a week to 10 days), and then a comprehensive study of volcanic rocks on three of the islands in Hawaii (Oahu, Hawaii and Maui). The emphasis of the course will be to gather and interpret geologic data in the field and to use this data to write the geologic history for several selected areas. There will be exams based on readings which the student is expected to do prior to the beginning of the course. The student will also write several geologic reports on selected areas. Participants will do some camping and hiking. A sleeping bag is required. Living conditions vary from small cabin to dormitory or camping, depending upon the location. Not offered every year. Prerequisite: Permission of instructor. Physical Geology (107) is strongly recommended. Preference will be given to students who have completed more than one geology course. (LAB)

288 Geomorphology (5 two-hour lectures weekly, January Term) A study of the classification and development of landforms. The landforms of various climatic belts will be discussed and compared. Particular attention will be paid to glacial geomorphology including a general discussion of glacial and pleistocene paleoclimatology. Offered alternate years.
302 Surficial Geology (2 one and two-thirds hour lectures weekly) This course focuses on the modern environmental science of the Earth’s surface. Many of the environmental problems faced by a technological society involve surface geological materials. The course addresses the needs of the geology student preparing for a career in the environmental sciences. The course emphasizes major elements of glacial geology and soils science. In addition, there is considerable discussion of geological engineering problems associated with erosion and unstable slopes.

305 Groundwater Hydrology (3 one-hour lectures weekly. One three hour lab weekly) The course covers the geological and physical aspects of hydrology. Study of the hydrologic budget, hydraulics and material properties of geologic materials are integrated to develop the concepts of groundwater formation and movement. Groundwater contaminant transport and treatment are introduced. Use of practical problem solving techniques with quantitative methods is stressed. Offered alternate years. Prerequisites: Math 122 or permission of instructor. (LAB)

307 Petrology (3 one hour lectures, two 1 2/3 hour labs weekly, weekend field trip). The origin, classification and interpretation of igneous and metamorphic rocks. Emphasis on tectonic settings and processes by which various rock types form, and the study of origins and evolution of rock suites through observation, chemical analysis, basic thermodynamics and phase diagrams. Laboratory emphasizes thin section and hand sample petrography. Offered alternate years. Prerequisites: Geol 206, Chem 108 or 09. Math 121 recommended. (LAB)

309 Stratigraphy and Sedimentation (W) (3 one-hour lectures, 1 four-hour field trip each week) Study of sedimentary rocks and their use in correlation and analysis of sedimentary processes. (LAB)

311 Field Geology (W) (1 three-hour lecture, 1 four-hour lab weekly, 1 four-day field trip). Teaches the field techniques for collecting geologic data using Brunton compass, GPS, and surveying (plane table and alidade) equipment. Covers an introduction to data handling using stereographic projections, rose diagrams and GIS. Most lectures and labs will be held outdoors. A complete geologic map and written report are required (LAB).

312 Geophysics (three one-hour lectures weekly) This course concerns the behavior of the Earth’s interior and techniques used to study the 99 percent of the planet which cannot be directly observed. Topics include seismology; gravitation: heat flow; magnetism; gamma and neutron probes; electrical conductivity and resistivity. The course covers application of the structure and rheology of the crust, mantle and core, including exploration for oil and water resources as well as the dynamic processes that drive plate tectonics. Offered alternate years. Prerequisites: Geol 107, Math 121 or permission of instructor. Phys 140, 141 and Math 122 recommended.

316 Geochemistry (three one-hour lectures weekly, one three-hour lab weekly). This course samples many aspects of geochemistry and is divided into three parts. The first part focuses on geological applications of the principles of thermodynamics, including the first, second and third laws of thermodynamics; mineral phase diagrams: equilibrium and phase transitions. The second section will cover topics in aqueous geochemistry, including the carbonate system; weathering and water chemistry; and oxidation-reduction equilibria. The third part of the course will deal with trace element and isotope geochemistry, include thermobarometry and geochronology. Offered alternate years. Prerequisites: Math 121, Chem 107, 108, or Chem 109, or permission of instructor. Geol 107 and Math 122 recommended.

450 Topics in Geology Seminars or tutorials in geological topics selected according to the interests and needs of students.

490 Senior Project Required project arranged individually for all majors.

GERMAN

German, Austrian and Swiss contributions to the various sciences, arts, literature, music, archaeology and philosophy demonstrate the significance of German studies in a liberal arts and sciences curriculum. The German program, offered by the Department of Modern and Classical Languages, provides students with a range of opportunities from general introductory experience in the German language and/or culture, to in-depth concentration in language and literature.

Culture and literature courses are offered in English as well as the regular literature courses taught in German, enabling interested students who have had little or no language preparation to gain some insight into German cultural and literary accomplishments. Students majoring in other disciplines may further
enrich their academic programs and expand their career options by completing a minor in German. Course requirements for the major in German assure that students receive a broad background in German language, literature, and culture. The major culminates in the senior project, a thesis or other appropriate work which demonstrates the student’s proficiency in the language. Students are encouraged to go beyond the minimal requirements in German and to develop an academic program that enriches their knowledge and understanding of the language and culture. Along with additional courses in the discipline, it is suggested that majors begin the study of another foreign language in addition to German, and take a basic course in philosophy and courses on Shakespeare and English literature. In addition, students planning to enter the teaching profession are required to take Composition and Grammar Review (306) as part of their preparation in German, while for students considering a career in business, German in Commerce (235) is highly recommended.

While not mandatory most German majors at Hartwick spend at least a semester, if not an entire year, abroad. The department regularly offers a program in Vienna, Austria, open to other interested students as well as majors, where students become immersed in a German-speaking environment. The College also is a cooperating institution of Central College, which administers a Junior Year Abroad program.

Hartwick graduates with a major in German have gone on to do graduate work at various institutions, including as Fulbright Scholars at universities in Germany and Austria. They are employed as high school teachers, and have entered the world of business and government in such positions as translators and writers, and as employees of import-export firms, banks, travel firms and branches of the German and Austrian government.

Faculty
German Faculty: Wendell W. Frye
Part-time Faculty: Instructors from Austria and Germany

The Language Department also participates in the I.I.E. Native Adjunct Program and will normally have a native of Austria teaching two courses per semester.

Courses
101 Beginning German I This course presupposes no or minimal preparation in the German language. Basic grammatical concepts are introduced, elementary readings are assigned and vocabulary is stressed. Simple conversational patterns are practiced, and aspects of German life and society are treated. No prerequisite. (LN1)

102 Beginning German II This is a continuation of the first semester of basic German. The remainder of the basic grammatical concepts are treated. Readings of increasing difficulty are undertaken and vocabulary building is stressed. More complex conversational patterns are practiced, as well as having further discussions of German life and society. Prerequisite: German 101 or its equivalent. (LN2)

160 Austro-German Culture (taught in English) This course is a brief survey of the salient aspect of Austro-German culture. The historical development of both Prussia and the Hapsburg Monarchy are touched upon. The major movements in architecture and music are treated as well as some of the principal literary works. The Nibelungenlied, Adventures of a Simpleton, Faust I and Indian Summer will be read in their English

Requirements for the major: A minimum of nine courses beyond German 102, distributed as follows:

Six required courses:

- 160 Austro-German Culture
- 220 Introduction to Literature
- 360 Medieval and Baroque Literature
- 361 Rationalism to Romanticism
- 362 Biedermeier to Naturalism
- 363 The Twentieth Century

Two additional courses in German
490 Senior Project

Requirements for the minor: Minimum of six courses beyond the elementary sequence, distributed as follows:

Two required courses:

- 160 Austro-German Culture
- 161 Twentieth Century Germany and Austria

Four additional German courses

Grades for all courses taken in German are used to calculate the average in the major for Departmental Distinction.
German

Translation. No prerequisite. (Regular preparatory course for the Vienna Program.) (MWE) or (MWL)

161 Twentieth Century Germany and Austria (taught in English) This course will provide an overview of the major political, social and artistic developments of 20th century Germany and Austria. Within this framework, the works and lives of four exemplary authors—Kafka, Hesse, Brecht and Boll—will be examined in their social and political context. The Trial, Mother Courage and The Lost Honor of Katharine Blum will be read in English translation. (MWL)

214 Intermediate German This is a course designed to bridge the gap between the second semester of Beginning German and several intermediate level courses. The remaining grammatical concepts are covered. Students further increase active and passive vocabularies and develop their ability to communicate both orally and in writing. A considerable amount of time will be given to readings. Issues and problems of German-speaking countries will be taken up again. (LN3)

215 Readings in German This is an intermediate level course. Selected readings taken up with particular emphasis on vocabulary expansion of idiomatic expressions. Grammatical points will be reviewed as the need arises. Prerequisite: Germ 214 or its equivalent.

220 Introduction to Literature This is the intermediate level course that introduces the student to the periods and genres of German literature. Topics of discussion will be the salient characteristics of the various periods from the Middle Ages to the present, as well as the Roman, Lyrik, Novelle and Drama. Selected readings will be taken from each period. Required for German majors and minors. Prerequisite: Germ 214. (MWE) or (MWL)

222 Scientific German This course deals with basic readings in the various natural sciences. A reading knowledge and the ability to translate original articles are emphasized. The basic vocabulary of each discipline will be treated, and each student is expected to complete a translation of an original work of about five pages in his or her science. Prerequisite: Germ 214. Offered alternate years.

235 German for Commerce This course deals with readings in the commercial writings in the German language. Practice in writing business documents in German as well as basic conversation will be under-taken. Particular attention will be given to the esoteric vocabulary of commerce. Prerequisite: Germ 214. Offered alternate years.

260 The German Novel in Translation (taught in English) This course treats major works of the German novel in translation such as works by Grimmelshousen, Novalis, Stifter, Mann, Kirst, Remarque, Boll, Grass, Hesse. Particular attention is given to the concept of the Bildungsroman. No prerequisite. Offered alternate years. (MWL)

261 The Oral Narrative in Germany (taught in English) This course is a treatment of the folktales and legends in German-speaking lands. Primary emphasis is given to the work of the Brothers Grimm and the theories of the origin of the Marchen. The regional role of the legend and its historical significance will also be discussed. No prerequisite. Offered alternate years.

285 German Term Abroad in Vienna This is the on-site experience of German culture for students who have not yet participated in a Hartwick German program. Various places of interest will be visited and discussed in conjunction with a classroom program. Integration into Austrian life through living with families is an important feature. Offered in English and German. Prerequisite: Germ 214 or 160. Offered alternate years.

305 Phonetics and Conversation Conversational practice at an advanced level. Complex spoken patterns are practiced with emphasis put on the student’s ability to express himself in a variety of situations. Included also is an introduction to the phonetic structure of the German language. Prerequisite: Germ 215 or its equivalent. Offered alternate years.

306 Composition and Grammar Review Through a series of compositions, the student is given practice in written German on an advanced level. Classroom discussions will also be concerned with various aspects of German grammar with attention not only to the basics but also the various nuances of the language. Required of majors seeking teacher certification. Prerequisite: Germ 215 or its equivalent.

360 Medieval and Baroque Literature A treatment of the major works of the Medieval and Baroque periods treating the chivalric lyrics and the various Baroque phenomena. Excerpts from such works as Das Nibelungenlied, Parzival, Simplicissimus will also be treated. Taught in German. Required of German majors. Prerequisite: Germ 220. Offered alternate
Graphic Communications Minor

Requirements for the minor in graphic communications: Seven courses in the following areas:

**Visual Arts:** Three courses in art, distributed as follows:
- 111 or 112 Drawing and Two-Dimensional Design A or B(Art)
- Two courses selected from:
  - 213 Visual Communications I (Art)
  - 216 Visual Communications II (Art)
  - 241 Photography I (Art)

**Writing:** Two courses in English, from:
- 200 Business Writing (Engl)
- 205 Journalism (Engl)-offered yearly
- 210 Advanced Composition (Engl)
- 310 Creative Writing, Non-Fiction (Engl)

**Social and Behavioral Sciences:** An appropriate course as approved by the program coordinator from one of the following departments: management, psychology or sociology.

**Field Experience:** At least one course unit of field experience in some area of communications: advertising, public relations, newspaper or magazine production, printing, broadcasting or other communications media. Can be arranged as an internship or directed study. Consult the program coordinator when selecting a field experience.

### 361 Rationalism to Romanticism
This course embraces what is frequently referred to as the Goethezeit. Works by Lessing, Goethe, Schiller, Kleist as well as some of the Romantic writers will be treated. Taught in German. Required of majors. Prerequisite: Germ 220. Offered alternate years. (MWL)

### 362 Biedermeier to Naturalism
This course treats the various movements of most of the 19th century and includes such authors as Stifter, Keller, Meyer, Storm, Heine, Grillparzer, Raimund, Nestroy, Hauptmann and Holz. Taught in German. Required of German majors. Prerequisite: Germ 220. Offered alternate years. (MWL)

### 363 The 20th Century
Salient movements of the century such as impressionism, expressionism, exile literature and post-war period are treated and includes such authors as Rilke, von Hoffmannsthal, Kafka, Mann, Kayser, Brecht, Durenmatt, Frisch, Boll. Taught in German. Required for majors. Prerequisite: Germ 220. Offered alternate years. (MWL)

### 450 Topics of German Literature For Seniors
Detailed study of a particular author, genre, theme or period in German literature. Topic will be announced in advance. Prerequisite: Permission of instructor.

### 485 German Term in Vienna
This course is designed for the student with a knowledge of German who is participating in a second Vienna program. Various aspects of the culture will be discussed in depth, and each student will be expected to complete a special project mutually agreed upon by the student and instructor. Prerequisite: Germ 220.

### 490 Senior Project
Required of all majors. A thesis or other appropriate work which demonstrates the student’s proficiency in German.

## GRAPHIC COMMUNICATIONS MINOR

The minor in graphic communications complements study in such areas as art history, management, education, English, museum studies and theatre arts, for which an understanding of mass communication techniques is often needed. The combination of the minor with a major in many of these areas also can prepare students for careers in advertising, printing, publications and public relations.

Students pursuing the minor gain a basic foundation in the field of graphic communications through selected courses offered by the Departments of Art and Art History, English, Management, Psychology and Sociology. The specific courses each student chooses to complete the minor will depend on his or her interests and career goals. As part of the minor program, at least one field experience in an area of communications must be completed.

The minor in graphic communications is offered through the Committee on Interdisciplinary and Non-Departmental Curricula.

Interested students should contact the coordinator of the program, Assistant Professor of Art David Zeiset.

## HISTORY

History is both a humanistic study and a social...
History

science. It deals with facts, but they are always viewed from the distance of time. It is the study of civilizations, people, and of the way in which the past has influenced the present patterns of operating and thinking. It is an analysis of the effect of political, social, cultural, and economic processes on the lives of individuals, and the motivation, values, and ideas that have sparked past actions and helped shape the present.

Hartwick’s history program—courses, opportunities for individual study, off-campus experiences—is intended to heighten students’ understanding of our cultural roots and their excitement about the past as it illuminates the present and future. The study of history, whether as part of a liberal education or as a major, offers more than a knowledge and understanding of the discipline, however. Students learn to ask questions, to find information and use it with imagination and intellectual discipline, to test generalizations (including their own) critically, to analyze, to make comparisons, and to write and speak with clarity and verve.

Departmental offerings cover European, United States, Asian, and Latin American history. There are lecture courses, courses organized around class discussion and seminars, and survey courses which weave broad elements into syntheses. There are courses, such as American Environmental History and History as Storytelling, that examine in depth more limited topics.

The department also participates in interdisciplinary minors, in Women’s Studies, Latin American Studies, Environmental Science and Policy, Ethnic Studies, and Museum Studies, which can enrich a student’s major program in a variety of disciplines. These minors enable students to apply these diverse perspectives to their courses of study. Many other students in a variety of disciplines choose to broaden their academic programs by completing the department’s minor in history.

Students majoring in history complete a program of study which includes courses in U.S. and European history; course dealing with an area other than the U.S. or Europe; a course on the methods of historical analysis, research and writing; and additional history courses selected on the basis of student interest and future career goals. They also complete a senior project, a thesis or other appropriate work that relies heavily on primary sources and makes a contribution to the study of history.

Students further enrich their academic programs through a variety of additional learning opportunities offered by the department. Under the guidance of the faculty, students improve their research and writing skills. They are encouraged to undertake independent reading and research projects which explore subjects outside their regular curriculum or allow them to delve more deeply into an area of particular interest. Occasionally the department offers programs abroad in France, England and the Caribbean Islands. Students also may participate in off-campus programs offered by other departments or agencies, or arrange an individual study under a faculty member. Such learning might involve research in major libraries or museums, or in home towns. Majors also undertake internships in areas which relate to their academic field and future career goals.

Students interested in a career in museum work can complete the College’s program in museum studies in addition to their major. Furthermore, they can work with the faculty members or curators who head the College’s several and various collections, and/or complete an off-campus internship in a museum.

The diverse course offerings and other opportunities offered by the history department are designed to meet the needs and intellectual interests of a variety of students, including those who want to become professional historians. A major in history is also excellent preparation for a variety of other careers. The analytical, research and writing skills acquired through the study in the discipline are excellent preparation for law school, while others teach or pursue careers in management, law, government, libraries, museums and many more fields.

Faculty

History Faculty: Peter G. Wallace, chair; Richard L. Haan; Cherilyn Lacy; Nameta Mathur; Mieko Nishida; Leonard W. Pudelka; Edythe Ann Quinn

Courses

101 The American Scene: The Evolution of American Society to 1876 In the late 15th century, when Europeans became aware of the Western Hemisphere, they readily assumed they could shape the regions to mirror European values and cultural traditions. This course examines how European assumptions were altered—often dramatically—as they interacted with the values and practices of indigenous peoples and the African peoples brought here most often to serve European labor demands. The reshaping of the desires and expectations of all three groups—red, white, and black—as they interacted did produce the desires and expectations of a “New World” but rarely one that the participants expected, or wanted. (WHS)

102 The American Scene: From Reunion to World Leadership Reunion after the Civil War saw rapid changes transform the U.S. into a world leader.
Industrializing while acquiring an empire, reforming at home while attempting reform abroad, experiencing prosperity and depression, battling in hot and cold wars, the U.S. emerged as a giant on the world scene. This course surveys that odyssey from the Gilded Age to the present. The course includes a major research project (paper and in-class presentation), often featuring oral histories. (WHS)

109 Rise of Western Civilization to 1550 A survey of the developments in Western Civilization from Ancient Egypt and Sumeria. Achievements of the Hebrews, Greeks and Romans are considered. The emergence of Europe from the ruins of the Roman Empire, the flowering of Medieval culture, and its transformation during the Renaissance and Reformation are examined. (WHS)

110 Development of Western Civilization Since 1550 A survey of the social, cultural, political and economic history of Europe: The rise of the nation state; development of science and capitalism; frustration of Spanish, French and German efforts at hegemony; English, French and Russian revolutions; growth of democracy and totalitarianism; world wars and ideological conflicts; imperialism and decolonization. (WHS)

117 The Modern Middle East After a brief survey of the first 1200 years of Islamic civilization, the course examines the decline and revival of the peoples of the region; Westernization and resistance to Westernization; the struggles for effective nationhood on the part of Arabs, Turks, Jews and Iranians; the impact of local and world-wide wars; and the growing importance of the region in the world. (NTW)

150 Introductory Topics in History From time to time the department will offer seminars or colloquia for small groups of students, particularly freshmen. The topic to be considered will be announced before preregistration. Students may elect Hist 150 more than once, provided they do not repeat the same topic.

175 Surviving Students make a detailed examination of Nazi and Soviet concentration camps of the 1930s and 1940s in the setting of the European conflicts of which they are significant expressions. Students read a wide range of the literature of survivors of the camps in order, among other things, to see the extent to which human values survived under radically inhospitable conditions.

201 Colonial Latin America This course is an overview of the most significant historical processes and themes that contributed to the formation, evolution and development of Colonial Latin America. The course studies the main streams that have contributed to the emergence of Latin America, from pre-Columbian cultures and the first encounter between the Old and New Worlds to the military, religious and bureaucratic conquests of the New World and the formation and evolution of a colonial society that came to an end with the Wars of Independence from Spain in the early 19th century. (NTW)

202 Modern Latin America This course examines the most significant themes, events and personages that played an important role in shaping contemporary Latin America. The period under examination encompasses the two centuries beginning with the precursors of the Wars of Independence in the 19th century and the events taking place at the close of the 20th century. (NTW)

203 New York from Colony to Empire State An Indian confederation dominated the territory the Dutch

Requirements for the major: A minimum of 11 courses with at least 3 at the 300/400 level, distributed as follows:

**Three courses in U.S. history**
**Two courses in European history**
**Two courses in Latin American/Asian/African history**

**322 Historical Methods, Research and Writing**
**490 Senior Project**

**Two additional courses in history**

One course other than Methods and Senior Project must be at the 300 or 400 level

Requirements for the minor:

**One course in U.S. history**
**One course in European history**
**One course in Latin American/Asian/African history**

**322 Historical Methods, Research and Writing**

**Two additional courses in history**

Grades for all courses taken in history are used to calculate the average in the major for Departmental Distinction.
colonized. European powers struggled to control the New York area for nearly a century. An examination of how, by combining an aristocratic society with frontier simplicity, New York became a financial, agricultural and mercantile center. Offered alternate years.

205 American Environmental History An exploration of American attitudes toward the natural environment, the course will examine the roots of nature appreciation and the genesis of the conservation movement in its utilitarian, ecological and aesthetic camps, and will trace the environmental movement to the present.

207 History of Ancient Greece An introduction to the history of the Greeks from their beginnings up to the death of Alexander. The class examines the values, the ideas of these people, and their literature and art are used in this undertaking as instruments of discovery. (WHS)

208 History of Republican and Imperial Rome An introduction to the history and culture of the ancient Romans from their origins up to the death of Constantine. The class explores the life, beliefs and institutions of these people through an examination of their cultural achievements. (WHS)

209 Medieval Europe This course traces the emergence of Europe through the synthesis of Greek, Christian, Roman and Germanic cultures. The survey will begin with the collapse of the Pax Romana in the third century and conclude with the crisis of the 14th century and its immediate aftermath. The survey will focus on Western Europe, but the class will discuss Byzantium and Islam as unique civilizations which profoundly influenced European culture. (WHS)

210 Early Modern Europe This course first examines the birth of modern Europe in the Italian Renaissance. It then considers the religious and political forces which shredded the fabric of Christian unity and ushered in an age of religious and dynastic warfare that produced the modern constitutional and absolutist states. The survey will then examine the cultural, economic and political impact of overseas exploration, the Scientific Revolution and the Enlightenment. The survey culminates with a close examination of the French and Industrial Revolutions. (WHS)

212 Europe, 1815-1914 Conservative, liberal, democratic, national and socialist efforts to reorganize Europe in an age of rapid economic and intellectual change, of revolution and local wars; the imperialist impulse; the beginnings of the welfare state. The course ends with a search for the causes of World War I. (WHS)

226 History of Mexico This course analyzes the evolution of some of the most significant strands forming the complex tapestry of Mexican history. It begins with an examination of the High cultures of Ancient Mexico, the Iberian conquest and the emergence of a colonial society; it continues with a study of the Wars of Independence and concludes with an evaluation of the Mexican Revolution and its impact on present-day Mexican society. (NTW)

227 United States-Latin American Diplomatic Relations This course examines the history of the relations between the United States and Latin America focusing on some of the most salient themes of the past two centuries. It analyzes the origins of these relations that have ranged from mutual indifference to outright war, beginning with the Monroe Doctrine and its implementation; the Mexican-American and the Spanish-Cuban-American Wars of the 19th century. It also studies the evolution of different policies in the course of this century, from Gunboat Diplomacy and the building of the Panama Canal to the Alliance for Progress and the Cold War and the effect of various revolutionary movements on the attitudes and expectations of Latin America and the United States. (NTW)

228 Andean Nations The Andes have shaped the evolution and the destiny of many South American nations. The main objective of this class is to attempt to develop a set of meaningful criteria that will enable the students to analyze and evaluate the history of three Andean nations—Peru, Bolivia and Chile—from pre-Hispanic times to the present. Particular emphasis will be placed on the historical genesis, the evolution and transformation of cultural, economic and political processes affecting these nations. Hopefully, the history of these three countries will provide the student with some insights into the elusive, mysterious and perennially alluring Andean world. (NTW)

233 Civil War and Reconstruction An analysis of the issues which contributed to the outbreak of civil war. Close examination of the war years will include battles, the home front and diplomacy. Scrutinizing the efforts at healing the wounds through Reconstruction will round out the study.

234 Gilded Age A concentrated examination of the United States between 1865 and 1900. Restoration of the Union, industrialization, varied social and intellectual thought and movements, and the evolution of a growing world power will receive close scrutiny.
241 African-American History A survey of African Americans’ experience from 1619 to the Civil War. Topics covered include: African culture and society before European contact, the Atlantic slave trade, the rise of African slavery in the United States, black-white relations under slavery, enslaved blacks responses to forced servitude and the rise and impact of the Abolition Movement. (WHS)

242 Women in American History A survey of women’s collective experience in America from the colonial period to the present. Emphasis will be upon the relationship of defined sex roles to the broader society in a given historical context. Topics include women and family life, women on the frontier, Black and ethnic women, the impact of industrialization upon women’s roles and feminism as a historical movement. (WHS)

274 History of the West An introductory level examination of American history concentrating on the impact of the frontier and frontier institutions on American politics, economics, society and values. Prerequisite: Permission of instructor.

275 The Indians in American History I From the peopling of the New World some 20,000 plus years ago to 1700, the rise of civilizations, the differentiation of cultures and the impact of European civilization on Indian America are mapped out and probed. The first third of the course will emphasize Indians’ world views and their relationships with each other and their varying environments. The course will examine the social, religious, technological, ecological and political changes that impacted Indian societies between 1492 and 1700. (NTW) or (SBA)

276 The Indians in American History II The interaction between the Native American and the U.S. from 1700 to the present. The topics covered include: wars and alliances, trade patterns, revitalization movements, federal-Indian relations, philanthropic and missionary activities, the reservation period, Red Power, etc. (NTW) or (SBA)

277 History of American Foreign Policy to 1914 An investigation of United States’ shifting foreign policy to meet national needs. Emphasis is on the impact of foreign policy on the nation’s political, economic, strategic, philosophic and religious attitudes. Showing evolution from a weak nation to a powerful international force. Offered in alternate years. (WHS) or (SBA)

278 History of American Foreign Relations in the 20th Century A survey of relations with the rest of the world during the 20th century. Examines contending impulses towards imperialism and anti-imperialism, involvement in great-power politics and isolation, war and peace, support for the status quo and efforts at reform, cold war and detente. Offered alternate years. (SBA)

279 American Ethnic History Muhammad Ali, the D.A.R. and Richard Daley have one common bond: their ancestors were immigrants. The human costs of immigration, racial and ethnic competition for a share in the American Dream and the meaning of ethnicity today.

281 Europe in the 20th Century Origins and catastrophic nature of World War I. Its aftermath: Versailles, Revolution, Communist and Fascist challenges to strained democratic society. Depression, war, and Cold War; the temporary eclipse of Europe; the loss of colonial empires; reform and revolution in East and West; new prosperity and new dangers. (WHS)

284 British History to 1688 Britian from pre-Roman times to the “Glorious Revolution.” Social, intellectual and political changes with emphasis on the Tudor regime and the English Revolution. Offered in alternate years. (WHS)

285 British History Since 1688 The “Glorious Revolution” in 1688 initiated new directions for England’s Parliamentary government, which continued into the 20th century. Industrialization and expanded empire-stimulated economic, political and social changes. Britain’s preeminent position in the world gave way to a rapid decline after World War II and a changed political-economic structure. Offered in alternate years. (WHS)

305 The Renaissance This course will not be a chronological survey. The origins of the idea of the “Renaissance” and how this concept has framed Western perceptions of modernity will be considered. The functional practicality of applying this concept to Italian culture and society between 1350 and 1550 will be investigated. The course has two goals: to provide an understanding of the world of the Italian Renaissance and to critique the values we have associated with that world. Offered every other year. Prerequisites: Hist 109, 110 or 209, 210. (WHS)

306 Reformation Europe 1450-1600 This course examines the dissolution of Medieval European culture as a system of regulated religious beliefs and established political relations between the Roman church
and secular powers. It also will consider the economic dislocation and social tensions which animated the Reformation passions, and examine the reintegration of these dynamic factors into new systems of belief and power during the age of confessional struggles. Offered every other year. Prerequisites: Hist 109, 110 or 209, 210. (WHS)

308 Enlightenment and Revolution This course examines the efforts of 18th-century intellectuals to rationalize the experiences of the 17th-century crises. It analyzes the political and social culture of the Old Regime and the growing friction among the powerful nation-states in Europe and overseas. Finally it considers the social, economic and political pressures which culminated in the French and Industrial revolutions and traces the trajectories of those revolutions. Offered every other year. Prerequisites: Hist 109, 110 or 209, 210. (WHS)

309 Russian History I: Russia to 1861 Covers the geographical setting: Viking, Byzantine, Western and Tartar influences on Kiev and Novgorod; Muscovy; triumph of serfdom and autocracy; expansion to the Pacific; Russia becomes European; power politics; economic growth; enlightenment, reaction, liberal reform; the flowering of Russian art and literature; modernization and dissent. Offered in alternate years. (WHS)

310 Russian History II: Since 1861 Covers the collapse of the Tsarist empire under liberal and revolutionary pressure; Lenin’s triumph; role of Marxism in Soviet history; establishment of the Soviet system; economic growth; autocracy; USSR in world affairs; war; disaster and victory; Soviet recovery at home and abroad; Cold War, de-Stalinization, thaw, detente, and the break-up of the Soviet Union. Offered in alternate years. (WHS)

313 20th Century Great Britain Beginning with the Edwardians and concluding with the Thatcher administration, this will be a comprehensive examination of the social, political and economic events of a nation undergoing significant change. This course will trace Great Britain’s move during the century from one of the world’s most powerful empires to a second-class power. Social changes occurring during both world wars, the interwar years, and those trendsetting ’60s and ’70s will receive examination. (WHS)

321 New Deal to Watergate and Beyond Modern America—world power, the Imperial Presidency and the social welfare-warfare state. This course discusses the emergence of post-war American social and political trends, and the breakdown of the Cold War consensus in the 1960s and ’70s. Particular attention will be given to the nature of political leadership in the context of domestic and world forces that expand or restrain leadership. Prerequisite: Hist 101 or 102 or permission of instructor.

322 Historical Methods, Research and Writing Survey of methods of historical analysis, research and writing. Stress is on utilizing library facilities and resources, while examining other resources for research. Analysis and research plays a major role in this course. Prerequisite: Permission of instructor. (SBA)

325 Comparative Slave Systems: Man’s Inhumanity to Man This course traces the history of slavery from Rome to the New World. It will survey the similarities and evaluate the changes in patterns of slavery; in mechanisms of acquiring slaves; in uses to which they were put; and in the significance slavery had for the societies of Rome, Medieval Europe, Islam and the Americas up to the last quarter of the 19th century. It will also examine slavery’s performance in each part of the world, how its characteristics were determined by past systems, the ways in which it conformed to and differed from practices in other times and places and its impact on the slaves themselves as well as how they responded to it. Finally, it will cover the circumstances that led to its abolition. Prerequisite: permission of the instructor. (NTW)

330 Slavery and Abolition in the United States Beginning with a survey of kingdoms of North and West Africa, this course examines their histories and cultures briefly. Analysis of slavery and its trade, within and outside that continent, will follow. The bulk of attention will center upon the institution of slavery as it developed in the British Colonies and will trace the rise of opposition to it until its final elimination from the United States.

331 Colonial and Revolutionary America The 13 Colonies, at first a reproduction of European society and culture, gradually assumed a character that seemed to reflect the New World experience. The frontier experience and the impact of other forces that polarized British-American relations, culminating in the Revolution and the Constitution are analyzed. Prerequisite: permission of the instructor.

335 Freedom’s Ferment: Early 19th Century Utopian & Reform Movements The period from 1790 until 1850 saw many efforts in the United States to reform society. The persistence of Enlightenment thinking and religious fervor fueled these movements. Reform efforts examined include the rise of antislavery, women’s rights, temper-
ance, utopian living, prison reform and other related issues. The Shakers, the Mormons, the Oneida Community and New Harmony Community are a few of the groups which will receive scrutiny.

336 Latin American Women The primary objective of this course is to examine the history of women in Latin America from early pre-Columbian times to the present. It is expected that as a result of this examination, we will be able to dispel existing outmoded perceptions, prejudices and stereotypes concerning the role of women and their contribution to the shaping of contemporary Latin American reality. (NTW)

350 Topics in History From time to time the department will offer seminars, colloquia or lecture courses in particular topics in history. The topic to be considered and the format to be employed will be announced before preregistration. Students may elect Hist 350 more than once, provided they do not repeat the same topic.

377 History of Social Policy This course is part of the interdisciplinary minor in public policy. It is an in-depth analysis of several public policy issues determined by the instructor and placed in a historical context. The objective is to gain an understanding of the role that history plays in creating public policy and to analyze the relationship between the individual and the state, particularly in 19th and 20th century America. Topics include issues such as social welfare, education, health care, environment, etc. Prerequisite: Hist 101 or 102 or 321. (SB A)

490 Senior Seminar/Thesis Required of all majors. A thesis or other appropriate work which makes a contribution to the study of history. May be elected in any term of the senior year. By permission only.

INTERDISCIPLINARY AND NON-DEPARTMENTAL COURSES

The following courses which do not fit the disciplinary focus of a single department are available on a regular basis. The purpose of these interdisciplinary, non-departmental courses is to enable students to participate in the sharing of ideas which extend beyond the limits of a single academic department and which emphasize the interdependence of all academic disciplines.

In addition to the courses that follow, the College offers other interdisciplinary courses which are of a more experimental nature and tend to be proposed and offered for one term only. This is especially true of interdisciplinary courses designed for January Term. A list of these can be found in the schedule of courses available at registration for each term.

Interdisciplinary Courses

310 Contemporary Issues Seminar The Contemporary Issues Seminar, taken in the junior or senior year, is an opportunity for students who are developing as liberally educated people and maturing in an area of study to integrate what they have learned so far with one another across academic divisions in the analysis, discussion and research of issues or problems of common concern.

320 College Honors Seminar The seminar, interdisciplinary in focus, provides honors students with the opportunity to examine “an issue of significance” by interacting with faculty in a setting that transcends the boundaries of a particular academic discipline and encourages the nurturing of holistic patterns of thinking.

Non-Departmental Courses

166 Introduction to Women’s Studies This course introduces students to feminist scholarship and acquaints them with the intellectual, ethical, social, political, historical and cultural forces constructing gender. The class is interdisciplinary and grounded in feminist pedagogy.

360 Seminar in Women’s Studies This seminar explores a broad range of classical and contemporary feminist theory and contrasts it with existing, normative theoretical paradigms. A feminist framework is used to focus on a specific academic field, i.e., history, literature, labor, science. Emphasis is placed on cultivating self-development through student participation in pedagogical experimentation, project creation and reading choices. Prerequisite: two of the courses listed above or permission of the instructor.

410 Senior Seminar in Environmental Assessment A number of studies in the 1960’s suggested that the exploitation of natural resources for the purpose of economic development and meeting the demands of growing populations was having additional second and third order effects that were detrimental to global ecological systems. In the 1970’s many of the nations of the developed world attempted to regulate the rate of development and protect the environment. During the last two decades, the need for international cooperation...
has been recognized, but the results have been realized slowly. This seminar gives students an opportunity: (1) to evaluate the state of the environment at global, national and local levels of analysis, (2) to survey methods of environmental assessment, and assessment in the U.S. and its member states.

LATIN AMERICAN-CARIBBEAN STUDIES MINOR

The countries of Latin America and the Caribbean are important neighbors of the United States that have made rich contributions to the North via the arts, literature, human migration and diplomatic and economic exchange, among other things. Moreover, these states together constitute an important bloc of the “developing” world and, as such, present a variety of models of socio-economic and political change.

The Latin American-Caribbean studies minor, which includes courses from anthropology, art, biology, English, history, political science and Spanish, provides interested students the opportunity to study the region in some detail. That interdisciplinary study includes such topics as the history and legacies of colonialism and conquest, the conflict and cooperation that has defined United States-Latin American relations, the cultural experience and contributions of the region, current politics and strategies toward economic development and ecological and environmental issues. Students are also strongly encouraged to participate in an off-campus program or internship in the region.

The minor, in sum, aims to enhance both international academic programming at Hartwick and, simultaneously, awareness of hemispheric and global interdependence among states and peoples.

Students interested in the Latin American-Caribbean studies minor should contact the coordinator of the program, Professor Mieko Nishida, for more information about opportunities within the minor.

MANAGEMENT

The world in which we work continues to change. Gone are the comforts of job security or of predictability in the work place. What were once permanent skills now turn out to be only the underlying foundations for ever-evolving application requirements. For our students, who will work in organizations far different from the ones in which their parents started, Hartwick’s management major proposes to prepare them for this life-long challenge. The major will help the students internalize the necessary foundation of knowledge and also will help develop the ability to adapt to the changes the future work environment will bring.

The Hartwick Virtual Management Program® helps students prepare themselves for life after college in a distinctive manner. Building the skills and competencies needed in the work place-intellectual, technical and interpersonal—is the major program’s focus. First, students learn that any aspect of managing involves multiple elements, in surprising mixtures, at any moment. A finance problem may well include elements of strategy and decisions about new business locations—traditionally material covered in other separate courses. A manufacturing problem may include issues of
human resources, accounting and organizational development.

Second, the Hartwick Virtual Management Program® is driven not by our knowledge and lectures about business and management, but by students' willingness to work at solving business problems that we present. Our major depends on simulations, case studies and projects - all of which require much thought and effort. Successful students will learn how to face challenges, analyze risky situations and make informed decisions. Most importantly, they also will learn the implications of living with the outcomes of their decisions and that decisions made in today's business environment often do not turn out as expected. The tool that aids this process is the computer. This technology provides the vehicle for simulations, and empowers students to analyze information and make decisions. Mastering the technological tools is an important part of the major.

Third, the context of the Hartwick Virtual Management Program® occurs in teams, working interactively with computers. Management trends suggest that teamwork and intense interaction with coworkers is the future; interpersonal skills, team building, communication, leading and following help students learn how to work with their colleagues. The traditional approach to management education, which depends on theories focused at specific parts of business management, is not the approach we take. We believe that students will better understand how business works if they learn it as it is lived-in an interrelated and unpredictable way.

The Hartwick Virtual Management Program® course work is different. The major begins with one prerequisite course, Mana 261 that is normally taken in the sophomore year. Here, students learn elements of organizational behavior (how businesses compete in a dynamic and indifferent environment) and theories about how people behave in those organizations. Also required are five introductory courses concerning the vocabulary and structure of the business world, Econ 201 and 202 as well as Acct 141,142 and 347. It is recommended that these five courses be taken in the first and second years at Hartwick.

In the junior year and senior year semesters students learn the following traditional management functions, using organizational behavior and accounting principles learned earlier: finance, human resources, international management, marketing, policy and strategy and production/operations. In addition, students will deal with leadership, team building and decision making; computer and information management issues; presentation and communication skills; ethical dimensions of business situations.

Hartwick offers a dual degree program with Clarkson University, where students earn a B.A. from Hartwick and an M.B.A. or M.S. from Clarkson. Contact Professor Kolenda for information.

Faculty
Management Faculty: Stephen A. Kolenda, Chair; John K. Clemens; Douglas F. Mayer; Thomas G. Sears, Katrina A. Zalatan, Priscilla Z. Wightman

Courses
261 Management and Organization Analysis of behavior within the organization. Introduction to concepts of goal setting, structure and decision making. Examination of conflict, motivation, communication, team building and leadership theories. Organizational, interpersonal and personal dimensions of behavior will be examined through readings, cases, and running a small business in a simulated industry. No prerequisite. (SBA)

340 Management I Students assume the role of a product manager, responsible for marketing multiple products in various regions of the world. Students learn and apply basic marketing principles and statistical, financial and economic analyses to design and market their products to meet customer needs and ultimately achieve target market share, revenue and profit objectives. Prerequisites: At least a C in Mana 261 and junior standing.

341 Management II Students assume the role of general manager responsible for a company in a service industry. Students integrate basic finance, operations, human resource management and marketing concepts to achieve planned service delivery and profit objectives. Industry analysis, demand forecasting, capital budgeting, and strategic planning concepts are also emphasized. Prerequisite: Mana 340.

380 Management III Students assume the role of financial managers. Financing and investing activities are investigated with emphasis on learning the tools and techniques of this function. Building on the accounting and economics backgrounds of students, this course focuses on their properly making decisions based on quantitative analysis. Prerequisite: Mana 341.

381 Management IV Students assume the role of human resource managers responsible for creating, implementing and critically evaluating the success of human resource plans. Students develop and implement objectives and strategies pertaining to compensa-
Management

Requirements for the major: Minimum of 14 courses, distributed as follows:

Nine courses in management:
- 261 Management and Organization
- 340, 341 Management I, II
- 380, 381 Management III, IV
- 440, 441 Management V, VI
- 480 Management VII
- 490 Senior Thesis in Management

Three specified accounting courses:
- 141, 142 Principles of Accounting I, II (Acco)
- 347 Managerial Accounting (Acco)

Two specified courses in economics:
- 201 Microeconomic Principles (Econ)
- 202 Macroeconomic Principles (Econ)

Suggested sequence of courses for students majoring in management:
- Freshman and Sophomore Years
  - Acco 141, 142, 347
  - Econ 201, 202
  - Mana 261
- Junior Year
  - Mana 340, 341, 380, 381
- Senior Year
  - Mana 440, 441, 480, 490

Requirements for the minor in management include eight courses:

Two courses in accounting:
- 141, 142 Principles of Accounting I, II (Acco)

Five courses in management:
- 261 Management and Organization
- 340, 341 Management I, II
- 380, 381 Management III, IV

One course in economics, selected from:
- 201 Microeconomic Principles (Econ)
- 202 Macroeconomic Principles (Econ)

Grades for courses taken in economics, management, and accounting that are required for the major are used to calculate the average in the major for Departmental Distinction.

440 Management V Students explore the role of entrepreneurship in today’s business environment. This course integrates macroeconomic analysis, marketing research, financial planning, strategy formulation and other functional business considerations. Activities take the students from the formation of a small business using planning software to exploring the issues involved in registering a new company on one of the stock exchanges using venture capital. Prerequisite: Mana 380.

441 Management VI Students assume the role of general manager of a multinational business. In addition to learning the international aspects of the production, marketing, human resource and financing functions, students gain new knowledge related to dealing with foreign currencies, customers, workers and cultures. Prerequisite: Mana 440.

480 Management VII Students take the role of top management of a complex, multinational organization. Students draw upon their experiences as managers in various functional areas to deal with the larger organizational issues of corporate strategy, policy formulation, values, and vision. Prerequisite: Mana 441.

490 Senior Thesis Each management major is required to write, in consultation with a faculty member in the department, a research paper which demonstrates the ability to investigate and analyze some aspect of management theory and practice in considerable detail, and to defend the work before the management faculty. Prerequisite: Mana 441.

395, 495 Internship in Management This course provides an opportunity to further the professional career development of students. Placements are designed to utilize academic concepts in a work setting and to bring practical knowledge of a functioning business back to the classroom. The learning experience is designed to take place in an organization appropriate to the career interests of the student. Prerequisites: junior or senior standing, management major.

MATHEMATICS
The study of mathematics enables students not only to learn mathematical principles and the application of those principles, but to develop their ability to think logically, solve problems, express themselves precisely and gain a cultural appreciation of the discipline.

Mathematics majors must complete a specified core of courses, beginning with a calculus and linear algebra sequence and an introductory course in abstraction. These courses provide the foundation for upper level courses. To obtain an overview of modern mathematics, majors take courses in two general areas, abstract algebra and real analysis, generally during their junior year. As an introduction to applied mathematics, they must elect one of several courses that stress a modeling/problem-solving approach to using mathematics. During the junior year, majors must participate in a junior seminar which emphasizes supervised seminar study and oral presentations. A required senior project involves supervised independent study with written presentations and a final oral presentation.

In addition, mathematics majors are required to complete a term of general physics, which provides them with a problem-solving experience and introduces them to the subject which was one of the primary motivations for the development of the calculus, and a computer programming course, which provides basic knowledge of one of the essential tools of modern mathematics.

Students who wish to pursue a special area of mathematics in greater depth may do so by taking additional courses in that area and by independent study with a faculty member in an area not specifically covered in a course. Among the areas available for such study are numerical methods, mathematical modeling, operations research, probability, statistics and topology. For students who may be interested in engineering, Hartwick offers a Pre-Engineering Program and the opportunity to participate in a combined degree program with Columbia University or Clarkson University in which the student spends three years at Hartwick and two years at one of the engineering schools, earning a bachelor’s degree from each in the process.

Students majoring in other disciplines who wish to complete a minor in mathematics should notify the department of their intent as soon as possible, preferably by the junior year. In addition to the required courses, a course in computer programming is strongly recommended.

Incoming students are administered an algebra placement test and, on the basis of the results, are advised which mathematics courses would be most appropriate for their algebra backgrounds. Pre-Calculus Mathematics (120) may be selected by students who need a stronger background in algebra before they begin the calculus sequence. For students with exceptional mathematics backgrounds, advanced placement credit in calculus will be granted on the basis of Advanced Placement Test scores. Advanced placement without credit also may be granted on the basis of consultation with the department faculty.

A Math Center sponsored by the department offers problem sessions and tutoring for students enrolled in any of the department’s service courses. Tutoring in developmental mathematics also is available through the Center.

Faculty
Math Faculty: L. Gerald Hunsberger, Chair; Ronald M. Brzenk; Charles H. Scheim; Gary E. Stevens; Gretchen W. Whipple
Part-Time Faculty: Maureen Gallagher

Courses

**106 Finite Mathematics** An introduction to some modern concepts of mathematics and to their use in mathematical models. Topics include sets, algebra, systems of equations, linear programming, matrices, probability and an introduction to statistics. Applications of these topics to the social, behavioral, managerial and biological sciences are considered. Cannot be taken for credit if credit has already been received for Math 220. Only students placed at Level 2 or 3 on the algebra placement test may enroll in this course. Prerequisite: permission of the instructor. (MLC)

**108 Statistics** This course is an introduction to basic methods in exploratory data analysis, experimental design and statistical inference. Material covered has application to biology, economics, nursing, political science, psychology, sociology and other fields. Cannot be taken for credit if credit has already been received for Math 308. (MLC)

**110 Problem Solving with Recreational Mathematics** An introduction to strategies of problem solving using recreational mathematics. Analysis of problems arising from logical puzzles, games, card tricks and geometric puzzles will systematically introduce students to a variety of problem-solving techniques and mathematical topics. Topics may include logic, the pigeon hole principle, applications of algebra, mathematical induction, number theory, graph theory and game theory. Students will be encouraged to solve problems on their own using creative strategies. Prerequisite: Level 4 or 5 on algebra placement test. (MLC)

**120 Pre-Calculus Mathematics** This course is intend-
ed to provide the background necessary for the calculus sequence. Topics from algebra, elementary functions and analytic geometry: algebraic operations, functions, graphing inequalities, absolute value, quadratic equations, trigonometry and conics. The course should be taken only by students who intend to begin the calculus sequence (however, Math 120 is not a prerequisite for Math 121). Prerequisite: Permission of the instructor or Level 3 or 4 on the algebra placement test. (MLC)

121 Calculus I This is a course in the basic concepts of single-variable calculus. It includes functions and their graphs, limits, derivatives, applications of the derivative and an introduction to integration. Prerequisite: Level 5 on the algebra placement test or at least a C in Math 120. (MLC)

122 Calculus II This course is the second half of the single-variable calculus. It includes techniques of integration, applications of integration, infinite sequences and series, polar coordinates and complex numbers. Prerequisite: at least a C- in Math 121. (MLC)

200 Problem Solving with Calculus This is a problem solving course where methods of first-year calculus are applied to selected problems drawn from various disciplines. Emphasis is placed on the application of topics covered in Math 121 and Math 122 such as rates of change, maximum-minimum problems, differentials, integrals, non-rectangular coordinate systems and vectors in two and three dimensions. Problems addressed are questions which arise in physics, economics, biology and other areas of study. This course is strongly recommended for math majors and others with interest in applied mathematics. This course does not count towards satisfying the requirements for a mathematics major or minor. Prerequisite: Math 122. Offered January Term. (MLC)

220 Linear Algebra Systems of linear equations, matrix algebra, dependence and independence, vector spaces, transformations. Applications. Prerequisite: at least a C- in Math 122. (MLC)

221 Calculus III This is a course in multi-variable calculus. It includes vectors, analytic geometry in three dimensions, functions of several variables, partial derivatives, multiple integrals, parametric equations, vector-valued functions and line integrals. Prerequisite: at least a C- in Math 122. (MLC)

308 Mathematical Probability and Statistics Probability theory, random variables, limit theorems and applications to hypothesis testing, estimation, regression. Prerequisite: Math 221.

311 Differential Equations Basic theory of ordinary differential equations. Equations of first order and first
degree, linear differential equations and linear systems, operational methods, numerical methods, solution in series, existence and uniqueness theorems. Prerequisite or corequisite: Math 221.

320 Introduction to Abstraction This course prepares students for the more abstract upper-division courses. Topics such as sets, logic, mathematical proof, partial orders, equivalence relations, construction of the natural numbers, integers, rational numbers and the real numbers will be covered. Prerequisite: At least a C in Math 220.

326 Discrete Mathematics Elementary set theory and logic. Mathematical induction. Principles of counting including combinations, permutations, distributions, derangements, binomial and multinomial coefficients, pigeon-hole principle, Stirling numbers. Other topics selected from generating functions, finite state machines and languages, graph theory, Boolean algebra. Prerequisites: Math 220 and 221. Offered alternate years.

335 Modern Geometry Structure and flaws of Euclidean geometry as an axiomatic system; development of neutral geometry leading to Euclidean and non-Euclidean geometries. Prerequisites: Math 220 and 221. Offered when there is sufficient student interest.

337 Number Theory Divisibility, primes, congruences, arithmetic functions, quadratic residues, partitions and generating functions. Prerequisites: Math 220 and 221. Offered alternate years.

341 Complex Variables An introduction to the theory of functions of complex variables, derivatives and integrals, Cauchy’s theorem, theory of residues, applications to mathematical physics. Prerequisite: Math 221. Offered when there is sufficient student interest.

350 Topics in Mathematics Selected topics involving further study in advanced areas of mathematics. Offered when there is sufficient student interest.

371 Numerical Analysis (same as Cosc 371) The development of numerical methods and their associated error analysis. Non-linear equations, systems of linear equations, interpolation, numerical differentiation and integration. Programming of appropriate algorithms with emphasis on accuracy and efficiency. Prerequisites: Math 220, 221. Offered when there is sufficient student interest.

375 Optimization Techniques (same as Cosc 375) A survey of some of the methods used to obtain optimal solutions to linear problems. Emphasis on linear programming, simplex algorithm, duality transportation and assignment problems, shortest route and maximum flow problems, game theory, decision trees. Additional topics may include integer programming, dynamic programming, PERT-CPM, graph theory, queuing theory. Prerequisites: Math 220, 221. Offered alternate years.

381 Mathematical Modeling Selected topics in modern mathematics and operations research that have application to the social, life and managerial sciences. Emphasis on problem solving through model building. Possible topics include Markov chains, linear programming, optimization, graph theory, combinatorics, game theory, decision theory, queuing theory, simulation. Prerequisites: Math 220, 221. Offered alternate years.

390 Junior Seminar Supervised seminar study with oral and written presentations. Seminar groups are assigned topics from areas such as geometry, algebra, analysis or applied mathematics. Prerequisites: at least a C in Math 320 and permission of the department. (Must be taken during January Term on campus.)

411 Partial Differential Equations Solution of second order linear equations including the heat, potential and wave equations; initial and boundary value problems; Fourier series; numerical methods. Prerequisite: Math 311. Offered when there is sufficient student interest.

420 Abstract Algebra Mathematical induction, divisibility, Euclidean algorithm, congruences, groups, rings, integral domains, fields. Prerequisites: At least a C in Math 320.

431 Introduction to Real Analysis Set theory, the real number system, basic topology, metric spaces, limits, continuity, differentiation, Riemann integration, series. Prerequisites: at least a C in Math 221 and 320.

441 History of Mathematics Study of the development of mathematics from ancient times through the 19th century. Prerequisite: Math 320. Offered when there is sufficient student interest.

450 Topics in Mathematics Selected topics involving further study in advanced areas of mathematics. Offered when there is sufficient student interest.
**Medical Technology**

**461 Introduction to Topology** Set-theoretic notions and notation, continuity compactness, connectedness, separation, metric spaces, topological spaces, topological invariants. Prerequisite: Math 431. Offered when there is sufficient student interest.

**490 Senior Project** Supervised independent study with one oral and several written presentations. Students select topics from such areas as algebra, analysis, applied mathematics and geometry. Prerequisites: Math 390, 420 and permission of the department.

**MEDICAL TECHNOLOGY**

**Faculty/Coordinator**
Walter O. Nagel

Although medical laboratories are physically located in hospitals, clinics and physicians’ offices, the real location is on the frontier of scientific medicine. Here, the best qualified men and women are building careers in laboratory medicine by applying their expert knowledge and practical skills. Medical technologists, whose broad background of college and clinical laboratory training provides the necessary ingredients for their professional responsibilities, fulfill a prominent role in these laboratories.

Completion of the medical technology program as part of a liberal arts and sciences education offers students the breadth of knowledge and experience to handle the responsibilities and decisions they will face in their careers, and to adapt to changes within their profession. In addition, they will be prepared to lead full and satisfying lives.

Students interested in preparing for a career in medical technology may choose from two tracks offered through the department: the **three-plus-one** track or the **four-plus-one** track.

The **three-plus-one** track leads to a bachelor of science degree in medical technology. It consists of three years of academic work at Hartwick (which also partially fulfills departmental requirements for a major in biology), followed by a 12-month clinical internship for those students who are accepted by an affiliated hospital School of Medical Technology (listed in directory).

The final selection of students for clinical internships is the province of the hospital Schools of Medical Technology. It is anticipated that in the future, as it was in the past, student demand will exceed the number of clinical internships available. Therefore, constant academic advisement regarding a student’s continuation in the medical technology program is necessary and the medical technology coordinator will advise students of their ranking in the program on an annual basis. Those students with a grade point average below 2.8 in their **science** courses may be advised to consider another major and may not be recommended for clinical internship.

Medical technology majors with an overall grade point average below 3.0 will be advised to improve their academic average in order to be more competitive for available clinical internship positions.

Under the **four-plus-one** track, students follow the medical technology curriculum their first three years. During the fourth year, they complete the requirements for a major in biology and graduate with a bachelor’s degree in biology. They may then apply to a medical technology program which accepts students who have earned bachelor’s degrees.

The four-plus-one program may also be completed by students in the three-plus-one track who did not obtain a clinical internship following their junior year. This option provides those students with an opportunity to take additional courses, improve their grade point average and apply for a clinical internship which begins after completion of the baccalaureate degree as a biology major.

The curriculum for students in the three-plus-one program fulfills the requirements of the National Accrediting Agency for Clinical Laboratory Sciences. Students must complete an interdepartmental major concentration consisting of courses in biology, chemistry and mathematics. In addition, it is recommended that medical technology majors take Analytical Chemistry (203), two courses in physics and a course in computer science.

Students in the three-plus-one track who are accepted for a 12-month clinical internship begin their internships at the end of their junior year. Following completion of the internship, they have earned the necessary 36 course units for the B.S. degree in medical technology from Hartwick, and a certificate indicating completion of the school of medical technology (MT). They may then be eligible to take the National Registry Examination, the passage of which earns the professional certification, MT (ASCP).

The specific requirements of Hartwick’s medical technology program and the general college requirements for the baccalaureate degree permit sufficient flexibility for students to take advantage of numerous off-campus study programs applicable to their profession. This is in keeping with the multi-faceted responsibilities of professional medical technologists (electronic maintenance, computer programming, business and personnel management and teaching techniques).
MUSEUM STUDIES

Students interested in learning about museums as part of our cultural heritage or as an aid in developing a museum-related career are invited to complete the Museum Studies minor. Coursework for this minor is complemented by the use of the college's Yager Museum and permanent collections when appropriate.

Students take museum studies courses in conjunction with a major or minor in an academic field most often associated with museums, such as anthropology, art, art history, history, management or one of the sciences. Some students may opt to design their own Individual Student Program. Students who are interested in museum work and need advice about possible combinations of a major field with museum studies are encouraged to consult the coordinator of the program, Fiona Dejardin.

To complete the program students take a total of six courses that include three core courses and an approved internship in museum studies. Students may then choose two additional courses from a variety of selected courses in writing, computer design or special topics in museum studies. Because experience is highly valued in museum work, students are strongly encouraged to pursue additional opportunities such as a second internship or volunteer work in a museum. Field trips are generally included as part of each course. Because museum studies courses are not offered every semester, students should plan their schedule carefully by consulting the program's coordinator.

This minor prepares students for graduate school, or in special cases, entry-level positions.

Courses

203 Introduction to Museum Studies This survey course introduces students to the relationship between museums, museum professionals, and the public. The course covers the history of museums, collecting and collections and the relation of museums to Western ideas about civilization. Museum administration, the ideology of exhibitions and the interpretation of objects are also addressed. This course may include field trips.

250 Topics in Museum Studies Special topics of current interest are considered in depth. Off-campus courses with a strong museum content, such as Museums of Europe, may be listed as topics courses. Students may take more than one topics course for credit. There are usually no prerequisites for these courses.

302 Curatorial Workshop This course, which examines the theory and practice of curating collections and designing exhibits, covers topics such as managing collections information, accessioning and deaccessioning, cataloguing, conservation needs and storage. Students also design, research and install exhibits. Prerequisite: Muso 203.

304 Museum Education and Programming This course examines the community-service aspect of the museum's mission. Education theory regarding diverse audiences is examined and students are given practice in designing and implementing interpretive programs for school groups, etc.

MUSIC
The Department of Music at Hartwick College is accredited by the National Association of Schools of Music and is a member of the national honorary music society, Pi Kappa Lambda.

Performance ensembles open to students include College Choir, College Wind Ensemble, Chamber Orchestra, Jazz Ensemble, Brass Ensemble and various chamber ensembles. All interested students must audition for acceptance. In addition, exceptionally talented students may audition for the Oneonta-based Catskill Symphony Orchestra.

All private lesson instructors are also professional performers. They include principals from the Catskill Symphony Orchestra, the Catskill Woodwind Quintet, Brass Quintet and Chamber Players.

Those who wish to major in music may choose from two degree programs: a bachelor of arts in music and a bachelor of science in music education.

A program with an emphasis in music theatre within a major in music has been added to the music curriculum. All programs take four years to complete.

Students majoring in other disciplines have the opportunity to study music through courses in music, private music lessons and/or participation in the College’s performance ensembles. These students may choose to complete a minor in music.

Each major program includes core courses in music history and theory, private lessons and performance requirements. All majors must take private lessons each major term. To obtain credit for these lessons, they also must participate in departmental juries and attend at least 30 concerts during the academic year. Students completing either degree program also must participate in at least one major performance ensemble each major term. In addition, all music majors must fulfill student recital requirements.

The major in music (B.A.) allows students to specialize within the broader context of a liberal arts and sciences education. It also prepares students for graduate work in music. Core courses are supplemented by additional music courses.

The major in music education (B.S.) is a professional program stressing competence in teaching the full range of vocal, instrumental and general music at all levels through high school. It also prepares students for a variety of related music careers. In addition to completing core courses, private lesson and performance requirements, students must take courses in music education and methods, and demonstrate keyboard and guitar proficiency at a functional level by the end of the sophomore year. Majors also must complete four student teaching experiences.

In addition, music education majors must take the psychology and education courses required for teacher certification:

- Psychological Foundations of Education
- Social and Philosophical Foundations of Education
- Interdisciplinary Secondary Curriculum and Instruction
- Substance Abuse and the Classroom
- Child Abuse Identification Seminar

Students who are in the teacher certification program must complete the NYSED battery of tests. These include the Liberal Arts and Science Test (LAST), Assessment of Teaching Skills Test (written) (ATS), and Content Specialty Test.

A student enrolled in either major program may take a proficiency examination as arranged with the instructor for any required music course. If the student completes the exam successfully, that course requirement is waived and an elective can be substituted.

The study of music at Hartwick is enhanced by 

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<thead>
<tr>
<th>Museum Studies Minor</th>
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<tbody>
<tr>
<td><strong>Requirements for the minor:</strong> Minimum of six required courses as follows:</td>
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<tr>
<td><strong>Four courses in museum studies:</strong></td>
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<tr>
<td>203 Introduction to Museum Studies</td>
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<td>302 Curatorial Workshop</td>
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<tr>
<td>304 Museum Education and Programming</td>
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<tr>
<td>An approved Internship in Museum Studies</td>
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<tr>
<td><strong>One course chosen from the following:</strong></td>
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<tr>
<td>A second approved Internship in Museum Studies</td>
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<td>Engl 210, Advanced College Writing</td>
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<td>Engl 310, Non-Fiction Writing</td>
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Art 213, Visual Communication I

**A sixth course:** This course should be related to the student's interest in museums, but must be taken from any department other than the student's major field. The course is to be selected with the approval of the student's advisor and the Coordinator of the Museum Studies Minor.

**Grades for all courses required for the major (including those from other departments) are used to calculate the average in the major for Departmental Distinction.**
facilities in the College’s Anderson Center for the Arts, including soundproof practice rooms, a well-equipped electronic music studio, a professional recording studio and a Listening Center. The Music Circle and a theatre located in the building are used for performances; concerts also are held in Yager Hall’s Slade Theatre and Shineman Chapel.

Emphasis in Music Theatre
Hartwick offers students majoring in either music or theatre arts the opportunity to concentrate a portion of their studies in the area of music theatre. The distinguished living tradition of American musical theatre is explored through an array of courses and productions that cover the performance, technical and historical dimensions of the art. Students work with Hartwick faculty and area professionals to develop the talent and skills necessary to produce successful musicals. Course requirements in both music and theatre arts insure a solid grounding in the two disciplines.

Faculty
Music Faculty: Marjorie W. Hirsch, chair; Mahn-Hee Kang; Jirka Kratochvíl; Brian S. Wilson; Steven T. Zvengrowski

Courses
103 Theory I An investigation of the basic elements of Western tonal music: major and minor scales, intervals, diatonic triads and seventh chords, cadences, non-harmonic tones, principles of harmonic relationships, fundamentals of part-writing and analysis.

Aural Skills I Intensive work from a beginning level in sight singing using moveable and fixed “do” systems; development of treble and bass clef reading in fixed “do”; single-voice dictation; interval work on Mm2, Mm3, P4, P5, P8; distinguishing major, minor, diminished and augmented triads; introduction to a system of rhythmic exercises in simple and compound meters; chord progressions using I, II, IV, V, VI to be played at the keyboard as well as written from dictation. Working with partners on problem solving and self evaluation is an integral part of class work at all levels. (CPA)

104 Theory II A continuation of the work completed in Theory I: more advanced elements in part writing and analysis, harmonization of melodies, introduction of small forms and structures, secondary dominants, introduction of modulation, sequences.

Aural Skills II Continued progressive work in all areas: incorporating alto clef; increasing complexity in sight singing and melodic dictation; strengthening intervals including Mm6, Mm7; distinguishing triads in inversion; integration of notation of dotted rhythms in compound time and differentiating divisions of 3, 4, 6, 8 to a beat; reading rhythms with a division of 5 or 7 to a beat; the addition of I6, IV6/4, V7, V6, to chord progressions. Prerequisite: Musi 103. (CPA)

105 Music Theatre Production (same as TA 105). Study, rehearsal and performance of a musical theatre piece. Students will be cast in a role or assigned a production responsibility and will be coached and directed by the staff. An emphasis will be placed on the development through practice of skills in singing; acting; dancing; and in the designing, lighting and running of a production. Significant time will also be given to looking at literary, thematic and historical aspects of the work to be produced with the intent of developing a sensitivity to the special qualities of musical theater. (CPA) Whether Musi or TA, this course may only be taken twice for credit. Consent of instructor.

107 Music History I: Antiquity, Medieval, Renaissance (500 B.C.-1600 A.D.) This course explores the origins and early development of the western classical tradition from antiquity to 1600. Students become acquainted with the austere majesty of Gregorian chant and witness the emergence of polyphony in both sacred and secular forms. (CPA)

108 Music History II: Baroque, Classical (1600-1810) An investigation of the composers, styles, genres and forms of the Baroque and Classical eras. The course examines how broad societal changes during the 17th and 18th centuries affected musical composition and performance. Prerequisite: Musi 107 or permission of instructor. (CPA)

110 Fundamentals of Guitar A guitar course for the beginning student (including those without any previous music experience.) The class is designed to provide basic skills in guitar technique and music funda-
Requirements for the major in music (B.A.):
15 (instrumentalist), 16 (vocalist) course units in music, as follows:

Eight core courses in theory and history:
103, 104, 203, 204 Music Theory I, II, III, IV and Aural Skills, Music Reading, Keyboard Harmony Lab

One course in conducting, selected from:
325 Instrumental Conducting
326 Choral Conducting

One course in music internship:
295, 395 or 495 Internship in Music

One course in music technology:
230 Introduction to Computer Technology in Music

One course in diction:
350 Foreign Language Diction for Singing
(for voice majors only)

Private lessons: Take each major term (half-course unit earned each year)—to obtain credit must participate in Departmental Juries and attend at least 30 concerts during academic year

Piano Lessons: Weekly half-hour lessons for two years

Performance requirement: Participate in major performance ensemble each major term (half-course unit earned each year)

Participation in four recitals:
Freshman year—Department Recital
Sophomore year—1/3 or 1/2 Sophomore Recital
Junior year—1/2 or full Junior Recital
Senior year—full Senior Recital*

*Includes an oral presentation and written program notes for the recital program.

B.A. degree candidates with a concentration other than performance should consult the Music Department Handbook for recital requirements.

Grades for all courses taken in music and music performance are used to calculate the average in the major for Departmental Distinction.

Requirements for the B.S. in music education:
23 music and music education course units, distributed as follows:

Eight core courses in music theory and history:
103, 104, 203, 204 Theory I, II, III, IV and Aural Skills, Music Reading, Keyboard Harmony Lab

Two courses in conducting:
325 Instrumental Conducting
326 Choral Conducting

One course in music technology:
230 Introduction to Computer Technology in Music

Six courses in music education:
101 Contemporary Trends in Music Education: Elementary Level
102 Contemporary Trends in Music Education: Secondary Level
210 String Methods/Keyboard Techniques—half-course unit
211 Woodwind Methods/Keyboard Techniques—half-course unit
212 Brass Methods/Keyboard Techniques—half-course unit
213 Percussion Methods/Keyboard Techniques—half-course unit

Four Student Teaching in Music courses:
293 Elementary Classroom Music, Grades K-5
393 Vocal Performance and General Music, Grades 5-8
394 Instrumental Performance, Grades 4-8
493 Elective Area of Specialization,
494 Traditional Student Teaching—four course units

Private lessons: Take each major term (half-course unit earned each year)—to obtain credit must participate in Departmental Juries and attend at least 30 concerts during academic year

Performance requirement: Participate in major performance ensemble each major term (half-course unit earned each year)

Participation in four recitals:
Freshman year—Department Recital
Sophomore year—Department Recital
Junior year—1/3, 1/2 or full Junior Recital
Senior year—1/2 or full Senior Recital*

*Includes an oral presentation written program notes for the recital program.

To earn teacher certification:
Also complete required psychology and education courses and appropriate NYSED battery of tests listed under Music

Grades for all courses taken in music, music education and performance music are used to calculate the average in the major for Departmental Distinction.
### Requirements for the minor in music

Minimum of seven course units, as follows:

**Music theory:** Two courses  
**Music history and/or literature:** Two courses  
**Performance music:** At least three full course units in performance music: performance ensembles and private lessons or as arranged with department chair  
**Concert attendance:** Attend a minimum of 15 concerts during the academic year

### Requirements for an emphasis in music theatre within a major in music

(Note: B.S. music education majors may have to take more than 36 course units to include this emphasis in their programs): In addition to the 15 (instrumentalist), 16 (vocalist) course units required for the music major, seven course units distributed as follows:

**Two music theatre courses:**  
105 Musical Theatre Production  
145 Musical Theatre: The Evolution and Mechanics of Broadway

**One half-unit music theatre performance course selected from:**  
109 Off-Campus Production (Thea)**  
250 Opera Theatre Production (Thea)

### Four and one-half courses in theatre arts

(see TheatreArts courses):  
120 Introduction to Theatre Arts (Thea)  
140 Fundamentals of Acting (Thea)  
220 Play Production (Thea)  
One of the following:  
231 Designing for the Stage (Thea)  
232 Theatrical Lighting Design (Thea)  
240 Advanced Acting (Thea)  
One of the following half-courses in dance:  
110 Introduction to Movement and Dance for the Theatre (Thea) or  
150 Dance for the Musical Theatre (Thea)

**To apply Thea 109 to the Music Theatre Emphasis, the off-campus production involvement must be approved in advance by Hartwick’s Director of Theatre and a designated member of the music faculty who will jointly establish the criteria for evaluation and determine the grade. In addition, approval must be obtained from the student’s advisor and any director of a musical or theatrical performing ensemble to which the student has a current commitment.**

Grades for all courses taken in music, music education, music performance and theatre arts are used to calculate the average in the major for Departmental Distinction.
familiar genres such as folk, jazz, pop, Broadway and rock. The overall thrust of the course will be to help students adopt a more discriminating approach to popular musical styles and an overall enjoyment of a variety of these entertaining forms. (CPA)

145 Music Theatre: The Evolution and Mechanics of Broadway (same as TA 145) Emphasis is placed upon the historical development of the style of American theatre known as Broadway. The course traces the musical and social influences that initiated the creation of this personalized type of entertainment. In addition, students are familiarized with the compositional techniques employed by Broadway’s most successful composers to create an effective cohesion of music and drama.

150 Topics in Music Courses offered from time to time in special aspects of music, such as Sights and Sounds of the 20th Century, Beethoven and Rock and Roll: A Historical Perspective. (CPA)

165 Music of the World’s Cultures The study of non-Western music as both cultural and artistic phenomena. Principles of ethnomusicology will be employed within an interdisciplinary framework. Music cultures include Africa, India, the Orient, Indonesia and the American Indian, among others. Videos and lecture-demonstrations are an integral part of the course. Open to music and non-music majors. (NTW) or (CPA)

203 Theory III A continuation of the work completed in the first two semesters of study: advanced part writing and analysis, diatonic and chromatic modulation, modal mixture, creative writing, larger structural forms, fugal procedures.

Aural Skills III Increase in demands of aural control in identifying intervals and triads, in particular, as applied to sight singing, 2-voice dictation and chord progressions that will add I6/4, I16, V, V/V, V7/IV; open score Bach chorales are used to strengthen interval and clef study, including the tenor clef; rhythm exercise covers aural and notation aspects of divisions of 5 and 7 to a beat in simple and compound time. Prerequisite: Musi 103, 104. (CPA)

204 Theory IV Creative writing, advanced modulation, large instrumental forms, study of analytical and compositional elements and procedures of 20th century harmony including serialism and set theory.

Aural Skills IV Reinforcement of previous materials with the addition of compound intervals; 4-voice triads; chord progressions including IV6 and inver-

sions of V9; playing one voice and singing another voice simultaneously from open score Bach chorales. Prerequisite: Musi 103, 104, 203. (CPA)

215 Music History III: Romantic (1810-1890) In this course, students encounter the many facets of musical romanticism. Close analysis of a wide spectrum of works sheds light on the gradual breakdown of tonality. In addition, the class will explore the heated debate between advocates of program music and absolute music. Prerequisite: Musi 107 and 108 or permission of instructor. (CPA)

216 Music History IV: The 20th Century A study of music from the present century. The class will explore many different “schools” of composition, including Post-Romanticism, Impressionism, Expressionism, Neo-Classicism and Serialism. Students will also investigate recent compositional trends involving electronic, minimalist, aleatory, neo-romantic and other kinds of music. Prerequisite: Musi 215 or permission of instructor. (CPA)

230 Introduction to Computer Technology in Music Designed as an introduction to computer technology in music. Students will develop a historical perspective of computer technology in music; a knowledge of the concepts and terminology associated with elements of sound, music and computer; a technical understanding of principles of operation of hardware and software; and a critical awareness of the new trends in computer technology in music. Intended to provide a thorough grounding in the use of two different levels of software, entry and professional levels in music notation, sequencing, sampling/sound synthesis and hard drive recording. (CPA)

295 Internship in Music An internship in a music-related field (freshman or sophomore year)

310 Contemporary Issues Seminar (INTR)

Women in Music A study of women’s involvement in music since the Middle Ages. The course will focus on a select number of women from different historical and social contexts. Students will explore a range of issues concerning women’s contributions to the field of music as composers, performers, teachers and scholars. Prerequisite: permission of the instructor. (CIS)

Music of Oppressed People This seminar is intended to develop an awareness of the existence of oppressed people and the happenings to oppressed
people, outside of the United States and of their music cultures. The seminar will focus on 1) historical, political, social, religious, geographic, and economic settings of each culture; 2) each culture’s ideas of music, its powers, relationship to other aspects of life, and reflection upon important things about its people and their views of the world; and 3) how the musical works of certain oppressed people are put together and what general principles of composition may dominate a particular society.

(CIS)

Issues in American Music

This course focuses on American Music in its cultural context. Students will explore a range of issues concerning music’s relation to national and ethnic identity, historical events, social conflicts and philosophical, literary, and artistic movements. The class will study musical works from a variety of traditions: e.g. folk, blues, jazz, broadway, classical, religious, rock, and rap. (CIS)

320 Composition

Students meet with the instructor individually and in small groups to explore the process of musical creations. Style analysis and compositional techniques discussed span all types of music, according to the student’s interest and ability. Original compositions written during the term are performed as part of a chamber music recital at the end of each semester. Open to music and non-majors. Permission required. (CPA)

325 Instrumental Conducting and Methods

A practical study of the instrumental score and basic rehearsal/conducting techniques, class lecture and conducting experience with a lab band. Videotapes of student conductors used for individual and class analysis. Prerequisite: permission of instructor. (CPA)

326 Choral Conducting and Methods

Choral conducting through class lecture, the conducting experience and a study of vocal techniques. Prerequisite: permission of instructor. (CPA)

337 World Music

An elective world music course with one geographically chosen music culture (Africa, East Europe, North America, South America, Southeast Asia, East Asia or Oceania). The topic will be rotated from year to year. The course deals with music as a way of life and as a manifestation of certain notions, religious concepts, thoughts and customs that are learned and transmitted through generations. Students will learn about musical instruments, musical meaning, musical sound, musical concert, rituals, myths and uses of music in cultures from the chosen continent. (NTW, CPA or Ethnic Studies)

350 Topics in Music Literature

Courses offered from time to time in particular areas or periods of music history and/or music literature, such as period courses, Literature of the Symphony, Chamber Music or Music in American Culture. Recommended: music history background. Prerequisite: permission of instructor. (CPA)

350 Foreign Language Diction for Singing

This course teaches diction for singing; it covers English, Italian, French, and German diction and song literature. Students learn the rules governing correct pronunciation through the study of authoritative texts by recognized language specialists. This involves the daily reading and speaking of each language. Also covered is the International Phonetic Alphabet (I.P.A.), a lexicon of phonetic symbols aiding in the pronunciation of foreign languages. Immediate application of the diction emphasis will be realized through class performances of representative song literature. This course is required for B.A voice majors and recommended for other music majors. Prerequisite: Ability to read music and learn song literature.

395 Internship in Music

An internship in a music-related field (junior year)

412 Piano Literature

A survey of stringed keyboard literature from the time of Couperin and contemporaries to the present. Recorded and live performances; discussion of historical, formal, aesthetic features. Offered from time to time. Recommended: music history background. Prerequisite: permission of instructor. (CPA)

415 Vocal Literature

A historical and stylistic study of vocal masterworks from solo, ensemble and choral literature. Offered from time to time. Recommended: music history background. Prerequisite: permission of instructor. (CPA)

424 Orchestration

A study of and experience with techniques involved in scoring for concert band, orchestra and appropriate smaller instrumental ensembles. Prerequisites: Musi 103 and Musi 104. (CPA)

495 Internship in Music

An internship in a music-related field (senior year)

Music Education Courses

101 Contemporary Trends in Music Education:
Elementary Level A comprehensive survey of the eclectic curriculum which comprises contemporary elementary music education. Some approaches studied include Comprehensive Musicianship, Dalcroze, Kodály, Manhattanville, Orff, Suzuki and Gordon. Educational foundations emphasize the history, philosophy and psychology of music education; a conceptual structure of music; and the organization of teaching music. Classroom observations and teaching opportunities at area schools, schools of need, and handicapped educational facilities. Includes 20 hours of observation and field experience.

102 Contemporary Trends in Music Education: Secondary Level A comprehensive approach applying concepts developed in Mued 101 to secondary music education. The curriculum focuses on the general music class, performing ensembles and elective courses (music theory, music history and literature, musical shows, etc.). Classroom observations and teaching opportunities at the junior and senior high levels at area schools, schools of need, and handicapped educational facilities. Includes 20 hours of observation and field experience. Prerequisite: Mued 101.

210 String Methods/Keyboard Techniques (half-course unit) Playing string instruments of the orchestra; bowing effects, fingerling problems, different approaches to teaching string classes; practice in teaching. Offered alternate years.

211 Woodwind Methods/Keyboard Techniques (half-course unit) Playing and care of common woodwind instruments, teaching methods and materials, practice in teaching. Offered alternate years.

212 Brass Methods/Keyboard Techniques (half-course unit) Playing and care of common brass instruments, teaching methods and materials, practice in teaching. Offered alternate years.

213 Percussion Methods/Keyboard Techniques (half-course unit) Playing and care of commonly used percussion instruments, teaching methods and materials, practice in teaching. Offered alternate years.

221 Keyboard Techniques Harmonization of simple folk tunes and children’s songs, transposition, improvisation, part reading from choral works, sight reading and accompanying. Keyboard proficiency required at the end of four terms of study.

Student Teaching in Music (STIM) The following applies to any full-time teaching experience (including January Term): Student teachers may not be involved in extracurricular commitments or work. The minimum grade to receive credit for each of the four student teaching in music internships is B-.

200 Preparation for Student Teaching in Music A seminar required for all music education majors planning to student teach. Taken annually beginning the sophomore year. The course is non-credit bearing. Includes 8 hours of observation experience.


300 Preparation for Student Teaching in Music A seminar required for all music education majors planning to student teach. Taken annually. The course is non-credit bearing. Includes 8 hours of observation experience.

393 STIM: Vocal Performance and General Music, Grades 5-8 Observation and student teaching in cooperating schools. Rehearsal techniques, performance, evaluation of various vocal ensembles, traditional and innovative approaches to the general music class. Regularly scheduled seminar for discussion of field experiences. Includes 200 hours of observation and field experience.

394 STIM: Instrumental Performance, Grades 4-8 Observation and student teaching in cooperating schools. Practical research of literature for band, orchestra and appropriate smaller ensembles; solo literature; rehearsal techniques; small group instruction; preparation of public performance; evaluation of teaching experience. Includes 200 hours of observation and field experience.

400 Preparation for Student Teaching in Music A seminar required for all music education majors planning to student teach. Taken annually. The course is non-credit bearing. Includes 16 hours of observation experience.

493 STIM: Elective Area of Specialization An individualized program of student teaching in the area of the student’s special interest under the guidance and supervision of the music education faculty.

494 STIM: Traditional Student Teaching
Experience
The music education student enrolls for the traditional “block” approach and student teaches full-time for a semester of the senior year. The traditional student teaching internship includes 480 hours of student teaching experience.

Music Performance Courses

250 Opera Theatre Production Performance of full productions and/or scenes of the standard operatic repertoire from the Baroque period through the 20th century. Emphasis will be placed on vocal production and theatrical techniques specific to this specialized style of dramatic music.

250 Musical Theatre Workshop This course is designed to function within the guidelines of the musical theatre emphasis. Students will be coached and rehearsed in the production of musical theatre scenes, reviews and smaller ensemble works and/or complete shows. The focus of the course is to create in the student an understanding of, and facility with, larger musical shows and stage works.

311 College Choir (half-course unit per year) Members selected by audition. Public performances of choral works and oratorios, sacred and secular music. Any qualified student may audition. Tours from time to time (major performing ensemble). (CPA)

313 College Wind Ensemble (half-course unit per year) Members selected by audition. Public performance of serious wind music, the best of concert band/wind ensemble literature. Any qualified student may audition. Tours from time to time (major performing ensemble). (CPA)

315 College Chamber Orchestra (half course unit per year) Members selected by audition. Public performance of serious chamber orchestra literature. Any qualified student may audition.

315 Ensemble Class (half-course unit per year) Offered for various chamber ensembles. Any interested and qualified student may audition. Some of the chamber ensembles include Women's Choir, Chamber Choir, A Capella Choir, Chamber Orchestra, Brass Quintet, String Quartet, Woodwind Quintet, Flute Ensemble, Piano Ensemble, Percussion Ensemble, Jazz Combo, Pep Band and Guitar Ensemble. Prerequisite: permission of instructor. (CPA)

317 Catskill Symphony (half-course unit per year) Upon successful completion of an audition, exceptional student musicians may be accepted into the Catskill Symphony Orchestra (major performing ensemble). (CPA)

319 Jazz Ensemble (half-course unit per year) An ensemble to rehearse and perform music from the jazz and other appropriate literature. Any interested student may apply. Prerequisite: permission of instructor. (CPA)

321 Piano Class Performance class in Anderson Theatre for piano majors and accompanists preparing for concert performance.

323 Voice Class Performance class required for voice majors to prepare for concert performance. Staff accompanist provided. Student accompanists also welcome. (CPA)

Private Lessons
Individual instruction is on a yearly basis only; application can be made for private lessons at fall term registration. Thirty half-hour lessons per year; fee of $330 per year. Music majors are entitled to 30 one-hour lessons per year; fee of $330 per year. Half-course unit per year.

Mupf 102 Private Lessons: Piano (freshman)
Mupf 202 Private Lessons: Piano (sophomore)
Mupf 302 Private Lessons: Piano (junior)
Mupf 402 Private Lessons: Piano (senior)

Mupf 103 Private Lessons: Organ (freshman)
Mupf 203 Private Lessons: Organ (sophomore)
Mupf 303 Private Lessons: Organ (junior)
Mupf 403 Private Lessons: Organ (senior)

Mupf 104 Private Lessons: Voice (freshman)
Mupf 204 Private Lessons: Voice (sophomore)
Mupf 304 Private Lessons: Voice (junior)
Mupf 404 Private Lessons: Voice (senior)

Mupf 105 Private Lessons: Strings (freshman)
Mupf 205 Private Lessons: Strings (sophomore)
Mupf 305 Private Lessons: Strings (junior)
Mupf 405 Private Lessons: Strings (senior)
Mupf 106 Private Lessons: Woodwind (freshman)
Mupf 206 Private Lessons: Woodwind (sophomore)
Mupf 306 Private Lessons: Woodwind (junior)
Mupf 406 Private Lessons: Woodwind (senior)

Mupf 107 Private Lessons: Brass (freshman)
Mupf 207 Private Lessons: Brass (sophomore)
Nursing

Mupf 307 Private Lessons: Brass (junior)
Mupf 407 Private Lessons: Brass (senior)

Mupf 108 Private Lessons: Percussion (freshman)
Mupf 208 Private Lessons: Percussion (sophomore)
Mupf 308 Private Lessons: Percussion (junior)
Mupf 408 Private Lessons: Percussion (senior)
  (All of the above are CPA)

In addition, there are anticipated expenses for music materials and accompanist fees. For one academic year: music, $50-$100; accompanist fees, $50-$250.

Hartwick College Summer Music Festival and Institute

Each summer, the hills surrounding Oneonta, NY resound with the sound of music created by hundreds of students attending the Hartwick College Summer Music Festival and Institute.

HCSMF&I encourages aesthetic and personal growth by providing instruction and performance opportunities of the highest caliber within a stimulating and supportive environment. Marking its 54th anniversary season in 2000, HCSMF&I is owned and operated by Hartwick College.

The Hartwick Chamber Players

The Hartwick Chamber Players (formerly known as the Hartwick Trio) originally formed at the Meadowmount School of Music in 1977 and have since appeared throughout the United States, South America, Europe, and Japan. As a piano trio, the ensemble took on Hartwick’s name after participating in the 1991 Hartwick College Summer Music Festival and Institute. Today, the Hartwick Chamber Players consist of: Mary Ann Mumm, violin, Metropolitan Opera Orchestra, Craig Mumm, viola, Metropolitan Opera Orchestra; Robert Cafaro, cello, Philadelphia Orchestra; Jungeon Kim, piano, Philadelphia Orchestra; and various professional musicians from the Catskill Conservatory.

The members of the Hartwick Chamber Players are artists-in-residence at Hartwick College. They visit the campus several times during the academic year to offer masterclasses, private lessons, workshops, and recital performances.

NURSING

Preparation for a career in the rapidly changing field of nursing requires more than a specialized scientific training necessary for licensure. Nurses must understand people and the world in which they live. They must be excellent communicators, have analytical and decision-making skills and be prepared to assume positions of leadership in patient care and management. Professional competencies increasingly will be defined in terms of the application of critical thinking to a broad range of health problems in people in order to promote, maintain and restore high-level wellness. Completion of Hartwick’s baccalaureate nursing program, as part of a broader liberal education, will enable students to acquire these skills in addition to the nursing skills they will need to practice in our high-tech, health-conscious society.

Hartwick’s professional nursing curriculum begins with a foundation in the basic biological, natural, social and behavioral sciences. Electives in the humanities, required throughout the four-year academic program, complement the scientific and technical competencies required for professional practice. The professional component of the major program assists students in gaining knowledge, attitudes and skills essential to nursing practice in a wide variety of settings. In addition, it fosters the potential for leadership and a sense of professional awareness and responsibility. Clinical practice centers around the promotion of wellness and nursing care of the ill, first in the hospital and progresses to more advanced concepts of illness care, focusing on psychosocial and community health nursing. By the senior year, the focus is on the development of leadership skills, research methodologies and professionalism.

All courses in the freshman, sophomore and junior years are sequential. Many also are prerequisites to other courses. Each must be completed successfully in order for students to follow the planned sequence for the nursing major and before students may enter the senior year nursing sequence.

Because of the special nature of the nursing curriculum, nursing majors must achieve a 2.0 cumulative average by the end of the freshman year in order to proceed into the sophomore year nursing curriculum. Students who do not achieve at least this average may petition the department to be considered on an individual basis for continuation in the program. Nursing as an applied science requires that each student demonstrate not only mastery of theoretical knowledge but also competency in the application of theory to practice of cognitive, affective and psychomotor skills. Nursing majors must successfully complete both the theoretical and laboratory portion of each nursing course in order to receive credit for the course.

Upon successful completion of Hartwick’s major in nursing, students receive a B.S. degree and are qualified to write the NCLEX examination (State Board
Examination) for licensure as a Registered Professional Nurse (R.N.). Hartwick’s program has full accreditation from the National League for Nursing and the American Association of Colleges of Nursing.

Education Mobility for Registered Nurses

Registered nurses prepared at the associate degree or diploma level and who are not a direct transfer via an articulation agreement may be accepted with advanced standing as candidates for a bachelor of science degree with a major in nursing. For those with academic credit in pre-requisite courses it may be possible to complete the program in two years.

Advanced Standing for R.N.s

Up to 9.0 course units of credit may be awarded upon successful completion of the N.L.N.R.N. Mobility Profile II Examination. These examinations validate previous nursing knowledge comparable to that found in Nursing 110, 231, 233, 341, 342, 343, 345 and 441. The examination must be taken within five years of matriculation.

Articulation with Associate Degree Nursing Program, SUNY Delhi

This agreement allows for direct transfer of credits from the two year program into a two year full time program of study at Hartwick in order to complete the baccalaureate in nursing.

Transfer of Credit for R.N.s

Credit from other accredited colleges is usually given for courses similar to those offered at Hartwick, completed with a grade of C- or higher. The maximum number of transferable credits is approximately 80 (24 course units) of the 120 (36 course units) necessary for the B.S. degree in nursing. Courses over the 60 credits (course units) taken at another upper-division college for transfer to Hartwick, must be approved by the faculty advisor prior to the course being taken in order for the credits to be accepted. This is done to protect the integrity of the student’s program and the Hartwick degree. Eighteen course units in the student’s total educational experience must be taken at an upper division college/university. For the R.N. mobility student, a minimum of 12 course units must be taken at Hartwick. Advanced standing course credit cannot be applied toward these 12 course units.

The Department of Nursing has an articulation agreement with the Associate Degree nursing program at various colleges. Graduates with a GPA of 2.0 or above may transfer to Hartwick.

Summer Accelerated Program

Non-R.N. transfer students may be eligible to enter the nursing program at an advanced level once the required pre-requisite courses have been completed. The eligible candidate must have completed General Psychology and Life-Span Developmental Psychology, sociology, anatomy and physiology I and II, microbiology, and chemistry (1 unit lab course), or their acceptable equivalents. Completion of the summer nursing courses (110, 231 and 233) allows the transfer student to enter at the junior sequence level and the opportunity to complete the degree within two years.

Information on advanced standing in Nursing and transfer of credit applies to the R.N. Mobility Program only.

Clinical Preparation Requirements for all Nursing Majors

A. BLS Certification for health-care providers or CPR for Professional Resuer (must hold current certification)
B. Professional Liability Insurance Policy
C. Health Requirements: Each student will have completed and submitted a College Student Health Record upon registration to the College. In addition, nursing majors must document proof of the following beginning with the sophomore year:
   - Hemoprofile/Urinalysis
   - Rubella Antibody Titer or updated vaccination
   - Rubeola Immunity
   - Diptheria/Tetanus Booster
   - Varicella titer
   - Hepatitis B Vaccination Series + titer
   - Tuberculin Test Results (Mantoux) annually
D. Licensure: Each student holding a professional license must submit a photocopy of the current NYS registration.

Failure to meet these requirements will prohibit registration for fall semester courses.

Transportation

Transportation to off-campus clinical sites is the responsibility of each student. The College may provide van service to selected clinical sites outside of Oneonta.

Uniforms and Supplies

Uniforms and name pins are ordered in the spring of the freshman year. Students are also required to purchase a variety of supplies (including such items as
stethoscope, otoscope, blood pressure cuff, scissors, public health bag, etc.) in the spring of their freshman year.

**Faculty**

**Nursing Faculty:** Penny Boyer, Sharon D. Dettenreider, Norma Emerson, Jeanne Marie Havener, Peggy Jenkins, Theresa Turick-Gibson, Ellen Brickman

**Courses**

**110 Nursing in Wellness I–Theory and Laboratory**

The purpose of this course is to introduce an art and a science that is distinguished by humanistic caring. Study will initially focus on the self and maximizing one’s position on the health/illness continuum but will progress to the concept of “client” in the health care system. This conceptual leap requires an understanding of individual differences, values, beliefs, culture, interpersonal communication, the health care system, nursing as a profession and as a unique change-agent for the improvement of holistic health. This course will begin students on the journey for such knowledge.

In the laboratory, students are introduced to self-assessment tools to determine individual health status, and to commonly used actions basic to nursing practice, to meet the needs of clients of all ages in structured and unstructured settings.

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**Requirements for the major:** 24 courses (25 Course Units*), distributed as follows:

**Fifteen courses (16 C.U.) in nursing:**

110 Nursing in Wellness I–Theory and Lab  
231, 233 Nursing in Wellness II, III  
- Theory & Lab  
341, 343 Nursing in Illness I, II  
- Theory & Lab 1.5 C.U. each  
342 Junior Practicum or  
346 Transcultural Nursing  
345 Pharmacology  
441 Psychosocial Nursing  
- Theory & Lab - 1.0 C.U.  
443 Community Health Nursing  
- Theory & Lab 1.0 C.U.  
445 Trends and Issues  
446 Nursing in Illness III  
- Theory & Lab - 1 C.U.  
447 Nursing Management  
- Theory and Lab - 1 C.U.  
448 Introduction To Research  
490 Senior Thesis  
495 Senior Independent Practicum

**Three courses in biology:**

110, 111 Human Anatomy & Physiology (Biol)  
210 Microbiology (Biol)

**One course in chemistry:**

105 Fundamentals of General, Organic and Biological Chemistry (Chem)

**One science course:**

344 Pathophysiology (Scie)

**One course in mathematics:**

108 Statistics (Math)

*All courses are 1 course unit unless otherwise noted.

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**Two courses in psychology:**

110 General Psychology (Psyc)  
201 Life-Span Developmental Psychology (Psyc)

**One course in sociology:**

105 Introduction to Sociology (Soci)

Following is the sequence in which required courses for the major in nursing are to be taken:

**Freshman Year**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>Nurs 110</td>
<td>Nursing in Wellness I</td>
</tr>
<tr>
<td>Term</td>
<td>Biol 110</td>
<td>Human Anatomy &amp; Physiology (Biol)</td>
</tr>
<tr>
<td>Fall</td>
<td>Psyc 110</td>
<td>General Psychology (Psyc)</td>
</tr>
<tr>
<td>Term</td>
<td>Spring</td>
<td>Life-Span Developmental Psychology (Psyc)</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>Nurs 231</td>
<td>Nursing in Wellness II</td>
</tr>
<tr>
<td>Term</td>
<td>Biol 210</td>
<td>Human Anatomy &amp; Physiology (Biol)</td>
</tr>
<tr>
<td>Fall</td>
<td>Psyc 201</td>
<td>General Psychology (Psyc)</td>
</tr>
<tr>
<td>Term</td>
<td>Spring</td>
<td>Life-Span Developmental Psychology (Psyc)</td>
</tr>
<tr>
<td>Spring</td>
<td>Nurs 233</td>
<td>Nursing in Wellness III</td>
</tr>
<tr>
<td>Term</td>
<td>Biol 111</td>
<td>Community Health Nursing</td>
</tr>
<tr>
<td>Spring</td>
<td>Soci 105</td>
<td>Community Health Nursing</td>
</tr>
<tr>
<td>Term</td>
<td>Nurs 110</td>
<td>Community Health Nursing</td>
</tr>
<tr>
<td>Junior Year</td>
<td>Nurs 341, 345</td>
<td>Junior Practicum or 346 Transcultural Nursing</td>
</tr>
<tr>
<td>Spring</td>
<td>Math 108</td>
<td>Nursing Management</td>
</tr>
<tr>
<td>Term</td>
<td>Nurs 343</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Spring</td>
<td>Nurs 448</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Senior Year</td>
<td>Nurs 342 or</td>
<td>Nursing Management</td>
</tr>
<tr>
<td>Term</td>
<td>346 Transcultural Nursing</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Spring</td>
<td>Math 108</td>
<td>Nursing Management</td>
</tr>
<tr>
<td>Term</td>
<td>Nurs 441</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Spring</td>
<td>Nurs 443</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Term</td>
<td>Nurs 490</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Spring</td>
<td>Nurs 445</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Term</td>
<td>Nurs 446</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Spring</td>
<td>Nurs 446</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Term</td>
<td>Nurs 447</td>
<td>Trends and Issues</td>
</tr>
<tr>
<td>Senior Year</td>
<td>Nurs 448</td>
<td>Trends and Issues</td>
</tr>
</tbody>
</table>

**Note:** College language requirement may be waived for nursing majors.

Grades for all courses taken in nursing are used to calculate the average in the major for Departmental Distinction.
231 Nursing in Wellness II–Theory and Laboratory
This course continues to expand upon the basic concepts and foundations of professional nursing begun in Nursing 110. Emphasis is also placed upon the health promotion and illness prevention needs of the elderly client. In the laboratory, health assessment skills are introduced and practiced. An opportunity is also afforded to apply basic nursing skills with the elderly client in community and institutional settings. Prerequisite: Nurs 110.

233 Nursing in Wellness III–Theory and Laboratory
This course focuses on health promotion and illness prevention strategies for the emerging family. Physiological, psychological and sociological changes related to pregnancy and birth are addressed as are the health needs of the normal child through adolescence. In the laboratory, students apply the nursing process with emerging family clients in a variety of settings within the hospital and the community. Prerequisite: Nurs 231 or permission of the instructor.

261 R.N. to B.S. Transition Seminar
(for R.Ns only)
This course assists the transition of the registered nurse student into the baccalaureate program at Hartwick College. The focus is on communication skills, college level writing, critical thinking and therapeutic nursing interventions. Nursing process, nursing research and nursing theory are addressed. In the laboratory, assessment/intervention skills for the individual and family within the community are included. Physical assessment skills are taught. The clinical experience serves to validate the basic acute care abilities expected of an RN and provides an opportunity to utilize new skills.

341 Nursing in Illness I–Theory and Laboratory
The concept of illness with its fundamental processes is introduced. The focus is on children and adults with major health problems. Patients responses to alterations in cardiovascular, respiratory and renal functions are studied. In addition, consideration is given to the general needs of the surgical patient. In the laboratory, students are given the opportunity to apply the nursing process to meet the physical and psychosocial needs of ill adults and children. Prerequisite: Nurs 233 or permission of the faculty. Offered Fall Term.

342 Junior Practicum
A clinically oriented course designed to give students the opportunity to increase their nursing practice skills, to gain self-confidence in their ability to apply the nursing process to the ill individual and to observe the effect cultural diversity has on patient care. Prerequisite: Nurs 341 or permission of the faculty. Offered January Term.

343 Nursing in Illness II–Theory and Laboratory
The focus is on the nursing care needs of children and adults with major health problems. In laboratory, students continue to apply the nursing process to meet the physical and psychosocial needs of ill adults and children. Prerequisite: Nurs 342, or permission of the faculty. Offered spring term.

344 SCIE Pathophysiology
This course will examine the alteration of physiological human systems which may precipitate illness and disease. Mechanisms of disease, etiology, manifestations, analyses of laboratory data and primary medical and surgical interventions will be reviewed. Prerequisites: Biol 110, 111, Chem 105, Nurs 110, 231, 233, or permission of the instructor.

345 Pharmacology
This course discusses general principles of drug actions and their effects on the client’s wellness/illness state. Drug classifications are presented within a framework of the client’s psychological and physiologic functions. Prerequisites: Biol 110, 111, Chem 105, Nurs 110, 231, 233 or permission of the instructor.

346 Transcultural Nursing
The course is designed to assist the student to recognize the myriad of health-related beliefs and practices that exist among and between members of a culture and how those beliefs and practices impact upon the health of its members. This four-week immersion experience is designed to expand the student’s knowledge of transcultural concepts and theories; apply cultural assessment in diverse settings; and provide culturally competent care to individuals, families, and communities. Students will be exposed to different empirical frameworks to assist them in providing holistic, culturally competent care. Clinical experiences to meet course objectives will occur in diverse urban and rural clinic and community settings with an emphasis on therapeutic interventions, health promotion, disease prevention, risk reduction, and health teaching within a unique ethno-cultural environment. Prerequisite: Nurs 341, minimum G.P.A. of 2.0, and permission of faculty.

441 Psychosocial Nursing–Theory and Laboratory
The focus is on promoting and maintaining mental health and alleviating suffering in mental illness. Content includes theories of mental health/illness, principles of group dynamics and strategies for the treatment and prevention of mental illness. The purpose of the laboratory experience is to gain skill in
nursing clients with psychosocial health problems. This experience is conducted on in-patient psychiatric units as well as in community agencies. Students participate in peer support groups, which provide experiential knowledge that enhances understanding of group processes and which afford an opportunity for professional socialization. Prerequisite: Nurs 343, Nurs 261 (R.N.’s only), or permission of the faculty.

443 Community Health Nursing–Theory and Practicum This course integrates the principles of nursing individuals, family/groups and communities in states of health or illness in a variety of community settings. The student gains advanced skills and works toward achieving independence in applying the entire nursing process toward promoting health and preventing illness in the population. The laboratory experience will occur in both formal agencies such as community health nursing organizations and in informal settings such as housing for the elderly, schools, parenting education groups and diverse places where people can benefit from nursing intervention. Prerequisite: Nurs 343, Nurs 261 (RN’s only), or permission of the faculty.

445 Trends and Issues in Professional Nursing In this seminar course, the student explores factors influencing nursing practice—history, trends, law, health care reform and other selected issues. Prerequisite: Nurs 343 or permission of the faculty.

446 Nursing and Illness III This course focuses on the application of the nursing process as it relates to the care of clients with complex, multiple systems disorders encountered in acute and critical care units. Advanced medical, surgical and pediatric nursing concepts are studied. A clinical experience in an intensive care unit is scheduled so the student may gain insight into the problems of critically ill patients and the management issues that accompany critical illness. Prerequisites: Nurs 343 or permission of the faculty.

447 Nursing Management This course focuses on the principles of leadership and management, and the nursing process as it relates to the assessment of organizational systems and the care of groups of patients with complex, multiple systems disorders encountered in acute care settings. The clinical experience takes place in the hospital setting in order for students to gain skills in the management of groups of patients, to develop skills in providing leadership of health care personnel and to demonstrate application of the nursing process as it relates to decision-making in the care of acutely ill clients.

446/447 Clinical Laboratory R.N. Mobility students typically develop a portfolio documenting their prior learning in this area followed by an independent practicum in management and critical illness.

448 Introduction to Research Method and Design The course is designed to introduce the nursing major to the methodology of scientific inquiry. It attempts to show that research is a useful tool that can enhance one’s professional practice—by reading published study reports and assisting with or participating in the projects of others. The goal is to demystify the research process and foster intelligent consumership. Course is linked to Math 108.

490 Nursing Senior Theory Seminar/Senior Thesis This seminar-based course provides senior nursing majors with an opportunity to participate in a group research study or to analyze and evaluate a selected nursing theory as their capstone baccalaureate experience. The seminar is designed to provide a forum for collegial support and cooperative learning as students develop their senior theses (490) and their senior internships (495). The thesis is a project of substantial scope, which demonstrates the student’s ability to think critically and integrate theory, research and practice. Students are expected to publicly present their thesis. Prerequisites: Nursing 343, 448, Math 108, Nursing 261 (RN’s only) and attainment of a Writing Level 3.

495 Nursing Senior Internship This is a four week independent internship for the senior nursing major. The course provides the opportunity for the student to individually develop and implement a study program in an area of specialized interest in nursing and assist the student in the transition from academia to the realities of professional practice. The internship is planned in cooperation with a faculty member and an on-site supervisor. Prerequisites: One senior level theory and practice nursing course and completion of Nurs 490.

Interdisciplinary Courses

310 Intr Death, Dying and Loss Issues This course will assist students to identify, examine and explore the critical issues of dying, death and loss in modern society and to encourage students to clarify their beliefs and feelings about them. Information from varied disciplines will be used to find solutions, and applications will be made to real-life situations. Ultimately, students should discover much about life in this process.
310 Intr Aging This course approaches the topic of aging from an interdisciplinary perspective. Emphasis will be on specific issues related to aging. Topics for consideration include theories of aging; demographic, economic, historical, cultural and gender issues; death and dying; and aging as an influence in literature, film, art and other media. Format will be lecture, discussion, group presentations, guest speakers and relevant audio-visual programming. Class participation is essential.

PHILOSOPHY

“Philosophy” literally means “love of wisdom.” It denotes a kind of activity rather than a kind of subject matter; as contemporary philosophers use the term, philosophy is a kind of reflection on and analysis of various other activities in which we engage. For example, philosophical analysis distinguishes between moral, religious and scientific discourse and reflects on how religion is related to morals on the one hand, and to science on the other.

Philosophy dates back to the ancient Greeks, when thinkers such as Socrates, Plato and Aristotle explored the nature of reality and the means by which people come to know. Later philosophers such as Descartes, Hume and Kant refined the way human existence is understood. The study of philosophy as part of a liberal arts and sciences education or as a major or minor, challenges students to examine very fundamental questions and, in so doing, better prepares them for life. As they become familiar with the teachings of the world’s great philosophers, they also will develop their ability to examine, clarify, analyze—and care for—the world around them.

Hartwick’s philosophy program acquaints students with issues of contemporary philosophical inquiry, as well as the thinking of the great philosophers of the past. Major areas of study include epistemology, the study of how we come to know and of the limits of what we can know; metaphysics, the study of reality and ultimate origins; and ethics, the study of moral standards and value theories. Departmental offerings include courses in the history of philosophy as well as systematic courses which introduce students to the chief areas and topics of philosophical investigation. These courses, together with opportunities for directed individual study, permit students to do advanced and specialized work in philosophy and to develop competence in handling philosophical problems.

Students who major in philosophy complete core courses in logic, ethics, ancient and modern philosophy. Additional courses in philosophy selected to complete the major requirements depend on a student’s interests and future career goals. The major program culminates in a baccalaureate thesis which involves a directed study in an area of philosophical inquiry.

Graduates with a major in philosophy have many options. Those with demonstrated ability who desire to continue in the field may do graduate study in philosophy to prepare for college teaching. Students who have majored in philosophy as undergraduates also may pursue graduate study in other fields; philosophy is a recommended major for students considering law school, for example.

Faculty
Philosophy Faculty: Lawrence Mirarchi, chair; Paula Droeg; Stanley Konecky; Adrian McFarlane; Richard Wisan
Scholar in Residence: Adrian Kuzminski

Courses
120 Reading Philosophy (W) Close reading of a few short philosophical works selected for their interest and merit; emphasis on increasing one’s ability to follow reasoning and one’s skills in analyzing and interpreting serious non-fictional prose; frequent exercises in interpretation, both oral and written. Recommended for first-year students.

201 Classics of Philosophy An introduction to the methods, concepts and aims of philosophical inquiry through critical study of selected philosophical classics. (MWE) or (MWL)

228 Philosophy of History Analysis of history as systematic thinking and writing about the past. Hegel, Marx, Nietzsche and others.

236 Logic Principles of deductive inference; traditional syllogistic and basic modern symbolic logic. (MLC)

249 Existentialism Critical reading and discussion of selected works of Kierkegaard, Nietzsche, Sartre and others. (MWL)

261 Philosophy in Literature (W) Philosophical questions concerning being self, and choice will be explored in selected novels of authors such as Dostoyevsky, Kafka, Hesse, Camus, and Sartre. (MWL)

271 Values and Society A critical study of philosophical problems concerning friendship, justice, liberty,
freedom, the common good, persons and other social values. (MWE) or (MWL)

332 Philosophy of Religion What is religion? Is there a God? What is the value of religious experience? Is it possible to be religious without being superstitious? Answers to these and related questions will be examined in the analytical manner appropriate to philosophy.

336 Ethics Critical study of the moral theories of major philosophers from the ancient Greeks to the present. Prerequisite: One term of philosophy. Offered alternate years.

337 Philosophy of Art Analysis of various points of view on such topics as the definition of art; aesthetic experience; the form, matter and content of art; emotion and expression; the psychological function of art; criticism; and evaluation. (CPA)

339 Philosophy of Science Analysis of scientific method, logic of scientific explanation, relations of science and society. Recommended preparation: two terms of laboratory science. Offered when there is sufficient demand.

341, 343 The History of Philosophy A sequence of courses covering the history of Western philosophy from its beginnings in ancient Greece to 19th century European philosophy. Prerequisite: at least one college course in philosophy; Phil 201 is recommended.

341 Ancient Philosophy From the Pre-Socratics to the Middle Ages: Socrates, Plato and Aristotle. (MWE)

343 Modern Philosophy From the Middle Ages through 17th and 18th century philosophy; Hobbes, Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume and Kant. (MWL)

350 Topics in Philosophy A course with varying content, concentrating on the thought of a single philosopher or school of philosophy, a major philosophical work or a specific problem in philosophy. The topic will be announced in advance, each time the course is offered. Permission of the instructor required.

360 Freedom and Determinism Is human behavior free or determined? When is a person morally responsible for his conduct? What are the relationships between freedom and responsibility? Recent answers to these age-old questions of moralists, lawyers and theologians are analyzed and assessed.

370 Philosophy of Psychology What can a science such as psychology really tell us about the workings of the mind? What are the philosophies of some of the major psychological movements? While these topics constitute the broader context of the course, we will also explore issues such as the following: To what extent are we born with certain ideas, skills or talents, and to what extent do these depend on one’s environment? How does the mind represent the external world? Can computer models and simulations be useful in understanding the mind? How does our understanding of the brain affect our understanding of human psychology? To what extent is human intelligence like that of other animals?

372 Seminar in Philosophy of Law (same as Posc 372) Philosophical questions about such topics as the nature of law; the function of legal systems, the meaning of legal terms; legal reasoning; justice, law and morality; theory of punishment. Some background in philosophy and/or political science is recommended. (SBA)

388 Foundations of Political Philosophy (same as Posc 388) An introductory survey of the leading political theorists of antiquity, Middle Ages and the Renaissance, from Plato to Machiavelli, with a view to illuminating Western contributions to the discussion of basic political concepts such as power, right, legitimacy, consent, obligation and human nature. (WHS) or (MWE)

389 Modern Political Philosophy (same as Posc 389) Continuation of Phil 388. From the 17th century to the present; Hobbes and Locke to Marx and Freud. (MWL) or (WHS)

PHYSICAL EDUCATION

The coeducational physical education program at Hartwick is designed to develop skills in a variety of physical activities that contribute to the joy of living, to wholesome use of leisure time and to the development of health and fitness. The program provides each student with an opportunity to develop sufficient physical, mental, social and motor skills to be used in a lifetime of movement related activities.

This comprehensive program of physical education is enhanced by the Binder Physical Education Center. The three-story building houses extensive instructional and physical education facilities including a fitness center and an eight-lane swimming pool. Designed for use as a physical education center, with training and exercise areas, it is modern in every respect. Students wishing to board horses and/or take private riding instruction may contact the riding stables.
located in the Oneonta area.

Physical Education Requirement

All Hartwick students must complete four half-unit skill courses (PHED) in physical education in order to graduate. Students are urged to do this prior to the senior year. The department offers many half-unit skill courses and athletic participation situations which may be combined in a variety of ways to meet this requirement. A maximum of two half-units of credit may be earned for a specific activity. No course may be repeated for credit. It is strongly recommended that students enroll in at least one swimming course, as this activity is important for safety in water-related recreational activities.

One half-unit skill course credit may be granted for participation in the total season of an intercollegiate varsity or junior varsity sport. A particular sport may generate one-half unit of credit only once and no more than two sports may be taken for such credit. Students may receive physical education credit for participation in a course or related sport, but not both.

Theatre Arts 110, 111, 112 or 212 (any two) may count toward the skill-course requirement.

Some skill courses carry an additional fee, which is listed in the course schedule prepared by the Registrar. These fees are non-refundable once the term begins.

Faculty

Physical Education Faculty: Kenneth Kutler, chair; Bill Bjorness; Janet Bresee; Mark Carr; Heidi Hobfauer-Buzzy; Debra Holland; Doug Konu; Nicholas Lambros; Louise Lansing; James Lennox; Michael Maroney; Timothy McGraw; Anna Meyer; Gregory Moss-Brown; Ray Nause; Andrea Pontius; Dale Rothenberger; Betsey Smith; Stephen Stetson; Daphne Thompson

Skill Courses for Physical Education

Aquatics

110 Beginning & Intermediate Swimming
312* Water Safety Instructor (WSI)
315* Lifeguarding (Permission of Instructor & Prerequisite: First Aid/CPR)
The * after Aquatics 312 and 315 indicates that only one of them may count toward the physical education requirement.

Dance

(Any two Theatre Arts Dance Courses may be taken toward the physical education skill course requirement)
110 Intro to Movement & Dance for Theater (TA)
111 Modern Dance (TA)
112 Ballet I (TA)
115 Dance Rehearsal & Performance (TA)
212 Ballet II (TA)
123 Couples Dance
124 International Folkdance
125 Orchesis-Dance
324 Advanced International Folkdance

Fitness

130 Personal Fitness
131 Aerobics
133 Weight Training
134 Wellness
135 Personal Fitness/Relaxation Techniques
330 Principles of Personal Fitness Training
331 Advanced Aerobics
333 Advanced Weight Training

Individual/Team Activities

140 Archery
141 Badminton
142 Bowling
143 Golf
144 Self Defense
Physical Education

145 Softball
146 Racquetball
147 Beginning Tennis
149 Volleyball
160 Beginning Horsemanship
240 Intermediate Tennis
246 Intermediate Racquetball
260 Intermediate Horsemanship

Outdoor Pursuits
151 Project Adventure I
152 Cross Country Skiing/Winter Fitness
154 Beginning Cycling
156 Beginning Skiing (when available)
251 Project Adventure II
350 Outward Bound/NOLS Program
354 Advanced Cycling (permission of instructor)
356 Advanced Skiing (when available)

Miscellaneous
163 Karate
164 Responding to Emergencies and Community /CPR
265 Adapted Physical Education (limited to students with temporary or permanent physical disability)

Men’s Intercollegiate Athletics
410 Baseball
411 Varsity Basketball
413 Cross Country
416 Golf
417 Varsity Lacrosse
419 Varsity Soccer
420 Junior Varsity Soccer
422 Swimming and Diving
423 Tennis
424 Track and Field
426 Indoor Track
427 Cheerleading
430 Football

Women’s Intercollegiate Athletics
411 Varsity Basketball
413 Cross Country
414 Varsity Field Hockey
415 Junior Varsity Field Hockey
416 Golf
417 Varsity Lacrosse
419 Varsity Soccer
421 Water Polo
422 Swimming and Diving
423 Tennis
424 Outdoor Track and Field
425 Equestrian
426 Indoor Track and Field
427 Cheerleading
428 Volleyball
429 Softball

Academic courses offered by the Physical Education Department:

PE 201 Sports in Contemporary Society (1 CU) A consideration of some of the basic issues involving sport in American culture. What is the history of sport in America? What is its current place in American life? Who participates in sport? Why? What effect does sport have on the participants? What are some of the major problems in sport today? What are their possible solutions? What will sport be like in the year 2000?, 2025?...

PE 202 Theory and Techniques of Coaching (1 CU) The first phase of this course will review basic philosophy and principles of athletics as an integral part of the total educational experience. Understanding of basic state and national regulations and recommendations related to athletics, legal considerations and other basic coaching responsibilities. The second phase of the course will be concerned with history, objectives, rules, teaching methods, performance skills, technical information (offense, defense, strategy etc.), care and fitting of equipment, training techniques, officiating, etc. of the sport selected. The student may select either soccer or basketball.

PE 302 Sports Health (1 CU) Current theory and definitions of sports medicine. Prevention and correction of accidents in athletic activities. The use of proper personal and field equipment, support methods, conditioning exercises, the medical examination and therapeutic aids. Laboratory work includes the clinical use of physiotherapy methods. Anatomy and Physiology (Biol 110, 111) would be helpful.

New York State Coaching Registration
Certification in the New York State Coaching Registration for Secondary Schools may be earned through an exchange arrangement with the State University College in Oneonta. This is a combined program taken at SU CO and Hartwick. Interested students should consult the chair of the physical education department at Hartwick for further information.

PHYSICS
Physics, the most fundamental of the sciences, deals with the laws describing the behavior of matter and energy. From the study of physics, students acquire not only knowledge of the subject itself, but valuable training in analytical thinking and a quantitative approach to problem solving which will be useful in both their professional and personal lives. At the same time, an understanding of the language and analytical methods of science, and of the fundamental principles of physics, offers preparation for life in a future heavily influenced by science and technology. A major or minor in physics can be combined with study in other disciplines to produce particularly strong future employment credentials.

Course requirements for the major in physics provide students with a broad and flexible background in the discipline, and enable them to develop analytical skills necessary to pursue a career in physics or a related field. Students are introduced to the major subdisciplines within classical and modern physics: optics, relativity, mechanics, electricity and magnetism, thermodynamics, atomic and nuclear physics, quantum mechanics and electronics. In addition, majors must take courses in general chemistry, calculus and differential equations.

Beyond the minimum requirements, students can tailor their academic programs to meet their interests and needs. Students considering graduate study in physics, for example, are encouraged to take additional courses in physics and mathematics. In addition to advanced courses in an area of interest, majors can pursue a particular area through directed study with a faculty member. A senior project also is required for the major. Some recent senior projects include measuring the phase transitions in a ferroelectric solid, the drag force on a smooth sphere, and computer-generated holograms.

Those students interested in engineering can earn a B.A. degree in physics from Hartwick and an engineering degree from Clarkson University or Columbia University through the College’s “dual degree” program. Arrangements with other institutions are possible as well. Under this program, a student spends three years at Hartwick and two at an engineering school, graduating with a bachelor’s degree from each school (see page 16). In addition, a student may complete four years at Hartwick, earning a bachelor’s degree in physics, and then spend two years at the engineering school and earn a master’s degree in engineering. Students interested in either option should begin their study of physics and mathematics early in their college career in order to fulfill requirements without difficulty.

Freshmen who may be considering a major in physics should take Light & Relativity (Phys 160) and

Calculus I (Math 121) in their first term at Hartwick. However, a full physics major may be completed starting as late as the beginning of the sophomore year, providing a student has taken Calculus I as a freshman.

Faculty
Physics Faculty: Lawrence Nienart, chair; Robert Gann; Charles Hartley; F. Roger Hickey; Fumika Kiriyama

Courses
121 Astronomy (3 one-hour lectures, 1 two-hour lab weekly) A survey of modern astronomy. Topics include gravitation, properties of light, optical instruments, spectra, the solar system, stars, nebulae, clusters, galaxies, pulsars, quasars, black holes and the creation of the universe. The laboratory includes study of astronomical measurements, with both daytime and nighttime observing sessions. Credit can be awarded for only one of the following courses: Phys 121, Phys 163. (LAB)

127 Space and Time An introduction to our understanding of the universe from the findings of Galileo and Newton to modern theories of the origin of the universe and unification physics. The role of space and time in Einstein’s theory of relativity, the uncertainty principle and quantum mechanics, black holes, quarks, anti-matter and entropy will be among the topics discussed.

129 Physics of Everyday Objects The “how-and-why” of the working of everyday objects from household appliances and television to the way electricity reaches our homes and how telephone calls are made. The inner workings of cars, ships, airplanes and spacecraft will also be studied. Prerequisite: open only to students with no previous college physics credit.

140 Principles of Physics I (3 one-hour lectures, 1 two-hour lab weekly) An introduction to the basic principles of physics. The first term is devoted to the study of mechanics, the properties of matter, and heat and thermodynamics. Applications of physics to the life sciences are included. Laboratory work is an important component of the course. This course (plus Phys 141) fulfills the physics requirement for biology, geology and medical technology majors. Prerequisite: competence in high school algebra. (LAB)

141 Principles of Physics II (3 one-hour lectures, 1 two-hour lab weekly) A continuation of Phys 140. This course includes the study of wave phenomena, electricity and magnetism, optics and modern physics.
Applications of physics to the life sciences are included. Laboratory work is an important component of the course. This course (plus Phys 140) fulfills the physics requirement for biology, geology and medical technology majors. Prerequisite: a grade of C- or better in Phys 140. (LAB)

150 Topics in Physics Individual courses designed for non-science majors. The topics covered change from term to term. Possible topics include energy, modern physics and introductory electronics. Some topics courses include a laboratory component.

160 Light and Relativity (3 one-hour lectures, 1 three-hour lab weekly) An introduction to optics and Einstein’s theory of relativity. Topics include geometric and wave optics, the special theory of relativity, and relativistic mechanics. Laboratory work includes a study of optical instruments, wave motion and computer simulation. The course is designed as a first course for entering freshmen who are considering the possibility of studying physics in some depth during their college career. It may also be profitably taken by upperclassmen with an interest in the area. Competence in high school algebra is required. (LAB)

163 General Astronomy (3 one-hour lectures weekly) An introduction to astronomy and astrophysics primarily for students whose major is in the Division of Physical and Life Sciences. Topics include methods of astronomy, stellar evolution, galactic structures and cosmology. Some observing sessions will be required. Competence in high school algebra is required. Credit can be awarded for only one of the following courses: Phys 121, Phys 163.

201 General Physics I (3 one-hour lectures, 1 three-hour lab weekly) Topics in the first term include the description of motion, forces, work and energy, momentum, rotational motion, oscillatory motion and gravitation. Laboratory work is an important component of the course. Calculus is used. This course (plus Phys 202) fulfill the physics requirements for biology, biochemistry, chemistry, geology, mathematics (Phys 201 only) and medical technology majors. Prerequisite: Math 121 must be taken previous to or concurrent with Phys 201. (LAB)

202 General Physics II (3 one-hour lectures, 1 three-hour lab weekly) A continuation of Phys 201. In this course, electricity, magnetism, light and electromagnetic radiation are covered. Laboratory work is an important component of the course. Calculus is used. This course (plus Phys 201) fulfill the physics requirements for biology, biochemistry, chemistry, geology, mathematics (Phys 201 only) and medical technology majors. Prerequisite: a grade of C- or better in Phys 201. Math 122 must be taken previous to or concurrent with Phys 201. (LAB)

265 Electronics (3 one-hour lectures, 1 three-hour lab weekly) An introduction to modern electronics. Topics include circuits, amplifiers, signal processing, practical instrumentation and logic circuits. Both discrete components and integrated circuits are discussed and used in laboratory experiments illustrating digital and analog applications. Prerequisite: Math 121 and Phys 140 or 201. Offered alternate years. (LAB)

305 Atomic and Nuclear Physics (3 one-hour lectures, 1 three-hour lab weekly) Introductory modern physics and quantum theory. Some of the topics studied are Compton scattering, the hydrogen atom, an introduction to Schrödinger quantum mechanics, nuclear structure and elementary particles. Laboratory work includes measurement of atomic and nuclear particles, the Franck-Hertz experiment, spectroscopy and computer simulation of an accelerator. Prerequisites: Phys 201, 202. Offered alternate years. (LAB)

314 Thermodynamics and Statistical Physics (3 one-hour lectures, 1 three-hour lab weekly) A study of relationships between thermodynamic variables and the statistical interpretation of these relationships. Topics studied include definition of temperature; the first and second laws of thermodynamics; entropy; properties of ideal gases and real substances; and statistical descriptions of systems of particles, including quantum statistics. Laboratory experiments emphasize the methods of measuring various thermodynamic variables. Prerequisites: Phys 201, 202. Offered alternate years. (LAB)

318 Optics (3 one-hour lectures, 1 three-hour lab weekly) A study of geometrical and physical optics. Topics studied in class and emphasized in laboratory experiments include refraction, lenses and lens systems, interference, Fresnel and Fraunhofer diffraction, polarization and quantum optics. Prerequisites: Phys 201, 202. Offered alternate years. (LAB)

361, 362 Classical Mechanics (3 one-hour lectures weekly) A study of the kinematics and dynamics of bodies in motion. The first term is a study of Newtonian mechanics. Topics include the harmonic oscillator, central forces and gravitation. The second term includes Lagrangian dynamics, small oscillations and the inertia tensor. Prerequisites: Phys 201 and
Math 311. Offered alternate years.

401, 402 Electricity and Magnetism (3 one-hour lectures weekly)  A detailed study of the principles of electricity and magnetism. During the first term topics include electrostatics, dielectrics, electric currents, magnetic fields and electromagnetic induction. Topics covered during the second term include the magnetic
properties of matter, plasmas, Maxwell’s equations and electrodynamics. Prerequisites: Phys 201, 202 and Math 311. Offered alternate years.

410 Quantum Mechanics (3 one-hour lectures weekly) Basic postulates of quantum mechanics and their physical meaning. Topics include potential wells and barriers, the harmonic oscillator, the hydrogen atom, electron spin and perturbation theory. Prerequisites: Phys 201, 202 and Math 311. Offered alternate years.

490 Senior Project Experimental or theoretical research project. Students work on a project of their choice under supervision of a faculty member. The results of the work are presented to the department in both written and oral form.

POLITICAL SCIENCE

The study of political science acquaints students with the principal concerns of the discipline and allows them to develop a critical outlook on the political universe around them. The political science faculty is committed to graduating well-rounded individuals who are aware of their cultural heritage and mindful of their responsibilities in this interdependent world. Our curriculum is designed to help students meet the moral and intellectual challenges of citizenship.

Students majoring in political science must take U.S. Government and Politics (101) and International Relations (105), which provide foundations for upper-level work in the department; and Introduction to Political Analysis (209), which reviews the scope and methods of research in the discipline. The major in political science culminates in a Senior Thesis, which demonstrates the student’s ability to investigate and analyze a problem in depth. The thesis is defended before students and departmental faculty. In addition to these four required courses, majors will complete, at minimum, seven other political science courses.

The department encourages all majors to acquire a broad exposure to the discipline and students are advised to sample courses in all of the principal areas of study. A model program would include at least one course (i.e., beyond the required courses) from each of the following areas: U.S. Politics, International Politics, Comparative Politics and Political Theory and Methodology. This model is required for departmental distinction.

Courses in U.S. Government examine important aspects of the U.S. political system at local, state and national levels. International Politics involves the study of factors governing relations among state and non-state actors in global politics. Comparative Politics provides an analytical framework for studying states and regions in their rich diversity—economic, cultural, ethnic and political. Courses in Political Theory and Methodology examine the evolution of political ideas and concepts in the Western world. Outside these four broad categories are courses on subjects of contemporary interest that are less easily classified, though no less compelling, such as Advanced Seminar and “Topics” courses.

The department also participates in three interdisciplinary programs. The Environmental Science and Policy Program focuses upon the relevance of politics and public policy for the study, control and management of environmental issues. The Latin American-Caribbean Studies minor provides a framework for understanding the complexities of the region, its struggles and successes with economic and political development, and its contributions to our world. (See page 99 for details.) The Women’s Studies minor acquaints students with scholarship on gender across academic fields including gendered analysis of U.S. and international politics. (See page 149 for details.)

On a regular basis the department directs off-campus programs. Recent programs have included study in Austria, Czechoslovakia, England, Russia, Japan, China and Tanzania, as well as in New York City and Washington, DC.

Finally, the department provides a wide array of internship opportunities to help students deepen their understanding of political institutions and processes through experiential learning.

Hartwick political science graduates can go on for advanced studies and earn graduate degrees in political science or an allied field. Some find employment in various government agencies and others become teachers, journalists and business people, among other things. A substantial number of Hartwick majors go on to law school.

Faculty
Political Science Faculty: Mary B. Vanderlaan, chair; Laurel Elder; Sugwon Kang; John O. Lindell
Part-time Faculty: Peter T. Paluch

Courses
A. Unites States Politics

101 U.S. Government and Politics American national government and politics, required of political sci-
ence majors and minors and recommended for anyone wishing to take upper-level courses in the department. (SBA)

210 State and Local Government An examination of the structure, functions and problems of contemporary state and local government in the U.S. federal system. Prerequisite: Posc 101. (SBA) Typically offered alternate years

221 Congress and the Presidency An examination of the legislative process and the role of presidential leadership in the making of the nation’s public policy, with particular attention given to the constitutional and political dimensions to the contest of power between the two branches. Prerequisite: Posc 101. (SBA)

234 Courts and the Judicial Process A study of the structure, operation and behavior of the state and federal judicial systems with particular emphasis given to the conduct of the Supreme Court as custodian of the U.S. Constitution. Prerequisite: Posc 101. Offered alternate years. (SBA)

244 Environment - Politics and Policy This course is designed to provide an introduction to the issues and concepts of environmental policy, to policy analysis and the role of the analyst, to the process of policy making in the U.S. and to current U.S. environmental policy and its implementation. Attention is given to environmental politics in the national and international arenas. (SBA)

304 U.S. Public Policy A study of the concepts and methods of public policy analysis with emphasis on formulating policy problems, developing solutions and the understanding and use of analysis in the policy making process. The causes, consequences and performance of national public policies and programs are investigated. Prerequisite: Posc 101. Offered alternate years. (SBA)

305 Elections, Parties and Interest Groups An investigation of the role of elections in U.S. politics, with heavy reliance upon the empirical research of electoral behavior and of the effects of parties and interest groups upon the electoral and governmental process. Taught in the fall of even-numbered years. Prerequisite: Posc 101.

335 Constitutional Law An examination of the basic principles of the U.S. Constitution as interpreted by the Supreme Court, with emphasis on those decisions which have involved separation of powers, federalism, commerce, contract, civil liberties and civil rights. Prerequisite: Posc 101. (SBA)

336 Public Administration An examination of the principles of public administration: organization and management in the public sector with special emphasis upon personnel, budgeting, taxation, public policy making and administrative accountability. Prerequisite: Posc 101. Offered alternate years. (SBA)

B. International Politics

105 International Relations An introduction to politics among nation-states. Topics include: the impact of economics and ideology on the behavior of nation-states and the use of international law and organizations in the resolution of conflict. Leading theories in the field are examined. (SBA)

203 U.S. Foreign Policy A study of U.S. foreign policy, how that policy is formulated, how it is executed and the consequences of that policy for other states. Prerequisite: Posc 101 or 105 or permission of instructor. (SBA)

218 International Organizations This course traces the development of contemporary international organization from the Concert of Europe, the Hague Conferences and the League of Nations, to the United Nations and the European Community. Emphasis will be placed upon the UN and the organizations which make up the UN system, e.g., the World Bank, the IMF, the High Commissioner for Refugees, UNICEF, the Development Program and the World Health Organization. Considerable attention will also be devoted to the European Community. Posc 105 is recommended. Offered alternate years. (SBA)

235 The Political Economy of Poor Countries This course examines the political and economic dimensions of “development” processes in agrarian and newly industrializing Third World countries. Competing theories of development are considered within the contexts of the states’ diverse experiences, relative powerlessness and the complex global economic order. Case studies are drawn from Asia, Africa and Latin America. Posc 105 is recommended. Offered alternate years. (SBA) or (NTW)

322 Women, Politics and Development An examination of women’s experience in political and economic development in poor, less industrialized countries.
Political Science

Study considers the impact of international institutions and actors and of local development programs on women’s economic and political opportunities. Case studies are drawn from Latin America, Africa and Asia. Prerequisite: Posc 105 or Posc 235 or permission of instructor. Offered alternate years. (NTW) or (SBA)

333 International Law An inquiry into the nature and scope of international law, with emphasis on jurisdiction, nationality, territory, international agreements, state responsibility, force and war. Prerequisite: Posc 105 or permission of instructor. (SBA)

365 International Political Economy This course examines the struggle and cooperation that is the realm of international political economy, using history and theory to illuminate policy and organization. Study begins with consideration of the U.S. in the global economy. Topics include: determinants of states’ foreign economic policy, the politics of bilateral trade, multilateral trade regimes, food politics, labor dynamics and global finance. The tensions between global interdependence and inter-state inequality are highlighted. Prerequisite: Posc 203 or permission of instructor. Typically offered alternate years. (SBA)

C. Comparative Politics

208 Russia: Government and Politics An examination of the rise and fall of the Soviet Union, with special emphasis on the political, economic and social developments in the Russian Republic and its relations with the other republics of the new Commonwealth of Independent States. Typically offered alternate years. (SBA)

229 Japan: Government and Politics A survey of the contemporary Japanese political system and political culture with special emphasis on the development of the constitutional system and the emergence of the industrial superstate. Typically offered alternate years. (NTW) or (SBA)

261 Latin American-Caribbean Politics A survey of post-World War II politics in Latin America and the Caribbean, with special attention to the changing political and economic policies and prospects of these states. The effects of history, culture and international contacts on local institutions are examined, as is the dynamism of grassroots movements for change in the region. Prerequisite: Posc 101 or 105 or permission of instructor. Typically offered alternate years. (NTW) or (SBA)

271 The Politics of Development: East Asia A survey of the rapidly changing political landscape of East Asia, this course examines the governmental structure and political cultures of the nations of the Pacific Rim, from Japan, China and Korea to the member-states of the ASEAN community and Indochina, paying close attention to their competing strategies for modernization in the post-Cold War era of economic competition and interdependence. Prerequisite: Posc 101 or 105 or permission of instructor. Offered alternate years. Typically offered alternate years. (NTW) or (SBA)

281 African Politics An examination of the politics and policies of African states. Topics to be covered include: traditional systems and colonial legacies; competing models of politics and economic development; and challenges and opportunities confronting African countries and the continent. Prerequisites: Posc 105 or permission of instructor. Typically offered alternate years. (NTW) or (SBA)

341 Comparative Politics An examination of world politics in comparative perspective, drawing upon national case studies and cross-national research. Topics to be considered include variations in political structures, social and political change, national integration, political violence and revolution. Prerequisites: Posc 101 or 105 and one regional or country course at the 200 level. Typically offered alternate years. (SBA)

D. Political Theory and Methodology

209 Introduction to Political Analysis An introduction to the scope and methods of research in political science, required of political science majors and minors. Prerequisite: Posc 101 or 105. (SBA)

237 American Political Thought An examination of the evolution of American political thought from the Puritan origins and the foundation of the Republic to the present, with special attention paid to the interplay of political ideas and political events. Prerequisite: Posc 101 or permission of instructor (MWL), (WHS) or (SBA)

345 Politics Through Literature An examination of a number of contemporary writers of various nationalities who explore concepts of traditional interest to students of politics, e.g., imperialism, colonialism, neo-colonialism, revolution, the revolutionary mentality, terrorism, modernization, bureaucracy, war and visions of future world orders. Offered alternate years. (MWL) or (SBA)
Political Science

Requirements for the major: Minimum of 11 courses in political science, distributed as follows:
101 U.S. Government and Politics
105 International Relations
209 Introduction to Political Analysis
490 Senior Thesis
Seven additional courses in the discipline:
Students are advised to take at least one course in each of the following subject areas, above and beyond the three required courses:
- (A) U.S. Politics, (B) International Politics, (C) Comparative Politics and (D) Political Theory and Methodology. For departmental distinction this distribution is required.

Normally, the department will accept no more than three transferred political science credit units toward the Hartwick College Political Science major.

Requirements for the minor: Minimum of six courses in political science, distributed as follows:
101 U.S. Government and Politics
209 Introduction to Political Analysis
Four additional courses in the discipline

Requirements for a Minor in the Environmental Science and Policy Program: Recommended courses for political science majors as part of their major requirements:
210 State and Local Government,
336 Public Administration or
244 Environmental Politics and Policy
Courses for the minor:
Seven courses selected as follows:
1. One introductory course
230 Introduction to Environmental Science (Biol) or
110 Environmental Geology (Geol)
2. Two science lab courses outside of major, chosen from:
235 Ecology and the Environment (Biol)
250 Limnology (Biol)
250 Tropical Biology (biol: Bahamas, Costa Rica or the Galapagos)
303 Ecology (Biol)
325 Forest Ecology (Biol)
102 Chemistry in Todayís Society (Chem)
215 Environmental Chemistry (Chem)
109 The Global Environment (Geol)
302 Surficial Geology (Geol)
305 Groundwater Hydrology (Geol)
314 Thermodynamic and Statistical Physics (Phys)
3. 276 Environmental Economics (Econ)
Economics majors substitute an elective from 5. For this requirement.
4. 244 Environmental Politics and Policy (Posc)
Posc majors substitute an elective from 5. for this requirement.
5. At least one elective course outside the major, chosen from:
341 Cultural Ecology (Anth)
250 Nature Writing (Engl)
205 Environmental History (Hist)
336 Public Administration (Posc)
322 Population and Ecology (Soci)
Any science course not already taken from the above choices (under 2.)

6. Capstone Seminar (meets CIS requirement):
Senior Seminar in Environmental Assessment (Intr 410).

Grades for all courses taken in political science are used to calculate the average in the major for Departmental Distinction. Additional eligibility requirements are listed above.

372 Seminar in Philosophy of Law (same as Phil 372). Philosophical questions about such topics as the nature of law, the function of legal systems, the meaning of legal terms, legal reasoning, justice, law and morality, theory of punishment. Some background in philosophy and/or political science is recommended. Offered by the philosophy department. (SBA)

388 Foundations of Western Political Philosophy (same as Phil 388). An introductory survey of the leading political theorists of antiquity, Middle Ages and the Renaissance, from Plato to Machiavelli, with a view to illuminating Western contributions to the discussion of basic political concepts such as power, right, legitimacy, consent, obligation and human nature. Prerequisite: Posc 101 or 105 or permission of instructor. Offered alternate years. (WHS), (SBA) or (MWE)

389 Modern Political Philosophy (same as Phil 389). Continuation of Posc 388, from the 17th century to the
present. Hobbes and Locke to Marx and Freud. Prerequisite: Posc 101 or 105 or permission of instructor. Offered alternate years. (MWL), (WHS) or (SBA)

E. General

150, 250, 350 Topics in Political Science Special topics are considered in depth; more than one topic may be taken for credit. Prerequisite depends on the topic.

227 World Regional Geography A comprehensive survey of world regional geography presented in topical units, with particular focus on the human aspects of geography. Physical geography— the significance of land forms, climates, hydrology, and natural mineral resources— is also explored.

410 Advanced Seminar Students are invited to propose subjects for study to the department chair. Admission is by permission of the instructor. Offered periodically.

F. Internship

395 Internship Internships in government at the national, state and local levels and in the private sector with significant government involvement. Developed by interested students in consultation with a departmental coordinator and a field “supervisor” representing the organization which offers the internship. A maximum of two credits accepted toward a major and one credit toward a minor. Prerequisite: Posc 101. Also required: The consent of a member of the political science faculty to serve as coordinator and the approval of the head of the department and the director of off-campus study.

G. Senior Thesis

490 Senior Thesis Each senior major is required to write, in consultation with a faculty member of the department, a research paper which demonstrates the ability to investigate and analyze a problem in depth and to defend it before fellow students and the political science faculty in a public forum. Prerequisites: Posc 209.

autors for students interested in pursuing a career in medicine and other health sciences as a physician, dentist, veterinarian, optometrist, podiatrist, physician assistant, chiropractor, or physical or occupational therapist. Members of this committee assist students with their application to health professional schools by advising and providing workshops on study strategies, standardized test preparation, interview skills, ethical issues, financial aid sources, internship opportunities and careers in medicine. A Pre-Med and Pre-Allied Health Resource Room is also available to students for researching medical fields and schools.

The health sciences need individuals with broad educational backgrounds who will bring a variety of talents and interests to the profession. Therefore, it is important to have a broad liberal arts and sciences education with a strong foundation in the sciences. Although no specific undergraduate major is required to enter the health sciences, the strongest preparation for pre-health students is to follow the pre-med or pre-allied health curriculum with a major in biology, chemistry or biochemistry. The sciences must be studied in the pre-med and pre-allied health curriculum in order to gain a thorough understanding of scientific concepts and vocabulary, to confirm the interest in and capacity for further study in science, to prepare for the various admission aptitude examinations, and to enable medical schools to estimate the student’s potential in the practice of medicine. The minimum basic required courses for medical, pre-medicine, and pre-allied health programs are:

- Principles of Biology (Bio 104, 105)
- General Chemistry (Chem 107, 108 or Chem 109)
- Organic Chemistry (Chem 201, 202)
- Physics (Phys 201, 202 or Phys 140, 141)
- English, literature course and composition course

Although many of the requirements for entrance into professional programs are the same for each medical field, carefully note that some fields, as well as some schools, have additional requirements (e.g. allied health fields require anatomy and physiology). Interested students should contact Dr. Linda A. Swift (pre-med) or Dr. Allen Crooker (pre-allied health).

PRE-MED AND PRE-ALLIED HEALTH PROGRAMS

Hartwick College has a Pre-Health Advisory Committee whose members serve as advisors and evaluators for students interested in pursuing a career in medicine and other health sciences as a physician, dentist, veterinarian, optometrist, podiatrist, physician assistant, chiropractor, or physical or occupational therapist. Members of this committee assist students with their application to health professional schools by advising and providing workshops on study strategies, standardized test preparation, interview skills, ethical issues, financial aid sources, internship opportunities and careers in medicine. A Pre-Med and Pre-Allied Health Resource Room is also available to students for researching medical fields and schools.

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PSYCHOLOGY

Why do people do what they do? What is the nature of thinking, perceiving and feeling? While many academic areas explore such questions, contemporary
psychology searches for answers through the scientific study of behavior in humans and other animals. Psychologists are committed to the idea that by carefully observing what organisms do, both in the laboratory and in the field, progress can be made in understanding, predicting and modifying behavior.

Hartwick’s program in psychology focuses on the many factors which shape our behavior, including the environment which surrounds us, our own unique pattern of development and our biological heritage. Students majoring in other disciplines will find study in psychology offers an approach to the understanding of human behavior and experience that will prove valuable throughout their personal and professional lives. A minor in psychology can complement major study in areas ranging from political science, to biology, to management, to sociology.

Courses offered by the psychology department present the major issues, theories, data and methods of the discipline. Students gain experience in the collection of data through laboratory and field research experiences, learn how to make sense out of data using the tools of statistical analysis and journal-style writing and have opportunities through supervised internships to discover the variety of settings in which psychologists can apply their principles and skills.

Courses in general psychology and psychological research methods provide a foundation for other courses. In order to be certified for graduation, students majoring in the discipline must demonstrate competence in designing and conducting an empirical study in psychology. This requirement normally is met through the required laboratory courses and through completion of the Senior Thesis.

Special study opportunities available through the department include independent research (or collaborative research with faculty) and field study experiences. For example, students have conducted research in areas such as how children acquire language, how to improve problem-solving skills and the relationship between television violence and aggression. Recent internship placements have included psychiatric hospitals, crisis centers, Head Start programs, community mental health centers, school guidance offices and children’s television advocacy agencies.

A major in psychology provides an appropriate background for a variety of professions in which an understanding of the principles of human behavior is important: graduate study in medicine, law, religion, social work, personnel management or advertising, as well as in psychology might all follow an undergraduate major in psychology. With little or no advanced training, majors also are qualified for positions in psychology-related fields in such capacities as interviewers, probation workers, psychiatric aides and technicians in government service. However, the undergraduate program in psychology, like pre-medical and pre-law programs, does not provide the specialized training needed to be a professional psychologist, which requires a graduate degree as an indication of competence.

Faculty

Psychology Faculty: Lisa A. Onorato, chair; Lynn A. Elmore; Jeffrey A. Goldman; Ronald G. Heyduk; Wanda R. Jagocki; Amy Rosner

Basic Courses

110 General Psychology Principles of human behavior and experience, including the basic psychological processes and an introduction to the major areas of modern psychology. Prerequisite to all other psychology courses except Psychology 150. (SBA)

150 Topics in Psychology Special topics are considered in depth. Topics will vary and more than one topic can be taken for credit. No prerequisite. (SBA)

Lower-Level Courses

200 Psychological Research Methods This is a basic course in statistics and experimental research methods used by psychologists. Students will acquire skills in collection, reduction, display and analysis of data; use of the computer; and scientific report writing. All sophomores planning a major or minor in psychology are advised to take this course. In order to graduate on time with a psychology major, this course must be completed by the fall semester of the junior year. Prerequisite: Psyc 110. (MLC or SBA)

201 Life-Span Developmental Psychology This is a basic course in the developmental perspective. Topics include the genetic foundation of development, the development of brain and body, perception, thinking and reasoning, language and social behavior (for example, the development of attachment, aggression and sex and gender). Prerequisite: Psyc 110. (SBA)

215 Analysis of Interpersonal Relations Students learn from study and experiences in class to analyze their own and others’ interpersonal behavior and communication skills. Prerequisite: Psyc 110. (SBA)

226 Social Psychology The social influences upon an individual’s attitudes and behavior are considered. Prerequisite: Psyc 110. (SBA)
227 Personality Major theories of personality including psychoanalytic, humanistic, behavioral, cognitive and trait are discussed in depth. In addition, research on the relationship between personality and human social behavior is covered. Prerequisite: Psyc 110. (SBA)

250 Topics in Psychology Special topics of current interest are considered in depth. Topics may vary and more than one topic may be taken for credit. Prerequisite: Psyc 110. (SBA)

Laboratory Courses

301 Laboratory in Developmental Psychology This class gives students an opportunity to explore topics in developmental psychology at an advanced level. Students will explore three areas of study: sexual development, personality development and moral reasoning. This exploration is achieved by reading original works, having class discussions, giving class presentations and running individual experiments. Prerequisites: Psyc 110, 200 and 201. (SBA)

324 Laboratory in Learning and Memory Research and theory in human and animal processes by which past experience or practice results in relatively permanent changes in behavior; design and execution of experiments. Prerequisites: Psyc 110 and Psyc 200. (SBA)

325 Laboratory in Psychological Testing Principles and procedures of psychological testing are examined with respect to the following: the Minnesota Multiphasic Personality Inventory, the Rorschach, California Personality Inventory, the Thematic Apperception Test and the Wechsler Adult Intelligence Scale—revised. The laboratory component consists of the collection, analysis and reporting of data by students. Prerequisites: Psyc 110 and Psyc 200. (SBA)

328 Laboratory in Cognition Students explore how the mind works in several mental activities including: perception, memory, knowledge retrieval, problem solving and decision making. Students will serve as participants in various computer simulations of the original classic experiments. Emphasis is also placed on data analyses, report writing and the design and execution of an original experiment. Prerequisites: Psyc 110 and 200. (SBA)

336 Laboratory in Social Psychology Students will conduct experimental research projects relating to some of the central concepts of social cognition (attribution, theory, dissonance theory) and social influence (social comparison theory, the bystander effect). Emphasis will be on practicing research, statistical and report-writing skills and on learning how to turn an original idea into a research project. Prerequisites: Psyc 110, 200 and 226 or permission of the instructor. (SBA)

Upper-Level Courses

307 Psychology of Women Factors influencing the behavior of women. Prerequisite: Psyc 110. (SBA)

320 Psychology of Work Behavior An introduction to personnel (industrial) and organizational psychology. Topics include the application of psychological measurement to personnel decisions, personnel training, work motivation, job satisfaction, leadership and organizational development. Prerequisite: Psyc 110. (SBA)

322 Junior Seminar Students examine current scientific problems and prepare their senior thesis proposal. Limited to junior psychology majors. Only offered in spring semester. Prerequisite: Psyc 110 and 200 (SBA)

329 Physiological Psychology The biological foundation of behavior. Topics include the neuroanatomical basis of behavior; the development of the nervous system; and the physiological bases of sleeping and waking, eating and drinking, sexual behavior, perception, emotion and cognition. Offered every other year. Prerequisite: Psyc 110. (SBA)

330 Abnormal Psychology Mental and emotional disorders—causes, treatments. Topics such as organic brain syndrome, schizophrenia, the affective disorders and the anxiety-based disorders are discussed. Treatments such as drug therapy, behavior modification, psychoanalysis and humanist existential approaches are also covered. Prerequisite: Psyc 110. (SBA)

331 Developmental Disabilities This course introduces students to the psychology of those with subaverage intellectual functioning and deficits in adaptive behavior which were manifested during the developmental period. Topics include: definitions, assessment, causes, treatment, normalization, legal rights, behavior management, sexuality and working with families. In addition, students will intern in various community sites that work with the developmentally disabled. Prerequisite: Psyc 110. (SBA)
Psychology

**Requirements for the major:** 11 approved courses in psychology distributed as follows:

**110 General Psychology**
**200 Psychological Research Methods**
**322 Junior Seminar**
**490 Senior Thesis**

**Two 200 level courses, selected from:**
- 201 Life Span Developmental Psychology
- 215 Analysis of Interpersonal Relations
- 226 Social Psychology
- 227 Personality
- 250 Topics in Psychology

**Two psychology laboratory courses, selected from:**
- 301 Laboratory in Developmental Psychology
- 324 Laboratory in Learning and Memory
- 325 Laboratory in Psychological Testing
- 336 Laboratory in Social Psychology
- 328 Laboratory in Cognition
- 350 Laboratory in Topics in Psychology

**Two 300 and/or 400 level psychology courses, selected from:**
- 307 Psychology of Women
- 320 Psychology of Work Behavior
- 329 Physiological Psychology
- 330 Abnormal Psychology
- 331 Mental Retardation
- 350 Topics in Psychology
- 406 History of Psychology
- 436 Counseling Psychology

**One additional psychology course**

**Requirements for the minor:** A department approved program of seven courses, distributed as follows:

**110 General Psychology**
**200 Psychological Research Methods**

**One laboratory course**

**Four additional courses in psychology:**
At least two must be from the 300-400 level

**Grades for all courses taken in psychology are used to calculate the average in the major for Departmental Distinction.**

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**350 Topics in Psychology** Special topics of current interest may be considered in depth. Topics vary and more than one topic may be taken for credit. Some 350-level topics courses fulfill the psychology laboratory requirement. Particular topics may be designed as appropriate 200-level courses. Prerequisite: Psyc 110. (SBA)

**406 History of Psychology** The development of Western psychology is followed from ancient Greece to the 20th century. A major goal is to identify the fundamental questions about humans that link psychology’s past and present. Offered every third year. Prerequisite: Psyc 110. (SBA)

**436 Counseling Psychology** This course introduces students to specific techniques used in counseling such as rational emotive counseling, behavioral counseling and client-centered counseling. In addition, students observe and counsel in various community sites including nursing homes, the Job Corps and mental health clinics. Prerequisite: Psyc 110. (SBA)

**490 Senior Thesis** Individual study required of all majors; also includes an oral presentation component. Offered only fall and January terms. Prerequisite: Psyc 110, 200 and 322 (SBA)

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**RELIGIOUS STUDIES**

The world’s great religions are centered around the quest to find meaning and purpose in human life
Religious Studies

and existence. Religious beliefs and practices in various ways address not only what it means to be human, but also concepts such as good and evil, right and wrong. These beliefs and practices, in turn, help to shape the character of individual societies and cultures. Therefore, knowledge of religion and its various manifestations is indispensable to a study of the diverse social and cultural phenomena we encounter in the world around us.

Hartwick’s curriculum covers three general areas. One focuses on the Judeo-Christian tradition. Various courses in biblical studies take a historical approach examining the books in terms of the historical and cultural contexts in which they were written. Other courses in this area focus on the religious history of Europe and America, providing students with an understanding of the role that religion has played in shaping the Western cultural heritage.

The second area covers the religious traditions of the Asian world, particularly Buddhism, Hinduism and Islam. There are also opportunities for studying other isolated non-Western religions (Sikhism, Zoroastrianism, Taoism, Shinto, Jainism). The primary aim is to provide students with fundamental conceptual frameworks for understanding the major non-Western cultures of the world.

The third area deals with contemporary religious expression in the West and includes courses on contemporary theological thought, religion and ethics and various problem areas (such as “church and state”).

Special study opportunities available through the department include off-campus programs in India and in the Middle East, usually offered in January terms in alternate years. Furthermore, because Oneonta is uniquely situated within a few hours drive of various important Buddhist, Christian, Jewish, Muslim and Hindu monasteries and centers, efforts are made to incorporate field trip experiences into regular course offerings.

Each student who wishes to major in religious studies must develop a program of study in the discipline in consultation with a faculty advisor. As part of the major program, each student must do a senior thesis which involves a term of directed individual study. (This directed study must be arranged before the term in which it will be conducted.) Majors also are encouraged to complement their study with courses in a variety of other disciplines which will enable them to understand more fully the interconnections among religion, history, literature, art and the sciences.

Many students majoring in other departments choose to continue their interest in religion and religious phenomena by minoring in religious studies. Departmental minors are encouraged to take courses in each of the three core areas of the religious studies curriculum.

Students wishing to combine an interest in the study of philosophy with religious studies can pursue one of three degree options: 1) an 18-course double major, writing two senior theses so as to obtain both a B.A. in Philosophy and a B.A. in Religious Studies; 2) a nine course major (with senior thesis) in one program and a six course minor in the other; or 3) a 14-course B.A. in Philosophy and Religious Studies, with one senior thesis bridging both disciplines. Students should meet with members of the Department of Philosophy and Religious Studies to design the degree program that best suits their interests.

The departmental program offers the breadth and depth of study to prepare students for graduate study and for professional work in the field of religion. A program of courses in religious studies also provides valuable preparation for careers in a variety of other areas, including law, medicine, teaching, psychology, journalism, public relations and community service.

Faculty
Religious Studies Faculty: Lisle Dalton; Gary Herion; C.W. Huntington
Part-time Faculty: Robert E. Mansbach

Courses
101 Understanding Religion An introduction to the structure, forms and functions of religion, with special attention given to the diverse approaches (anthropological, sociological, psychological, historical and philosophical) used to study religious phenomena. (SBA)

106 World Religions An introduction to the study of comparative religion, focusing on how such basic concepts as myth, ritual, gods and systems of purity are handled in the great religious traditions of the world. (NTW)

110 Introduction to the Bible An historical-critical analysis of biblical literature and of the development of early Hebrew, Jewish and Christian religious cultures. (MWE)

150 (250, 350, 450) Topics in Religion A critical analysis of the concept of religion drawn from such fields as theology, philosophy, literature, psychology, sociology, history and the arts. The topic will be announced in advance each time the course is offered.

203 Trends in Contemporary Theology The major Western theologies and theological movements of the 20th century from the break with liberalism to the "Theology of Liberation." Prerequisite: Reli 110 or
211. (MWL)

207 Religion and Literature “Who am I, really?”
This course understands this question to be fundamentally religious in nature, best approached through reading and discussing the stories human beings have told over the centuries to give voice to their own deepest yearnings for truth. (MWL)

210 Hebrew Scriptures/Old Testament An inquiry into the formation of the Hebrew Scriptures and an examination of the major themes of the biblical histories, prophetic books and wisdom literature, in relation both to their cultural context and to their later influence. (MWE)

211 The New Testament A survey of the development of the Christian tradition reflected in the four Gospels and in the other New Testament writings. Attention will be given to the Greco-Roman world in which the New Testament was written and to the wider influence of its ideas. (MWE)

221 Hinduism An exploration of the world of Hinduism, a religion originating in India that includes not only a multitude of gods and goddesses and powerful techniques of meditation, but also some of the world’s most subtle philosophies. (NTW)

222 Buddhism An exploration of a religion that grew from the experience of a prince who lived in India 600 years before Jesus, examining how his influential teachings spread throughout South and Southeast Asia. (NTW)

223 Religions of the Far East A close look at the Buddhism of Tibet, China and Japan, and at the other indigenous religious traditions of the Far East, including Taoism, Confucianism and Shinto. Recommended prerequisite: Reli 222 (NTW)

225 Native American Religions An introduction to the spiritual traditions of North America’s indigenous populations, from the earliest times up through the present, focusing on “the sacred” as experienced in the day-to-day life of these people. (NTW)

237 Christianity An examination of the Christian tradition from its beginnings as a movement within first-century Judaism through its establishment as a world religion. Attention will be given to the religious, literary, liturgical and theological trends that have defined Christianity across the centuries. Recommended prerequisite: Reli 110 or 211 or Hist 109. Offered every third year. (WHS)

239 Islam and the Middle East An introduction to the life and work of Muhammad, Islam under the Kalifs, Turkish Islam and the Ottoman Empire and the Muslim powers in the modern Middle East. Recommended preparation: Reli 106. Offered alternate years. (NTW)

265 Modern Ethics and the Bible Analysis of Christian conceptions of right and wrong, good and evil, beginning with biblical origins and progressing to the present age. Consideration of major theoretical and
practical issues in contemporary society. Recommended preparation: Reli 210 or 211. Offered alternate years. (MWL)

311 Hebrew Storytelling  A literary- and historical-critical examination of the well-known (and not-so-well-known) stories of the Hebrew Bible/Old Testament that recount the history of Israel up to 586 B.C. Prerequisite: Reli 110 or 210. (MWE)

312 The Prophets of Israel  A historical-critical approach to the prophetic books of the Hebrew Scriptures/Old Testament, focusing upon the nature of prophecy and its place and role in the Israelite religious tradition. Prerequisite: Reli 110 or 210. (MWH)

313 Jesus in Myth, Tradition and History  A historical-critical approach to the Gospels, focusing upon the synoptic tradition and the quest to recover the “historical Jesus.” Prerequisite: Reli 110 or 211. (MWE) or (WHS)

314 Paul’s New Testament Writings  A careful reading of the major New Testament letters attributed to Paul with particular attention given to their central theological ideas and metaphors. Recommended preparation: Reli 110 or 211. (MWE)

326 Religion, Magic and Myth  (same as Anth 326)  The relation of religious belief and practice to patterns of culture and society; mythology, magic, sorcery, witchcraft, sacrifice, supernatural beings, shamanism, divination and totemism in traditional and modern societies with focus on non-Western traditions; religion and culture change. Prerequisite: Anth 105. (NTW) or (SBA)

332 Philosophy of Religion  What is religion? Is there a God? What is the value of religious experience? Is it possible to be religious without being superstitious? Answers to these and related questions will be examined in the analytical manner appropriate to philosophy.

340 Church and State in Tension  A critical study of the development of Christian social thought in relation to secular authority structures (political-military, economic-social, familial). Prerequisite: Reli 110 or 211. Offered alternate years. (MWE) or (MWL)

370 Religion and Society  (same as Soci 370)  A sociological analysis of religious belief systems utilizing the comparative or cross-cultural approach; social aspects of religion and religious aspects of society; the impact of social and ecological forces upon religious institutions; social origins of religions; the role of religion in social control and social change. Prerequisite: Soci 105. (SBA)

385 Modern Christian Thought  The development of Christian thought from the 17th through the 19th century, with special emphasis upon the effects of modern science, natural religion, confessionalism, pietism, Enlightenment and post-Enlightenment thought. Recommended preparation: one course in biblical literature or the equivalent. Offered every third year. (MWL)

403 Biomedical Ethics  A critical study of major problem areas in the biomedical field (abortion, behavior control, euthanasia, genetics, informed consent, allocation of health care resources), with attention given to the development of consistent approaches to ethical dilemmas. Juniors and seniors only.

490 Senior Thesis  Required of all majors.

SOCIOLOGY

At root the term sociology means the study of social relationships. Sociologists investigate human relationships and interaction across micro or face-to-face, organizational, institutional, demographic, and historical contexts.

Sociology provides insight into how people function in social relationships, as couples and as members of families, organizations, political institutions, social movements and nations. It examines social structuring based on race, nationality, sex, religion, age and economic status. The study of sociology as part of a liberal education helps students develop a critical understanding of the meaning, process and structure of human interaction, and in so doing, helps them to better understand the past and present as well as prepare for life in a world of increasing social interaction and interdependence.

The department presents a wide range of theoretical perspectives. Members work within feminist, Marxist, functionalist, symbolic interactionist, existentialist, critical, Weberian, and structuralist frameworks. Research areas include sociolinguistics, media analysis, health, gender-race-class analysis, world systems, urban studies, criminology, theory, rural poverty, social welfare, public policy, third world studies, domestic violence, sexuality, migration/refugees, social control, the professions, and social deviance.
In addition to this rich theoretical mix, the department encompasses a broad range of pedagogical approaches. Faculty utilize video production, participant observation exercises, simulation, role playing, ethnography, film analysis, small group work, computer assisted teaching (SPSS), journal writing, community service learning, field trips, faculty-student collaborative research, and guest speakers as well as traditional lectures.

The department is also committed to offering courses on race, class, gender, and cultural identity in the U.S. Many of our courses are listed as fulfilling the requirements for the American Ethnic Studies Program. Race and Ethnicity and Poverty and Affluence are entry-level courses for this minor. We also have a departmental affiliation with the Women’s Studies Program. Within the major, we have constructed our core courses with an eye on inclusivity.

Special study opportunities available through the department include off-campus programs in India, Mexico and Ireland. Other opportunities include government service, and social advocacy work with agencies and organizations, internships in related careers in the local community and in other locations throughout the country; and community-service projects. Many majors also participate in the College-affiliated GLCA Philadelphia Urban Semester. The Hardy Chair Lecture Program grants students the special opportunity to interact with nationally recognized researchers in sociology.

The Sociology major is composed of nine required courses and three electives.

1st year: Introduction to Sociology
2nd year: Stratification and Interpersonal Relationships courses
3rd year: Development of Social Thought, Quantitative and Qualitative analysis, Contemporary Theory
4th year: Senior Seminar and Senior Thesis

A major in sociology prepares students for graduate study in the discipline, as well as in a variety of other fields including law, counseling, social work and criminal justice. The understanding of how people interact and behave in groups provides an excellent background for a wide range of careers in such fields as law enforcement, business, education, international relations, and government service. In addition, majors have used their background in sociology to pursue careers in communications, community relations, human resources management, and crisis intervention.

Faculty
Sociology Faculty: Katherine O’Donnell, chair; Edward F. Ambrose; Lori Collins-Hall; Otto Sonder

Courses
105 Introduction to Sociology What is sociology? How do sociologists go about their work? Sociology as a distinctive perspective on human behavior. The links between personal experience and wider social forces are explored while covering the main fields of the discipline. (SBA)

111 Controversial Social Issues This course provides students with an opportunity to participate fully in the controversial social issues of our time. In general, it is designed to be both fun and informative. Throughout the term we will examine several controversial issues, for example: Should drugs be legalized? Should homosexuality be accepted by society? Does welfare do more harm than good? In doing so, we will read the arguments of leading social scientists and then debate, as a class, the basic assumptions and values of each position. Students will be expected to think critically and present their views through class participation and short written assignments. In addition, students will select a topic, of particular interest to them, to do in-depth analysis.

150 Topics in Sociology For description see Soci 250.
Example: Children’s Lives. (SBA)

205 Deviant Behavior Why deviant and deviant from what? By whose standards? Various forms of behavior such as suicide, alcoholism, homosexuality, mental illness and drug abuse are studied within the context of American society. Prerequisite: Soci 105. (SBA)

208 Love and Human Sexuality Recognition of gender difference is a central fact within every human society. Every society develops gender roles and identities, values and norms to regulate the beliefs, feelings and sexual behaviors of its members. This course seeks to explore many dimensions of sex and sexuality within American society by providing a wide variety of approaches to understanding the physical being and its functioning within the sexual realm. Small group discussion, guest expert lecturers and panelists, films, role-playing, readings, projects and field trips are all employed in producing the variety of approaches. Prerequisite: Permission of instructor. (SBA)

211 Families and the Lifecourse Survey of family patterns: family in America, preparation for marriage, trends in family change, personality and marital happiness, parent-child relationships, family and communi-
Sociology

ty, issues related to family conflict and conflict resolution. Prerequisite: Soci 105. (SBA)

225 Riots and Social Movements: Collective Behavior “Unstructured” behavior is seen as the outcome of social forces. Various theories of collective behavior are examined. Is there a “group mind”? is human behavior “rational”? These and other questions are treated in relation to riots, panics, fads, etc. Prerequisite: Soci 105. (SBA)

230 Poverty and Affluence in American Society An analysis of the distribution of wealth, income and power historically and contemporaneously in American society with emphasis placed upon the working conditions, living conditions, aspirations, family styles, organizing capacities and political power of various groups ranging from the poorest to the most affluent. Prerequisite: Soci 105. (SBA)

240 Women and Social Change This course investigates how gender socially structures human lives. It approaches gender stratification from interpersonal, interactional, institutional, historical, and cross-cultural points of view. The goal of the course is to formulate a theoretical and practical understanding of gender inequality as it exists today and to develop strategies to create a more egalitarian system. PRAXIS (community organizing/group work) component. Specific topics include: gender and language, feminist theory, women of color, political struggles. Prerequisite: Soci 105. (SBA)

250 Topics in Sociology Special topics of current interest will be considered in depth. Examples: Sociology of Revolution and Multi-culturalism. More than one topic may be taken for credit. Prerequisite: Soci 105 or as specified. (SBA)

251 Race and Ethnicity This course examines racial and ethnic relations in American society. It begins by reviewing the history of group contact. What structural factors allowed for the relative success of some groups while denying the success of others? What roles have racism, prejudice and discrimination played in the American experience? Current issues in U.S. race/ethnic relations also are explored. Prerequisite: Soci 105 (SBA)

301 Criminology Social causes of crime, crime myths, modern methods of treating criminals, the criminal justice system and society. Prerequisite: Soci 105. (SBA)

304 Urban Sociology An analysis of the contemporary American city and cities worldwide with emphasis placed upon the nature of urban development; urban social problems; and the constellation of interests, groups and processes which operate in urban settings. Prerequisite: Soci 105. (SBA)

310 Development of Social Thought History and critical study of sociological thought; emergence, diversity and convergence of various sociological theories emphasizing the theories of Marx, Weber, Durkheim and the symbolic interactionists. Prerequisite: Soci 105. (SBA)

311 Juvenile Delinquency The impact of family, neighborhood, school and community upon the child’s vulnerability to delinquency. Methods of dealing with the offending minor as well as the offending society; preventative methods are reviewed. Prerequisite: Soci 105. (SBA)

321 Introduction to Social Work Examination of history and philosophy in transformation of “giving” from sacred to secular. Emphasis on English poor laws, their influence on modern American welfare. Case work, group work, community organization, social work research and social work administration introduced. Internship component is built into the course. Prerequisite: Soci 105. (SBA)

322 Population and Ecology A study of the social, cultural and environmental forces that affect population trends: the size, growth, composition, distribution, fertility, mortality and migration of human populations. Current historical and cross-cultural problems in population, food, health and environment will be explored. Prerequisite: Soci 105. (SBA)

330 Language and Society This course involves the interdisciplinary study and analysis of discourse. It begins by looking at various theoretical and methodological approaches to the sociological study of talk. Specific topics include: language acquisition, language and social control, language in the classroom, race, class, gender, culture and language. Prerequisite: Soci 105. (SBA)

331 Mass Communication and Propaganda The structure, content and operation of mass media of communication its audiences and its general effect upon the American culture, the nature and function of public opinion and propaganda, their effect upon a democratic society, the role of the mass media in forming a mass society. Prerequisite: Soci 105. (SBA)
333 Mental Illness Mental health and disorder are major concerns for not only the individual, but for the nation as a whole. This course examines the current findings and theoretical orientations to describe the relationship between mental illness, society, and social policy. Topics include the social construction of mental illness, culture variations, treatment. Prerequisite: Soci 105 (SBA)

335 Third World Studies (same as Anth 335). Studies of selected areas such as: Africa south of the Sahara, China, India, the Islamic world, Latin America, the Pacific, Southeast Asia and Chiapas, Mexico. An examination of the precolonial kinship, economic, political and religious system and related ecological and population patterns; the impact of European expansion upon them; the rise and fulfillment of independence movements; and contemporary political, economic, social, ecological and population patterns—all viewed in the perspective of the world as a system of interdependent societies and states. Prerequisite: Soci 105. May be taken more than once for credit. (NTW) (SBA)

346 Small Group Dynamics Processes (overt and covert) involved in the interaction of individuals in small group settings are explored using laboratory techniques. Leadership and facilitation roles are considered in the light of field theory and other theoretical approaches. Prerequisites: Soci 105 and permission of instructor. (SBA)
350 Topics in Sociology For description see Soci 250.

361 Sociology of Age and Aging This course examines the aging process and the developmental changes that occur from adolescence through “old age.” The course focuses on the social and historical aspects of aging rather than on its biological aspects. Prerequisite: Soci 105. (SBA)

365 Interpersonal Relations This course examines the interactional foundation of society. Specific topics include the linguistic basis of social organization, concept of self, learning gender, social construction of reality, social psychology of race-class relations. Theoretical frameworks include symbolic interactionist, phenomenological, dramaturgical, Marxist and feminist. Prerequisite: Two courses in sociology. (SBA)

370 Religion and Society (same as Reli 370) A sociological analysis of religious belief systems utilizing the comparative or cross-cultural approach, social aspects of religion and religious aspects of society, the impact of social and ecological forces upon religious institutions, social origins of religions, the role of religion in social control and social change. Prerequisite: Soci 105. (SBA)

375 Power and Privilege: Stratification in Theory and Practice The study of how social inequality in power, wealth and prestige is built in the social structure using European societies since 1400 as examples, as well as a critical analysis of the perspectives of Marx, Weber and others as the theoretical framework. The costs and consequences of social stratification, the meaning and process of social mobility. Prerequisites: Soci 105 plus one of the following: Soci 286, Hist 110 or at least one European history course. (SBA)

380 Labor and Society This course explores work in the context of sociological, cultural, historical and international forces. Specific topics include: gender-race-class systems and labor, paid/unpaid work, international division of labor, government policy, African-American labor history, work and family issues, cross-cultural labor contexts. Prerequisite: Soci 105. (SBA)

381 Sociology of Health and Medicine Explores the sociosomatic aspects of health. Topics covered are: the social distribution of wellness and illness, the cultural determinants of health and healing, alternative models of medicine, the impact of social structure and social policy on health and on the delivery of health services. Prerequisite: Soci 105. (SBA)

383 Quantitative Analysis for Sociologists This course introduces the central issues and strategies involved in the collection and analysis of quantitative data with an emphasis on survey research, experimental and quasi-experimental designs, and statistical analysis. The course is concerned with demonstrating the logic and meaning of statistical procedures and the conditions under which they are meaningful. This course is the “quantitative” half of the department’s two-term requirement in sociological analysis. Both halves give central importance to identifying and developing meaningful research questions, recognizing crucial theory-method linkages, developing research plans, evaluating the credibility of research findings and presenting the results of one’s research. Prerequisite: Soci 105. (MLC) (SBA)

385 Qualitative Analysis for Sociologists This course introduces the central issues and strategies involved in the collection and analysis of qualitative data with an emphasis on participant-observation, open-ended interviews, content analysis and media analysis. The rationale and theoretical underpinnings of qualitative analysis are examined together with the practical issues associated with the use of qualitative methodologies. This course is the “qualitative “ half of the department’s two-term requirement in sociological analysis. Both halves give central importance to identifying and developing meaningful research questions, recognizing crucial theory-method linkages, developing research plans, evaluating the credibility of research findings and presenting the results of one’s research. Prerequisite: Soci 105 and 383. (SBA)

388 Computer Applications for Sociologists This course develops computing skills utilized in current social science and business research environments. Both main frame and personal computers are utilized. Several types of software programs are taught for PCs including a word processing program, a data base management program and a spread sheet program. The emphasis on the main frame includes statistical packages such as SAS and SPSS. Due to the wide scope of the course it is expected that students will acquire general familiarity with limited competence in the various programming areas. Prerequisite: Soci 105. (MLC) (SBA)

389 Advanced Methods and Statistical Analysis Advanced statistical techniques such as regression,
path analysis and factor analysis are employed in analyzing such secondary data as the U.S. Census and the General Social Survey. The focus is on development and testing of sociological models. This course is valuable for students planning on entering graduate programs which include research components. Prerequisites: Soci 105, Soci 383 and Soci 385.(SBA)

395 Internship See page 21 for information.

396 Supervised Field Placement (may be taken for more than one course credit). The student will work in a supervised field placement. This course’s objective is to enhance the student’s knowledge and critical understanding of human services delivery systems and of the people involved with them. Prerequisite: Soci 321. (SBA)

397 Contemporary Theory The task of this seminar is to examine systematically and critically the epistemological, ontological and ideological structures of modern social science theory. Schools of thought analyzed include functionalism, structuralism, Marxism, Feminism. Focus is on analysis, critique, evaluation, and application. Course has a substantial PRAXIS (community service) component. Prerequisite: Soci 310 (SBA)

441 Special Projects Group project in sociology. Prerequisites: Soci 105 and permission of instructor.

485 Senior Seminar Course utilizes studies of exemplary sociological research to model the integration of theory and methods. Involves individual thesis proposal construction, literature review, thesis development and preparation for oral defense. Discussion of ethical issues in research design and uses. Must earn a minimum grade of C.

490 Senior Thesis Students are expected to develop a thesis based on preliminary coursework. A substantial work demonstrating the student’s ability to integrate theory and method in sociology. Thesis work is supervised by a faculty member. Prerequisite: Soc 310, 383, 385, 397, grade of C or better in 485.

SPANISH

The importance of studying the Spanish language is underscored by the fact that the United States is the fourth largest Spanish-speaking country in the world. Knowledge of the Spanish language and Hispanic cultural diversity is vital for business, both foreign and domestic; health care; social services; international relations; politics; government; education; travel, and many other fields. In addition, an understanding of Hispanic cultures, civilizations, and language gained through courses offered by the Department of Modern and Classical Languages is a valuable component of a liberal arts and sciences education designed to prepare students for a future of increasing global interdependence and an increasing Hispanic influence in the U.S.

Spain and Latin America occupy a unique place in the realm of Western culture in their blending of diverse religious, linguistic, and intellectual traditions from the Jewish, Muslim, and Christian influences in Spain with the diversity of Native American cultures in Latin America. Students majoring in Spanish at Hartwick will gain an appreciation of the linguistic and cultural diversity of the 20 countries in the world where Spanish is spoken through an exploration of their literature, film, art, and music.

The Spanish major at Hartwick is designed to develop facility in both oral and written language skills as well as to broaden each student’s global perspective through a critical understanding of multiculturalism in Hispanic countries and in the U.S. In addition to the variety of language, culture, and literature courses offered on the Hartwick campus, the Spanish faculty regularly organizes off-campus study programs and strongly recommends that students majoring in Spanish participate in January Term and semester-year-abroad opportunities.

Students interested in earning teacher certification in Spanish may do so by completing the requirements for the major, taking the psychology and education courses required for certification and student teaching in Spanish. (See Education, page 71.)

A minor in Spanish is a valuable complement to any major and may be of particular interest to students whose major fields orient them toward a career in business, health care, social services, travel, or education. A student interested in completing a minor in the language is encouraged to consult with a member of the Spanish faculty in order to plan a minor program which relates to the major. Students majoring and minoring in Spanish are encouraged to broaden their understanding in the field by taking related courses in other disciplines and in the Latin American and Caribbean studies program.

Spanish majors recently graduated from Hartwick have gone into teaching; to graduate schools both here and abroad; and have found employment in banks,
insurance companies, social service agencies and many other fields in which knowledge of the Spanish language and Hispanic cultures is becoming increasingly advantageous.

Faculty
Spanish Faculty: Esperanza Roncero, Mireya Vandenheuvel
Part-time Faculty: Instructors from Spain and Latin America

The Language Department also participates in the I.I.E. Native Adjunct Program and will normally have a native speaker from Spain or Latin America teaching with the Spanish faculty.

Courses
101, 102 Elementary Spanish A two-semester sequence at the introductory level for students who have no prior knowledge of Spanish or who need to review the fundamentals of the language. Students who have studied Spanish at high school need to be placed in the appropriate course by the Spanish department’s faculty and/or a placement test.

101 Elementary Spanish I Introduction to grammar and pronunciation. Grammar includes regular and irregular verbs in the present tense, present progressive, and immediate future; distinction between verbs “ser” and “estar”; the verb “gustar”; “tener”; and the reflexive verbs; articles; possessive, interrogative, and demonstrative adjectives; adjective placement and agreement; etc. Oral practice and weekly language laboratory exercises. Prerequisite: Course is designed for students who have had no prior knowledge of Spanish or who need to review the fundamentals of the language. Students who have studied Spanish at high school need to be placed in the appropriate course by the Spanish department’s faculty and/or a placement test.

102 Elementary Spanish II Second part of introductory sequence. Grammar includes direct and indirect object pronouns, regular and irregular verbs in the imperfect, preterit, present perfect, pluperfect, future, and conditional; making comparisons of equality and inequality; verbs such as “gustar”; prepositions “pora” and “para.” Oral practice and weekly language laboratory exercises. Except when prevented by extraordinary circumstances, Spanish 102 should be taken in the semester immediately following Spanish 101. Prerequisite: Spanish 101; students with two or more years of Spanish in high school with Spanish department faculty approval and/or placement test.

160 Introduction to Regional Hispanic Studies
Stresses the unique historical, linguistic, cultural, and traditional differences of individual areas of the Hispanic world. Normally this course will be offered during the term preceding the trip abroad and will deal with the area to be visited.

201 Intermediate Spanish I This course offers the student an opportunity to reinforce and expand previous learning in grammar, comprehension, oral and written skills, and vocabulary. Unlike previous courses, this course focuses upon giving the student an idiomatic grasp of the language. Grammar includes the subjunctive tenses. Oral and written practice and weekly language laboratory exercises. Except when prevented by extraordinary circumstances, Spanish 201 should be taken in the semester immediately following Spanish 102. Prerequisites: Spanish 102, and students who have had three or more years of Spanish in high school with Spanish department faculty approval and/or placement test.

202 Intermediate Spanish II This course continues the focus upon the fluency and idiomatic use of Spanish. Selected readings will be used to study literary tenses and to increase vocabulary. The course will include conversations, discussions, compositions, etc., in order to improve language skills and comprehension. Except when prevented by extraordinary circumstances, Spanish 202 should be taken in the semester immediately following Spanish 201. Prerequisites: Spanish 201, and students with four or more years of experience in Spanish with Spanish department faculty approval and/or placement test.

203 Advanced Spanish
This course is a prerequisite for all students who want to continue with more advanced Spanish courses such as Composition, Conversation, Advanced Spanish Grammar, and literature courses. Selected readings, conversations, discussions, compositions to further improve language, oral and written skills, etc. Except when prevented by extraordinary circumstances, Spanish 203 should be taken in the semester immediately following Spanish 202. Prerequisites: Spanish 202, and students with a high level of proficiency in Spanish with Spanish department faculty approval and/or placement test.

205 Conversation
An intermediate level course designed to develop listening and speaking skills through class conversation. Emphasis on vocabulary building and use of idiomatic expressions as well as correct pronunciation and intonation. Prerequisite: Span 202 or equivalent.

207 Composition
An intermediate level course emphasizing reading and writing skills through grammar
review and assignments to improve correct usage of written Spanish. Prerequisite: Span 201 or equivalent.

225 Advanced Spanish Grammar This course is designed to improve grammatical skills necessary for effective speaking and writing in Spanish and will prepare students for upper division work in culture and topics courses.

240 Spanish for Health-Care Personnel A course and materials designed to bridge the communication gap between the large Spanish-speaking population and English-speaking health-care team who treats them. This course focuses upon developing the oral skills of the Spanish language, as well as vocabulary related to health-related fields. Except when prevented by extraordinary circumstances, this course should be taken in the semester immediately following Spanish 102. Prerequisite: Spanish 102, and students who have had three or more years of Spanish in high school with Spanish department faculty approval and/or placement test.

246 Latin American Literature in English A course primarily for the non-speaker of Spanish who would like to study Latin American literature. A single author, a genre, a particular theme or a time period might be studied; e.g., Pablo Neruda, Latin American short story, novels of the Mexican Revolution, modernism, etc. This course may be taken more than once if the topic is different. It does not count toward the Spanish major or minor. (MWL) or (NTW)

247 Spanish Literature in English A course primarily for the non-speaker of Spanish who would like to study Spanish literature. A single author, a genre, a particular theme or time period might be studied: e.g., Don Quixote de la Mancha, modern Spanish poetry, literature of exile, Golden Age theatre, etc. This course may be taken more than once if the topic is different. It does not count toward the Spanish major or minor. (MWL)

285 Spanish Term Abroad A study abroad program, normally offered alternate years by the Spanish section of the language department.

320, 350, 450 Seminar in Hispanic Studies (1 course unit each). A seminar in a selected topic of Spanish language, literature or civilization. Occasionally the course is taught in English.

315 Spanish Civilization An overall view of Spanish culture from prehistory to the present. This will include the major social and cultural traditions involved in its development, great artists, writers and musicians and major events in Spanish history, such as the rise and fall of the Spanish Empire and the Spanish Civil War.

317 Hispanic Civilization in Latin America An overall view of the development of Hispanic cultures in the Americas, with special attention to the ethnic and religious blending of indigenous civilizations and Spanish culture. The course will include topics such as the conquest, independence, revolutions and relations with the U.S. and will relate these to religion, music, literature and film. (NTW)

319 Latin American Contemporary Popular Culture An exploration of the diverse forms of popular cultural production in Latin America. This course will focus on the diversity of Latin American cultures through a review of popular texts such as soap operas, popular music such as bolero and tango, and comic books. (NTW)
Theatre Arts

331 20th Century Spanish Writers In this course, students will examine 20th century literature from Spain, including the novel, drama, poetry, and the essay. Included are literary movements such as the Generation of '98 and the Generation of 1927. Topics studied will include the Spanish Civil War, the Franco period, and current post Fascist writing. All texts are read for their literary, cultural and historical values. (MWL)

333 20th Century Spanish American Writers In this course, students will examine 20th century literature from Spanish America, including the novel, drama, poetry, and the essay. Included are topics such as the "boom" and testimony in narrative, and modernism, postmodernism, and vanguard movements in poetry. All texts are read for their literary, cultural and historical values. (NTW)

335 Hispanic Film In this course, students will analyze several representative films from Spain and Latin America by such directors as Bunuel, Almodovar, Gutierrez Alea, Littin, Bemberg, and Solas. All films will be studied as social, historical and cultural texts. (NTW)

431 Latinos in the United States An exploration of the role of Chicanos, Puerto Ricans, Cuban Americans and other Hispanics in the U.S. through an investigation of exemplary literature, cinema, and music. While many of the texts are bilingual or in English, this course will be conducted entirely in Spanish. (NTW)

433 Hispanic Women A study of the changing roles of women in Spain and Spanish America from Medieval times to the present. Representations of women in texts written by men will be analyzed in relation to the way that women represent themselves and respond to patriarchy, language, desire, and identity.

435 Representing the Native American as Self and Other An exploration of writing from Pre-Colombian texts, such as the Popol Vuh, through the colonial period, in writers such as Garcilaso de la Vega, el Inca, to the 20th century in writers such as Jose Maria Argueda and Rigoberta Menchu. (NTW)

485 Spanish Term Abroad A study abroad program is normally offered alternate years by the Spanish section of the language department. Junior and/or senior students participating in that program would register for this course.

490 Senior Project Required of all majors. A thesis or other appropriate work which demonstrates the student’s proficiency in Spanish.

THEATRE ARTS

Theatre can move us to laughter or tears, define our hopes and fears and express our passions. It can offer us a vision of the commonalities of human experience, make us aware of differences and manifest the realities and fantasies of our lives. To study the ways dramatists have sought to explain and to portray the complexities of life and to examine the rich and varied traditions of the theatre is to study history, literature, art, language, philosophy, sociology and psychology. To study the art of performance and production is to sharpen the skills of observation, communication and critical thinking.

Hartwick’s theatre arts curriculum, offered by the Department of English and Theatre Arts, is designed to be part of a liberal education and to meet the needs of students planning a career in theatre as well as the needs of those who choose theatre as a way to enrich their lives. The three core courses—Introduction to Theatre, Play Production, and Senior Project—all deal with the process of analyzing a script, designing a production and rehearsing and presenting a performance. Using a combination of classroom study and practical experience, these courses are intended to develop progressively the director/designer, a person capable of taking a play from an idea to a polished performance. The rest of the curriculum is intended to support and to extend the core, and covers acting, set and lighting design, theatre history and dramatic literature.

A great deal of the learning in theatre arts takes place outside the classroom: in the rehearsal hall, in the shops and in our three performance spaces. A typical year will see three major productions and as many as fifteen student directed plays. The theatre program also offers technical support to the Hartwick dance program; and to a large number of visiting dance, theatre and musical events. Developing actors, directors, designers and technicians find plenty of chances to hone their skills at Hartwick.

Music theatre and playwriting are two special areas of theatre that have begun to blossom at Hartwick. Working closely with the music department, theatre arts majors can develop an emphasis in music theatre. The close relationship with the writing program in English has led to the production of several original plays written by both students and professionals. The most notable of these were Ghost Dance, written for Hartwick by Nobel Laureate Derek Walcott and
a Region II winner in the American College Theatre Festival XXII in 1990, and student Rob Shimko’s *Specks*, the co-winner of the National Short Play Award for the Kennedy Center American College Theatre Festival XXX in 1998.

The student drama club, Cardboard Alley Players, and the drama honorary, Alpha Psi Omega, are very active. They promote theatre trips and host visits by theatre professionals as well as mount some of their own shows. January Term off-campus classes are offered in New York City and England. These courses provide more opportunities to see professional productions and to meet the people who produce them. Theatre students are encouraged to pursue the many internship and apprentice opportunities offered by professional theatre companies.

Recent theatre arts graduates have gone—some directly and some with additional training—into jobs in acting, technical theatre and theatre management. Others have used their theatre training as part of their preparation for work in film, television and teaching. Equally important, however, are those students who left Hartwick with majors in biology, computer science and English but who carried with them an informed love of the theatre gained on Hartwick’s stages.

**Faculty**

**Theatre Arts Faculty:** Duncan B. Smith, director; Kenneth Golden; Debora Merloa

**Part-time Faculty:** Janet Bresee

**Courses**

101-02-03 *Applied Theatre* (half course unit) Active participation backstage or acting responsibilities in a major college production. May not be repeated for the same experience. Prerequisite: Permission of the instructor.

101 *Acting*

102 *Production Lab*

103 *Stage Managing*

105 *Musical Theatre Production* (same as Musi 105). Study, rehearsal and performance of a musical theatre piece. Students will be cast in a role or assigned a production responsibility and will be coached and directed by the staff. An emphasis will be placed on the development through practice of skills in singing; acting; dancing; and in the designing, lighting and running of a production. Significant time will also be given to looking at literary, thematic and historical aspects of the piece to be produced with the intent of developing a sensitivity to the special qualities of musical theatre. Whether Musi or TA, this course may only be taken twice for credit. Consent of instructor (CPA)

109 *Off-Campus Production* (half course unit) Designed to give credit for significant participation, on or off stage, in an off-campus theatrical production. The work must be approved by a member of the Hartwick theatre faculty and a system of evaluation established with the appropriate member of the production staff. May not be repeated for the same kind of experience, and only one unit may count toward graduation. Permission required

110 *Introduction to Movement and Dance for the Theatre* (half course unit) Body training in movement technique using rhythm dynamics, space and gesture. Learning basic dance skills including jazz, tap, ballet, modern. Foundation for dance classes.

111 *Modern Dance* (half course unit) An introduction to modern dance technique and the use of the body as an instrument of expression.

112 *Ballet I* (half course unit) Introduction to the fundamentals of classical ballet consisting of basic barre, center work and movement through space.

115 *Dance Rehearsal and Performance* (half course unit) Open to members of Orchesis, the College dance club, the course requires a significant number of hours in rehearsal to be determined by the Orchesis club advisor. Can also be taken for physical education credit. May be repeated once.

120 *Introduction to Theatre Arts* An introduction to playwriting, script analysis, production and performance designed for students interested in gaining more from reading and watching plays as well as for those beginning a serious study of theatre. In addition to reading several short plays and discussing the creative steps required to mount them, students will work in small groups writing and producing their own play, will see and critique a number of local productions and will work on a Hartwick production. (CPA)

140 *Fundamentals of Acting* A practical investigation of the basic theories of acting as a fine art. Emphasis will be on training the actor in the use of physical and mental abilities as effective tools of dramatic expression. (CPA)
**Theatre Arts**

**Requirements for the major:** Eleven and one half course units, distributed as follows:

**Six theatre arts courses:**
- 120 Introduction to Theatre Arts
- 140 Fundamentals of Acting
- 220 Play Production
- 231 Fundamentals of Theatrical Design
- 450 Seminar in Theatre
- 490 Senior Project

**One of the following courses:**
- 331 Stage Lighting and Advanced Design
- 240 Advanced Acting
- 215 Oral Interpretation (Engl)

**Four of the following dramatic literature and theatre history courses:**
- 320 Classical Theatre and Drama (Engl)
- 321 Studies in Drama to 1850 (Engl)
- 322 Studies in Modern Drama (Engl)
- 336 Shakespeare I (Engl)
- 337 Shakespeare II (Engl)
- 274 Theatre History I
- 275 Theatre History II
- Selected Topics (Engl 250, Engl 350, or TA 250) when appropriate

**One half-course: distributed as follows:**
- For students taking either Advanced Acting (TA 240) or Oral Interpretation (Engl 215), one of the following:
  - 110 Basic Movement
  - 111 Modern Dance
  - 112 Ballet I
  - 212 Ballet II
- For students taking Stage Lighting and Advanced Design (TA 321), one of the following:
  - 102 Production Lab
  - 103 Stage Management

**Requirements for the minor:** Six course units distributed as follows:

- 120 Introduction to Theatre Arts
- 140 Fundamentals of Acting
- 231 Fundamentals of Theatrical Design
- One dramatic literature or theatre history class
- Two of the following courses:
  - 220 Play Production
  - 331 Stage Lighting and Advanced Design
  - 240 Advanced Acting
- One additional dramatic literature or theatre history class

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145 Musical Theatre: The Evolution and Mechanics of “Broadway” (same as Musi 145) Music in a theatrical context. Emphasis upon the American stage: Broadway musicals and American operettas. The historical and technical development of the music-drama medium. Students, divided into small groups, produce and perform original scenes and songs as a term project with the instructor’s assistance. (CPA)

205 Theatre in New York City Based in part on campus and in part in New York City. This course will allow students to see a wide variety of theatrical productions and to study the history of Broadway and off-Broadway production since 1910. In New York students will see productions, meet professionals and tour theatres. Prerequisite: permission of the instructor. Offered in January. Fee involved. (CPA)

212 Ballet II (half course unit) Concentration on classical ballet technique, barre, center work and movement through space. Prerequisite: Ballet I or permission of the instructor.

220 Play Production Each student in this course will select, analyze, design, cast, rehearse, promote and present a short one-act play—gaining experiential knowledge of the roles of the producer, director and designer. Class discussion and exercises will focus on such matters as selecting the play, budgeting, advertising, organizing the production team and calendar, developing a production concept, casting, blocking, working with actors, creating a prompt book, making a model of the set, planning costumes, props, makeup, lights and sound, setting cues and polishing the performance. Prerequisite: TA 120. (CPA)

231 Fundamentals of Theatrical Design An introduction to the processes and methods of designing the visual and aural worlds of staged performance based on thematic elements and creative collaboration. Topics include scenery systems, light, costume, sound design, stagecrafts, graphic methods and production organization. (CPA)

237 Reconstructing Shakespeare’s Company A simulation of the workings of Shakespeare's theatrical company as it prepares to produce one of his comedies for the Elizabethan public theatre. Students take on roles both as characters in the comedy, to be produced in a workshop performance at the end of the course,
and as members of the acting company. Activities include script analysis, discussions of Elizabethan culture and theatrical practice, and improvisations based on research into the period. Laboratory sessions are devoted to rehearsal. Counts in the theatre major as a course in theatre history. (Cross-listed as Engl 237) (CPA)

240 Advanced Acting Advanced projects in period styles of acting with opportunity for practical experience. Prerequisite: TA 140 and TA 110, 111 or 112

250 Selected Topics A course at the advanced level, the content of which is determined according to the special interest of the instructor and students.

260 The Art of Cinema An examination of the visual, aural and narrative language systems used to convey meaning in this most popular of art forms. From the most specific components of cinematic art (photography, visual composition, scoring, dialogue, acting) to the most abstract (critical, dramatic and literary theory). The course will provide the starting points for the students’ personal “cineliteracy.” (CPA)

274 History of the Theatre I Study of the evolution of Western drama, theatrical styles and production modes from 500 B.C. to the Renaissance.

275 History of the Theatre II Study of the evolution of drama, theatrical styles and production modes from the Restoration to contemporary theatre forms. Prerequisite: TA 274 or permission of the instructor.

303 Theatre in England Based in London and Stratford-upon-Avon, the class will attend 10 or more productions offered by the Royal Shakespeare Company, The Royal National Theatre, West End theatres and Fringe companies. Students will also visit theatres, museums and historic sites and will talk with a number of British theatre professionals. There will also be time for students to explore the London area on their own. Prerequisite: permission of the instructor. Offered alternate January Terms. Fee involved. (CPA)

331 Stage Lighting and Advanced Design An intensive study of the role of light as an artistic component of theatrical production as well as related technologies in special effects, technical direction and workplace safety. This course will place an emphasis on the creative process, from play selection to opening night. Prerequisite: TA 102 or TA 103 and TA 231(CPA)

450 Seminar in Theatre Group study of selected topics of current interest in the field of theatre and dramatic literature. Required of all majors and open to non-majors by permission.

490 Senior Project In consultation with the theatre faculty, each theatre major will in the spring of his or her junior year propose a significant theatre project for completion in the senior year. Normally this will involve directing and designing a play to be included in the department's production season. Major design or research projects will also be considered. Prerequisites: TA 120, 220, 231, senior standing, and substantial completion of the theatre arts major.

U.S. ETHNIC STUDIES MINOR

This academic minor focuses on the comparative study of race and ethnicity in the United States as it uniquely intersects with the international context (with special emphasis on those groups that have historically borne the brunt of discrimination, enslavement and even extermination in the process of European expansion in the Americas). The comparative focus assumes that there are general processes that underlie the formation of ethnic identity and “race” relations in a wide range of social contexts. The program aims to expose students to the contributions of diverse groups of Americans to U.S. society and culture. To that end, the minor provides access to a range of analytical tools with which to examine the histories, experiences and cultures of America’s racial and ethnic groups and their relationships to each other and to the dominant culture. Interested students should contact Dr. Edythe Ann Quinn.

Objectives of the U.S. Ethnic Studies Minor are:
1. To provide students with an understanding of the socially constructed “nature” of race and ethnicity.
2. To help students understand the debates about the biological basis of human diversity.
3. To teach the histories, cultures and contributions of U.S. racial and ethnic groups in ways that highlight the differences and similarities of ethnic experience and expression as well as the responses to racial/ethnic discrimination and its relationship to other historical inequalities such as class and gender.
4. To help prepare students to participate in an increasingly diverse world and promote a more just society.
5. To introduce the disciplinary scholarship of ethnic studies.
6. To provide opportunities for students to experi-
U.S. Ethnic Studies Minor

Requirements for the minor in U.S. Ethnic Studies: Six courses, two of which are core to all students in the minor. No more than two courses in the student's major field may count toward the minor. The core courses are the Introductory Course and the Capstone Seminar.

Introductory Course (Theory/History) All students, regardless of concentration, are required to take an introductory course on ethnicity which prepares them to look at the materials in their area of concentration with reference to current theory in the study of ethnicity. Students are encouraged to take this course as early as possible and before completing the other requirements of the minor. Students may select as their introductory course one of the following courses:

- 250 Hispanic and African-American Cultures (Anth)
- 279 American Ethnic History (Hist)
- 150 FYS: Politics of Race and Gender (Posc)
- 250 Race and Ethnicity (Soci)
- 250 Economics of Race and Gender (Econ)

Capstone Seminar This seminar is designed to explore a set of significant social and ethical issues from several cultural and ethnic perspectives. In the process, students will be encouraged to apply the knowledge and analytical skills they have acquired while pursuing the minor in U.S. Ethnic Studies. This will be carried out through a dialogue with their peers and the faculty seminar leader(s).

More specifically, the seminar seeks to:

1. Recognize and examine the complexity of the social, personal and moral questions involved in addressing U.S. cultural diversity.

2. Develop in a student a capacity for listening, understanding, and applying concepts, techniques, and value assessments applied by their peers or the faculty seminar leader(s) to the issues at hand.

Courses that satisfy the Capstone Seminar requirement will be so identified among the Contemporary Issues Seminars (CIS) in the Interdisciplinary (INTR) section of the annual schedule of courses.

Concentrations Students in the minor, in consultation with an advisor, can choose from three areas of concentration:

- African American Concentration Four courses, selected as follows.
  - At least one course dealing with Africa, selected

WOMEN’S STUDIES MINOR

Over the past two decades, a distinct body of scholarship on gender has developed in almost every academic field. This scholarship raises basic questions about
U.S. Ethnic Studies Minor

from the following:
237 Peoples and Cultures/South Africa (Anth)
237 Peoples and Cultures/West Africa: Roots of American Culture (Anth)
335 Third World Studies:Africa (Anth)
335 Third World Studies:African Colonialism (Anth)
350 World Music: Music of Africa (Musi)
281 African Politics (Posc)

At least two courses in at least two departments, selected from the following:
250 African-American Literature (Engl)
241 African-American History (Hist)
250 African-Americans in the North (Hist)
250 Civil Rights Movement in the 20th Century (Hist)
325 Comparative Slave Systems (Hist)
330 Slavery and Abolition in America (Hist)
351 Civil Rights Seminar (Hist)

Native American Concentration
Four courses, selected as follows: One course, selected from the following:
241 Native North American Prehistory (Anth)
275 The Indians in American History I (Hist)
The following course:
276 The Indians in American History II (Hist)
Two courses, selected from the following:
250 20th Century Native American Fine Art (Art)
350 Native American Literature (Engl)
310 CIS: Indians in Contemporary Literature (Intr)
150 Native American Religions (Reli)

Comparative Concentration In this concentration students select from a range of courses that deal with race and ethnicity (listed below). These courses are divided into three focuses: Theoretical, International and United States. After taking the introductory course in the minor, the student who elects this option must work with the coordinator to create a program of study that while focused and comparative, examines race and ethnicity both nationally and internationally.

In addition to the Introductory Course and the Capstone Seminar, the student will select four courses from the following lists, with at least two courses from the United States focus:

Theory
346 Race and Human Variability (Anth)
250 Hispanic and African-American Cultures (Anth)
250 Economics of Race and Gender (Econ)
250 Economics of Plantations (Econ)
279 American Ethnic History (Hist)
325 Comparative Slave Systems (Hist)
310 CIS: Human Diversity (Intr)
310 CIS: Philosophy, Race and Gender (Intr)
150 FYS: Politics of Race and Gender (Posc)
230 Poverty and Affluence in American Society (Soci)
240 Women and Social Change (Soci)
250 Race and Ethnicity (Soci)
330 Language and Society (Soci)

International
237 Peoples and Cultures/South Africa (Anth)
237 Peoples and Cultures/West Africa: Roots of American Culture (Anth)
250 Crossing Cultures: U.S./Jamaica (Anth)
335 Third World Studies: Africa (Anth)
335 Third World Studies:African Colonialism (Anth)
260 Caribbean Literature (Engl)
201 History of Latin America/The Colonial Period (Hist)
202 History of Latin America/The Modern Period (Hist)
350 Women in Latin America (Hist)
310 Music of the World’s Cultures (Musi)
350 World Music: Music of Africa (Musi)
261 Latin American/Caribbean Politics (Posc)
281 African Politics (Posc)
335 Third World Studies: The Islamic World (Soci)
335 Third World Studies: India (Soci)
246 Latin American Literature in English (Span)
333 Survey of Latin American Literature I (Span)
334 Survey of Latin American Literature II(Span)

United States
241 Native North American Prehistory (Anth)
250 Hispanic and African-American Cultures (Anth)
104 American Art History (Art)
250 20th Century Native American Fine Art (Art)
250 African-American Literature (Engl)
350 Native American Literature (Engl)
241 African-American History (Hist)
250 African-Americans in the North (Hist)
250 Ethnic Communities in Modern America (Hist)
275 The Indians in American History I (Hist)
276 The Indians in American History II (Hist)
279 American Ethnic History (Hist)
330 Slavery and Abolition in America (Hist)
310 CIS: Indians in Contemporary Literature (Intr)
335 Constitutional Law (Posc)
150 Native American Religions (Reli)
250 Immigration in American History: Colonial to Current (Hist)
Women’s Studies Minor

women, men and society which transcend disciplines and challenge traditional ways of teaching and conducting research. The feminist framework informing women’s studies addresses the following issues with respect to gender:

1. It challenges the androcentric bias in thought, language and social and intellectual systems.
2. It rethinks the central western dualisms—i.e., mind/body, subject/object, thinking/doing.
3. It involves a critique of all forms of oppression including class, race, sex, sexual-affectional preference, 1st world-3rd world, violence, militarism, ecological destruction, political inequality and hierarchies of power.

Students interested in the minor should consult the coordinator of the program, Teri Ann Doerksen.

Intr 166 Introduction to Women’s Studies This course introduces students to feminist scholarship and acquaints them with the intellectual, ethical, social, political, historical and cultural forces constructing gender. The class is interdisciplinary and grounded in feminist pedagogy.

(Required)

Intr 360 Seminar in Women’s Studies This seminar explores a broad range of classical and contemporary feminist theory and contrasts it with existing, normative theoretical paradigms. A feminist framework is used to focus on a specific academic field, i.e., history, literature, labor, science. Emphasis is placed on cultivating self-development through student participation in pedagogical experimentation, project creation and reading choices.

Prerequisite: two of the courses listed on page 150 or permission of the instructor.

Directed and independent courses in women’s studies may be arranged in consultation with the program’s faculty.

Faculty

Women’s Studies Faculty: Mary Allen, Connie Anderson, Betsey Ayer, Robert Bensen, Carlena Ficano, David Cody, Fiona Dejardin, Teri Ann Doerksen, Susan Gotsch, Alan Hirsch, Wanda Jagocki, Laurel Elder, Kath Kreischer, Cherilyn Lacy, Adrian McFarlane, Lawrence Mirarchi, Kim Noling, Katherine O’Donnell, Edythe Ann Quinn, Margaret Schramm, Linda Swift, Mary Vanderlaan, Marilyn Wesley

Requirements for the minor in Women’s Studies:

Six Courses:

Five courses, selected from the following:

150 Sexual Differentiation & Reproduction (Biol)
166 Introduction to Women’s Studies (Intr): required
227 Perspectives in Women’s Health (Intr)
250 Women in Fiction (Engl)
250 Economics of Race and Gender (Econ)
250 History of Women in U.S. Health Care (Hist)
250 Women and Fiction (Engl)
250 Politics of Race and Gender (Posc)
250 Reform Movements (Hist)
250 Women and Healing (Soci)
250 Women and Art (Art)
242 Women in American History (Hist)
207 Psychology of Women (Psyc)
240 Women and Social Change (Soci)
250 Women in Europe Since 1500 (Hist)
261 Sex and Gender Roles (Anth)
307 Psychology of Women (Psyc)

310 Disney film: Gender and Culture (Intr)
310 Women in Music (Intr)
310 Philosophy, Race and Gender (Intr)
310 Sexual Orientation and the Law (Intr)
322 Women, Politics and Development (Posc)
350 Gender and Science (Hist)
350 Labor and Society (Soci)
350 African American Women Writers (Engl)
350 Native American Literature (Engl)
350 Women in Latin America (Hist)
350 Gender & Science (Hist)
350 New England Women Writers (Engl)
350 Women in Poetry (Engl)
450 Victorian Women Novelists (Engl)
450 Virginia Woolf (Engl)

Internship: an internship related to women’s studies is strongly recommended as one of the six courses and will be arranged through the Internship Office.

AND

360 Capstone Seminar in Women’s Studies