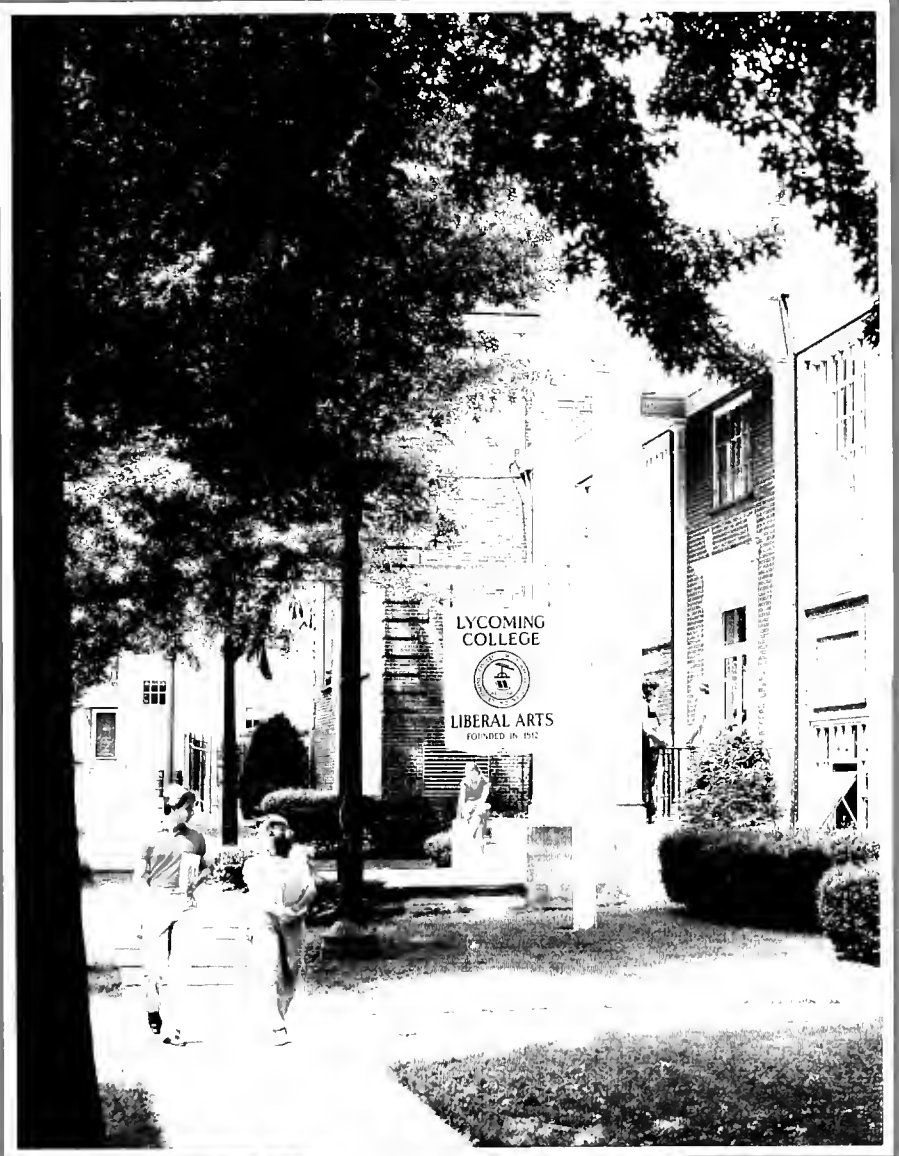


*Catalog 1982-83*



**LYCOMING COLLEGE**

## *Communicating with Lycoming College*

Please address specific inquiries as follows:

Director of Admissions:

Admissions; requests for catalogs and other publications.

Treasurer:

Payment of bills; expenses.

Director of Student Financial Aid:

Scholarships and loan funds; financial assistance.

Dean of the College:

Academic programs; faculty; faculty activities.

Dean of Student Services:

Student activities; residence halls; religious life; health services; academic support services.

Registrar:

Student records; transcript requests; academic policies.

Career Development Center:

Career counseling; employment opportunities.

Director of Development:

Institutional relations; annual fund; gift programs.

Director of Alumni Affairs:

Alumni information.

Director of Public Relations:

Public information; publications; sports information.

All correspondence should be addressed to:

Lycoming College

Williamsport, Pennsylvania 17701-5192

The College telephone number is (717) 326-1951.

## *Visitors*

Lycoming welcomes visitors to the campus. If you would like a guided tour, call the Office of Admissions before your visit to arrange a mutually convenient time.

Lycoming College welcomes applications from prospective students regardless of age, sex, race, religion, handicap, finances, national or ethnic origin, or color. Lycoming does not discriminate on the basis of age, sex, race, religion, handicap, finances, national or ethnic origin, or color in the administration of any of its policies and programs.



# LYCOMING COLLEGE

*Catalog 1982-83*

## *Contents*

Welcome to Lycoming .....	3
The Academic Program .....	5
The Curriculum .....	20
Student Services.....	57
Admission.....	59
Financial Matters .....	60
Academic Calendar, 1982-1983.....	63
Directory .....	64
Index .....	71

## Welcome to Lycoming

Lycoming is an independent, coeducational college dedicated to providing the type of learning that can be used for a lifetime — the liberal arts and sciences.

Lycoming's academic relevance derives from its enduring commitment to the value of this type of education, as offered by a superior teaching faculty. The College's principal aim is to help students develop a central core of integrated values,

Students who have special interests not met entirely by a major field can design their own majors. Or, if they are interested in teaching, medicine, law, dentistry, or the ministry, they can take courses needed to enter their advanced study.

Students also can study engineering, forestry or environmental studies, podiatric medicine, optometry, medical technology, nuclear medicine technology, and sculpture

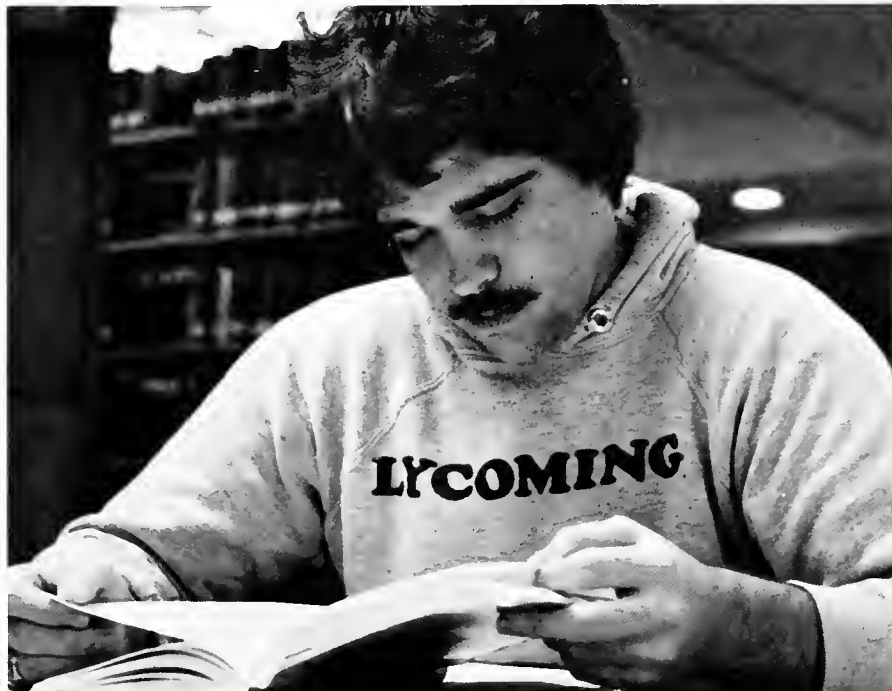
committees for prelaw, prehealth professions, and premedical students. The College also operates a wide-ranging internship program that allows students to earn academic credit while working at area businesses, government offices, and nonprofit organizations.

Lycoming's ratio of faculty to students is 15 to one, which means that most classes are small and there is abundant opportunity for individual attention. All faculty members teach. More than 70 percent of Lycoming's faculty hold the highest degrees in their fields from the nation's outstanding colleges and universities. And, faculty members take their advising seriously. They care about students, and encourage and guide them so they receive the education they want.

Nineteen buildings sit on Lycoming's main campus. Most of them have been built since 1950. The modern buildings include the eight residence halls, the library, Arena Theatre, planetarium, student union, computer center, electronic-music studio, photography laboratory, art gallery, and physical education/recreation center. The computer center opened in 1979; the art gallery and phys-ed center opened in 1980.

Lycoming houses approximately 900 of its 1,200 students in the residence halls, which include double and single rooms. Most students find the campus friendly and comfortable, with all of the buildings easy to reach from anywhere on campus. Students come from a variety of economic classes, religious beliefs, and geographic areas, although most students call Pennsylvania, New Jersey, or New York their home. They work and play together in an atmosphere of respect and tolerance.

The College offers a variety of extracurricular activities. Student government groups help to plan campus activities and social events. Numerous clubs, honor societies, social fraternities and sororities, the yearbook and literary magazine, and



skill, information, and strategies while they learn to communicate, reason, make decisions, understand, and use their imagination. This type of education can lead to productive and fulfilling lives in many fields while allowing lifelong growth and development.

Lycoming awards bachelor of arts degrees in 29 major fields, a bachelor of fine arts degree in sculpture, and a bachelor of science degree in nursing. The curriculum is challenging. Because it is built upon the two principles of the liberal arts known as distribution and concentration, it allows students to study in breadth and depth.

through cooperative programs operated by Lycoming with other colleges and universities. Or, they can study abroad or in Harrisburg, Pa., Washington, D.C., or New York City through other off-campus study programs.

Most students complete their program of study in four years, usually by taking four courses each fall and spring semester. But students also can take one course during Lycoming's May term, or two courses during the summer term.

Recognizing students' concerns about careers, Lycoming offers extensive counseling through the Career Development Center and advisory

the band and widely acclaimed choir meet other student interests. Students who like to perform or compete can act on the Arena Theatre stage or play on intercollegiate or intramurai sports teams. Intercollegiate teams for men include football, soccer, basketball, wrestling, tennis, golf, swimming, and track and field. Intercollegiate teams for women include basketball, tennis, field hockey, swimming, and track and field.

In addition, students who like hiking, backpacking, skiing, camping, fishing, hunting, kayaking, spelunking, and other outdoor sports will find Lycoming's location ideal.

Lycoming is situated on a slight prominence near downtown Williamsport, a small city nestled along the West Branch of the Susquehanna River in northcentral Pennsylvania's rolling hills and valleys. Yet, the College is only a three or four hour drive away from

metropolitan centers such as New York City, Philadelphia, Pittsburgh, Washington, D.C., Baltimore, Syracuse, Rochester, and the New Jersey shore points. The Williamsport-metro area is home to about 75,000 persons.

Lycoming enjoys a relationship with The United Methodist Church. It supports the Methodist tradition of providing an education for persons of all faiths.

Fully accredited, Lycoming is a member of the Middle States Association of Colleges and Schools, and the University Senate of The United Methodist Church. It is a member of the Association of American Colleges, the Pennsylvania Association of Colleges and Universities, the Commission for Independent Colleges and Universities, the National Commission on Accrediting, and the National Association of Schools and Colleges of The United Methodist Church.

## HISTORY

Lycoming College was founded in 1812 as the Williamsport Academy, an elementary and secondary school. Thirty-six years later, the academy became the Williamsport Dickinson Seminary under the patronage of The Methodist Episcopal Church. The seminary operated as a private boarding school until 1929, when a college curriculum was added and it became the Williamsport Dickinson Seminary and Junior College. In 1947, the junior college became a four-year degree-granting college of liberal arts and sciences. It adopted the name Lycoming, derived from the Indian word "lacomic," meaning "Great Stream." The word Lycoming has been common to northcentral Pennsylvania since colonial days.



# Academic Program

## THE BACHELOR OF ARTS DEGREE

Lycoming is committed to the principle that a liberal arts education is the best hope for an enlightened citizenry. Consequently, the bachelor of arts degree is conferred upon the student who has completed an educational program incorporating the two principles of the liberal arts known as distribution and concentration. The objective of the distribution principle is to insure that the student achieves breadth in learning through the study of the major dimensions of human inquiry: the humanities, the social sciences, and the natural sciences. The objective of the concentration principle is to provide depth of learning through completion of a program of study in a given discipline or subject area known as the major.

### REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE

Every degree candidate is expected to complete the following requirements in order to qualify for graduation:

- complete the distribution program.
- complete a major consisting of at least eight courses while achieving a minimum grade point average of 2.0 in those courses.
- earn one year of credit in physical education. All students must demonstrate competence in swimming. (Medical exemptions may be granted by the College physician after an examination and review of the student's medical history and family physician's report.)
- pass a minimum of 128 semester hours (32 unit courses) with a minimum cumulative average of 2.0. Additional credits beyond 128 semester hours may be completed provided the minimum 2.0 cumulative

average is maintained.

- complete *in residence* the final eight courses offered for the degree at Lycoming.
- satisfy all financial obligations incurred at the College.
- complete the above requirements within seven years of continuous enrollment following the date of matriculation.

All exemptions or waivers of specific requirements are made by the Committee on Academic Standing.

## THE BACHELOR OF FINE ARTS DEGREE

The bachelor of fine arts degree is specifically designed to train professional artists. The BFA in sculpture is a synthesis of three diverse forms of education: a studio art program that emphasizes the skills and concepts of the visual language; an apprenticeship that takes technical expertise as the departure point, and the scholastic method employed in both art history and the general-education component.

### REQUIREMENTS FOR THE BACHELOR OF FINE ARTS DEGREE

Every BFA degree candidate is expected to complete the following requirements in order to qualify for graduation:

- complete the 12-course Art Department course of study.
- complete the distribution program.
- complete a total of 32 course units achieving a minimum grade point average of 2.0 in those courses taken within the College.
- complete one of the field specialization apprenticeships at the Johnson Atelier Technical Institute of Sculpture.
- earn one year of credit in physical education. All

students must demonstrate competence in swimming. (Medical exemptions may be granted by the College physician after an examination and review of the student's medical history and family physician's report.)

- complete *in residence* the final eight courses offered for the degree at Lycoming.
- satisfy all financial obligations incurred at the College.
- have a public exhibition of original art work and make an oral defense.

## THE BACHELOR OF SCIENCE IN NURSING DEGREE

The program of study leading to the bachelor of science in nursing degree is designed to prepare men and women as beginning practitioners of professional nursing, qualified for first-level positions in a variety of health settings or for graduate study in nursing. Upon satisfactory completion of the program, a graduate is eligible to write the State Board of Nursing examination for licensure as a registered nurse. The goal of the program is to develop a liberally educated and self-directed individual who is prepared to contribute to the welfare of the nation through the practice of professional nursing which supports the promotion and restoration of health of individuals and families in a variety of settings.

### REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN NURSING DEGREE

Every BSN degree candidate is expected to complete the following requirements in order to qualify for graduation:

- complete the 13 course major with a minimum cumulative average of 2.0, including the required May term following the junior year.

- complete the distribution requirement as modified for the BSN degree.
- complete a minimum of 128 semester hours (32 units) with a minimum cumulative average of 2.0.
- earn one year of credit in physical education. All students must demonstrate competence in swimming. (Medical exemption may be granted by the College physician after an examination and review of the student's medical history and family physician's report.)
- complete *in residence* the final eight courses offered for the degree at Lycoming.
- satisfy all financial obligations incurred at the College.
- complete the degree requirements within a five-year period after admission to the nursing major. Candidates who are unable to meet this requirement must petition for an extension.

## THE DISTRIBUTION PROGRAM

A course can be used to satisfy only one distribution requirement. Courses for which a grade of "S" is recorded may not be used toward the fulfillment of the distribution requirements. (Refer to page 9 for an explanation of the grading system.) A course in any of the following distribution requirements refers to a full-unit (four semester hours) course taken at Lycoming, any appropriate combination of fractional unit courses taken at Lycoming which accumulate to four semester hours, or any single course of three or more semester hours transferred from another institution.

**English** — All students are required to pass English 2 and one other English course, excluding English 1. English 2 should be taken during the freshman year and *must* be taken no later than the second semester (usual-

ly the spring semester) of the sophomore year. In addition, all students who have not been exempted from English 1 must receive a mark of "Satisfactory" in English 1 before being permitted to enroll in English 2. Students are placed in English 1 or 2 on the basis of their performance on the Achievement Examination in English Composition.

**Foreign Language or Mathematics** — Students are required to meet a minimum basic requirement in either a foreign language or the mathematical sciences.

*Foreign Language.* Students may choose from among French, German, Greek, Hebrew, or Spanish and are required to pass two courses on the intermediate or higher course level. Placement at the appropriate course level will be determined by the faculty of the Department of Foreign Languages and Literatures. Students who have completed two or more years of a given language in high school are not admitted for credit to the elementary course in the same foreign language except by written permission of the chairman of the department. French 28 and Spanish 28 will meet part of this requirement only if the section taught in the language is completed.

*Mathematics.* Students are required to demonstrate competence in basic algebra and to pass three units of mathematical science other than Mathematics 5. Competence in basic algebra may be demonstrated either by passing the basic algebra section of the Mathematics Placement Examination or by passing Mathematics 5. By demonstrating higher competence on the Mathematics Placement Examination, students may reduce the requirement to two units of mathematical science. *No more than 1½ units may be taken in computer science.*

**Religion or Philosophy** — Students are required to pass two courses in either religion or philosophy. Any two religion courses may be used to

fulfill the philosophy/religion distribution requirement, with this exception: only *one* course from the combination Religion 20-21 may be selected for distribution.

**Fine Arts** — Students are required to pass two courses as indicated in art, literature, music, or theatre.

*Art.* Any two courses.

*Literature.* Any two literature courses selected from the offerings of the Departments of English and Foreign Languages and Literatures (French, German, or Spanish).

*Music.* Any of the following combinations of music offerings totaling the equivalent of eight semester hours:

- two courses from those numbered Music 10 through Music 46.
- eight semesters of applied music (private lessons) and / or ensemble (choir, band) from courses numbered 60 through 69, earned fractionally as follows:
  - (1) for private lessons (Music 60 through 66), a one-half hour lesson per week earns one-half hour of credit; a one-hour lesson earns one hour of credit. Note: There are extra fees for these lessons. (For details see Department of Music course offerings described elsewhere in this catalog.)
  - (2) credit may be earned for participation in the College choir (Music 68) and / or band (Music 69); however, a student may earn no more than one hour each semester even though participating in both band and choir. (For further details, please see the Department of Music offerings elsewhere in this catalog.)

*Theatre.* The fine arts distribution requirement may be satisfied by selecting any two of the following recommended courses: Theatre 10, 11, 14,



18, 32, 33, or other courses with the consent of the instructor.

**Natural Science** — Students are required to pass any two courses in one of the following disciplines: astronomy / physics, biology, chemistry.

**History and Social Science** — Students are required to pass two courses as indicated in economics, history, political science, psychology, or sociology / anthropology.

*Economics.* Any two courses.

*History.* Any two courses.

*Political Science.* Any two courses.

*Psychology.* Any two courses.

*Sociology / Anthropology.*

Sociology / Anthropology 10 plus another course.

## THE MAJOR

Students are required to complete a series of courses in one departmental or interdisciplinary (established or individual) major. Specific course requirements for each major offered by the College are listed in the curriculum section of this catalog. Students must earn a 2.0 or higher grade-point average in those courses stipulated as comprising the major. (This requirement is not met by averaging the grades for all courses completed in the major department.) Students must declare a major by the beginning of their junior year. Departmental and established interdisciplinary majors are declared in the Office of the Registrar, whereas individual interdisciplinary majors must be approved by the Committee on Curriculum Development. Students may complete more than one major, each of which will be recorded on the transcript. Students may be removed from major status if they are not making satisfactory progress in the major. This action is taken by the Dean of the College upon the recommendation of the department, coordinating committee (for established interdisciplinary majors), or Curriculum Development

Committee (for individual interdisciplinary majors). The decision of the Dean of the College may be appealed to the Academic Standing Committee by the student involved or the recommending department or committee.

**Departmental Majors** — Departmental majors are available in the following areas:

Accounting	German,
Art	Spanish
Astronomy	History
Biology	Mathematics
Business	Music
Administration	Nursing
Chemistry	Philosophy
Computer Science	Physics
Economics	Political Science
English	Psychology
Foreign	Religion
Languages and	Sociology /
Literatures	Anthropology
French,	Theatre

**Established Interdisciplinary Majors** — The following established interdisciplinary majors include course work in two or more departments:

Accounting-	International
Mathematical	Studies
Sciences	Literature
American	Mass
Studies	Communications
Criminal	Near East Culture
Justice	and Archaeology

**Individual Interdisciplinary Majors** — Students may design a major which is unique to their needs and objectives and which combines course work in more than one department. This major is developed in consultation with the student's faculty adviser and with a panel of faculty members from each of the sponsoring departments. The application is acted upon by the Curriculum Development Committee. The major normally consists of 10 courses beyond those taken to satisfy the distribution re-

quirements. Students are expected to complete at least six courses at the junior or senior level. Examples of individual interdisciplinary majors are Racial and Cultural Minorities, Illustration in the Print Medium, Environmental Law, Advertising, Human Behavior, and Images of Man.

**Major in Sculpture Leading to Bachelor of Fine Arts Degree** — Through a cooperative program with the Johnson Atelier Technical Institute of Sculpture, Princeton, New Jersey, students may earn a BFA degree in sculpture. The major consists of a core academic program, a course of study in art, elective courses, and an apprenticeship at the Johnson Atelier.

## THE MINOR

The College awards a minor in recognition of concentrated work in an area other than a student's major. The requirements for a minor vary from department to department and students interested in pursuing a minor in a department should consult that department for its policy regarding minors.

The minor must be approved and named appropriately by a major-granting department subject to the following limitations:

- a minor must consist of a minimum of four unit courses selected from among the courses that are offered by one department.
- a major department may count no more than two elementary courses as part of a minor.
- if a major department counts an elementary course as part of the minor, then the minor must consist of at least five courses; if the major department counts two elementary courses as part of the minor, then the minor must consist of at least six courses.

- no course which is counted as part of a student's major may be counted as part of his minor.
- only one of the four courses may be numbered 50 or above.
- no student with two majors may receive a minor.
- no student may receive two minors.
- a student's minor must be in an area different from his major and a student may not receive a minor from his major department unless his major department is foreign languages or mathematical sciences.
- A student may not receive a minor unless his average in the courses which a department counts for his minor is a minimum of 2.0.

Students must declare their intention to minor in a department by signing a form available from the department's chairperson. The name of the minor a student receives will be noted on the student's transcript.

#### ACADEMIC ADVISEMENT

One advantage of a small college is the rich experience gained by the close association of students and faculty. The advisement program at Lycoming enables students to discuss academic and other problems as well as opportunities with faculty advisers, instructors, and the staffs of the Dean of the College and the Dean of Student Services.

During the summer orientation, freshmen are assigned a faculty adviser who is prepared to assist new students with the challenges of an unfamiliar social and academic environment. All students are required to have a faculty adviser. When students have declared a major, they are then assigned an adviser from within the major department or program.

Although the advisement program is an important part of the Lycoming

academic experience, students are expected to accept full responsibility for their academic programs, including satisfactory completion of program and College-wide requirements.

Special advising for selected professions is provided by the health, legal, and theological professions advisory committees. Students interested in these professions should register with the appropriate committee during their first semester of enrollment at Lycoming or immediately after they decide to enter these professions.

#### Preparation for Health Professions

— The program of pre-professional education for the health professions (allopathic, dental, osteopathic, podiatric and veterinary medicine, optometry, pharmacy) is organized around a solid foundation in biology, chemistry, mathematics, and physics and a wide range of subject matter from the humanities, social sciences, and fine arts. At least three years of undergraduate study is recommended before entry into a professional school; the normal procedure is to complete the bachelor of arts degree.

Students interested in one of the health professions or in an allied health career should make their intentions known to the admissions office when applying and to the Health Professions Advisory Committee (HPAC) during their first semester. The committee advises students concerning preparation for and application to health-professions' schools. All pre-health professions students are invited to join the student pre-health professions association. (See also cooperative programs in podiatric medicine, optometry, and medical technology.)

#### Preparation for Legal Professions

— Lycoming offers a strong academic preparation for students interested in law as a profession. Admission to law school is not predicated upon a particular major or

area of study; rather, a student is encouraged to design a course of study (traditional or interdisciplinary major) which is of personal interest and significance. While no specific major is recommended, there are certain skills of particular relevance to the pre-law student: clear writing, analytical thinking, and language comprehension. These skills should be developed during the undergraduate years.

Pre-law students should register with the Legal Professions Advisory Committee (LPAC) upon entering Lycoming and should join the Pre-Law Society on campus. LPAC assists the pre-law student through advisement, compilation of recommendations, and dissemination of information and materials about law and the legal profession. It sponsors Pre-LSAT workshops to help prepare students for the law boards and an annual Pre-law Night which brings admission deans, law students, and practicing lawyers on campus. The Pre-Law Society has sponsored films, speakers, and field trips, including several to the United States Supreme Court.

#### Preparation for Theological Professions

— The Theological Professions Advisor Committee (TPAC) acts as a "center" for students, faculty, and clergy to discuss the needs of students who want to prepare themselves for the ministry, religious education, advanced training in religion, or related vocations. Also, it may help coordinate internships for students who desire practical experience in the parish ministry or related areas. Upon entering Lycoming, students should register with TPAC if they plan to investigate the religious vocations.

In general, students preparing to attend a theological seminary should examine the suggestions set down by the Association of Theological Schools (available from TPAC). Recommended is a board program in the liberal arts, a major in one of the

humanities (English, history, languages, literature, philosophy, religion) or one of the social sciences (American studies, criminal justice, economics, international studies, political science, psychology, sociology-anthropology), and a variety of electives. Students preparing for a career in religious education should major in religion and elect five or six courses in psychology, education, and sociology. This program of study will qualify students to work as an educational assistant or a director of religious education after graduate study in a theological seminary.

## REGISTRATION

During the registration period, students file a schedule form with the Office of the Registrar. The filing of this form by students and its acceptance by the College is evidence of a commitment by students to perform in the courses listed to the best of their abilities. Any changes in the schedule of courses listed on the form, including changes in sections, without the formal approval of the Office of the Registrar will result in a grade of F. Students may not receive credit in courses in which they are not registered. Registration procedures may not be initiated after the close of the registration period.

During the first five days of classes, students may drop any course without any record of such enrollment appearing on the permanent record, and they may add any course that is not closed. Students wishing to drop a course between the fifth day and the 12th week of classes must secure a withdrawal form from the Office of the Registrar, which is presented to the instructor of the course in question, who assigns a withdrawal grade based on the level of the student's performance from the beginning of the course to the date of withdrawal. Withdrawal grades are not computed in the grade point average. Students may not withdraw from courses after the 12th

week of a semester and the comparable period during the May and summer terms.

In two-credit ( $\frac{1}{2}$  unit) courses meeting only during the last half of any semester, students may drop / add for a period of five days, effective with the mid-term date shown on the academic calendar. Withdrawal from half-semester courses with a withdrawal grade may occur within six weeks of the beginning of the course. It is understood that the period of time at the beginning of the semester and at the mid-point of the semester will be identical; for example, a period of five days as indicated above.

## THE UNIT COURSE SYSTEM

Instruction at Lycoming College is organized, with few exceptions, on a departmental basis. Most courses are unit courses, meaning that each course taken is considered to be equivalent to four semester hours of credit. Exceptions occur in applied music courses, which are offered for either one-half or one semester hour of credit, and in departments that have elected to offer certain courses for the equivalent of two semester hours of credit. Further, independent studies and internships carrying two semester hours of credit may be designed. The normal student course load is four courses during the fall and spring semesters. Students who elect to attend the special sessions may enroll in one course during the May term and one or two courses in the summer term. A student is considered full time when enrolled for a minimum of three courses during the fall or spring semesters, one course for the May term, and two courses for the summer term. Students may enroll in five courses during the fall and spring semesters if they are Lycoming Scholars or were admitted to the Dean's List at the end of the previous semester. Exceptions may be granted by the Dean of the College. Overloads are not permitted during the May and summer terms.

## THE SYSTEM OF GRADING AND REPORTING OF GRADES

The evaluation of student performance in credit courses is indicated by the use of traditional letter symbols. These symbols and their definitions are as follows:

**A Excellent** — Signifies superior achievement through mastery of content or skills and demonstration of creative and independent thinking.

**B High Pass** — Signifies better-than-average achievement wherein the student reveals insight and understanding.

**C Pass** — Signifies satisfactory achievement wherein the student's work has been of average quality and quantity. The student has demonstrated basic competence in the subject area and may enroll in additional course work.

**D Low Pass** — Signifies unsatisfactory achievement wherein the student met only the minimum requirements for passing the course and should not continue in the subject area without departmental advice.

**F Failing** — Signifies that the student has not met the minimum requirements for passing the course.

**I Incomplete Work** — Assigned in accordance with the restrictions of established academic policy.

**R A Repeated Course** — Students shall have the option of repeating courses for which they already have received a passing grade in addition to those which they have failed. No credit is received for the second attempt. Grades will be averaged.

**S Passing Work, no grade assigned** — Converted from traditional grade of D or better.

**U Failing work, no grade assigned.** — Converted from traditional grade of F.

**X Audit** — Work as an auditor for which no credit is earned.

**W Withdrawal** — Signifies withdrawal from the course early in the term when it cannot be determined that the student is passing or failing.

WP *Withdrawal, passing* — The student was passing at the time of withdrawal; no credit is earned.

WP *Withdrawal, failing* — The student was failing at the time of withdrawal; no credit is earned.

Use of the satisfactory / unsatisfactory grading option is limited as follows (this does not apply to English 1):

- students may enroll on an S / U basis in no more than one course per semester and no more than four courses during their undergraduate career.
- S / U courses completed after declaration of the major may not be used to satisfy a requirement of that major, including courses required by the major department which are offered by other departments. (Instructor-designated courses are excepted from this limitation.)
- courses for which a grade of S is recorded may not be used toward fulfillment of any distribution requirement.
- students may not enroll in English 2 on an S / U basis.
- a course selected on an S / U basis which is subsequently withdrawn will not count toward the four-course limit.
- instructor-designated courses may be offered during the May term with the approval of the Dean of the College. Such courses are not counted toward the four-course limit.
- S / U grades are not computed in the grade point average.
- students electing the S / U option may designate a minimum acceptance letter grade of A or B. If the letter grade actually earned by the student equals or exceeds this minimum, that letter grade is entered on the student's permanent record and is computed in the grade point average. In such a case, the course does not count

toward the four-course limit. If the student does not indicate a minimum acceptable letter grade or if the letter grade actually earned is lower than the minimum designated by the student, the Registrar substitutes an S for any passing grade (A, B, C, or D) and a U for an F grade.

- students must declare the S / U option before the end of the period during which courses may be added during any given semester, half-semester, or term.
- instructors are not notified which of their students are enrolled on an S / U basis.
- students electing the S / U option are expected to perform the same work as those enrolled on a regular basis.

Incomplete grades may be given if, for absolutely unavoidable reasons (usually medical in nature), the student has not been able to complete the work requisite to the course. An incomplete grade must be removed within six weeks of the next regular semester.

Students shall have the option of repeating courses for which they already have received a passing grade in addition to those which they have failed. Recording of grades for all repeated courses shall be governed by the following conditions:

- a course may be repeated only one time.
- both attempts will be recorded on the student's transcript.
- credit for the course will be given only once.
- for the purpose of determining the student's G.P.A., the average grade received for the two attempts will be used as if it were the grade for a single course.
- a repeated course will be counted toward the total number of unsuccessful attempts.

## ATTENDANCE

The academic program at Lycoming is based upon the assumption that there is value in class attendance for all students. Individual instructors have the prerogative of establishing reasonable absence regulations in any course. The student is responsible for learning and observing these regulations.

## STUDENT RECORDS

The policy regarding student educational records is designed to protect the privacy of students against unwarranted intrusions and is consistent with Section 438 of the General Education Provision Act (commonly known as the Family Educational Rights and Privacy Act of 1974, as amended). The details of the College policy on student records and the procedures for gaining access to student records are contained in the current issue of *The Pathfinder*, which is available in the library and the Office of the Dean of the College.

## ACADEMIC STANDING AND ACADEMIC HONESTY

Students will be placed on academic probation if either the number of hours completed or cumulative grade point average falls below the following standards:

Semester (Full-time)	Hours Completed	Cumulative GPA
1	12	1.66
2	24	1.85
3	40	1.90
4	56	2.00
5	72	2.00
6	88	2.00
7	104	2.00
8	120	2.00

In order to meet graduation requirements, students must complete 128 credit hours. Students who are enrolled part-time or for fewer than the normal four courses per term will be expected to complete an equivalent proportion of their program each semester.

Students will be subject to suspension from the College if they:

- can not achieve good standing by the end of summer term;
- are on probation for two consecutive semesters;
- achieve a grade point average of 1.00 or below during any one semester.

Students will be subject to dismissal from the College if they:

- can not reasonably complete all requirements for a degree;
- exceed 24 semester hours of unsuccessful course attempts (grades of F, U, W, WP, WF, and R) except in the case of withdrawal for medical or psychological reasons.

The integrity of the academic process of the College requires honesty in all phases of the instructional program. The College assumes that students are committed to the principle of academic honesty. Students who fail to honor this commitment are subject to dismissal. Procedural guidelines and rules for the adjudication of cases of academic dishonesty are printed in *The Faculty Handbook* and *The Pathfinder* (the student academic handbook), copies of which are available in the library.

### CREDIT BY EXAMINATION

**Advanced Placement** — Entering freshmen who have completed an advanced course while in secondary school and who have taken the appropriate advanced-placement examination of the College Entrance Examination Board (CEEB) are encouraged to apply for credit and advanced placement at the time of admission. A grade of three or above is considered satisfactory.

**College Level Examination Program (CLEP)** — Students may earn college credit for superior achievement through CLEP. By achieving at the 75th percentile or above on the General Examinations and the 65th percentile or above on approved Sub-

ject Examinations, students may earn up to 50 percent of the course requirements for a bachelor of arts degree. Although these examinations may be taken after enrollment, new students who are competent in a given area are encouraged to take the examinations of their choice during the second semester of their senior year so that Lycoming will have the test scores available for registration advisement for the first semester of enrollment. Further information about CLEP may be obtained through the secondary-school guidance office or the Office of Admissions at Lycoming College.

### ACADEMIC HONORS

**Dean's List** — Students are admitted to the Dean's List at the end of the fall and spring semesters if they have completed at least four courses with other than S / U grades, and have a minimum grade point average of 3.50 for the semester.

**Graduation Honors** — Students are awarded the bachelor of arts degree, the bachelor of fine arts degree, or the bachelor of science in nursing degree with honors when they have earned the following grade point averages based on all courses attempted, including courses transferred from other institutions to Lycoming:

summa cum laude.....	3.90-4.00
magna cum laude .....	3.50-3.89
cum laude.....	3.25-3.49

**Academic Honor Awards, Prizes, and Societies** — Superior academic achievement is recognized through the conferring of awards and prizes at the annual Honors Day convocation and Commencement and through election to membership in honor societies.

#### Societies

Blue Key .....	Freshman Men
Gold Key .....	Freshman Women
Beta Beta Beta .....	Biology
Omicron Delta .....	
Epsilon .....	Economics
Phi Alpha Theta.....	History

Phi Sigma Tau .....	Philosophy
Sigma Pi Sigma .....	Physics
Pi Sigma .....	

Alpha .....	Political Science
Psi Chi .....	Psychology
Pi Gamma Mu .....	Social Science
Phi Kappa Phi .....	General Academic

### Prizes and Awards

**American Chemical Society Award** — The award, sponsored by the Susquehanna Valley Chapter of the society, is given to the outstanding senior in chemistry who plans to enter the profession.

**American Institute of Chemists Prize** — The prize, given by the Philadelphia section of the institute, goes to the senior major for excellence in chemistry.

**Bryon C. Brunstetter Science Award** — The award is given for outstanding achievement in chemical and biological sciences.

**CRC Press Chemistry Achievement Award** — The award is given to the freshman who has exhibited outstanding academic achievement in chemistry.

**Chieftain Award** — Given by Lycoming, the College's most prestigious award is given to the senior who has contributed most to Lycoming through support of school activities; who has exhibited outstanding leadership qualities; who has worked effectively with other members of the college community; who has evidenced a good moral code; and whose academic rank is above the median for the preceding senior class.

**Civic Choir Award** — The award, sponsored by the College choir, is given to the choir member who has outstanding musical ability and who has made significant leadership contributions to the choir.

**Class of 1907 Prize** — The prize is given to the senior who has been outstanding in the promotion of college spirit through participation in athletics and other activities.

*Benjamin C. Conner Prize* — The prize is given to the graduating student who has done outstanding work in mathematics.

*Durkheim Award* — The award is given to the senior sociology / anthropology major who has done outstanding work in the field.

*Bishop William Perry Eveland Prize* — Sponsored by the College, the prize is given to the senior who has shown progress in scholarship, loyalty, school spirit, and participation in school activities.

*Excellence in Two-Dimensional Art Award* — Sponsored by the Art Department, the award is given to the outstanding senior art major in this field.

*Excellence in Three-Dimensional Art Award* — Sponsored by the Art Department, the award is given to the outstanding senior art major in this field.

*Excellence in Theatre Performance Award* — Sponsored by the Theatre Department, the award is given to the student who has been outstanding as a performer in the Arena Theatre.

*Excellence in Technical Theatre Award* — Sponsored by the Theatre Department, the award is given to the student who has been outstanding as a technician for the Arena Theatre.

*Excellence in Political Science Award* — Given by the Political Science Department, the award goes to the senior political science major who has performed with excellence.

*J. W. Ferree Award* — Given by the Mathematical Sciences Department in memory of the first mathematics professor at Lycoming's forerunner, the Dickinson Seminary, the award goes to the student most active in mathematical sciences.

*Faculty Prize* — Sponsored by Lycoming, the prize is given to the commuting student with satisfactory scholarship and who has been

outstanding in promotion of school spirit through participation in school activities.

*Durant L. Furey III Memorial Prize* — The prize is given to the senior accounting major who has shown outstanding achievement in accounting.

*Gillette Foreign Language Prizes* — The prizes are given to the French, German, and Spanish majors who have achieved excellence in foreign languages.

*John P. Graham Award* — Named in honor of a professor emeritus, the award is given to the senior English major who achieves the highest average in English.

*Edward J. Gray Prizes* — Sponsored by Lycoming, the prizes are given to the graduating students with the highest and second highest averages.

*Dan Gustafson Award* — In memory of a former member of the English Department, the award is given to the senior English major whose analytical writing demonstrates the highest standards of literary and critical excellence.

*IRUSKA Awards* — The awards denote membership in the society for juniors who are very active on campus; they are given by the Office of Student Services.

*Junior Book Award* — Sponsored by the Political Science Department, the award is given to the outstanding junior political science major.

*Elisha Benson Kline Prize* — The prize is given to the senior mathematics major with outstanding achievement in the field.

*Charles J. Kocian Awards* — The awards are given to the accounting, business administration, and economics majors who show the greatest proficiency in statistics; the mathematics major who shows the greatest proficiency in applied mathematics, and the graduating

senior who shows the greatest proficiency in computer science.

*Don Lincoln Larrabee Law Prize* — The prize is given to the graduating student who has shown outstanding scholarship in legal principles.

*C. Daniel Little Award* — Sponsored by the Political Science Department, the prize is given to the outstanding student in public administration.

*John C. McCune Memorial Prizes* — The prizes are given to the senior majors in mathematics, biology, chemistry, physics, philosophy, and psychology who have attained the highest averages.

*Walter J. McIver Award* — Named after Lycoming's former choir director, the award is given to the choir member who has made outstanding campus contributions outside of choir.

*Pennsylvania Institute of Certified Public Accountants Award* — The award is given to the senior accounting major who has demonstrated high scholastic standing and qualities of leadership.

*Pocahantas Award* — Sponsored by the Athletic Department, the award is given to Lycoming's outstanding female athlete.

*Research and Writing Prize in History* — Sponsored by the History Department, the prize is given to the student who does the best work in History 45.

*Sadler Prize* — Sponsored by the Mathematical Sciences Department, the prize is given to the student with the highest achievement in calculus, foundations of mathematics, algebra, and analysis.

*Senior Management Award* — Sponsored by the Business Administration Department, the award is given to the senior business major with the best senior project in Business Administration 41.

*Senior Scholarship Prize in History* — The prize is given to the senior major with the highest average.

*Service to Lycoming Award* — Sponsored by the Office of Student Services, the award is given to students who have made outstanding contributions to Lycoming.

*Frances K. Skeath Award* — Sponsored by the Mathematical Sciences Department, the award is given to the senior with outstanding achievement in mathematics.

*John A. Streeter Memorial Award in Economics* — The award is given to the graduating student with outstanding achievement in economics.

*Tomahawk Award* — Sponsored by the Athletic Department, the award is given to the outstanding male athlete.

*Trask Chemistry Prize* — The prize is given to the senior chemistry major who has done outstanding work in the field.

*Wall Street Journal Award* — Sponsored by the Business Administration Department, the award is given to the senior business major for excellence in the field and service to the College community.

*Sol "Woody" Wolf Award* — Sponsored by the Athletic Department, the award is given to the junior athlete who has shown the most improvement.

*Women of Lycoming Scholarship* — The scholarship is given to the junior woman student who has shown satisfactory scholarship, outstanding school spirit, and who is active in campus activities.

**Department Honors** — Honors projects are normally undertaken only in a student's major, and are available only to exceptionally well-qualified students who have a solid background in the area of the project and are capable of considerable self-direction. The prerequisites for

registration in an honors program are as follows:

- a faculty member from the department(s) in which the honors project is to be undertaken must agree to be the director and must secure departmental approval of the project.
- the director, in consultation with the student, must convene a committee consisting of two faculty members from the department in which the project is to be undertaken, one of whom is the director of the project, and one faculty member from each of two other departments related to the subject matter of the study.
- the honors committee must then certify by their signatures on the application that the project in question is academically legitimate and worthy of pursuit as an honors project, and that the student in question is qualified to pursue the project.
- the project must be approved by the Committee on Individual Studies.

Students successfully complete honors projects by satisfying the following conditions in accordance with guidelines established by the Committee on Individual Studies:

- the student must produce a substantial research paper, critical study, or creative project. If the end product is a creative project, a critical paper analyzing the techniques and principles employed and the nature of the achievement represented in the project shall be submitted.
- the student must successfully explain and defend the work in a final oral examination

given by the honors committee.

- the honors committee must certify that the student has successfully defended the project, and that the student's achievement is clearly superior to that which would ordinarily be required to earn a grade of "A" in a regular independent-studies course.
- the Committee on Individual Studies must certify that the student has satisfied all of the conditions mentioned above.

Except in unusual circumstances, honors projects are expected to involve independent study in two consecutive unit courses. Successful completion of the honors project will cause the designation of honors in that department to be placed upon the permanent record. Acceptable theses are deposited in the College library. In the event that the study is not completed successfully or is not deemed worthy of honors, the student shall be re-registered in independent studies and given a final grade for the course.

## SPECIAL FEATURES

**Independent Studies** — Independent studies are available to any qualified student who wishes to engage in and receive academic credit for any academically legitimate course of study for which he or she could not otherwise receive credit. It may be pursued at any level (introductory, intermediate, or advanced) and in any department, whether or not the student is a major in that department. Studies projects which duplicate catalog courses are sometimes possible, and are subject to the same provisions which apply to all studies projects. In order for a student to be registered in an independent-study course, the following conditions must be satisfied:

- an appropriate member of the faculty must agree to

supervise the project and must certify by signing the application form that the project is academically legitimate and involves an amount of work appropriate for the amount of academic credit requested, and that the student in question is qualified to pursue the project.

- the studies project must be approved by the chairman of the department in which the studies project is to be undertaken.
- after the project is approved by the instructor and by the chairman of the appropriate department, the studies project must be approved by the Committee on Individual Studies.

In addition, participation in independent-studies projects, with the exception of those which duplicate catalog courses, is subject to the following:

- students may not engage in more than one independent-studies project during any given semester.
- students may not engage in more than two independent-studies projects during their academic career at Lycoming College.

As with other academic policies, any exceptions to these two rules must be approved by the Academic Standing Committee.

**Internship Program** — An internship is a course jointly sponsored by the College and a public or private agency or subdivision of the College in which a student is enabled to earn college credit by participating in some active capacity as an assistant, aide, or apprentice. At least one-half of the effort expended by the intern should consist of academic work related to agency situations. The objectives of the internship program are (1) to fur-

ther the development of a central core of values, awarenesses, strategies, skills, and information through experiences outside the classroom or other campus situations, and (2) to facilitate the integration of theory and practice by encouraging students to relate their on-campus academic experiences more directly to society in general and to possible career and other post-baccalaureate objectives in particular.

Any junior or senior student in good academic standing may petition the Committee on Individual Studies for approval to serve as an intern. A maximum of 16 credits can be earned through the internship program. Guidelines for program development, assignment of tasks and academic requirements, such as exams, papers, reports, grades, etc., are established in consultation with a faculty director at Lycoming and an agency supervisor at the place of internship.

Students with diverse majors have participated in a wide variety of internships, including those with the Allenwood Federal Prison Camp, Lycoming County Commissioners Office, Department of Environmental Resources, Head Start, Lycoming County Historical Society, business and accounting firms, law offices, hospitals, social service agencies, banks, and congressional offices.

**May Term** — The May term is a four-week voluntary session designed to provide students with courses listed in the catalog and experimental and special courses that are not normally available during the fall and spring semesters and summer term. Some courses are offered on campus; others involve travel. A number offer interdisciplinary credit. Illustrations of the types of courses offered during the May term are:

(a) Study-Travel: Cultural Tours of Germany, Spain, France, Ireland, and the United Kingdom; Archaeological Expeditions to the Middle East; Oceanographic Expeditions in Bermuda; Literature of the Sea on

location in the Caribbean; Anthropological Expeditions to New Mexico to study tri-cultural communities; Utopian Communities; Photography Workshops in Vermont; Revolutionary and Civil War Sites.

(b) On-Campus: Financial Statement Analysis, Silk-screen Printing, Field Geology, History of Astronomy, Field Ornithology, Chemical Analysis, Managing the Small Business, Women in Management, Energy Economics, Public School Curriculum, Writer's Seminar, Modern American Humor, The Norman Kingdom, Practical Logic, Psychology of Group Processes, Ancient Near East Religion, Juvenile Delinquency.

Although participation in the May term is voluntary, student response has been outstanding with approximately 25 to 30 percent of the student body enrolling. In addition to the courses themselves, attractions include small and informal classes and reduced tuition rates.

**Study Abroad** — Students have the opportunity to study abroad under auspices of approved universities and agencies. While study abroad is particularly attractive to students majoring in foreign languages and literatures, this opportunity is open to all students in good academic standing. Mastery of a foreign language is desirable but not required in all programs. A file of opportunities is available in the library.

**NOTE:** Lycoming College cannot assume responsibility for the health, safety, or welfare of any student engaged in or en route to or from any off-campus study or activity not under the exclusive jurisdiction of this institution.

**Auditors** — Any person may audit courses at Lycoming at one-fourth tuition per course. Laboratory and other special fees must be paid in full. Examinations, papers, and other evaluation devices are not required of auditors, but individual arrangements may be made to complete such exercises with the consent of the



instructor. The option to audit a course must be declared during the same period (currently five days) at the beginning of each semester, half-semester, or term as drop/add and pass/fail and must be completed in the Registrar's Office.

**Part-Time Students** — Any person may take up to two courses during any semester or summer term (one in May term). Part-time special students pay the \$15 application fee for the first registration and the part-time tuition rate in effect at the time of each enrollment.

## COOPERATIVE PROGRAMS

Lycoming has developed several cooperative programs to provide students with opportunities to extend their knowledge, abilities, and talents in selected areas through access to the specialized academic programs and facilities of other colleges, universities, academies, and hospitals. Although thorough advisement and curricular planning are provided for each of the cooperative programs, admission to Lycoming and registration in the program of choice does not guarantee admission to the cooperating institution. The prerogative of admitting students to the cooperative aspect of the program rests with the cooperating institution. Students who are interested in a cooperative program should contact the coordinator during the first week of the first semester of their enrollment at Lycoming. This is necessary to plan their course programs in a manner that will insure completion of required courses according to the schedule stipulated for the program. All cooperative programs require special coordination of course scheduling at Lycoming.

**Engineering** — Combining the advantages of a liberal-arts education and the technical training of an engineering curriculum, this program is offered in conjunction with Bucknell University and the Pennsylvania State University. Students

complete three years of study at Lycoming and two years at the cooperating university. Upon satisfactory completion of the first year of engineering studies, Lycoming awards the bachelor of arts degree. When students successfully complete the second year of engineering studies, the cooperating university awards the bachelor of science degree in engineering.

At Lycoming, students complete the distribution program and courses in physics, mathematics, and chemistry. Engineering specialties offered at Bucknell University include chemical, civil, electrical, and mechanical. The Pennsylvania State University offers aerospace, agricultural, chemical, civil, electrical, engineering science, environmental, industrial, mechanical, and nuclear engineering.

**Forestry or Environmental Studies** — Lycoming College offers a cooperative program with Duke University in environmental management and forestry. Qualified students can earn the bachelor's and master's degrees in five years, spending three years at Lycoming and two years at Duke. All Lycoming distribution and major requirements must be completed by the end of the junior year. At the end of the first year at Duke, the B.A. degree will be awarded by Lycoming. Duke will award the professional degree of Master of Forestry or Master of Environmental Management to qualified candidates at the end of the second year.

The major program emphases at Duke are Natural Resources Science/Ecology, Natural Resources Systems Science, and Natural Resources Economics/Policy. The program is flexible enough, however, to accommodate a variety of individual designs. An undergraduate major in one of the natural sciences, social sciences, or business may provide good preparation for the programs at Duke, but a student with any undergraduate concentration will be considered for admission. All

students need at least two courses each in biology, mathematics, and economics.

Students begin the program at Duke in July after their junior year at Lycoming with a one-month session of field work in natural resource measurements. They must complete a total of 60 units which generally takes four semesters.

Some students prefer to complete the bachelor's degree before undertaking graduate study at Duke. The master's degree requirements for these students are the same as for those students entering after the junior year, but the 60-unit requirement may be reduced for completed relevant undergraduate work of satisfactory quality. All credit reductions are determined individually and consider the student's educational background and objectives.

**Medical Technology** — Students desiring a career in medical technology may either complete a bachelor of arts program followed by a clinical internship at any American Medical Association—accredited hospital, or they may complete the cooperative program. Students electing the cooperative program normally study for three years at Lycoming, during which time they complete 24 unit courses, including the College distribution requirements, a major, and requirements of the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). The current requirements of the NAACLS are: four courses in chemistry (one of which must be either organic or biochemistry); four courses in biology (including courses in microbiology and immunology), and one course in mathematics.

Students in the cooperative program usually major in biology, following a modified major of six unit courses that exempts them from Ecology (Biology 24) and Plant Sciences (Biology 25). Students must take either Animal Physiology (Biology 23) or Cell Physiology

(Biology 35). The cooperative program requires successful completion of a one-year internship at an American Medical Association—accredited hospital. Lycoming is affiliated with the following accredited hospitals: Williamsport, Divine Providence, Robert Packer, Lancaster, and Abington. Students in the cooperative program receive credit at Lycoming for each of eight unit courses in biology and chemistry successfully completed during the clinical internship. Successful completion of the Registry Examination is not considered a graduation requirement at Lycoming College.

Students entering a clinical internship for one year after graduation from Lycoming must complete all of the requirements of the cooperative program, but are not eligible for the biology major exemptions indicated above. Upon graduation, such students may apply for admission to a clinical program at any hospital.

**Nuclear Medicine Technology** — Students desiring a career in nuclear medicine technology may complete either 1) a bachelor of arts program followed by a clinical internship, or 2) the cooperative program.

Students enrolling in the cooperative program in Nuclear Medicine Technology will study for three years at Lycoming, followed by a fourth year of prescribed study at a cooperating hospital. Students must apply directly to a cooperating hospital for admission to the clinical year. Lycoming College is presently affiliated with the Williamsport Hospital Department of Nuclear Medicine. The courses completed during the clinical year are entered on the Lycoming College transcript. Upon successful completion of the clinical year, which serves to complete the College degree requirements, students are eligible to take a certification examination in nuclear medicine technology. Successful completion of a certifying ex-

amination is not a graduation requirement at Lycoming College.

Students may enter the cooperative program with backgrounds in different fields of study. However, they must complete 24 units, including the College distribution requirements, a major, and the following requirements of the Joint Review Committee on Education Programs of the American Medical Association: Anatomy and Physiology (Biology 5-6 or 10-11), Basic Physics (Astronomy/Physics 15-16 or 25-26), Basic Mathematical Sciences (two courses from Math 9, 13, 17, 18, 19, Computer Science 15), Oral and Written Communication (Mass Communication 11 and English 2), and General Chemistry (two courses from Chemistry 10 [or 8], 11, 15 [or 20]). If Computer Science 15 has not been taken as a basic math option, it is highly recommended as an elective.

For students in the cooperative program, modified majors are presently available in Biology and Physics. Students who wish to major in another academic discipline shall consult with their advisors early in their college careers to determine whether a major in a given discipline can be completed within a three-year period.

Those who wish to major in Biology are allowed a modified major of six Biology courses (Biology 5-6 or 10-11, 21, 22, 23 or 35, and an advanced elective, along with the usual requirement in Chemistry and Mathematical Sciences. Those who wish to major in Physics are required to take the following courses: Astronomy/Physics 25, 26, 27, 29, a course in Nuclear and Particle Physics, and two elective physics courses numbered 11 or above, Biology 5-6 or 10-11, Mathematics 18 and 19, and one year in chemistry.

**Optometry** — Through the Accelerated Optometry Education Curriculum Program, students interested in a career in optometry may qualify

for admission to the Pennsylvania College of Optometry after only three years at Lycoming College. After four years at the Pennsylvania College of Optometry, a student will earn a Doctor of Optometry degree. Selection of candidates for the professional segment of the program is completed by the admissions committee of the Pennsylvania College of Optometry during the student's third year at Lycoming. (This is one of two routes that students may choose. Any student, of course, may follow the regular application procedures for admission to the Pennsylvania College of Optometry or another college of optometry to matriculate following completion of his or her baccalaureate program.) During the three years at Lycoming College, the student will complete 24 unit courses, including all distribution requirements, and will prepare for his or her professional training by obtaining a solid foundation in biology, chemistry, physics, and mathematics. During the first year of study at the Pennsylvania College of Optometry, the student will take 39 semester hours of basic science courses in addition to introductions to optometry and health care. Successful completion of the first year of professional training will complete the course requirements for the B.A. degree at Lycoming College.

Most students will find it convenient to major in biology in order to satisfy the requirements of Lycoming College and the Pennsylvania College of Optometry. Such students are allowed to complete a modified biology major which will exempt them from two biology courses: Ecology (Bio. 24) and Plant Sciences (Bio. 25). (This modified major requires the successful completion of the initial year at the Pennsylvania College of Optometry). Students desiring other majors must coordinate their plans with the Health Professions Advisory Committee in order to insure that they have satisfied all requirements.

**Podiatry** — Students interested in podiatry may either seek admission to a college of podiatric medicine upon completion of the bachelor of arts degree or through the Accelerated Podiatric Medical Education-Curriculum Program (APMEC). The latter program provides an opportunity for students to qualify for admission to the Pennsylvania College of Podiatric Medicine (PCPM) or the Ohio College of Podiatric Medicine (OCPM) after three years of study at Lycoming. At Lycoming, students in the APMEC program must successfully complete 24 unit courses, including the distribution program and a basic foundation in biology, chemistry, physics, and mathematics. During the first year of study at PCPM or OCPM, students must successfully complete a program of basic science courses and an introduction to podiatry. Successful completion of the first year of professional training will contribute toward the fulfillment of the course requirements for the bachelor of arts degree at Lycoming.

**Sculpture** — The Art Department with the Johnson Atelier Technical Institute of Sculpture in Princeton, New Jersey, offers a BFA degree in sculpture. It uses a classical apprenticeship approach as its teaching method. This ancient method of teaching is combined at Johnson with the most modern and technically advanced foundry and fabricating techniques.

The Art Department offers a synthesis program that interrelates the student experience at both institutions. This is achieved by having the student rotate between Lycoming and the atelier so that each form of education is preparation for the other. Lycoming offers a core academic program, a course of study in the Art Department, and elective course opportunities. Lycoming gives eight course units of college credit to the student for having successfully completed one of the apprenticeship programs at the Johnson Atelier.

All work completed by the student at Lycoming by the end of the sophomore year will be applicable to a bachelor of arts degree with a major in art should the student decide to withdraw from the BFA program. If the student should withdraw from the cooperative program prior to completing the apprenticeship at the Johnson Atelier, Lycoming will give up to four units of credit or one semester's work for the internship. If, however, the student completes more work at the atelier than the four units, that extra work will not be credited to the bachelor of arts degree; it will only be used as part of the bachelor of fine arts degree, and then only if the course at the atelier is completed.

This course of study is very rigorous. It will require that the student be involved almost continuously, either at Lycoming or at the Johnson Atelier, during the four years it will take to complete the degree. (See Art Department listing for specific program.)

**Reserve Officers Training Corps Program (R.O.T.C.)** — The program provides a voluntary opportunity for Lycoming students to enroll on a non-credit basis in the Bucknell University R.O.T.C. unit. Lycoming notes enrollment in and successful completion of the program on student transcripts. Military Science is a four-year program divided into a basic course given during the freshman and sophomore years and an advanced course given during the junior and senior years. Students who have not completed the basic course may qualify for the advanced course by completing summer camp between the sophomore and junior years. Students enrolled in the advanced course receive a monthly stipend of \$100 for up to 10 months a year. Students successfully completing the advanced course and advanced summer camp between the junior and senior years will qualify for a commission as a Second Lieutenant in the

United States Army upon graduation, and will incur a service obligation in the active Army or Army Reserves. The only expense to the student for this program is the \$60 basic and advanced course deposits payable to Bucknell.

**Student Enrichment Semester** — This voluntary program is designed to expand academic and life opportunities for students and to provide for participation in specialized programs and courses not available at Lycoming. Other members of the program are Bucknell and Susquehanna Universities, the Williamsport Area Community College, and Bloomsburg, Lock Haven, and Mansfield State Colleges. Students other than freshmen enroll full or part time for credit, normally for one semester or term, at any participating institution in selected courses. Students in the program remain fully enrolled as degree candidates at their home institutions. A special opportunity within the program is the cross-registration arrangement with the Williamsport Area Community College, whereby students may enroll for less than a full-time course load while remaining enrolled in courses at Lycoming.

**Washington, United Nations, London and Harrisburg Urban Semesters** — With the consent of the Department of Political Science, selected students are permitted to study in Washington, D.C., at The American University for one semester. They may choose from seven different programs: Washington Semester, Urban Semester, Foreign Policy Semester, International Development Semester, Economic Policy Semester, Science and Technology Semester, American Studies Semester.

With the consent of either the Department of History or Political Science, selected students may enroll at Drew University in Madison, New Jersey, in the United Nations Semester, which is designed to provide a first-hand acquaintance with

the world organization. Students with special interests in world history, international relations, law, and politics are eligible to participate.

The London Semester programs of Drew and The American Universities emphasize European history, politics, and culture. Interested students participate with the consent of either the Departments of History or Political Science.

The Harrisburg Urban Semester (THUS) is a project of the Central Pennsylvania Consortium: Dickinson, Franklin & Marshall, and Gettysburg Colleges. THUS is a one-semester off-campus academic internship program designed for students who wish to participate in a career-oriented internship experience while exploring the social, economic, and political problems which our states and cities face. THUS students, in most cases, receive a full semester's academic credit by working 25 hours a week in their internship, writing a substantial analytical paper related to the internship, and taking two academic seminars—one in urban affairs and one in a more specialized area. Opportunities for independent study are also available. The 20 students in the program each semester live near one another in apartments or houses available through THUS, and students spend a great deal of time together sharing their common experiences in an informal and sometimes intense manner. Students will receive academic credit from the Franklin & Marshall College. The internship is graded on a pass/fail basis.

Normally the above special-semester programs are open only to juniors.

## THE SCHOLAR PROGRAM

The Lycoming College Scholar Program is a special program designed to meet the needs and aspirations of highly motivated students of superior intellectual ability. The Lycoming Scholar satisfies the general distribution requirements, but on a more exacting level and with more challenging courses than the average student. Lycoming Scholars also participate in special courses and seminars and in serious independent study culminating in a senior project supervised by their major department.

Students are admitted to the program by invitation of the Scholar Council, the group which oversees the program. The council consists of four students elected by current scholars and four faculty selected by the Dean of the College. The guidelines governing selection of new scholars are flexible: academic excellence, intellectual curiosity, and creativity are all taken into account. Students who desire to participate in the Scholar Program but are not invited may petition the Scholar Council for consideration.

To remain in the program, students must maintain a GPA of 3.0 or better. Students dropping below this average will be placed on Scholar probation until their average improves, or they are asked to leave the program. To graduate as a Scholar, a student must have at least a 3.0 cumulative average. Scholars must take the First Year Scholar Seminar during their first semester in the program. In addition, the following course requirements must be met.

A. English. Scholars must display above-average writing skills by the end of the sophomore year, as certified by the Department of English and the Scholar Council. This requirement may be met by obtaining a sufficiently high score on an appropriate CLEP examination or by a grade of "B" in English 2. Students not meeting the requirement in either of these ways by the end of the freshman year will be asked to do ex-

tra work until the competency is reached. Beyond English 2, the requirement is one literature course numbered 20 or higher.

B. Language/Mathematical Sciences. Scholars must satisfy the requirement in either language or mathematical sciences. *Language*: Scholars must complete two courses numbered 10 or higher (excluding courses taught in English). *Mathematical Sciences*: Two options are available in mathematics/computer science. Either Math 18 and 19, plus one course numbered 20 or higher (continuous mathematics) or two courses chosen from Math 12, 13, and Computer Science 15, plus one course numbered 20 or higher (discrete mathematics). By demonstrating higher competence on the Mathematics Placement Examination, scholars may reduce the requirement to two units of mathematical science.

C. Philosophy/Religion. Scholars must satisfy this requirement in either of the two areas. *Philosophy*: Two courses numbered 20 or higher. *Religion*: Two courses numbered 22 or higher.

D. Fine Arts. Scholars must satisfy the requirement in one of four areas. *Art*: Two options are available in art. Either two courses taken from Art 22, 23, 24, 31, 32, 33, and 34 (Art History), or two courses taken from Art 11, 15, 20, and 25 (Studio Art). *Music*: Two courses taken from Music 17, 30, or higher. *Theatre*: Two courses taken from Theatre 12 or higher, excluding Theatre 18. *Literature*: Two literature courses taken from English 20 or higher, Foreign Languages and Literature 25, or other Foreign Language and Literature courses taught in English.

E. Natural Sciences. Scholars must satisfy the requirements in one of three areas. *Astronomy/Physics*: Two courses numbered 11 or higher. *Biology*: Two courses numbered 10 or higher. *Chemistry*: Two courses numbered 10 or higher.

F. History/Social Sciences.

Scholars must satisfy the requirements in one of five areas. *Economics*: Two courses numbered 10 or higher. *History*: Two courses, one of which must be numbered 20 or higher. *Political Science*: Two courses numbered 15 or higher. *Psychology*: Two courses including Psychology 10 and one course numbered 24 or higher (excluding Psychology 38). *Sociology/Anthropology*: Two courses including Sociology 10 and one course numbered 30 or higher (excluding Sociology 40).

G. Physical Education. Scholars must satisfy the same physical education requirement stipulated by the College for all students.

H. Designated Courses. In addition to completing the distribution re-

quirements, Scholars will be required to complete four upper-level courses (numbered 30 and above) chosen from a list of "designated" courses selected and maintained by the Scholar Council. Each full-time Lycoming instructor is invited to nominate one of his/her courses having special depth and merit for inclusion on this list. The Scholar Council may alter the list from time to time. A scholar may use no more than two such designated courses from any one department to satisfy this requirement.

I. Senior Project. In the senior year, scholars must successfully complete an independent studies or departmental honors project which has been approved in advance by the

Independent Studies Committee and the Scholar Council. This project must be presented orally and be accepted by the Scholar Council.

J. Scholars must complete a major and 32 units, exclusive of the First Year Scholar Seminar.

K. In the case of transfer students and those who seek to enter the program after their freshman year and in other cases deemed by the Scholar Council to involve special or extraordinary circumstances, the Council shall have the right to grant exceptions and make adjustments to the scholar distribution requirements provided that in all cases such exceptions and adjustments would still satisfy the regular College distribution requirements.



# Curriculum

Numbers 1-9 Elementary courses in departments where such courses are not counted as part of the student's major.

Numbers 10-19 Freshman level courses

Numbers 20-29 Sophomore level courses

Numbers 30-39 Junior level courses

Numbers 40-49 Senior level courses

Numbers 50-59 Non-catalog courses (offered on a limited basis)

Numbers 60-69 Applied Music

Numbers 70-79 Internships

Numbers 80-89 Independent Study

Numbers 90-99 Independent Study for Department Honors

Courses not in sequence are listed separately, as:

Drawing Art 11

Color Theory Art 12

Courses which imply a sequence are indicated with a dash between, meaning that the first semester must be taken prior to the second, as:

Intermediate French

French 10-11

All students have the right of access to all courses.

## ACCOUNTING

Professor: Richmond (Chairman)

Assistant Professors: Kuhns,

Wienecke

The purpose of the accounting major is to help prepare the student for a career within the accounting profession, whether public, private, or governmental, through a curriculum stressing pre-professional education.

A major consists of Accounting 10, 20-21, 30, 40, 41, 43, 45, Mathematics 13, Computer Science 15, and one unit to be selected from Accounting 25, 26, 31, 42, 44, 46, 47, and 48 or Internship. *Business 10 may be substituted for Accounting 10 if a student changes majors. Duplicate credit will not be granted.*

Students seeking entry into the public accounting field are advised to investigate the professional

requirements for certification in the state in which they intend to practice so that they may meet all educational requirements prior to graduation. All majors are advised to enroll in Economics 10 and 11, Business 35, 36, and 38, and one of the following: Business 33, Economics 20, or 37.

### 10 ELEMENTARY ACCOUNTING THEORY

An introductory course in recording, classifying, summarizing, and interpreting the basic business transaction. Problems of classification and interpretation of accounts and preparation of financial statements are studied. *Prerequisite: Second-semester freshman or consent of instructor.*

### 20-21 INTERMEDIATE ACCOUNTING THEORY

An intensive study of accounting statements and analytical procedures with an emphasis upon corporate accounts, various decision models, price-level models, earnings per share, pension accounting, accounting for leases, and financial statement analysis. *Prerequisite: Accounting 10.*

### 25 FINANCIAL STATEMENT ANALYSIS

Deals with the analysis of financial statements as an aid to decision making. The theme of the course is understanding the financial data which are analyzed as well as the methods by which they are analyzed and interpreted. This course should prove of value to all who need a thorough understanding of the uses to which financial statements are put as well as to those who must know how to use them intelligently and effectively. This includes accountants, security analysts, lending officers, credit analysts, managers, and all others who make decisions on the basis of financial data. *Prerequisite: Accounting 10 or Business 10. May term.*

### 26 GOVERNMENT AND FUND ACCOUNTING

This course is designed to introduce accounting for not-for-profit organizations. Municipal accounting and reporting are studied. *Prerequisite: Accounting 10 or Business 10, one-half unit of credit.*

### 30-31 COST AND BUDGETARY ACCOUNTING THEORY

Methods of accounting for material, labor, and factory overhead expenses consumed in manufacturing using job order,

process, and standard costing. Application of cost accounting and budgeting theory to decision making in the area of make or buy, expansion of production and sales, and accounting for control are dealt with. *Prerequisite: Accounting 20 or consent of instructor.*

### 40 AUDITING THEORY

A study of the science or art of verifying, analyzing, and interpreting accounts and reports. The goal of the course is to emphasize concepts which will enable students to understand the philosophy and environment of auditing. Special attention is given to the public accounting profession, studying auditing standards, professional ethics, the legal liability inherent in the attest function, the study and evaluation of internal control, the nature of evidence, the growing use of statistical sampling, the impact of electronic data processing, and the basic approach to planning an audit. Finally, various audit reports expressing independent expert opinions on the fairness of financial statements are studied. *Prerequisite: Accounting 21, Mathematics 13, and Computer Science 15.*

### 41 FEDERAL INCOME TAX ACCOUNTING AND PLANNING

Analysis of the provisions of the Internal Revenue Code relating to income deductions, inventories, and accounting methods. Practical problems involving determination of income and deductions, capital gains and losses, computation and payment of taxes through withholding at the source, and through declaration are considered. Planning transactions so that a minimum amount of tax will result is emphasized. *Prerequisite: Accounting 10 or consent of instructor.*

### 42 FEDERAL INCOME TAX ADMINISTRATION AND PLANNING

An analysis of the provisions of the Internal Revenue Code relating to partnerships, estates, trusts, and corporations. An extensive series of problems is considered, and effective tax planning is emphasized. *Prerequisite: Accounting 41.*

### 43 ADVANCED ACCOUNTING I

An intensive study of partnerships, installment and consignment sales, branch accounting, bankruptcy and reorganization, estates and trusts, government entities, nonprofit organizations, and accounting and reporting for the SEC. *Prerequisite: Accounting 21. One-half unit of credit.*

44 CONTROLLERSHIP

Control process in the organization. General systems theory, financial control systems, centralization-decentralization, performance measurement and evaluation, forecasts and budgets, and marketing, production and finance models for control purposes. *Prerequisite: Accounting 31 or consent of instructor. Alternate years.*

45 AUDITING PRACTICE

An audit project is presented, solved and the auditor's report written. **THIS COURSE IS LIMITED TO STUDENTS WHO HAVE EITHER COMPLETED OR ARE ENROLLED IN ACCOUNTING 40.** *One-half unit of credit, Grade will be recorded as "S" or "U."*

46 SEMINAR ON APB OPINIONS AND FASB STANDARDS

A seminar course for accounting majors with library assignments to gain a workable understanding of the highly technical opinions of the Accounting Principles Board and standards of the Financial Accounting Standards Board. One term paper. Possible trip to New York City to attend a public hearing of the Financial Accounting Standards Board. *Prerequisite: Accounting 10. May term.*

47 ADVANCED ACCOUNTING II

Certain areas of advanced accounting theory, including business combinations, consolidated financial statements, and accounting and reporting for the Securities and Exchange Commission are covered. *Prerequisite: Accounting 21. One-half unit of credit.*

48 CONTEMPORARY PROBLEMS FOR CPA CANDIDATES

Problems from the Accounting Practice sections of past C.P.A. examinations, which require a thorough knowledge of the core courses in their solution, are assigned. The course is intended to meet the needs of those interested in public accounting and preparation for the Certified Public Accountants Examination. *Prerequisite: Accounting 30 or consent of instructor. One-half unit of credit. Grade will be recorded as "S" or "U."*

70-79 INTERNSHIP (See Index)

Interns in accounting typically work off campus under the supervision of a public or private accountant.

80-89 INDEPENDENT STUDY (See Index)

Typical examples of recent studies in accounting are: computer program to generate financial statements, educational

core for public accountants, inventory control, and church taxation.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

**ACCOUNTING — MATHEMATICAL SCIENCES**

Assistant Professor: Kuhns (Coordinator)

The Accounting-Mathematical Sciences interdisciplinary major is designed to offer, within a liberal-arts framework, courses which will aid in constructing mathematical models for business decision making. Students obtain the necessary substantial background in both mathematical sciences and accounting.

Required accounting courses are: Accounting 10, 20, 21, 30, 31, 41, 42. In Mathematical Sciences required courses are: Computer Science 15 and 37 and Mathematics 12, 18, 19, 38, and 13 or 32. Recommended courses include: Mathematics 20, 33; Business 23, 34, 35, 36, 38, 39; Computer Science 26; Economics 10, 11; Psychology 15, 24; and Sociology 10.

**AMERICAN STUDIES**

Associate Professor: Piper (Coordinator)

The American Studies major offers a comprehensive program in American civilization which introduces students to the complexities underlying the development of America and its contemporary life. The 13 major courses include:

**FOUR CORE COURSES —** The primary integrating units of the major, these team-taught courses will teach you how to think of ideas from different points of view and how to correlate information and methods from various disciplines:

America As a Civilization (First semester of major study)

American Studies — Research and Methodology (Second semester)  
American Tradition in the Arts and Literature (Third semester)  
Internship or Independent Study (Junior and/or senior year)

**CONCENTRATION AREAS —** Six courses in one option and three in the other are needed. Six primary concentration-option courses in American Arts or American Society build around the insights gained in the core courses. They focus particular attention on areas most germane to academic and vocational interests. The three additional courses from the other option give further breadth to understanding of America. Students also will be encouraged to take elective courses relating to other cultures.

*American Arts Concentration Option*

- American Art — Art 24
- American Art of the 20th Century — Art 32
- 19th Century American Literature — English 22
- 20th Century American Literature — English 23
- American Music — Music 18 or 19
- American Theatre — Theatre 51

*American Society Concentration Option*

- U.S. Social and Intellectual History to 1877 — History 42
- U.S. Social and Intellectual History since 1877 — History 43
- The American Constitutional System — Political Science 30
- The American Political Tradition — Political Science 47
- American Economic Development — Economics 51
- Racial and Cultural Minorities — Sociology 34

Students should design their American Studies major in consultation with the program coordinator or a member of the American Studies Committee.

10 AMERICA AS A CIVILIZATION

An analysis of the historical, socio-cultural, economic, and political perspectives on American civilization with special attention to the inter-relationships between these various orientations.

11 AMERICAN STUDIES — RESEARCH AND METHODOLOGY

The study and application of various research methods, including new trends in historical study, quantitative analysis, cross-cultural studies, and on-site inspection.

12 AMERICAN TRADITION IN THE ARTS AND LITERATURE

The relationships of the arts and literature to the various historical periods of American life.

70-79 or 80-89 INTERNSHIP OR INDEPENDENT STUDY (See Index)

An opportunity to relate the learning in the core courses and the concentration areas to an actual supervised off-campus learning situation or independent study project.

90-99 INDEPENDENT STUDY FOR HONORS (See Index)

**ART**

Associate Professor: Shipley (Chairman)

Assistant Professors: Bogle, Lesko

The Art Department offers two degree programs: a bachelor of arts degree and a bachelor of fine arts in sculpture.

The B.A. degree:

The student chooses between a two-dimensional and a three-dimensional studio track, and completes a core art history program.

The two-dimensional track consists of Drawing I and II (Art 11 and 21), Figure Modeling I (Art 16), Two-Dimensional Design (Art 15), and Painting I and II (Art 20 and 30). Printmaking I and II (Art 28 and 38) may be substituted for Painting I and II (Art 20 and 30).

The three-dimensional track consists of Drawing I and II (Art 11 and 21), Figure Modeling I (Art 16), Sculpture I and II (Art 25 and 35), and either Figure Modeling II (Art 26) or Sculpture III (Art 45).

Each major must take Art 22 and 23 (Survey of Art) and two additional courses in art history (Art 24-31-32-33-34). Studio Research (Art 46) in the chosen track is required along with participation in a senior exhibition.

The BFA degree in sculpture:

The student completes a specified course of study in the Art Department, the Lycoming College distribution requirements, and one of the field specialization apprenticeship programs at the Johnson Atelier in Princeton, New Jersey.

The Art Department course of study consists of 12 courses in studio and art history: Figure Modeling I and II (Art 16 and 26), Sculpture I and II (Art 25 and 35), Drawing I and II (Art 11 and 21), Introduction to Photography (Art 27), 2-D Design (Art 15), Survey of Art (Art 22 and 23), and two additional courses in Art History (Art 24, 31, 32, 33, 34).

Twelve additional course units are required of the student. The student must meet the requirements of the distribution program within these courses.

The student must also complete one of the field specialization apprenticeships at the Johnson Atelier Technical Institute of Sculpture in Princeton, New Jersey. This requires the student to be at the Johnson Atelier for a period of between 16 and 23½ months. The student receives eight course units of credit at Lycoming College for successfully completing the field specialization apprenticeship at Johnson Atelier. It is expected that the work for the apprenticeship component will be completed during the summers and the junior year.

Admission to the BFA degree program is on the basis of meeting the admission standards of Lycoming College, and passing a portfolio review and interview by members of the Lycoming College Art Department.

11 DRAWING I

Study of the human figure with gesture and proportion stressed. Student is made familiar with different drawing techniques and media. Some drawing from nature. Offered in alternate semesters with Drawing II and III.

12 COLOR THEORY

A study of the physical and emotional aspects of color. Emphasis will be placed on the study of color as an aesthetic agent for the artist. The color theories of Johannes Itten will form the base for this course with some study of the theories of Albert Munsell, Faber Berren, and Wilhelm Ostwald.

15 TWO-DIMENSIONAL DESIGN

The basic fundamentals found in the two-dimensional arts: line, shape, form, space, color, and composition are taught in relationship to the other two-dimensional arts. Perceptual theories and their relationships to what and why we see what we see in art are discussed with each problem.

16 FIGURE MODELING I

Understanding the figure will be approached through learning the basic structures and proportions of the figure. The course is conceived as a three-dimensional drawing class. At least one figure per student will be cast.

19 CERAMICS I

Emphasis placed on pottery design as it relates to function of vessels and the design parameters imposed by the characteristics of clay. The techniques of ceramics are taught to encourage expression rather than to dispense merely a technical body of information.

20 PAINTING I

An introduction of painting techniques and materials. Coordination of color, value, and design within the painting is taught. Some painting from the figure. No limitations as to painting media, subject matter, or style. *Prerequisite: Art 15 or consent of instructor.*

21 DRAWING II

Continued study of the human figure. Emphasis is placed on realism and figure-ground coordination with the use of value and design. *Prerequisite: Art 11.*

22 SURVEY OF ART: PRE-HISTORY TO THE MIDDLE AGES

A survey of Western architecture, sculpture, and painting. Emphasis is on the interrelation of form and content and



- on the relatedness of the visual arts to their cultural environment: Near East, Egypt, Greece, Rome, and Medieval Europe.
- 23 **SURVEY OF ART: FROM THE RENAISSANCE TO THE MODERN AGE**  
A survey of Western architecture, sculpture, and painting. Emphasis is on the interrelation of form and content and on the relatedness of the visual arts to their cultural environment: Renaissance to modern.
- 24 **AMERICAN ART OF THE 18TH AND 19TH CENTURIES**  
The development of the arts in America from Colonial times through the 19th century; from the unknown folk artist to popular artists such as Winslow Homer and Thomas Eakins.
- 25 **SCULPTURE I**  
An introduction to the techniques, materials, and ideas of sculpture. Clay, plaster, wax, wood, and other materials will be used. The course will be concerned with ideas about sculpture as expression, and with giving material form to ideas.
- 26 **FIGURE MODELING II**  
Will exploit the structures and understandings learned in Figure Modeling I to produce larger, more complete figurative works. There will be a requirement to cast one of the works in plaster. *Prerequisite: Art 16 and consent of instructor.*
- 27 **INTRODUCTION TO PHOTOGRAPHY**  
Objectives of the course are to develop technical skills in the use of photographic equipment (cameras, films, darkroom, print maker) and to develop sensitivity in the areas of composition, form, light, picture quality, etc. Each student must own or have access to a 35mm camera.
- 28 **PRINTMAKING I**  
Practice of the techniques of silk-screen, wood-block, and linoleum-block printing. *Prerequisite: Art 11 or 15.*
- 29 **CERAMICS II**  
Continuation of Ceramics I. Emphasis on use of the wheel and technical aspects such as glaze making and kiln firing. *Prerequisite: Art 19.*
- 30 **PAINTING II**  
Emphasis is placed on individual style and technique. Artists and movements in art are studied. No limitations as to painting media, subject matter, or style. *Prerequisite: Art 20.*
- 31 **20TH CENTURY EUROPEAN ART**  
Stylistic developments in Europe from 1880 to the present, including Cubism, Fauvism, Expressionism, Dada, and Surrealism. Picasso, Matisse, Kandinsky, and Mondrian are among the major artists studied.
- 32 **AMERICAN ART OF THE 20TH CENTURY**  
Painting, sculpture, and architecture in the United States from 1900 to the present with emphasis on developments of the 1950's and 1960's: an inquiry into the meaning and historical roots of contemporary art.
- 33 **19TH CENTURY EUROPEAN ART**  
Emphasis on painting, sculpture, and architecture of Western Europe from 1760 to 1900, including the work of late 18th-century artists David and Goya and 19th-century developments from Romanticism to Post-impressionism.
- 34 **ART OF THE RENAISSANCE**  
Painting, sculpture, and architecture in Italy and the Northern countries from the late 13th century through the early 16th century. Artists include Giotto, Donatello, Alberti, Leonardo da Vinci, Michelangelo, Van Eyck, Durer, and Bruegel.
- 35 **SCULPTURE II**  
A continuation of Sculpture I (Art 25). Emphasis is on advanced technical processes. Casting of bronze and aluminum sculpture will be done in the school foundry. *Prerequisite: Art 25.*
- 37 **PHOTOGRAPHY II**  
To extend the skills developed in Photography I by continued growth in technical expertise, presentation, conceptual ability, and aesthetic sensibility. Emphasis is placed upon term essay in area of student's interest and presented in booklet format. *Prerequisite: Art 27.*
- 38 **PRINTMAKING II**  
Further exploration of silk-screen printing techniques, practice of the techniques of engraving, drypoint, etching, and aquatint.
- 40 **PAINTING III**  
Professional quality is stressed. There is some experimentation with new painting techniques and styles.
- 41 **DRAWING III**  
Continued study of human figure, individual style, and professional control of drawing techniques and media are now emphasized.
- 45 **SCULPTURE III**  
In Sculpture III the student is expected to produce a series of sculptures that follow a conceptual and technical line of development. *Prerequisites: Art 16, 25, and 35.*
- 46 **STUDIO RESEARCH**  
Independent research in an elective studio area, conducted under the supervision of the appropriate faculty member, includes creation of work which may be incorporated in the senior group exhibition. Student works in private studio assigned by the department.
- 70-79 **INTERNSHIP (See Index)**  
Commercial design, interior design, and photography programs in local businesses, and museum work at the Lycoming County Historical Museum.
- 80-89 **INDEPENDENT STUDY (See Index)**  
Recent studies in anatomy. Aspects of the art nouveau, lithography, photography, pottery, problems in illustration, and watercolor.
- 90-99 **INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)**

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## ASTRONOMY AND PHYSICS

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Professor: Fineman  
Assistant Professor: Erickson  
(Chairman)  
Instructor: Keig

The department offers two majors. The major in astronomy is specifically designed to train students in the field of planetarium education. The major in physics prepares students for graduate work in physics or astronomy, for the cooperative program in engineering, or for state certification as secondary school teachers of physics. Juniors and seniors in both majors are required to attend and participate in the weekly departmental colloquia.

A number of courses in this department are offered on two levels, which differ in the degree of mathematical

rigor and sophistication needed. All such courses have dual catalog numbers, with the letters B (basic) and A (advanced) appearing after the course names to indicate the level. Both the B and A level of a course meet together for the same three hours of lecture each week, while the A level meets for one additional hour each week of more advanced mathematical development of the material. This system is designated as the "3 + 1" method. No student may earn credit for both levels of a course.

The major in astronomy requires AsPh 11, 12, either 15 or 25, either 16 or 26, 30, either 34 or 44, either 35 or 45, and either 36 or 46; Mathematics 18 and 19 (Calculus I and II), and one year of chemistry. One or more of the following are recommended: AsPh 3, 4, 5, 27, and 33, and Art 27 (Photography 1).

The major in physics requires AsPh 11, either 12 or 13, 25, 26, 28, 29, and at least two courses chosen from 27, 33, 37, 38, 44, 45, 46, and 48; Mathematics 18 and 19 (Calculus I and II), and one year of chemistry. With departmental consent, advanced courses may be substituted for AsPh 11, 12, or 13. Students in the cooperative engineering program may substitute AsPh 27 for 29. In addition, Mathematics 20 (Multivariate Calculus) and 21 (Differential Equations) are required for graduate school preparation and the cooperative engineering program. It is also recommended that students planning on graduate study take a foreign language and courses in computer science.

### 3 OBSERVATIONAL ASTRONOMY

A methods course providing the opportunity to make a variety of astronomical observations, both visually and photographically, with and without telescopes. The planetarium is used to familiarize the student with the sky at various times during the year and from different locations on earth.

### 4 FIELD GEOLOGY

A methods course introducing the field

techniques needed to study the geology of an area. *May term.*

### 5 HISTORY OF ASTRONOMY

A comprehensive view of the evolution of astronomical thought from ancient Greece to the present, emphasizing the impact that astronomical discoveries and the conquest of space have had on Western culture. *Four hours of lecture per week.*

### 1 PRINCIPLES OF ASTRONOMY (B)

### 11 PRINCIPLES OF ASTRONOMY (A)

A summary of current concepts of the universe from the solar system to distant galaxies. Describes the techniques and instruments used in astronomical research. Presents not only what is reasonably well known about the universe, but also considers some of the major unsolved problems. *Lectures presented by the "3 + 1" method; also two hours of laboratory per week. Fall semester. Corequisite for 11: Mathematics 17 or consent of instructor.*

### 2 EARTH SCIENCE (B)

### 12 EARTH SCIENCE (A)

A study of the physical processes that continually affect the planet Earth, shaping our environment. Describes how past events and lifeforms can be reconstructed from preserved evidence to reveal the history of our planet from its origin to the present. Emphasizes the ways in which geology, meteorology, and oceanography interrelate with man and the environment. *Lectures presented by the "3 + 1" method; also two hours of laboratory per week. Spring semester. Corequisite for 12: Mathematics 17 or consent of instructor.*

### 13 METEOROLOGY

The general properties of the atmosphere and their measurements will be discussed in terms of basic physical and chemical laws. Two basic themes will guide the approach, i.e., the atmosphere behaves like a giant heat engine, and weather patterns exist from a micro-to-macro scale. *Three lectures and one two-hour laboratory per week. May term only. Alternate years.*

### 15-16 PHYSICS WITH LIFE SCIENCE APPLICATIONS

The basic concepts, principles, and laws of physics are presented in this non-calculus introductory physics course. Topics include mechanics, elastic properties of matter, fluids, thermodynamics, electricity and magnetism, waves, optics, and radioactivity. Many of the examples and problems used to illustrate the physics are selected from the life sciences. *Three hours of lecture, one hour of recitation,*

*and one three-hour laboratory per week. Prerequisite: Mathematics 17 or consent of instructor. (Credit may not be earned for both 15 and 25 or for both 16 and 26.)*

### 25-26 INTRODUCTORY PHYSICS WITH CALCULUS

A mathematically rigorous introduction to physics designed for majors in physics, astronomy, chemistry, and mathematics. Topics include mechanics, thermodynamics, electricity and magnetism, waves, optics, and modern physics. *Five hours of lecture and recitation and one three-hour laboratory per week. Corequisite: Mathematics 18-19 (Calculus I and II). (Credit may not be earned for both 15 and 25 or for both 16 and 26.)*

### 27 ELECTRONICS

D.C. and A.C. circuit and network theory, active devices such as transistors, operational amplifiers, integrated circuits, and introduction to digital electronics will be covered. *Three lectures and two two-hour laboratory sessions per week. Prerequisites: Astronomy/Physics 16 or 26, and Mathematics 9 or 18 or consent of instructor. Alternate years.*

### 28 MECHANICS

Kinematics and dynamics of single particles and systems of particles. Rigid bodies. Introduction to the mechanics of continuous media. Moving reference frames. Lagrangian mechanics. *Four hours of lecture and three hours of laboratory per week. Prerequisites: Astronomy and Physics 25 (Concepts of Physics A) and Mathematics 19 (Calculus II).*

### 29 ELECTRICITY AND MAGNETISM

The electromagnetic field, electrical potential, magnetic field and electric and magnetic properties of matter. Electric circuits. Maxwell's equations. Laboratory includes electronics as well as classical electricity and magnetism. *Four hours of lecture and three hours of laboratory per week. Prerequisite: Astronomy and Physics 26 (Waves and Particles A).*

### 30 PLANETARIUM TECHNIQUES

A methods course covering major aspects of planetarium programming, operation and maintenance. Students are required to prepare and present a planetarium show. Upon successfully completing the course, students are eligible to become planetarium assistants. *Two hours of lecture and demonstration and four hours of practical training per week. Prerequisites: Astronomy and Physics 1 or 11 (Principles of Astronomy) or consent of the instructor.*

33 OPTICS

Geometrical optics and optical systems; physical optics, interference, Fraunhofer and Fresnel diffraction and coherence and lasers will be covered. *Three lectures and three-hour laboratory per week. Prerequisites: Astronomy/Physics 16 or 26 and Mathematics 9 or 18 or consent of instructor. Alternate years.*

34 RELATIVITY AND COSMOLOGY B  
44 RELATIVITY AND COSMOLOGY A

A detailed presentation of the special theory of relativity, and a short view of the general theory and its classical proofs. Man's concepts of the universe, with particular attention to alternative modern cosmological models. Discussion of the Cosmological Principle, its rationale, and its implications. *Lectures will be presented by the "3 + 1" method. Credit may not be earned for both Astronomy and Physics 34 and 44. Prerequisites for Astronomy and Physics 34: 11 (Principles of Astronomy) and either Astronomy and Physics 15 or 25 (Concepts of Physics B or A), Mathematics 18 (Calculus I). Prerequisites for Astronomy and Physics 44: 11 (Principles of Astronomy) and 25 (Concepts of Physics A). Alternate years.*

35 STELLAR EVOLUTION AND NUCLEOSYNTHESIS B

45 STELLAR EVOLUTION AND NUCLEOSYNTHESIS A

The physical principles governing the internal structure and external appearance of stars. Mechanisms of energy generation and transport within stars. The evolution of stars from initial formation to final stages. The creation of chemical elements by nucleosynthesis. *Lectures presented by the "3 + 1" method. Credit may not be earned for both Astronomy and Physics 35 and 45. Prerequisites for Astronomy and Physics 35: 11 (Principles of Astronomy) and either Astronomy and Physics 16 or 26 (Waves and Particles B or A). Corequisite for Astronomy and Physics 35: Mathematics 19 (Calculus II) or consent of instructor. Prerequisites for Astronomy and Physics 45: 11 (Principles of Astronomy) and 26 (Waves and Particles A). Alternate years.*

36 STELLAR DYNAMICS AND GALACTIC STRUCTURE B

46 STELLAR DYNAMICS AND GALACTIC STRUCTURE A

The notion of objects in gravitational fields. Introduction to the n-body problem. The relation between stellar motions and the galactic potential. The large scale structure of galaxies in general and of the Milky Way Galaxy in particular. *Lectures presented by the "3 +*

*1" method. Credit may not be earned for both Astronomy and Physics 36 and 46. Prerequisites for 36: 11 (Principles of Astronomy) and either 15 or 25 (Concepts of Physics B or A). Corequisite for Astronomy and Physics 36: Mathematics 19 (Calculus II) or consent of instructor. Prerequisite for Astronomy and Physics 46: 11 (Principles of Astronomy) and 25 (Concepts of Physics A). Corequisite for Astronomy and Physics 46: 28 (Mechanics) or consent of instructor. Alternate years.*

37 THERMODYNAMICS AND STATISTICAL MECHANICS

Classical thermodynamics will be presented showing that the macroscopic properties of a system can be specified without a knowledge of the microscopic properties of the constituents of the system. Then, statistical mechanics will be developed showing these same macroscopic properties. *Four hours of lecture and recitation per week. Prerequisites: AsPh 16 or 26 and Mathematics 19 (Calculus II). Alternate years.*

38 ATOMIC AND MOLECULAR PHYSICS

The development of the principles and methods of quantum mechanics from the earliest evidence of quantization. Structure and spectra of atoms and molecules. Extension of quantum theory to the solid state. *Four hours of lecture and recitation and one three-hour laboratory per week. Prerequisite: AsPh 16 or 26 and Mathematics 19 (Calculus II). Alternate years.*

48 INTRODUCTION TO QUANTUM MECHANICS

Basic concepts and formulation of quantum theory. The free particle, the simple harmonic oscillator, the hydrogen atom, and central force problems will be discussed. Both time-independent and time-dependent perturbation theory will be covered. *Four hours of lecture and recitation. Prerequisite: either Astronomy and Physics 26 (Waves and Particles A) or Chemistry 31 (Physical Chemistry II) and Mathematics 21 (Differential Equations).*

49 ASTRONOMY AND PHYSICS COLLOQUIA

Active scientists in astronomy, physics, and related areas are invited to present lectures on their own research or other professional activities. In addition, seniors majoring in astronomy or physics present the results of a literature survey or individual research project. *One hour per week. Majors in this department must attend three semesters without credit during*

junior and senior years (register for non-credit 00, Colloquia). Credit may be earned during the senior semester in which the student's presentation is given.

70-79 INTERNSHIP (See Index)

Interns in physics work off campus under the supervision of professional physicists employed by local industries or hospitals.

80-89 INDEPENDENT STUDY (See Index)

Independent studies may be undertaken in most areas of astronomy and/or physics.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

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**BIOLOGY**

Associate Professors: Angstadt (Chairman), Diehl, Zaccaria  
Assistant Professors: Gabriel, D. King, Zimmerman

A major consists of eight biology courses, including 10-11, 21, 22, 23, 24, and 25. Departmental internships cannot be used to fulfill the eighth required course. In addition, three units of chemistry and two units of mathematical science are required. The chemistry requirement must include at least one unit of organic chemistry chosen from Chemistry 15, 20, or 21. The mathematical science courses must be chosen from Computer Science 15 and Mathematics 9, 13, 17 or above, or their equivalent. Certain specific exceptions to the core program will be made for three-year students enrolled in cooperative programs. Such exceptions are noted under the particular cooperative program described in the last section of the Academic Program chapter of the catalog. Students interested in these programs should contact the program director before finalizing their individual programs. Credit may not be earned for both Biology 1 and 10 or for both Biology 2 and 11. Consent of instructor may replace Biology 10-11 as a prerequisite for all biology courses.

- 1-2 **PRINCIPLES OF BIOLOGY**  
An investigation of biological principles, including ecological systems, form and function in selected representative organisms (especially man), cell theory, molecular biology, reproduction, inheritance, adaptation, and evolution. The course is designed primarily for students not planning to major in the biological sciences. *Three hours of lecture and one two-hour laboratory per week.*
- 3 **FIELD BIOLOGY FOR TEACHERS**  
A methods course for students preparing to teach biology. Sources and methods of collecting and preserving various plant and animal materials. *Summer term only.*
- 5-6 **HUMAN ANATOMY — PHYSIOLOGY**  
An introduction to the physics and chemistry relative to biological systems. Human anatomy, physiology, and developmental biology will be surveyed. An introduction to microbiology with emphasis given to host-pathogen relationships and the immune response. *Three hours of lecture and one three-hour laboratory per week.*
- 10-11 **INTRODUCTION TO BIOLOGY**  
An introduction to the study of biology designed for students planning to major in the biological sciences. Major topics considered include the origin of life, cellular respiration and photosynthesis, genetics, development, anatomy and physiology, ecology, behavior, and evolution. *Three hours of lecture and one three-hour laboratory per week.*
- 21 **MICROBIOLOGY**  
A study of microorganisms. Emphasis is given to the identification and physiology of microorganisms as well as to their role in disease, their economic importance, and industrial applications. *Three hours of lecture and two-hour laboratory periods per week. Prerequisite: Biology 10-11.*
- 22 **GENETICS**  
A general consideration of the principles governing inheritance, including treatment of classical, molecular, cytological, physiological, microbial, human, and population genetics. *Three hours of lecture and two two-hour laboratory periods per week. Prerequisite: Biology 10-11.*
- 23 **ANIMAL PHYSIOLOGY**  
The mechanisms and functions of animal systems, including the autonomic, endocrine, digestive, cardio-vascular, respiratory, renal, nervous, and reproductive systems. Mammalian physiology is stressed. *Three hours of lecture and one three-hour laboratory per week. Prerequisite: Biology 10-11.*
- 24 **ECOLOGY**  
The study of the principles of ecology with emphasis on the role of chemical, physical, and biological factors affecting the distribution and succession of plant and animal populations and communities. Included will be field studies of local habitats as well as laboratory experimentation. *Two hours of lecture and one four-hour laboratory per week. Prerequisite: Biology 10-11.*
- 25 **PLANT SCIENCES**  
A survey of the structure, development, function, classification, and use of plants and related organisms. The study will comprise four general topic areas: form, including morphology and anatomy of plants in growth and reproduction; function, concentrating on nutrition and metabolism peculiar to photosynthetic organisms; classification systems and plant identification, and human uses of plants. *Three hours of lecture and one three-hour laboratory per week. Prerequisite: Biology 10-11.*
- 30 **COMPARATIVE ANATOMY OF VERTEBRATES**  
Detailed examination of the origins, structure, and functions of the principal organs of the vertebrates. Special attention is given to the progressive modification of organs from lower to higher vertebrates. *Three hours of lecture and one four-hour laboratory per week. Prerequisite: Biology 10-11. Alternate years.*
- 31 **HISTOLOGY**  
A study of the basic body tissues and the microscopic anatomy of the organs and structures of the body which are formed from them. Focus is on normal human histology. *Three hours of lecture and one four-hour laboratory per week. Prerequisite: Biology 10-11. Alternate years.*
- 32 **PLANT AND GREENHOUSE MANAGEMENT**  
A course concerned with the care of houseplants and the management of small greenhouses. Class time will include lectures, discussions, demonstrations, greenhouse exercises, and field trips to local greenhouses. Topics will include the theoretical and practical aspects of the care and feeding, propagation, light and water requirements, and disease control for many of the common house and greenhouse plants. *Prerequisite: Biology 1-2 or 10-11. May term only.*
- 33 **ECONOMIC AND SYSTEMATIC BOTANY**  
Structure and classification of plants with emphasis on those species, particularly food and drug plants, having significance for human affairs. *Three hours of lecture and one three-hour laboratory per week. Prerequisites: Biology 10-11. Biology 25. Alternate years.*
- 34 **INVERTEBRATE ZOOLOGY**  
Comparative study of the invertebrate phyla with emphasis on phylogeny, physiology, morphology, and ecology. *Two three-hour lecture/laboratory periods per week. Prerequisite: Biology 10-11. Alternate years.*
- 35 **CELLULAR PHYSIOLOGY**  
Physico-chemical background of cellular function: functions of membrane systems and organelles; metabolic pathways; biochemical and cellular bases of growth, development and responses of organisms. *Three hours of lecture and one three-hour laboratory per week. Prerequisite: Biology 10-11 and a year of chemistry. Alternate years.*
- 36 **INTRODUCTION TO MARINE BIOLOGY AND BIOLOGICAL OCEANOGRAPHY**  
The study of major marine habitats and the adaptations of marine organisms as well as the physical and chemical characteristics of oceans. This field-oriented course is held at a major marine biological station, and includes diving and collecting from boats. *Prerequisite: Biology 10-11. May term only.*
- 37 **FIELD ORNITHOLOGY**  
A field-oriented course, with in-the-field discussions, demonstrations, and exercises dealing with the systematics and identification of the birds of the Northern U.S., their behavior, migration, habitat selection, and populations dynamics. Studies will stress experimental techniques used in the field, including banding, recording and playback methods, territorial mapping, and population analysis. *Prerequisite: Biology 10-11. May term only.*
- 38 **CLINICAL MICROBIOLOGY**  
A rigorous introduction to clinical microbiology with emphasis given to rapid identification of human bacterial pathogens. Laboratory to include such diagnostic procedures as antibiotic sensitivity testing, serological diagnosis, anaerobic culture techniques, and hemolytic reactions. Field trips will be

taken to several clinical labs. *Prerequisites: Biology 10-11, Biology 21. May term only.*

39 MEDICAL GENETICS

This course is concerned with the relationships of heredity to disease. Discussions will focus on topics such as chromosomal abnormalities, metabolic variation and disease, somatic cell genetics, genetic screening, and immunogenetics. Laboratory exercises will offer practical experiences in genetic diagnostic techniques. *Prerequisite: Biology 1-2 or 10-11. May term only.*

40 PARASITOLOGY AND MEDICAL ENTOMOLOGY

The biology of parasites and parasitism. Studies on the major groups of animal parasites and arthropod vectors of disease will involve taxonomy and life cycles. Emphasis will be made on parasites of medical and veterinary importance. *Three hours of lecture and one three-hour laboratory per week. Prerequisite: Biology 10-11. Alternate years.*

41 VERTEBRATE EMBRYOLOGY

A study of the development of vertebrates from fertilization to the fully formed fetus. Particular attention is given to the chick and human as representative organisms. *Two three-hour lecture/laboratory periods per week. Prerequisite: Biology 10-11. Alternate years.*

42 ANIMAL BEHAVIOR

A study of the causation, function, evolution, and biological significance of animal behaviors in their normal environment and social contexts. *Three hours of lecture and one four-hour laboratory each week. Prerequisite: Biology 10-11. Alternate years.*

44 BIOCHEMISTRY

Emphasis is given to the metabolism of carbohydrates, lipids, amino acids, proteins, and nucleic acids; integration of metabolism; and biochemical control mechanisms, including allosteric control, induction, repression, as well as the various types of inhibitive control mechanisms. *Three hours of lecture, one three-hour laboratory and one hour of arranged work per week. Prerequisite: Chemistry 20-21 or Chemistry 5, or consent of instructor. Cross-listed as Chemistry 44. Alternate years.*

46 PLANT ANATOMY AND PHYSIOLOGY

A study of plant physiology as a function of plant anatomy. Metabolic relationships and environmental factors will be examined from a background of the structure and development of cells, tissues, organs, and whole plants. *Three hours of lecture and one three-hour laboratory per week. Prerequisites: Biology 10-11, Biology 25. Alternate years.*

47 IMMUNOLOGY

The course introduces concepts concerning how pathogens cause disease and host defense mechanisms against infectious diseases. Characterization of and relationships between antigens, haptens, and antibodies are presented. Serological assays will include: agglutination precipitations, immunofluorescence, immunoelectrophoresis, and complement fixation. Other topics are: immediate and delayed hypersensitivities (i.e. allergies such as hay fever and poison ivy), immunological renal diseases, immunohematology (blood groups, etc.), the chemistry and function of complement autoimmunity, and organ graft rejection phenomena. *Three hours of lecture, one three-hour laboratory, and one hour of arranged work per week. Prerequisite: Biology 10-11. Alternate years.*

48 ENDOCRINOLOGY

This course begins with a survey of the role of the endocrine hormones in the integration of body functions. This is followed by a study of the control of hormone synthesis and release, and a consideration of the mechanisms by which hormones accomplish their effects on target organs. *Two three-hour lecture/laboratory periods per week. Prerequisite: Biology 10-11. Alternate years.*

70-79 INTERNSHIP (See Index)

Recent samples of internships in the department include ones with the Department of Environmental Resources, nuclear medicine or rehabilitative therapies at the local hospital.

80-89 INDEPENDENT STUDY (See Index)

Departmental studies are experimentally oriented and may entail either lab or field work.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

Examples of recent honors projects have involved stream analysis, gypsy moth research, drug synthesis and testing.

**BUSINESS ADMINISTRATION**

Professor: Hollenback  
Assistant Professor: E. King,  
Weaver (Chairman)  
Instructor: Gordon  
Lecturer: Larrabee

In order to graduate with a major in business administration, a student must complete one of the following two tracks:

*Track I — Business Management*

This track is designed to train students in the functions of today's profit and nonprofit organizations. The program provides a well-balanced preparation for a wide variety of careers, including general administration, personnel administration, commercial banking, investments and portfolio management, security analysis, corporate financial management, general marketing, sales, product management, advertising, retail merchandising, and production and manufacturing management.

Required courses are Business 10-11, 23, 28-29, 38-39, 40, and 41, and Mathematics 13. Business 32, 43, or 44 may be substituted for Business 29, and Business 33 may be substituted for Business 39. Accounting 10 may be substituted for Business 10 if the student is transferring into the Business Administration major, but duplicate credit will not be granted.

Majors are also urged to enroll in Economics 10 and 11, Business 35 and 36, Mathematics 12, and Computer Science 15. Majors also are encouraged to take a foreign language. The additional elective offerings are intended to add depth in the areas of finance, marketing, and management.

*Track II — Management Science*

This track is designed to train students in the quantitative aspects of business administration. It provides excellent undergraduate preparation

for graduate study in management science, operations research, and quantitative business administration. The program also provides a solid preparation for careers in production control, systems analysis, research, forecasting, industrial and technical sales as well as any of the functional areas of business where quantitative training would be an added qualification.

Required courses are Business 10-11, 23, 38-39, 46; Economics 10, 11, 41; Mathematics 18-19, 12, 13, 38, and Computer Science 15. Accounting 10 may be substituted for Business 10 if the student is transferring into the business administration major.

In addition, the following are strongly recommended: Business 41, and Mathematics 14 and 37. Also, depending upon the interest of the students, the following combinations of courses are recommended: either Mathematics 31 and Computer Science 26, or Business 28 and Business 40, or Business 33 and Economics 30 and 31.

#### 10-11 MANAGERIAL ACCOUNTING

The business firm is a decision-making institution adapting to a constantly changing environment. Future administrators and managers are introduced to their stewardship responsibilities by use of accounting and statistical techniques as tools in planning and controlling the organization.

#### 23 QUANTITATIVE BUSINESS ANALYSIS

Techniques of quantitative analysis useful in making business decisions. Topics include: decision theory, inventory models, network models, queuing, forecasting, and utility. *Prerequisite: Mathematics 13 or consent of instructor.*

#### 28-29 MARKETING MANAGEMENT

Planning, organization, and control of the distribution activities of the firm, and an analysis and evaluation of the marketing system, its institutions, and processes. Application of marketing principles and the development of strategies for specific marketing problems. Product, channel flow, promotion, and pricing strategies explored. Readings, cases, and games.

#### 32 ADVERTISING

Nature, scope, methods, and effects of promotion. Techniques of analysis and control in the use of advertising and publicity as tools in developing business strategy.

#### 33 INVESTMENTS

An introduction to the financial sector of the economy and the structure and functions of financial markets and the agencies involved; brokerage houses and stock exchanges; the various types of investments available. Techniques used to evaluate financial securities. Also covered are recent developments in investment theory.

#### 34 INSURANCE

Analysis of the major insurance methods of overcoming risk, including life, accident, health, marine, and social insurance. Fidelity and surety bonds. Commercial and government plans.

#### 35 LEGAL PRINCIPLES I

Lectures and analysis of cases on the nature, sources, and fundamentals of the law in general, and particularly as relating to contracts, agency, and negotiable instruments. *Open only to juniors and seniors.*

#### 36 LEGAL PRINCIPLES II

Lectures on the fundamentals and history of the law relating to legal association, real property, wills, and estates. *Open only to juniors and seniors.*

#### 38-39 FINANCIAL MANAGEMENT

Financial planning, analysis, and control in corporations. Development and application of financial principles. Financial market, profit planning, ratio analysis, working capital management, interest rates and capital budgeting, financial and operating leverage, cost of capital, valuation, dividend policy, long- and short-term financing, leases, mergers, and acquisitions. *Prerequisite: Business 11 or Accounting 20, and Business 23.*

#### 40 MANAGEMENT CONCEPTS

Structural characteristics and functional relationships of a business organization as well as the problems encountered in coordinating the internal resources of a firm. Emphasis on administrative efficiency and procedures.

#### 41 BUSINESS POLICIES

Planning, organization, and control of business operations; setting of goals; coordination of resources, development of policies. Analysis of strategic decisions encompassing all areas of a business, and

the use and analysis of control measures. Emphasis on both the internal relationship of various elements of production, finance, marketing, and personnel, and the relationship of the business entity to external stimuli. Readings, cases, and games. *Prerequisites: Business 23, 28-29, 28-39, and 40, or consent of instructor. Seniors only.*

#### 42 PERSONNEL MANAGEMENT

An introduction to the managerial problems of recruiting, selecting, training, and retraining the human resources of the firm. Emphasis is placed on the interrelationship of personnel policies with management objectives and philosophies in such areas as fringe benefits, wage and salary policies, union activities, and health and safety.

#### 43 RETAIL MANAGEMENT I

Planning, organization, and control of the retailing firm. Competitive strategy development through store location, layout, administration organization, buying, and pricing. Cases, reading, and papers. *Alternate years.*

#### 44 RETAIL MANAGEMENT II

Inventory control, retail sales, promotion, and financial analysis of the enterprise. Survey of current issues and government, social and economic forces of concern to the retailer. Retailing principles applied to specific management situations through cases, games, and reading. *Prerequisite: Business 43 or consent of instructor. Alternate years.*

#### 45 MARKETING RESEARCH

This is a study of the principles and practices of Marketing Research. The focus is on the development and application of Marketing Research Studies. Topics covered include selection of a research design, project planning and scheduling, data specification and gathering, quantitative methods to analyze data, interpretation of data, and research report writing. Readings, cases, and research project. *Prerequisite: Mathematics 13, Business 28, or consent of instructor.*

#### 46 PRODUCTION MANAGEMENT

An introduction to the planning, organizing, and controlling of operations in a productive facility. The course also incorporates quantitative techniques used in production- and operations-management applications. Topics include: capacity and layout planning, facility locations, job design and work measurement, production planning and scheduling, inventory and quality control.

47 CREATIVE ADVERTISING

A workshop concerned with theme, copy, and effective presentation of advertisements for print media, radio, and direct mail. Primarily an exploration of creativity through analysis of works of artists and writers with application to practical advertising, and tailored to the interests of individual students. *May term.*

48 SALES SEMINAR

The role of selling in the economy. The art of creative selling; application of theories from the behavioral sciences to selling through the analysis of sales situations and techniques. *Alternate years.*

49 MANAGING THE SMALL BUSINESS

How the potential businessman proceeds in establishing, operating, and profiting from a small business operation. Considered and analyzed are such aspects as marketing, managing, financing, promoting, insuring, establishing, developing, and staffing the small retail, wholesale service, and manufacturing firm. *May term.*

70-79 INTERNSHIP (See Index)

Typical examples are marketing analysis for a paper products firm, planning a branch store, hotel and real estate management, banking and insurance.

80-89 INDEPENDENT STUDY (See Index)

Examples of recent studies are: the economic impact of a college on a community; a marketing strategy for a local firm entering the consumer market.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

A recent project was a study of the evolution of anti-trust legislation in the United States.

## CHEMISTRY

Professors: Hummer, Radspinner  
Associate Professor: Franz  
(Chairman)  
Part-time Instructor: Baggett

A major in chemistry consists of Chemistry 10-11, 20-21, 30-31, 32 and 33; Astronomy/Physics 25-26; Mathematics 18, 19 and one of the following courses: Mathematics 13, 20, 21, 32, or Computer Science 15. Mathematics 20 and 21 and French or German are strongly recommended

for students planning on graduate study in chemistry. To be certified in secondary education, chemistry majors must also pass two biology courses numbered 10 or higher.

8 CHEMICAL PRINCIPLES

An introduction to the principles of inorganic chemistry. Topics include atomic and molecular structure, nomenclature, gases, solution, acids and bases, kinetics, equilibrium, oxidation-reduction, and stoichiometry. The approach is primarily descriptive, with illustrations drawn mostly from the health sciences. Along with Chemistry 15, this course is designed for those students who require only two semesters of chemistry, and is not intended for students planning to enroll in Chemistry courses numbered 20 or above. *Three hours lecture, one hour discussion, and one three-hour laboratory period each week. Prerequisite: high school algebra or Math 5. Not open for credit to students who have received credit for Chemistry 10.*

10 GENERAL CHEMISTRY I

A quantitative introduction to the concepts and models of chemistry. Topics include stoichiometry, atomic and molecular structure, nomenclature, bonding, thermochemistry, gases, solutions, and chemical reactions. The laboratory introduces the student to methods of separation, purification and identification of compounds according to their physical properties. This course is designed for students who plan to major in one of the sciences. *Three hours lecture, one hour discussion and one three-hour laboratory period each week. Prerequisite: placement in Chemistry 10 is determined in part by a student's score on the mathematics placement examination. Not open for credit to students who have received credit for Chemistry 8, except by permission of the Chemistry Department.*

11 GENERAL CHEMISTRY II

A continuation of Chemistry 10, with emphasis placed on the foundations of analytical, inorganic and physical chemistry. Topics include kinetics, general and ionic equilibria, acid-base theory, electrochemistry, thermodynamics, nuclear chemistry, coordination chemistry, and descriptive inorganic chemistry of selected elements. The laboratory treats aspects of quantitative and qualitative inorganic analysis. *Three hours lecture, one hour discussion, and one three-hour laboratory period each week. Prerequisite: Chemistry 10, or consent of the Chemistry Department.*

15 BRIEF ORGANIC CHEMISTRY

A descriptive study of the compounds of carbon. This course will illustrate the principles of organic chemistry with material relevant to students in medical technology, biology, nursing, forestry, education and the humanities. Topics include nomenclature, alkanes, arenes, functional derivatives, amino acids and proteins, carbohydrates and other naturally occurring compounds. This course is designed for students who require only one semester of organic chemistry. *Three hours lecture, one hour discussion, and one four-hour laboratory period each week. Prerequisite: Chemistry 8 or 10. Not open for credit to students who have received credit for Chemistry 20.*

20-21 ORGANIC CHEMISTRY

A systematic study of the compounds of carbon, including both aliphatic and aromatic series. The laboratory work introduces the student to simple fundamental methods of organic synthesis, isolation, and analysis. *Three hours lecture and one four-hour laboratory period each week. Prerequisite: Chemistry 11.*

26 CLINICAL ANALYSIS

A presentation of selected wet-chemical and instrumental methods of quantitative analysis with an orientation toward clinical applications in medical technology. Topics include: general methods and calculations; solutions; titrations; photometric analyses (colorimetric, atomic absorption, flame emission); electrochemical methods (ion-selective electrodes, coulometry), automation. *Lecture, recitation, and laboratory daily. Prerequisite: Chemistry 10-11 or consent of instructor. May not be taken for credit following Chemistry 32. May term only.*

30-31 PHYSICAL CHEMISTRY

A study of the fundamental principles of theoretical chemistry and their applications. The laboratory work includes techniques in physicochemical measurements. *Three hours lecture and one four-hour laboratory period each week. Prerequisite: Chemistry 11, Mathematics 19, and one year of physics or consent of instructor.*

32 ANALYTICAL CHEMISTRY

A study of the fundamental methods of gravimetric, volumetric, and elementary instrumental analysis together with practice in laboratory techniques and calculations of these methods. *Two hours lecture and two three-hour laboratory periods each week. Prerequisite: Chemistry 11 or consent of instructor.*

33 ADVANCED INORGANIC CHEMISTRY

A study of modern theories of atomic and molecular structure and their relationship to the chemistry of selected elements and their compounds. *Three hours lecture and one four-hour laboratory period each week. Prerequisite: Chemistry 30, Mathematics 19, and one year of physics or consent of instructor.*

39 INTRODUCTION TO QUANTUM MECHANICS

After presenting the origin, basic concepts, and formulation of quantum mechanics with emphasis on its physical meaning, the free particle, simple harmonic oscillator, and central-force problems will be investigated. Both time-independent and time-dependent perturbation theory will be covered. The elegant operator formalism of quantum mechanics will conclude the course. *Four hours of lecture and recitation. Prerequisites: Mathematics 21, either Chemistry 31 or Astronomy and Physics 26, and consent of instructor. Cross-listed as Astronomy and Physics 48.*

40 ADVANCED ORGANIC CHEMISTRY

Selected topics, which may include mechanisms of organic reactions, synthesis, detailed structure and chemistry of natural products, polynuclear hydrocarbons, and aromatic heterocyclics. *Three hours lecture. Prerequisite: Chemistry 21.*

41 QUALITATIVE ORGANIC ANALYSIS

Theory and application of the systematic identification of pure organic compounds and mixtures. *Two hours lecture and two three-hour laboratory periods each week. Prerequisite: Chemistry 21.*

43 ADVANCED ANALYTICAL CHEMISTRY

A study of advanced analytical methods with emphasis on chromatographic, electrochemical, and spectroscopic methods of instrumental analysis. *Three hours lecture and one four-hour laboratory period each week. Prerequisite: Chemistry 31 and 32 or consent of instructor.*

44 BIOCHEMISTRY

Emphasis is given to the metabolism of carbohydrates, lipids, amino acids, proteins, and nucleic acids; integration of metabolism; and biochemical control mechanisms, including allosteric control, induction, repression, as well as the various types of inhibitive control mechanisms. *Prerequisite: Chemistry 21 or 15 or consent of instructor. Cross-listed as Biology 44.*

45 SPECTROSCOPY AND MOLECULAR STRUCTURE

Theory and practice of molecular structure determination by spectroscopic methods. *Three hours lecture. Pre- or co-requisites: Chemistry 31, 33, or consent of instructor.*

48 CHEMISTRY COLLOQUIUM

A seminar in which faculty, students, and invited professional chemists discuss their own research activities or those of others which have appeared in recent chemical literature. *Prerequisite: Three semesters of non-credit Chemistry Colloquium taken during the junior and senior years.*

70-79 INTERNSHIP (See Index)

The student will ordinarily work under supervision in an industrial laboratory and submit a written report on his project.

80-89 INDEPENDENT STUDY (See Index)

The student will ordinarily work on a laboratory research project and will write a thesis on his work.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

The student will ordinarily work on laboratory research project with emphasis being on the student's showing initiative and making a scholarly contribution. A thesis will be written.

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**CRIMINAL JUSTICE**

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Assistant Professor: Strauser  
(Coordinator)

This major is designed to acquaint students with the American criminal-justice system and to provide an understanding of the social psychological, philosophical, and political contexts within which the system of criminal justice functions. Its aim is to develop students' intellectual and scientific skills in raising and attempting to answer important questions about the system of justice and its place in society. The program offers opportunity for in-

tern experience in the field, and prepares for careers in the areas of law enforcement, probation and parole, prisons, and treatment services.

The major has two tracks. Track I prepares for careers in law enforcement. Track II prepares for careers in corrections.

**Track I - Law Enforcement.** The major consists of 10 courses, distributed as follows:

A. Professional courses in criminal justice [three courses]

Introduction to the Criminal Justice System [Sociology and Anthropology 15]

Introduction to Law Enforcement [Sociology and Anthropology 23]

The American Prison System [Sociology and Anthropology 39]

B. Courses in the social, psychological, philosophical, and political context of the justice system [seven courses]

Criminology [Sociology and Anthropology 30] and either Juvenile Delinquency (Sociology and Anthropology 21) or Racial and Cultural Minorities (Sociology and Anthropology 34) (two courses)

Abnormal Psychology (Psychology 16) (one course)

America as a Civilization (American Studies 10). Afro-American History (History 28) or United States Social and Intellectual History Since 1877 (History 43) (one course)

Law and Society (Political Science 35) and Civil Rights and Liberties (Political Science 31) (two courses)

Philosophical Issues in Criminal Justice (Philosophy 18) (one course)

C. Internship or practicum in law enforcement. (Recommended but not required for the major)



**Track II - Corrections.** The major consists of 10 courses, distributed as follows:

- A. Professional courses in criminal justice (three courses)  
 Introduction to the Criminal Justice System (Sociology and Anthropology 15)  
 The American Prison System (Sociology and Anthropology 39)  
 Introduction to Social Work (Sociology and Anthropology 42)

- B. Courses in the social, psychological, philosophical, and political context of the justice system (seven courses)

Criminology (Sociology and Anthropology 30) and either Juvenile Delinquency (Sociology and Anthropology 21) or Racial and Cultural Minorities (Sociology and Anthropology 34 (two courses)

Abnormal Psychology (Psychology 16) (one course)

America as a Civilization (American Studies 10. Afro-American History (History 28) or United States Social and Intellectual History Since 1877 (History 43) (one course)

Law and Society (Political Science 35) and Civil Rights and Liberties (Political Science 31) (two courses)

Philosophical Issues in Criminal Justice (Philosophy 18) (one course)

- C. Internship or practicum in corrections. (Recommended but not required for the major. *Prerequisites: Mathematics 13, Psychology 31, and Psychology 39.* These prerequisites may be waived in certain cases by the coordination committee.

Majors should seek advice concerning course selection from members of the coordinating committee and should note course prerequisites in planning their programs.

## ECONOMICS

Professors: Opdahl, Rabold (Chairman)

The major has two tracks. Track I is designed for the student whose primary interest lies in business management; Track II is designed for students with an interest in graduate work, teaching, government or non-business careers, and for those with less well-defined interests.

**Track I - Managerial Economics** requires: Economics 10, 11, 32, and 41; Business 10-11 or Accounting 10 and 20; Business 38 and 39, plus two electives from Economics 20, 31, 35, 37, 43, and Business 40. Business 33, Investments, may be substituted for Business 39, Financial Management II.

**Track II — Political Economy** requires: Economics 10, 11, 30, 31, 40, and five electives of which three must be in economics and two in political science, all selected with the advice and consent of the student's adviser or department chairman. Economics 41, Managerial Economics, may be substituted for Economics 30, Intermediate Microeconomics.

In addition, the following courses are recommended: all majors — Math 13 and Business 23; majors planning graduate work — Math 12-18; Track II majors — Business 10-11.

### 2 CONSUMER ECONOMICS

A course in "family" or "practical" economics, designed to teach students how they and their families can be intelligent consumers: that is, how they can spend, save, and borrow so as to maximize the value they receive for the income they have. Treats subjects such as intelligent shopping; the uses and abuses of credit; investing savings; buying insurance, automobiles, and houses; medical care costs; estates and wills, etc. *Alternate years.*

### 10 PRINCIPLES OF POLITICAL ECONOMY I

Macroeconomics. Deals with problems of the economic system as a whole. What in-

fluences the level of national income and employment? What is inflation and why do we have it? What is the role of government in a modern capitalistic system? How does business organize to produce the goods and services we demand? How are the American financial and banking system organized? What is the nature of American unionism? What are the elements of government finance and fiscal policy?

### 11 PRINCIPLES OF POLITICAL ECONOMY II

This course focuses upon microeconomics and selected current economic problems. It deals with the relatively small units of the economy such as the firm and the family. Analyzes demand and supply. Discusses how business firms decide what and how much to produce and how goods and services are priced in different types of markets. Also considers such problems as economic growth, international trade, poverty, discrimination, ecology, and alternative economic systems.

### 20 MONEY AND BANKING

Covers business fluctuations and monetary and fiscal policy; the financial organization of society; the banking system; credit institutions; capital markets, and international financial relations. *Prerequisite: Economics 10 and 11. Alternate years.*

### 22 ECONOMIC SYSTEMS OF THE WEST (CAPITALISM AND SOCIALISM)

A comparative analysis of the underlying ideologies, the basic institutions, and the performance of selected economic systems extrant in the West. *Alternate years.*

### 23 SOVIET-TYPE ECONOMICS

An analysis of the ideologies, institutions, and performance of Soviet-type economies, with emphasis upon Marxian theory and the economy of the U.S.S.R.; comparison of selected Eastern European and Chinese approaches to communism. *Alternate years.*

### 24 URBAN PROBLEMS

The application of economic theory to the study of significant social, political, and economic problems associated with urbanization, including poverty, employment, education, crime, health, housing, land use and the environment, transportation, and public finance. Analysis of solutions offered. *Alternate years.*

### 25 ENVIRONMENTAL ECONOMICS

A study of the relationship between environmental decay and economic growth,

with particular reference to failures of the price and property-rights systems; application of cost/benefit analysis, measures aimed at the creation of an ecologically viable economy. *Alternate years.*

30 INTERMEDIATE MICROECONOMICS

An advanced analysis of contemporary theory regarding consumer demand, production costs and theory, profit maximization, market structures, and the determinants of returns to the factors of production. *Prerequisite: Economics 10 and 11.*

31 INTERMEDIATE MACROECONOMICS

An advanced analysis of contemporary theory and practice with regard to business fluctuations, national income accounting, the determination of income and employment levels, and the use of monetary and fiscal policy. *Prerequisite: Economics 10 and 11.*

32 GOVERNMENT AND THE ECONOMY

An analytical survey of government's efforts to maintain competition through antitrust legislation; to supervise acceptable cases of private monopoly through public-utility regulation and via means of regulatory commissions, and to encourage or restrain various types of private economic activities. *Alternate years. Prerequisite: Economics 10 and 11 or consent of instructor.*

35 LABOR PROBLEMS

The history of organized labor in the United States, including the structure of unions, employers' opposition to unions, the role of government in labor-management relations, the economic impact of unions. *Alternate years.*

37 PUBLIC FINANCE

An analysis of the fiscal economics of the public sector, including the development, concepts, and theories of public expenditures, taxation, and debt at all levels of American government. Includes also the use of fiscal policy as an economic control device. *Prerequisite: Economics 10 and 11 or consent of instructor.*

40 HISTORY OF ECONOMIC THOUGHT

A discussion of the origins, development, and significance of the economic ideas embodied in the works of Smith, Marx, Schumpeter, Keynes, and others. *Prerequisite: Economics 10 and 11 or consent of instructor.*

41 MANAGERIAL ECONOMICS

The application of economic theory and methodology to the solution of business problems. Subjects include: optimizing techniques, risk analysis, demand theory, production theory, cost theory, linear programming, capital budgeting, market structures, and the theory of pricing. *Prerequisite: Economics 10 and 11.*

43 INTERNATIONAL TRADE

A study of the principles, theories, development, and policies concerning international economic relations, with particular reference to the United States. Subjects covered include: U.S. commercial policy and its development, international trade theory, tariffs and other protectionist devices, international monetary system and its problems, balance of payments issues. *Alternate years. Prerequisite: Economics 10 and 11.*

45 DEVELOPMENT OF UNDERDEVELOPED NATIONS

A study of the theories and problems of capital accumulation, allocation of resources, technological development, growth, planning techniques, and institutions and international relations encountered by the developing nations. *Alternate years.*

70-79 INTERNSHIP (See Index)

Typically off campus in business, banking, or government, supervised by assigned employee of sponsoring organization.

80-89 INDEPENDENT STUDY (See Index)

Superior students may select independent study in various courses, particularly in preparation for graduate school.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

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**EDUCATION**

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Associate Professor: Keesbury  
(Chairman)

Assistant Professor: Conrad

Lycoming believes that the liberal arts provide the best preparation for future teachers, thus all education students complete a liberal-arts major in addition to the certification re-

quirements. Students can be certified in elementary education or one or more of the following secondary areas: biology, chemistry, English, French, general science (with biology or astronomy/physics tracks), German, mathematics, physics, social studies, and Spanish. All teacher-education programs are approved by the Pennsylvania Department of Education, and Pennsylvania certificates are recognized in most other states whether through reciprocal agreements or by transcript evaluation.

Education 20 and Psychology 38 are prerequisites to all other offerings in the Department of Education. Education 20 should be taken at least two semesters before the professional semester.

Students seeking elementary certification must complete Mathematics 7, Education 40, 41, 42, and 43 as prerequisites to the professional semester (Education 45, 47, and 48).

Students interested in the teacher-education program should consult with a member of the department no later than the first semester of the sophomore year. Application for the professional semester must be made before October 1 of the junior year. The Department of Education will admit to the professional semester those applicants who have a minimum cumulative grade point average of 2.00, are in good academic standing, have satisfactorily completed the junior year participation requirements (secondary students only), have paid the student teaching fee, and have received a positive recommendation. The recommendation will be based upon: (a) recommendations from each student's major department; (b) recommendations from two additional faculty outside the Department of Education; (c) a screening interview conducted by the department, and (d) a writing sample from each student applicant. Major departments have different criteria for their recommendations. Therefore, students should consult

with the chairman of their major department about those requirements as soon as they begin to study for certification.

**20 INTRODUCTION TO THE STUDY OF EDUCATION**

A study of teaching as a profession with emphasis on the economic, social, political, and religious conditions which influence American schools and teachers. Consideration is given to the school environment, the curriculum, and the children with the intention that the students will examine more rationally their own motives for entering the profession. *Prerequisite: Sophomore standing or consent of the instructor.*

**32 INSTRUCTIONAL MEDIA AND COMMUNICATIONS**

A study of the value, design, construction, and application of the visual and auditory aids to learning. Practical experience in the handling of audio-visual equipment and materials is provided. Application of audio-visual techniques. Application of the visual and auditory aids to learning. Students will plan and carry out actual teaching assignments utilizing various A-V devices.

**39 PUBLIC SCHOOL CURRICULUM**

An examination of the various curricula of the public schools and their relationships to current practices. Special attention will be given to the meaning and nature of the curriculum, the desirable outcomes of the curriculum, conflicting and variant conceptions of curricular content, modern techniques of curricular construction, criteria for the evaluation of curricula, the curriculum as a teaching instrument. Emphasis will be placed upon the curriculum work within the teaching field of each individual.

**40 TEACHING LANGUAGE ARTS AND CHILDREN'S LITERATURE IN THE ELEMENTARY SCHOOL**

A course designed to consider the principal means of communication, oral and written, including both practical and creative uses. Attention will be given to listening, speaking, written expression, linguistics and grammar, spelling, and handwriting. Stress will be placed upon the interrelatedness of the language arts. Children's literature will be explored as a vehicle for developing creative characteristics in children and for ensur-

ing an appreciation of the creative writing of others. Observation and participation in Greater Williamsport elementary schools. *Prerequisites: Education 20 and Psychology 38 or consent of the instructor.*

**41 TEACHING THE SOCIAL STUDIES IN THE ELEMENTARY SCHOOL**

Studies and experiences to develop a basic understanding of the structure, concepts, and processes of anthropology, economics, geography, history, political science, and sociology as they relate to the elementary school social-science curriculum. Practical applications, demonstrations of methods, and the development of integrated teaching units using tests, reference books, films, and other teaching materials. Observation and participation in Greater Williamsport elementary schools. *Prerequisites: Education 20 and Psychology 38 or consent of the instructor.*

**42 TEACHING SCIENCE IN THE ELEMENTARY SCHOOL**

Science methods and materials interpreting children's science experiences and guiding the development of their scientific concepts. A study of the science content of the curriculum, its material, and use. Observation and participation in Greater Williamsport elementary schools. *Prerequisites: Education 20 and Psychology 38 or consent of the instructor.*

**43 TEACHING READING IN THE ELEMENTARY SCHOOL**

A basic course in the philosophy and rationale for the implementation of an elementary developmental-reading program from kindergarten through sixth grade. Emphasis is upon designing a reading instructional program which reflects the nature of the learning process and recognizes principles of child development through examination of the principles, problems, methods, and materials used in elementary reading programs. Observation and participation in Greater Williamsport elementary schools. *Prerequisites: Psychology 38, Education 20, 40, 41, and 42, or consent of the instructor.*

**45 METHODS OF TEACHING IN THE ELEMENTARY SCHOOL (PART OF THE PROFESSIONAL SEMESTER)**

The course emphasizes the relationship between the theoretical studies of physical, social, and cognitive development and the elementary classroom environment. Particular consideration will be given to the appropriate age and developmental level of the students with

an emphasis upon selection and utilization of methods in all the elementary subject areas, including art and music. Specific attention will be given to the development of strategies for structuring lesson plans, for maintaining classroom control, and for overall classroom management. Direct application will be made to the individual student-teaching experience. *Prerequisites: Math 7, Education 40, 41, 42, and 43, or consent of the instructor.*

**46 METHODS OF TEACHING IN THE SECONDARY SCHOOL (PART OF THE PROFESSIONAL SEMESTER)**

A study of materials, methods, and techniques of teaching with emphasis on the student's major. Stress is placed on the selection and utilization of visual and auditory aids to learning. Students will teach demonstration lessons in the presence of the instructor and the members of the class and will observe superior teachers in Greater Williamsport secondary schools. *Prerequisites: Education 20, Psychology 38, and the participation experience.*

**47 PROBLEMS IN CONTEMPORARY AMERICAN EDUCATION (PART OF THE PROFESSIONAL SEMESTER)**

Seminar in the issues, problems, and challenges encountered by teachers in the American public schools, especially those related to the student-teaching experience.

**48 STUDENT TEACHING IN THE ELEMENTARY SCHOOL (PART OF THE PROFESSIONAL SEMESTER)**

Two units. Exceeds state-mandated minimum requirements. Professional laboratory experience under the supervision of a selected cooperating teacher in a public elementary school in Greater Williamsport. Organizes learning experiences. Actual classroom experience.\*

**49 STUDENT TEACHING IN THE SECONDARY SCHOOL (PART OF THE PROFESSIONAL SEMESTER)**

Two units. Exceeds state-mandated minimum requirements. Professional laboratory experience under the supervision of a selected cooperating teacher in a public secondary school in Greater Williamsport. Organized learning experience. Emphasis on actual classroom experience, responsibility in the guidance program, and out-of-class activities.\*

\*Student teachers are required to follow the calendar of the school district to which they are assigned.

## ENGLISH

Professor: Van Marter  
Associate Professors: Ford, Jensen  
(Chairman), Madden, Rife  
Assistant Professors: Moses, F. Wild

A major consists of nine courses not including English 1 or English 2. These nine courses must include English 17, 20, 21, 22, 23; and one from English 35 and 36.

The remaining electives may include any course from English 12 and above not already taken to satisfy the preceding requirements. With the consent of the Department of English, an appropriate course from the offerings of other departments may be substituted for an English elective.

Majors seeking secondary certification in English are required to take English 35 and English 38.

The Department of English participates with seven others in the American Studies interdisciplinary major, in which American literature courses constitute an important part of the American-arts concentration area.

Because of its emphasis on communication skills, a major or a minor in English is excellent preparation for a wide range of professions. In addition to preparing students for graduate work or for teaching, a major or a minor in English can be valuable for those interested in a career in law, ministry, publishing, editing or writing, and business, to name a few.

### I WORKSHOP IN DEVELOPMENTAL WRITING

Classroom and laboratory instruction in organizing and writing the detailed paragraph and illustrative expository theme, with major emphasis on spelling, grammar, and sentence structure. Writing assignments and classroom exercises designed to ensure mastery of the student's special problems in basic writing.

One-half unit grade of "S" will be assigned when the student has successfully completed all of the work in the course. Required of, and limited to, those who have not been exempted from English I.

### 2 COMPOSITION

Extensive practice in either report and evaluative writing or in analytical and argumentative writing. This may be accomplished by taking one of the following options:

*Writing for the Sciences and Business:* Extensive practice in report and evaluative writing, with particular reference to business and technology as human concerns.

*Writing for the Liberal Arts:* Extensive practice in analytic and argumentative writing with particular reference to the humanities and social sciences.

NOTE: Although either of these options will satisfy the composition requirement, *Writing for the Sciences and Business* would be more suitable for the student interested in business, in the natural and physical sciences, and in related professions; whereas *Writing for the Liberal Arts* would be more suitable for the student interested in humanities, in law, and in the social sciences.

### 12 INTRODUCTION TO LITERATURE

An introduction to the study of literature designed for the general student and utilizing one of the following approaches: major literary genres, selected literary masterpieces, or traditional themes in literature.

### 16 WRITING FOR SPECIAL AUDIENCES

Intensive practice in writing and presenting information to various audiences within the student's own discipline. Includes training in the use of graphics and in basic library research methods. *Prerequisite: A grade of C or better in English 2 or consent of instructor. Alternate years.*

### 17 CRITICAL WRITING

Designed to provide intermediate students of literature with the critical skills necessary for an understanding of poetry, fiction, drama, and film. Intensive reading and extensive practice in writing the critical essay. *Required of English majors.*

### 18 NEWSWRITING FOR THE PRINT MEDIA

Analysis of and practice in the basic forms of newswriting: the elements of news, lead, style, and structure. Frequent workshop sessions for detailed critiques and discussion of student writing. *Alternate years.*

### 19 NEWSWRITING FOR THE BROADCAST MEDIA

Analysis of and practice in newswriting for broadcast: the news story, the

newscast, and the interview. Frequent workshop sessions for critiques of student writing and oral presentations. *Alternate years.*

### 20 BRITISH LITERATURE I

Literary forms, themes, and authors from the Anglo-Saxon through the Neo-Classical periods. Such writers as Chaucer, Spenser, Shakespeare, Milton, Swift, Pope, and Johnson; representative works from *Beowulf* to Sterne's *Sentimental Journey*.

### 21 BRITISH LITERATURE II

Literary movements and authors from the Romantic Period to the present. Particular emphasis on such writers as Blake, Wordsworth, Shelley, Keats, Tennyson, Browning, Arnold, Hardy, Yeats, Eliot.

### 22 AMERICAN LITERATURE I

Brief survey of American literature and thought before 1800, followed by more intensive study of the literature and thought of the period 1800-1900. Major focus on the works of Emerson, Thoreau, Poe, Hawthorne, Melville, Whitman, Dickinson, and Howells.

### 23 AMERICAN LITERATURE II

Major writers, movements, and tendencies in American literature during the present century. Such forces as naturalism, realism, and modernism; such writers as James, Dreiser, Hemingway, Faulkner, Frost, Eliot, and Stevens.

### 24 THE SHORT STORY

Historical and critical study of the short story. Consideration of representative examples of the form with emphasis on American and European writers of the 19th and 20th centuries.

### 25 DEVELOPMENT OF THE NOVEL

Historical study of the development of the novel from the 18th through the 20th centuries. Novels analyzed both as works of prose art and as turning points in the development of the novel. *Alternate years.*

### 26 LITERATURE AND FILM

The relationship between the conventions of literature and film with emphasis on examination of representative literary and film works. Media comparison to reveal the problems of adaptation.

### 28 CREATIVE WRITING WORKSHOP: FICTION AND POETRY

A beginning course in the theory and practice of writing fiction and poetry. Students may concentrate in either genre or both. *Alternate years.*

30 ROMANTIC LITERATURE

A study of the major poetry and fiction, plus some non-fiction prose, written during the years, 1789-1832. Emphasis on the work of at least three poets, two novelists, and assorted prose writers. *Alternate years.*

31 MODERN FICTION

Study of the novels and short fiction of such major British and American figures as Conrad, Forster, Woolf, Lawrence, Joyce, Hemingway, Faulkner, Nabokov, and Bellow.

32 MODERN POETRY

A study of the poetry written in this century, beginning with Yeats and Eliot and continuing through such writers as Frost, Williams, Moore, Stevens, Auden, Lowell, Roethke, Thomas, Ginsberg, and Rich. *Alternate years.*

33 COMEDY, TRAGEDY, AND THE MODERN THEATRE

Introduction to the theories of comedy and tragedy as those theories help us to deepen our response to the theatre. Major focus on plays, including musicals, from Ibsen and Shaw to the present. *Alternate years.*

34 WOMEN AND LITERATURE

Through an examination--literary, social, and historical--of selected British and American literature by women, this course will seek to identify those elements which distinguish women's particular contribution to the literary canon. *Alternate years.*

35 CHAUCER

A study of the major works with emphasis on *The Canterbury Tales* and *Troilus and Criseyde*. Some attention to the traditions out of which these works arose. *Required of majors seeking secondary certification in English. Alternate years.*

36 SHAKESPEARE

A study of representative plays: comedies, tragedies, histories, romances. Attention given to Shakespeare's life and times. *Alternate years.*

37 PUBLIC RELATIONS AND PUBLICITY WRITING

Communication and publicity techniques in the field of public relations focused on writing for the media. The news and feature release, newsletter, and house organ. *Prerequisite: English 18 or consent of instructor. Alternate years.*

38 LINGUISTICS AND THE ANALYSIS OF THE ENGLISH LANGUAGE

Introduction to methods of analyzing spoken and written English. Classroom work supported by weekly tutorials, in which the student gains practical experience in identifying, diagnosing, and correcting basic communications problems. *Required of majors seeking secondary certification in English. Alternate years.*

40 SELECTED WRITERS

An intensive study of no more than three writers, selected on the basis of student and faculty interest. Possible combinations include: Frost, Hemingway, and Faulkner; O'Connor, Welty, and Porter; Spenser and Milton; Hawthorne, Melville, and Dickens; Woolfe, Forster, and Lawrence; Joyce and Yeats. *May be repeated for credit if the writers are different. Alternate years.*

41 TOPICS IN LITERATURE

Examination of a literary theme, idea, or movement as it appears in one or more types of literature and as it cuts across various epochs. Possible topics include: American Novelists and Poets of the Jazz Age and Depression; Religion and Literature; Gothic Tradition in American Literature; Realism in the Novel; Literary Modernism; Literature and Mythology; The Hero in Literature. *May be repeated for credit if the topic is different. Alternate years.*

77-79 INTERNSHIP (See Index)

Interns typically work off campus in a profession related to their career interest such as law, public relations, journalism, and others.

80-89 INDEPENDENT STUDY (See Index)

Recent studies include The Arthurian Legend, Shakespeare's Women, D. H. Lawrence, and T. S. Eliot: The Social Vision.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

Recent projects include The Creative Process in Literature and Art and Images of Women in the 1890's.

**FOREIGN LANGUAGES AND LITERATURES**

Associate Professors: Flam, Maples, MacKenzie (Chairman)  
Assistant Professor: Barker

Study of foreign languages and

literatures offers opportunity to explore broadly the varieties of human experience and thought. It contributes both to personal and to international understanding by providing competence in a foreign language and a critical acquaintance with the literature and culture of foreign peoples. A major can serve as entree to careers in business, industry, government, publishing, education, journalism, social agencies, translating, and writing. It prepares for graduate work in literature or linguistics and the international fields of politics, commerce, law, health, and area studies.

French, German, and Spanish are offered as major fields of study. The major consists of at least eight courses numbered 10 or above. Majors seeking teacher certification and students planning to enter graduate school are advised to begin study of a second foreign language. The department encourages the development in breadth of programs, including allied courses from related fields or a second major, and also individual or established interdisciplinary majors combining interest in several literatures or area or cross-cultural studies. For example: International Studies, 20th Century Studies, the Major in Literature. Majors, teacher certification candidates, and all students are encouraged to spend at least a semester of study abroad by applying to one of the many programs available. The department maintains a file of such programs.

*Courses taught in English:* Foreign Languages and Literature 25, French 28, and Spanish 28.

**Foreign Language and Literatures**

25 CONTINENTAL LITERATURE

A study of such major continental authors as Cervantes, Dostoevsky, Chekhov, Dante, Ibsen, Proust, Gide, Kafka, Hesse, Goethe, Sartre, Camus, Brecht, and Ionesco. Works read in English translation will vary and be organized around a different theme or topic; recent topics have been existentialism, modernism, and drama. *Prerequisite: None. May be repeated for credit*

with consent of instructor. May be accepted toward the English major with consent of the Department of English.

38 FOREIGN LANGUAGE: SYSTEMS AND PROCESS

Study of basic linguistic concepts as a tool for language learning and teaching. Discussion and application of language teaching techniques, including work in the language laboratory. Designed for future teachers, of one or more languages and normally taken in the junior year. Students should arrange through the Department of Education to fulfill in the same semester the requirements of a participation experience in area schools. *Prerequisite: consent of instructor.*

### French

A major consists of at least eight courses numbered 10 or above, including at least one numbered 40 or above. Foreign Languages and Literatures 25 and 38 may be included in the major.

All majors who wish to be certified for teaching must pass courses 23, 31, Foreign Languages and Literatures 38, and at least two courses numbered 40 or above.

1-2 ELEMENTARY

The aim of the course is to acquire the fundamentals of the language with a view to using them. Regular practice in speaking, understanding, and reading.

10-11 INTERMEDIATE

Review and development of the fundamentals of the language for immediate use in speaking, understanding, and reading with a view to building confidence in self-expression. *Prerequisite: French 2 or equivalent.*

20 CONVERSATION

Designed to develop conversational fluency and comprehension through small discussions focusing on topics from readings in modern French culture, such as French social attitudes and French-American cultural differences. Some attention to grammar and writing. *Prerequisite: French 11 or equivalent.*

23 INTRODUCTION TO LITERARY STUDIES

Studies in French literature with emphasis on critical reading and interpretation. Discussions, lectures, oral *exposés*, papers. *Prerequisite: French 20 or equivalent.*

28 MODERN FRANCE

A course designed to familiarize students with political and social structures and cultural attitudes in contemporary French society. Materials studied may include such documents as newspaper articles, interviews and sociological surveys, and readings in history, religion, anthropology, and the arts. Some attention to the changing education system and the family and to events and ideas which have shaped French society. May include some comparative study of France and the United States.

*English Section:* Not applicable toward satisfying the foreign language distribution requirement. *Prerequisite: none.*

*French Section:* Offers readings, papers, and interviews in French for students with sufficient language skill. Can be applied toward the foreign language distribution requirement. *Prerequisite: French 10 or equivalent competency as determined by the department.*

31 FRENCH GRAMMATICAL STRUCTURE

Study of phonetics and grammatical rules and their practical application in speaking and writing. *Recommended for all majors.*

41 FRENCH LITERATURE OF THE MIDDLE AGES AND THE RENAISSANCE

A study of selected works from *La Chanson de Roland* to Montaigne. *Prerequisite: French 23 or consent of instructor. Alternate years.*

43 FRENCH LITERATURE OF THE 17TH CENTURY

A study of major texts of the period: *préciosité*, the origins and theories of French classicism, Corneille, Pascal, Descartes, Classical tragedy, and comedy: Racine, Molière, LaFontaine, Mme. de La Fayette, La Bruyère. *Prerequisite: French 23 or consent of instructor. Alternate years.*

45 FRENCH LITERATURE OF THE 18TH CENTURY

The literary expression of ideas: Montesquieu, Voltaire, Rousseau, and the Encyclopedists. *Prerequisite: French 23 or consent of instructor. Alternate years.*

47 FRENCH LITERATURE OF THE 19TH CENTURY

The dimensions of the Romantic sensibility: Musset, Hugo, Vigny, Balzac, Stendhal. Realism and Naturalism in the novels of Flaubert and Zola. Reaction in the poetry of Baudelaire, Rimbaud, Verlaine, and Mallarmé. *Prerequisite:*

*French 23 or consent of instructor. Alternate years.*

48 MODERN FRENCH THEATRE

Major trends in French drama from the turn of the century to Existentialism and the Theatre of the Absurd, Giraudoux, Anouilh, Sartre, Camus, Beckett, Ionesco, Genet, Adamov, and others. *Prerequisite: French 23 or consent of instructor. Alternate years.*

49 FRENCH LITERATURE OF THE 20TH CENTURY

Representative poets and novelists of modern France. Readings selected from the works of authors such as Proust, Gide, Aragon, Giono, Mauriac, Celiné, Malraux, Saint-Exupéry, Camus, the "new novelists" (Robbe-Grillet, Butor, Sarraute, Le Clézio), and the poetry of Apollinaire, Valéry, the Surrealists (Breton, Reverdy, Eluard, Char), Saint-John Perse, Supervielle, Prévert, and others. Some attention to works of French-speaking African writers. *Prerequisite: French 23 or consent of instructor. Alternate years.*

70-79 INTERNSHIP (See Index)

80-89 INDEPENDENT STUDY (See Index)

Examples of recent studies in French include translation, existentialism, the classical period, enlightenment literature, and Saint-Exupéry.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

### German

A major consists of eight courses numbered 10 or above. Foreign Languages and Literatures 38 and one unit of Foreign Languages and Literatures 25 may be included in the major.

All majors who wish to be certified for teaching must pass courses 31, 33, 34, and Foreign Languages and Literatures 38.

1-2 ELEMENTARY

Aim of course is to acquire the fundamentals of the language with a view to using them. Regular practice in speaking, understanding, and reading.

10-11 INTERMEDIATE

Review and development of fundamentals of the language for immediate use in speaking, understanding, and reading

with a view to building confidence in self-expression. *Prerequisite: German 2 or equivalent.*

#### 20 CONVERSATION

Designed to develop aural comprehension and conversational fluency. Readings and discussions on topics of contemporary society in Germany, Switzerland, and Austria. Some attention to grammar and writing. *Prerequisite: German 11 or equivalent.*

#### 31 GERMAN GRAMMATICAL STRUCTURE

Study of intonation, complex grammatical rules and their practical application, stylistics, and a brief survey of the development of the language. *Recommended for all majors.*

#### 33 SURVEY OF GERMAN LITERATURE AND CIVILIZATION I

Designed to acquaint the student with important periods of German literature, representative authors, and major cultural developments in Germany, Austria, and Switzerland. The course deals with literature from the Early Middle Ages through the 18th century. *Prerequisite: German 20 or consent of instructor.*

#### 34 SURVEY OF GERMAN LITERATURE AND CIVILIZATION II

Designed to acquaint the student with important periods of German literature, representative authors, and major cultural developments in Germany, Austria, and Switzerland. The course deals with the literature from the 19th century to the present. *Prerequisite: German 20 or consent of instructor.*

#### 40 GOETHE

A study of the life and works of Goethe. Goethe's significance in the Classical period and later. Readings in the major works. *Prerequisite: German 33 or 34 or consent of instructor.*

#### 41 CLASSICAL GERMAN DRAMA

The development of *das klassische Drama* with emphasis on works of Lessing, Goethe, and Schiller. *Prerequisite: German 20.*

#### 42 MODERN GERMAN DRAMA

The emergency of modern drama commencing with Buchner and leading to Brecht. *Prerequisite: German 20.*

#### 43 THE NOVELLE

The German Novelle as a genre relating to various literary periods. *Prerequisite: German 20.*

#### 45 GERMAN POETRY

A study of selected poets or the poetry of various literary periods. *Prerequisite: German 33 or 34 or consent of instructor.*

#### 47 MODERN GERMAN LITERATURE

A study of the major movements and writers from Naturalism, Expressionism, and the postwar period. Hauptmann, Rilke, Mann, Hesse, Kaiser, Boll, Grass, Handke, and others. *Prerequisite: German 33 or 34 or consent of instructor.*

#### 70-79 INTERNSHIP (See Index)

#### 80-89 INDEPENDENT STUDY (See Index)

Examples of recent studies in German include Callicism, Germanic Mythology, Hermann Hesse, the dramas of Frisch, and Durrenmatt.

#### 90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

### Greek

Greek is not offered as a major.

#### 1-2 NEW TESTAMENT GRAMMAR AND READINGS

Fundamentals of New Testament Greek grammar and readings of selected passages of the Greek text. *Alternate years.*

#### 11 READINGS IN THE SYNOPTIC GOSPELS

A comparative study of the Synoptic tradition in Greek. *Prerequisite: Greek 2 or equivalent. Alternate years.*

#### 12 READINGS IN THE PAULINE EPISTLES

Selected readings from the letters of Paul in Greek. *Prerequisite: Greek 11 or equivalent. Alternate years.*

### Hebrew

Hebrew is not offered as a major.

#### 1-2 OLD TESTAMENT GRAMMAR AND READINGS

Fundamentals of Old Testament Hebrew grammar and readings of selected passages of the Hebrew text. *Alternate years.*

#### 11-12 INTERMEDIATE OLD TESTAMENT HEBREW

A critical reading of the Hebrew text with special attention being given to exegetical questions. The text read varies from year to year. *Prerequisite: Hebrew 2 or equivalent. Alternate years.*

### Spanish

A major consists of eight courses numbered 10 or above, including at least two numbered 33 or above. Foreign Languages and Literatures 38 may be included. Foreign Languages and Literatures 25 does not count toward the major.

All majors who wish to be certified for teaching in secondary school must pass Foreign Language and Literatures 38, Spanish 31, and one from 33, 34, or 35.

The specific courses from those numbered 31 or above which are offered in a given year are selected in consideration of the curriculum requirements and career needs of advanced students.

#### 1-2 ELEMENTARY

Aim of course is to acquire the fundamentals of the language with a view to using them. Regular practice in speaking, understanding, and reading.

#### 10-11 INTERMEDIATE

Review and development of fundamentals of the language for immediate use in speaking, understanding, and reading with a view to building confidence in self-expression. *Prerequisite: Spanish 2 or equivalent.*

#### 20 CONVERSATION

The purpose of this course is to improve the student's ability in spontaneous conversations, focusing on everyday activities and matters of current concern as suggested in readings from Latin American and peninsular sources. Vocabulary building is stressed. *Prerequisite: Spanish 11 or equivalent.*

#### 28 SPAIN

To introduce students to the Spanish people — their values, customs, and institutions, with reference to the major socio-economic, political, and artistic forces governing present-day Spain. *Prerequisite: Spanish 20 or consent of instructor. Alternates with Spanish 29.*

#### 29 MEXICO

To introduce students to our most important Latin-American neighbor. History, literature, art, and music, principally covering the period from the Spanish conquest. *Prerequisite: Spanish 20 or consent of instructor. Alternates with Spanish 28.*

- 31 **SPANISH GRAMMATICAL STRUCTURE**  
Study of intonation, complex grammatical rules and their practical application, and a brief survey of the development of the language. *Recommended for all majors.*
- 33 **SURVEY OF SPANISH LITERATURE AND CIVILIZATION I**  
Designed to acquaint the student with important periods of Spanish literature, representative authors, and major socio-economic developments. The course deals with the literature from the beginning through the 17th century. *Prerequisite: Spanish 20 or consent of instructor.*
- 34 **SURVEY OF SPANISH LITERATURE AND CIVILIZATION II**  
Designed to acquaint the student with important periods of Spanish literature, representative authors, and major socio-economic developments. The course deals with the literature from the 18th century to the present. *Prerequisite: Spanish 33 or consent of instructor.*
- 35 **SURVEY OF SPANISH AMERICAN LITERATURE AND CIVILIZATION**  
Designed to acquaint the student with important periods of Spanish-American literature, representative authors, and major socio-economic developments. The course deals with the literature, especially the essay and poetry, from the 16th century to the present. *Prerequisite: Spanish 20 or consent of the instructor.*
- 44 **SPANISH LITERATURE OF THE GOLDEN AGE**  
A study of representative works and principal literary figures in the poetry, prose, and drama of the 16th and 17th centuries. *Prerequisite: Spanish 33 or consent of the instructor.*
- 45 **MODERN HISPANIC LITERATURE**  
Readings of important works of drama, poetry, and prose from the major periods of 19th and 20th century Spanish and Latin-American literature. *Prerequisite: Spanish 34, 35, or consent of instructor.*
- 70-79 **INTERNSHIP** (See Index)
- 80-89 **INDEPENDENT STUDY** (See Index)  
Recent studies include literary, linguistic, and cultural topics and themes such as urban problems as reflected in the modern novel.
- 90-99 **INDEPENDENT STUDY FOR DEPARTMENTAL HONORS** (See Index)

## **HISTORY**

Associate Professors: Larson, Piper (Chairman)  
Assistant Professor: Morris

A major consists of 10 courses, including 10, 11, and 45. At least seven courses must be taken in the department. The following courses may be counted toward fulfilling the major requirements: American Studies 10, Political Science 39, Religion 28 and 46. Other appropriate courses outside the department may be counted upon departmental approval. For history majors who student teach in history, the major consists of nine courses. In addition to the courses listed below, special courses, independent study, and honors are available. Special courses recently taught and anticipated include a biographical study of European Monarchs, the European Left, the Industrialization and Urbanization of Modern Europe, Utopian Movements in America, the Peace Movement in America, The Vietnam War, and American Legal History. History majors are encouraged to participate in the internship program.

- 10 **EUROPE 1500-1815**  
An examination of the political, social, cultural, and intellectual history of Europe and its relations with other areas of the world from 1500 to 1815.
- 11 **EUROPE 1815-Present**  
An examination of the political, social, cultural, and intellectual history of Europe and its relations with other areas of the world from 1815 to the present.
- 12 **UNITED STATES HISTORY 1603-1877**  
A study of the men, measures, and movements which have been significant in the development of the United States between 1603 and 1877. Attention is paid to the problems of minority groups as well as to majority and national influences.
- 13 **UNITED STATES HISTORY 1877-Present**  
A study of the men, measures, and movements which have been significant in the development of the United States since 1877. Attention is paid to the problems of minority groups as well as to majority and national influences.

## 20 **ANCIENT HISTORY**

A study of the ancient western world, including the foundations of the western tradition in Greece, the emergence and expansion of the Roman state, its experience as a republic, and its transformation into the Empire. The course will focus on the social and intellectual life of Greece and Rome as well as political and economic changes. *Alternate years.*

## 22 **MEDIEVAL EUROPE AND ITS NEIGHBORS**

The history of Europe from the dissolution of the Roman Empire to the mid-15th century. The course will deal with the growing estrangement of western Catholic Europe from the Byzantium and Islam, culminating in the Crusades; the rise of the Islamic Empire and its later fragmentation; the development and growth of feudalism; the conflict of empire and papacy, and the rise of towns. *Alternate years.*

## 23 **EUROPE IN THE ERA OF THE WORLD WARS**

An intensive study of the political, economic, social, and cultural history of Europe from 1900-1945. Topics include the rise of irrationalism, the origins of the First World War, the Communist and Fascist Revolutions, and the attempts to preserve peace before 1939. *Prerequisite: History 11 or consent of instructor.*

## 24 **CONTEMPORARY EUROPE**

An intensive study of the political, economic, social, and cultural history of Europe since 1945. Topics include the post-war economic recovery of Europe, the Sovietization of Eastern Europe, the origins of the Cold War, decolonization, and the flowering of the welfare state. *Prerequisite: History 11 or consent of instructor.*

## 25 **FRENCH REVOLUTION AND NAPOLEON**

An analysis of the political, social, and intellectual background of the French Revolution, a survey of the course of revolutionary development, and an estimate of the results of the Napoleonic conquests and administration. *Prerequisite: History 10 or consent of instructor. Alternate years.*

## 26 **COLONIAL AMERICA AND THE REVOLUTIONARY ERA**

The establishment of British settlements on the American continent, their history as colonies, the causes and events of the American Revolution, the critical period following independence, and proposal and adoption of the United States Constitution. *Alternate years.*



27 20TH CENTURY UNITED STATES

This course begins with the Progressive Era and includes the political, economic, and social developments in the 20th century. Emphasis will be placed on the domestic and international demands which have faced the United States in the period following World War II.

28 AFRO-AMERICAN HISTORY

A study of the experiences and participation of Afro-Americans in the United States. The course includes historical experiences such as slavery, abolition, reconstruction, and urbanization. It also raises the issue of the development and growth of white racism, and the effect of this racism on contemporary Afro-American social, intellectual, and political life. *Alternate years.*

29 LATIN AMERICAN HISTORY

An examination of the native civilization, the age of discovery and conquest, Spanish colonial policy, the independence movements, and the development of modern institutions and governments in Latin America. *Alternate years.*

33 CONFLICT IN WESTERN CIVILIZATION

An in-depth study of the changing nature of war and its relationship to the development of Western Civilization since the end of the Middle Ages. Particular emphasis will be placed on the role of war in the development of the modern nation state and the origins and nature of total war. *Alternate years.*

34 DIPLOMATIC HISTORY OF EUROPE SINCE 1789

A survey of the development of the European-states system and the relations between the European states since the beginning of the French Revolution. *Prerequisite: History 11 or consent of instructor. Alternate years.*

35 THE CRISIS OF LIBERALISM AND NATIONALISM, EUROPE 1848-1870

An in-depth investigation of the crucial "Middle Years" of 19th century Europe from the revolutions of 1848 through the unification of Germany. The course centers on the struggles for power within the major states of Europe at this time, and how the vehicle of nationalism was used to bring about one type of solution. *Alternate years.*

37 AGE OF JEFFERSON AND JACKSON

The theme of the course is the emergence of the political and social characteristics

that shaped modern America. The personalities of Thomas Jefferson, John Marshall, John Randolph, Aaron Burr, and Andrew Jackson receive special attention. Special consideration is given to the first and second party systems, the decline in community cohesiveness, the westward movement, and the growing importance of the family as a unit of social organization. *Alternate years.*

38 CIVIL WAR AND RECONSTRUCTION

The problems and events leading to war, the political and military history of the war, and the bitter aftermath to the Compromise of 1877.

39 20TH CENTURY UNITED STATES RELIGION

The study of historical and cultural developments in American society which relates to religion or what is commonly called religion. This involves consideration of the institutional and intellectual development of several faith groups as well as discussion of certain problems, such as the persistence of religious bigotry and the changing modes of church-state relationships. *Alternate years.*

40 HISTORY OF RENAISSANCE THOUGHT

A study of the classical, humanist, and scholastic elements involved in the development of the Renaissance outlook on views and values, both in Italy and in Northern Europe. The various combinations of social and political circumstances which constitute the historical context of these intellectual developments will be noted. *Alternate years.*

41 HISTORY OF REFORMATION THOUGHT

A study of the ideas and systems of ideas propounded prior to the Reformation, but which are historically related to its inception, and of the ideas and systems of ideas involved in the formulation of the major Reformation, Protestant traditions, and in the Catholic Reformation. Included are the ideas of the humanists of the Reformation Era. *Alternate years.*

42 UNITED STATES SOCIAL AND INTELLECTUAL HISTORY TO 1877

A study of the social and intellectual experience of the United States from its colonial antecedents through reconstruction. Among the topics considered are Puritanism, transcendentalism, community life and organization, education, and social-reform movements. *Prerequisites: two courses from History 12, 13, 28, or consent of instructor.*

43 UNITED STATES SOCIAL AND INTELLECTUAL HISTORY SINCE 1877

A study of the social and intellectual experience of the United States from reconstruction to the present day. Among the topics considered are social Darwinism, pragmatism, community life and organization, education and social reform movements. *Prerequisites: two courses from History 12, 13, 28 or consent of instructor.*

45 HISTORICAL METHODS

This course focuses on the nature and meaning of history. It will open to the student different historical approaches and will provide the opportunity to explore these approaches in terms of particular topics and periods. Majors are required to enroll in this course in either their junior or senior year. The course is open to other students who have two courses in history or consent of instructor.

70-79 INTERNSHIP (See Index)

Typically, history interns work for local government agencies engaged in historical projects or for the Lycoming County Historical Museum.

80-89 INDEPENDENT STUDY (See Index)

Recent topics include studies of the immigration of American blacks, political dissension in the Weimer Republic, Indian relations before the American Revolution, and the history of Lycoming County.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

Two recent projects were the Germans in Pennsylvania Politics, 1878-1938, and the Reign of Tiglath Pileser I (1116-1075 B.C.).

**INTERNATIONAL STUDIES**

Associate Professor: Larson  
(Coordinator)

The major is designed to integrate an understanding of the changing social, political, and historical environment of Europe today with study of Europe in its relations to the rest of the world, particularly the United States. It stresses the international relations of the North Atlantic community and offers the student opportunity to emphasize either European studies or international relations. The

program provides multiple perspectives on the cultural traits that shape popular attitudes and institutions. Study of a single country is included as a data-base for comparisons, and study of its language as a basis for direct communication with its people.

The program is intended to prepare a student either for graduate study or for careers which have an international component. International obligations are increasingly assumed by government agencies and a wide range of business, social, religious, and educational organizations. Opportunities are found in the fields of journalism, publishing, communications, trade, banking, advertising, management, and tourism. The program also offers flexible career preparation in a variety of essential skills, such as research, data analysis, report writing, language skills, and the awareness necessary for dealing with people and institutions of another culture. Preparation for related careers can be obtained through the guided selection of courses outside the major in the areas of business, economics, foreign languages and literatures, government, history, and international relations or through a second major. Students should design their programs in consultation with members of the Committee on International Studies.

By completing six to eight additional courses in the social sciences (which include those courses needed to complete a major in economics, history, political science, or sociology/anthropology) and the required program in education, students can be certified for the teacher education program in social studies. By completing a major in the foreign language (five or more courses) and the education program, students can be certified to teach that language. The International Studies program also encourages participation in study-abroad programs, as well as the Washington and United Nations semesters.

The major includes 11 courses selected as follows:

**International Relations Courses** — Four or two courses (if two, then four must be taken from Area Courses). Courses within this group are designed to provide a basic understanding of the international system and of Europe's relations with the rest of the world. Political Science 25 is required.

Political Science 25: World Politics  
Economics 43: International Trade  
History 34: European Diplomatic History  
Political Science 39: American Foreign Policy

**Area Courses** — Four or two courses (if two, then four must be taken from International Relations Courses). Courses within this group are designed to provide a basic understanding of the European political, social, and economic environment. History 11 and Economics 22 are required.

History 11: Europe 1815-Present  
Economics 22: Economic Systems of the West  
Political Science 20: European Politics  
History 23: Europe in the Era of the World Wars  
History 24: Contemporary Europe

**National Courses**

*Language* — Two courses in one language.

French 20, plus one course numbered 23 or above (except 28)  
German 20, plus one course numbered 31 or above  
Spanish 20, plus one course numbered 31 or above

*Country* — One course. The student must select, according to his or her language preparation, one European country which will serve as a special interest area throughout the program. The country selected will serve as the base for individual projects in the major courses wherever possible.

France — French 28: Modern France  
Germany — History 80: Topics in German History  
Spain — Spanish 28: Contemporary Hispanic Life

**Elective Course** — One course which should involve further study of some aspect of the program. Appropriate courses are any area or international relations courses not yet taken, History 10, 32, 33; Economics 23, 45; Political Science 26, 27, 38, 46; related foreign-literature courses counting toward the fine-arts requirement and internships.

**49 SENIOR SEMINAR**

A one-semester seminar, taken in the senior year, in which students and several faculty members will pursue an integrative topic in the field of international studies. Students will work to some extent independently. Guest speakers will be invited. The seminar will be open to qualified persons from outside the major and the College. *Prerequisite: consent of instructor.*

**LITERATURE**

Associate Professor: Maples (Coordinator)

This major recognizes literature as a distinct discipline beyond national boundaries and combines the study of any two literatures in the areas of English, French, German, and Spanish. Students can thus explore two literatures widely and intensively at the upper levels of course offerings within each of the respective departments while developing and applying skills in foreign languages. The major prepares students for graduate study in either of the two literatures studies or in comparative literature.

The major requires at least six literature courses, equally divided between the two literatures concerned. The six must be at the advanced level as determined in consultation with advisers (normally courses numbered 20 and above in English and 40 and above in foreign languages). In general, two of the advanced courses in each literature should be period courses. The third course, taken either as a regular course or an independent study, may have as its subject another period, a

particular author, genre, or literary theme, or some other unifying approach or idea. Beyond these six, the major must include at least two additional courses from among those counting toward a major in the departments involved. Any prerequisite courses in the respective departments (for example: English 20, 21, 22, 23, French 23, German 33, 34) should be taken during the freshman and sophomore years. Students should design their programs in consultation with a faculty member from each of the literatures concerned. Programs for the major must be approved by the departments involved.

## MASS COMMUNICATION

Professor: Anapol (Chairman)

The major in mass communication combines a liberal arts foundation with a professional sequence through a selection of courses from the Departments of Art, Business Administration, English, Political Science, Psychology, Sociology and Anthropology, and Mass Communication. It also draws upon specialized courses from the Graphic Arts Department of the Williamsport Area Community College. Students completing the program are qualified to pursue either career options or graduate study in mass communication, advertising, broadcasting, journalism, or public relations.

Students majoring in the Mass Communication Department must complete the Core Curriculum and one sequence, as well as the College distribution requirements.

### I. THE CORE CURRICULUM REQUIRED OF ALL STUDENTS

#### Two Theory Courses

Mass Comm 10 Introduction to Mass Communication  
 Mass Comm 30 Theories of Mass Communication

#### A Media Regulation Course

Mass Comm 31 Mass Media Law and Regulation

#### A Production Course (Choice of one.

Certain of these courses are required in specific sequences.)

CGO 511 Layout and Design  
 CGO 512 Typographic Composition  
 Mass Comm 24 Television Production

#### A Writing Course (Choice of one. Certain of these courses are required in specific sequences.)

Eng 16 Writing for Special Audiences  
 Eng 18 Newswriting for the Print Media  
 Eng 19 Newswriting for the Broadcast Media  
 Pol Sci 34 Political Newswriting  
 Mass Comm 27 Scriptwriting for Radio and Television

#### A Research Course (Choice of one. Certain of these courses are required in specific sequences.)

Pol Sci 48 Public Opinion and Polling  
 Soc 47 Research Methods in Sociology  
 Psy 32 *or* Sensory Experimental Psychology *or*  
 Psy 24 Social Psychology  
 Bus 45 Marketing Research

#### An applied Media Experience Course (Choice of one.)

Mass Comm 48-49 Practicum  
 Mass Comm 70-79 Internship  
 Mass Comm 80-89 Independent Study

NOTE: Mass Communication core courses may be utilized both to meet the core requirements and to complete Sequence requirements. Since some core courses must be used to meet sequence requirements, students should review carefully sequence requirements in selecting courses.

### II. SEQUENCE REQUIREMENTS

Mass Communication majors must complete at least one sequence. All sequence requirements are in addition to the core curriculum but the same course may be used to meet the core requirements as well as the requirements of sequences.

#### Advertising Sequence:

Bus 28-29 Marketing Management  
 Bus 32 Advertising  
 Pol Sci 48 Public Opinion and Polling *or*  
 Soc 47 Research Methods in Sociology  
 GCO 511 Layout and Design  
 GCO 512 Typographic Composition  
 Mass Comm 11 Oral Communication  
 Art 27 Photography I *or*  
 Art 15 Two-dimensional Design  
 Bus 47 Creative Advertising is strongly recommended, though not required, for this sequence.

#### Broadcasting Sequence:

Eng 19 Newswriting for Broadcast Media  
 Pol Sci 34 Political Newswriting  
 Mass Comm 11 Oral Communication  
 Mass Comm 31 Mass Media Law and Regulation  
 Mass Comm 28 Radio Programming and Production  
 Mass Comm 24 Television Production  
 Mass Comm 27 Scriptwriting for Radio and Television  
 Eng 26 Film and Literature *or*  
 Thea 11 Introduction to Film

#### Journalism Sequence:

Eng 16 Writing for Special Audiences  
 Eng 17 Critical Writing  
 Eng 18 Newswriting for Print Media  
 Pol Sci 34 Political Newswriting  
 Pol Sci 11 State and Local Government  
 Pol Sci 32 Politics of Cities and Suburbs *or*  
 Soc 34 Racial and Cultural Minorities  
 Pol Sci 48 Public Opinion and Polling  
 Art 27 Photography I  
 CGO 511 Typographic Composition

#### Public Relations Sequence:

Eng 16 Writing for Special Audiences  
 Eng 18 Newswriting for Print Media  
 Eng 37 Public Relations and Publicity  
 Bus 28-29 Marketing Management  
 Pol Sci 48 Public Opinion and Polling *or*  
 Soc 47 Research Methods in Sociology  
 Art 27 Photography I  
 Mass Comm 24 Television Production  
 Mass Comm 11 Oral Communication

### 10 INTRODUCTION TO MASS COMMUNICATION

Theories of the process of mass communication and introduction to the mass media; attention will be given to problems of censorship and media ethics. Analysis of the mass media's impact on society; emphasis will be placed on the social, psychological, and political implications of the media's shaping influence on man and institutions.

### 11 FUNDAMENTALS OF ORAL COMMUNICATION

The dynamics of oral communication. The development of elementary principles of simple oral communication through lectures, prepared assignments in speaking, and informal class exercises. Utilizes videotape sequences for feedback to students.

24 TELEVISION PRODUCTION  
Technical, aesthetic, organizational, and business aspects of video programs. Study and use of basic equipment to produce standard formats on videotape.

27 SCRIPTWRITING FOR RADIO AND TELEVISION  
Analysis of differences between radio and television writing requirements, station formats, standard program forms, script standards, writing and criticism. *Alternate years.*

28 RADIO PROGRAMMING AND PRODUCTION  
Contemporary broadcast programming techniques including station scheduling, program development and analysis, and implementation in real and hypothetical situations. Emphasis on management functions. *Alternate years.*

30 THEORIES OF MASS COMMUNICATION  
An examination and analysis of current theories dealing with the sources, receivers, and systems of mass communication and the nature and function of the media audience, its attitudes and behaviors.

31 MASS MEDIA LAW AND REGULATION  
An examination of the legal structure and the system by which mass communication is controlled in this society. The forces which shape, influence, and make policy will be considered. *Cross-listed as Political Science 36.*

48-49 PRACTICUM IN MASS COMMUNICATION  
Utilization of mass communication principles, techniques, and skills in an applied setting through work experience in a communication agency or organization. This experience is coordinated with regular class meetings to analyze and evaluate relationships between theory and practice. *Prerequisite: upper division status and consent of instructor.*

70-79 INTERNSHIP (See Index)  
Interns usually work off campus in a field related to their communications sequence; some may work with the student newspaper or radio station.

80-89 INDEPENDENT STUDY (See Index)  
Studies involve research related to the communications sequence of the student.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)  
Through special arrangement, the following courses offered at the Williamsport Area Community College are available to students in the mass communication major *only*. The WACC courses are taken as part of the student's semester schedule and are listed with Lycoming offerings during registration periods.

### Graphic Arts

511 LAYOUT AND DESIGN  
Analysis of materials, tools, and techniques used in preparation of copy for reproduction; paste-up and color separation overlays. 4 cr.

512 TYPOGRAPHIC COMPOSITION  
Fundamentals of typesetting. Theory and practice in the care and use of composing machines, both hot (mechanical) and cold (photo). 4 cr.

521 PROCESS CAMERA  
Concepts and techniques of darkroom procedure for reproduction of line and halftone copy on process camera. 4 cr.

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### MATHEMATICAL SCIENCES

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Associate Professors: Getchell, Haley (Chairman), Hubbard  
Assistant Professor: Sprechini  
Instructors: Murphy, Troxel  
Part-time Instructor: Dotzel

The Department of Mathematical Sciences offers major programs in computer science and mathematics.

#### Computer Science

A major in computer science consists of 11 courses: Mathematics 18, 19, either 21 or 24, and Computer Science 15, 26, 27, 31, 37, 44, 45, and 46. It is recommended that majors in computer science take Computer Science 15 in the freshman year. In addition, the following cognate courses are recommended: Mathematics 13, 14, 20, 38, Physics 27, Philosophy 19, 20, and Psychology 37.

2 COMPUTERS IN SOCIETY  
A study of the role of digital computers in society today with primary emphasis on what can be done, rather than how to do it. The main goal of the course is to make the student aware of the growing influence which computers are likely to have on society in the near future. *Students with credit for Mathematics 15 may not receive credit for this course. One-half unit of credit.*

15 INTRODUCTION TO COMPUTER SCIENCE  
Introduction to programming, utilizing BASIC and FORTRAN IV. Topics include program structure, computer configuration, memory allocation, algorithms, and applications. Includes laboratory experience on the PDP11/70 computer. *Prerequisite: credit for or exemption from Mathematics 5.*

26 PRINCIPLES OF ADVANCED PROGRAMMING  
Principles of effective programming using PASCAL, including structured programming, stepwise refinement, assertion proving, style, debugging, control structure, decision tables, finite state machines, recursion, and encoding. *Prerequisite: Computer Science 15.*

27 DATA STRUCTURES  
Representation of data and algorithms associated with data structures. Topics include representation of lists, trees, graphs and strings, algorithms for searching and sorting. *Prerequisite: Computer Science 26.*

31 INTRODUCTION TO NUMERICAL ANALYSIS  
Study and analysis of tabulated data leading to interpolation, numerical integration, numerical solutions of differential equations, and systems of equations. *Prerequisite: Computer Science 15 and Mathematics 19. Alternate years. Cross-listed as Mathematics 31.*

37 COMPUTATIONAL MATRIX ALGEBRA  
An introduction to some of the algorithms which have been developed for producing numerical solutions to such linear algebraic problems as solving systems of linear equations, inverting matrices, computing the eigenvalues of a matrix, and solving the linear least-squares problem. *Prerequisite: Computer Science 15 and Mathematics 19 or consent of instructor. Alternate years. Cross-listed as Mathematics 37.*

#### 44 MACHINE LANGUAGE

Principles of machine language programming; computer organization and representation of numbers, strings, arrays, and list structures at the machine level; interrupt programming, relocatable code, linking loaders; interfacing with operating systems. *Prerequisite: Computer Science 26. Alternate years.*

#### 45 SYSTEMS PROGRAMMING

The emphasis in this course is on the algorithms used in programming the various parts of a computer system. These parts include assemblers, loaders, editors, interrupt processors, input/output schedulers, processor and job schedulers, and memory managers. *Prerequisite: Computer Science 27 and 44. Alternate years.*

#### 46 COMPILER CONSTRUCTION

The emphasis in this course is on the construction of translators for programming languages. Topics include lexical analysis, block structure, grammars, parsing, program representation, and run-time organization. *Prerequisite: Computer Science 27. Alternate years.*

#### 70-79 INTERNSHIP (See Index)

#### 80-89 INDEPENDENT STUDY (See Index)

#### 90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

### Mathematics

A major in mathematics consists of 10 units of courses in the mathematical sciences: Computer Science 15, Mathematics 18, 19, 20, 24, 34, 42, and three other mathematics courses numbered above 20. Students seeking secondary certification in mathematics are required to complete Mathematics 30 and 36 and are advised to enroll in Philosophy 17. In addition, all majors are advised to elect Computer Science 15, Philosophy 20 and 33, and Astronomy/Physics 25 and 26.

In addition to the regular courses listed below, special courses are occasionally available on an independent-study basis. Recent topics include graph theory, discrete probability, actuarial mathematics, theory of games of chance, and mathematics physics.

#### 1 CONTINUOUS MODELS

A survey of the central ideas of the infinitesimal calculus, its historical development, and some of its modern applications. *Students with credit for Mathematics 9 or 18 may not receive credit for this course. One-half unit of credit.*

#### 5 INDIVIDUALIZED LABORATORY INSTRUCTION IN BASIC ALGEBRA

A self-paced study of arithmetic and decimal numerals, fractions, the real number line, factoring, solutions to linear and quadratic equations, graphs of linear and quadratic functions, expressions with rational exponents, algebraic functions, exponential functions, and inequalities. **THIS COURSE IS LIMITED TO STUDENTS PLACED THEREIN BY THE MATHEMATICS DEPARTMENT.** *One-half unit of credit.*

#### 7 MATHEMATICS IN ELEMENTARY EDUCATION

This course is intended for prospective elementary-school teachers and is required of all those seeking elementary certification. Topics include systems of numbers and of numeration, computational algorithms, environmental and transformation geometry measurement, and mathematical concept formation. Observation and participation in Greater Williamsport elementary schools. *Corequisite: any education course numbered 40 or above which is specifically required for elementary certification or consent of instructor.*

#### 9 INTRODUCTION TO CALCULUS

An intuitive approach to the calculus concepts with applications to business, biology, and social-science problems. Not open to students who have completed Mathematics 18. *Prerequisite: credit for or exemption from Mathematics 5. Alternate years.*

#### 12 FINITE MATHEMATICS FOR DECISION MAKING

An introduction to some of the principal mathematical models, not involving calculus, which are used in business administration, social sciences, and operations research. The course will include both deterministic models such as graphs, networks, linear programming and voting models, and probabilistic models such as Markov chains and games. *Prerequisite: credit for or exemption from Mathematics 5.*

#### 13 INTRODUCTION TO STATISTICS

Empirical distributions of measurements, probability and random variables,

discrete and continuous probability distributions, statistical inference from small samples, linear regression and correlation, analysis of enumerative data. *Prerequisite: credit for or exemption from Mathematics 5.*

#### 14 MULTIVARIATE STATISTICS

The study of statistical techniques used in experimental designs involving more than two random variables. Techniques include analysis of variance, analysis of covariance, multiple regression and correlation, introduction to factor analysis, and discriminative analysis. Extensive use of the PDPII/70 computer as a problem-solving tool will be included. *Prerequisite: Mathematics 13. Alternate years. One-half unit of credit.*

#### 17 PRECALCULUS MATHEMATICS

The study of logarithmic, exponential, trigonometric, polynomial, and rational functions, their graphs, and elementary properties. *Prerequisite: credit for or exemption from Mathematics 5.*

#### 18 CALCULUS WITH ANALYTIC GEOMETRY I

Differentiation of algebraic functions, graphing plane curves, applications to related rate and extremal problems, integration of algebraic functions, areas of plane regions, volumes of solids or revolution, and other applications. *Prerequisite: a grade of C or better in Mathematics 17 or its equivalent or consent of instructor.*

#### 19 CALCULUS WITH ANALYTIC GEOMETRY II

Differentiation and integration of transcendental functions, parametric equations, polar coordinates, the conic sections and their applications, infinite sequences, and series expansions. *Prerequisite: a grade of C or better in Mathematics 18 or consent of instructor.*

#### 20 MULTIVARIATE CALCULUS WITH MATRIX ALGEBRA

Vectors, linear transformations and their matrix representations, determinants, matrix inversion, solutions to systems of linear equations, differentiation and integration of multivariate functions, vector field theory and applications. *Prerequisite: a grade of C or better in Mathematics 19 or consent of instructor.*

#### 21 DIFFERENTIAL EQUATIONS

A study of ordinary differential equations and their applications: first-order linear differential equations, the Picard Existence Theorem, solution by separation of variables, solution by numerical

- methods; second-order linear differential equations, solution by variation of parameters, solution by power series, solution by Laplace transforms; system of first-order equation, solutions by eigenvalues; qualitative theory, stability theory asymptotic behavior, and the Poincare-Bendixon theorem. Besides the usual applications in physics and engineering, considerable attention will be given to modern applications in the social and life sciences. *Prerequisite: a grade of C or better in Mathematics 19 or consent of instructor. Alternate years.*
- 23 **COMPLEX VARIABLES**  
Complex numbers, analytic functions, complex integration, Cauchy's theorems and their applications. *Corequisite: Mathematics 20. Alternate years.*
- 24 **FOUNDATIONS OF MATHEMATICS**  
Topics regularly included are the nature of mathematical systems, essentials of logical reasoning, and axiomatic foundations of set theory. Other topics frequently included are approaches to the concepts of infinity and continuity, and the construction of the real number system. The course serves as a bridge from the elementary calculus to advanced courses in algebra and analysis. *Prerequisite: Mathematics 19 or consent of instructor.*
- 30 **TOPICS OF GEOMETRY**  
An axiomatic treatment of Euclidean geometry, and an introduction to related geometries. *Prerequisite: Mathematics 18. Alternate years.*
- 31 **INTRODUCTION TO NUMERICAL ANALYSIS**  
Study and analysis of tabulated data leading to interpolation, numerical integration, numerical solutions of differential equations, and systems of equations. *Prerequisite: Computer Science 15 and Mathematics 19. Alternate years. Cross-listed as Computer Science 31.*
- 32-33 **MATHEMATICAL STATISTICS I-II**  
A study of probability, discrete and continuous random variables, expected values and moments, sampling, point estimation, sampling distributions, interval estimation, test of hypotheses, regression and linear hypotheses, experimental design models. *Corequisite: Mathematics 20. Alternate years.*
- 34 **MODERN ALGEBRA**  
An integrated approach to groups, rings, fields, and vector spaces and functions which preserve their structure. *Prerequisite: Mathematics 24.*
- 36 **CONCEPTS OF MATHEMATICS IN SECONDARY EDUCATION**  
A course designed for mathematics majors who are planning to teach at the secondary level. Emphasis will be placed on the mathematics that form the foundation of secondary mathematics. Ideas will be presented to familiarize the student with various curriculum proposals, to provide for innovation within the existing curriculum, and to expand the boundaries of the existing curriculum. *Open only to junior and senior mathematics majors enrolled in the secondary-education program. Alternate years.*
- 37 **COMPUTATIONAL MATRIX ALGEBRA**  
An introduction to some of the algorithms which have been developed for producing numerical solutions to such linear algebraic problems as solving systems of linear equations, inverting matrices, computing the eigenvalues of a matrix, and solving the linear least squares problem. *Prerequisite: Computer Science 15 and Mathematics 19 or consent of instructor. Alternate years. Cross-listed as Computer Science 37.*
- 38 **OPERATIONS RESEARCH**  
Queuing theory, including simulation techniques; optimization theory, including linear programming, integer programming, and dynamic programming; game theory, including two-person zero-sum games, cooperative games, and multiperson games. *Prerequisite: Mathematics 12 or Mathematics 20. Alternate years.*
- 42 **REAL ANALYSIS**  
A rigorous analysis of the basic concepts of real variable calculus; the real number system as a complete, ordered field; the topology of Euclidean space, compact sets, the Heine-Borel Theorem; continuity; the Intermediate Value Theorem; derivatives, the Mean Value Theorem; Riemann integrals, the Fundamental Theorem of Calculus; infinite series, and Taylor's theorem. *Prerequisite: Mathematics 24.*
- 48 **SEMINAR**  
Topics in modern mathematics of current interest to the instructor. A different topic is selected each semester. This semester is designed to provide junior and senior mathematics majors and other qualified students with more than the usual opportunity for concentrated and cooperative inquiry. *Prerequisite: consent of instructor. One-half unit of credit. This course may be repeated for credit.*
- 70-79 **INTERNSHIP (See Index)**
- 80-89 **INDEPENDENT STUDY (See Index)**
- 90-99 **INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)**
- 
- MUSIC**
- Assistant Professors: Boerckel, Jex, Thayer (Chairman)  
Part-time Instructors: Gallup, Lakey, Nacinovich, Russell, Serang
- The music major is required to take a balanced program of theory, applied music, music history, and music ensemble. A minimum of eight courses (exclusive of applied music and ensemble) is required, and these must include Music 10, 11, 17, 22, and any two from 35, 36, 37, 38. Music 17 is not required of the music major who completes Music 35, 36, 37, and 38. Each major must participate in an ensemble (Music 68 and/or 69) and take one hour of applied music per week for a minimum of four semesters. (See Music 60-66). The major must include at least one-half hour of piano in the applied program unless a piano proficiency test is requested and passed. Anyone declaring music as a second major must do so by the beginning of the junior year.
- 10-11 **MUSIC THEORY I AND II**  
A two-semester course open to all students. An examination of the fundamental components and theoretical concepts of music. The student will develop musicianship through application of applied skills. (*Music 10 is prerequisite to Music 11.*)
- 16 **INTRODUCTION TO MUSIC**  
A basic course in the materials and techniques of music. Examples drawn from various periods and styles are designed to enhance perception and appreciation through careful and informed listening.
- 17 **SURVEY OF WESTERN MUSIC**  
A chronological survey of Western music from the Middle Ages to the present for the major or non-major.

- 18 **AMERICAN MUSIC I**  
For the major or non-major interested in studying all types of American music, from pre-Revolutionary days through World War I. Areas explored will include Indian, African, and European roots influencing the serious music for small and large ensembles, the development of show music from minstrels to Broadway musicals, the evolution of "Tin Pan Alley," and the beginnings of jazz. *Alternate years.*
- 19 **AMERICAN MUSIC II**  
For the major or non-major interested in studying all types of American music. American Music II will cover post-World War I days to the present. Areas explored will include indigenous serious music for small and large ensembles, the mature Broadway musical, the evolution of jazz, the development of rock, and the fusion of musical styles in the 1970's. *Alternate years.*
- 20-21 **MUSIC THEORY III AND IV**  
A continuation of the integrated theory course moving toward newer uses of music materials. *Prerequisite: Music 11. Alternate years.*
- 22 **ELECTRONIC MUSIC I**  
Largely a non-technical introduction to electronic music designed for the major and non-major. The course traces the development of electronic music, introduces the student to simple tape-splicing and recorder manipulation, and progresses to the present-day synthesizer and multitrack techniques. Students will work collectively and individually in the electronic studios. *Alternate years.*
- 30 **COMPOSITION**  
Creative writing in smaller vocal and instrumental forms. The beginning of the course requires students to identify and use the techniques developed by major composers of the 20th century. Students begin developing a personal style of composition in the remainder of the semester. One composition by each class member will be presented in a New Works recital toward the end of the semester. *Prerequisite: Music 10-11 or consent of instructor. Alternate years.*
- 31 **CONDUCTING**  
A study of the fundamentals of conducting with frequent opportunity for practical experience. The College music organizations serve to make performance experience possible. *Prerequisite: Music 10-11 or consent of instructor. Alternate years.*
- 33 **ELECTRONIC MUSIC II**  
An in-depth study of the Moog synthesizer, including alternating and direct current, signal generators and the characteristics of their waveforms, control voltage and its sources, the transient and periodic modulations. Basic mixing and filtering techniques will be examined. Students will be assigned studio hours to complete the recording assignments. *Prerequisite: Music 22. Alternate years.*
- 35 **MUSIC HISTORY TO J.S. BACH**  
A survey of Western music from Gregorian chant to the masterworks of Handel and Bach. Church music of the Middle Ages, Renaissance, and Baroque periods is of primary importance with the origins of instrumental music and opera receiving secondary consideration. *Prerequisite: Music 17 or consent of instructor. Alternate years.*
- 36 **MUSIC HISTORY OF THE 18TH CENTURY**  
The symphonies, operas, chamber music, and piano works of Haydn, Mozart, and Beethoven are studied within the social and cultural climate of late 18th century Europe. Rococo music in France and Italy will be considered with the expressive style of Germany and Austria. *Prerequisite: Music 17 or consent of instructor. Alternate years.*
- 37 **MUSIC OF THE 19TH CENTURY**  
A study of the music of the Romantic period with emphasis on Beethoven, Schubert, Chopin, Berlioz, Liszt, Schumann, Brahms, Wagner, Verdi, Tchaikovsky, and others. Close examination of short lyric forms, program music, opera, and the sonata genre. *Prerequisite: Music 17 or consent of instructor. Alternate years.*
- 38 **MUSIC OF THE 20TH CENTURY**  
Beginning with Debussy, Strauss, Mahler, and Sibelius, the course traces some of the main currents in the music of our time. Emphasis given to such composers as Stravinsky, Bartok, Ives, Shostakovich, Berg, Gershwin, and others. *Prerequisite: Music 17 or consent of instructor. Alternate years.*
- 39 **ORCHESTRATION**  
A study of modern orchestral instruments and examination of their use by the great masters with practical problems in instrumentation. The College music organizations serve to make performance experience possible. *Prerequisite: Music 10-11 or consent of instructor. Alternate years.*
- 40 **COUNTERPOINT**  
A study of the five species in two-, three- and four-part writing. Emphasis is placed upon the 16th century writing style. *Prerequisite: Music 10-11 or consent of instructor. Alternate years.*
- 42 **ELECTRONIC MUSIC III**  
An introduction to acoustic theory, echo technique, location modulation, application of equalization, phasing, and microphones. The student will write and perform an electronic composition utilizing real-time networks. *Prerequisite: Music 33. Alternate years.*
- 43 **ELECTRONIC MUSIC IV**  
A study of major compositions and genres of electronic music. The student will complete an original composition based upon a study of these techniques and forms. *Prerequisite: Music 42. Alternate years.*
- Applied Music and Ensemble**
- The study of performance in piano, voice, organ, strings, woodwinds, and percussion is designed to develop sound technique and a knowledge of the appropriate literature for the instrument. Student recitals offer opportunities to gain experience in public performance. Music majors and other students qualified in performance may present formal recitals.
- Credit for applied music courses (private lessons) and ensemble (choir and band) is earned on a fractional basis. For a description of this, see page 9. An applied course or ensemble should NOT be substituted for an academic course, but should in every case be in addition to the normal four academic courses.
- Extra fees apply for private lessons (Music 60-66) as follows:  
\$90 per semester for a half-hour lesson per week. Private lessons are given for 13 weeks.
- 60 Piano 61 Voice 62 Strings 63 Organ 64 Brass 65 Woodwinds 66 Percussion
- 68 **CHORAL ENSEMBLE (CHOIR)**  
Participation in the College choir is designed to enable any student possessing

at least average talent an opportunity to study choral technique. Emphasis is placed upon acquaintance with choral literature, tone production, diction, and phrasing. Students desiring credit for choir are allowed a maximum of one hour per semester. A student who is enrolled in choir and not band should elect Music 68-B (one hour credit). Students enrolled in *both* band and choir should elect 68-A and 69-A (one-half hour in each).

69 INSTRUMENTAL ENSEMBLE (BAND)

The College band allows students with some instrumental experience to become acquainted with good band literature and develop personal musicianship through participation in group instrumental activity. Students desiring credit for ensemble are allowed a maximum of one hour per semester. A student who is enrolled in band, but not choir, should elect Music 69-B (one hour credit). A student enrolled in *both* band and choir should elect 68-A and 69-A (one-half hour in each).

70-79 INTERNSHIP (See Index)

80-89 INDEPENDENT STUDY (See Index)

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

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**NEAR EAST CULTURE AND ARCHAEOLOGY**

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Professor: Guerra (Coordinator)

The Near East Culture and Archaeology interdisciplinary major is designed to acquaint students with the "cradle of Western civilization," both in its ancient and modern aspects. Majors will complete a minimum of eight to 10 courses related to the Near East.

Required courses are described in their departmental sections and include:

1. Four courses (semesters) in language and cultural from:
  - History and Culture of the Ancient Near East (Religion 28)
  - History of Art (Art 22)
  - Ancient History (History 20)
  - Old Testament Faith and History (Religion 13)

Judaism and Islam (Religion 24)  
Two semesters of foreign language (Hebrew 1, 2 or Greek 1, 2)

2. Two courses (semesters) in archaeology from:

Bible, Archaeology and Faith (Religion 46)

Special Archaeology courses, such as independent studies or in May term or summer sessions in the Near East.

3. Two courses (semesters) in the cooperating departments (art, history, political science, religion and sociology-anthropology) or related departments. These two courses, usually taken in the junior or senior years, can be independent study. Topics should be related either to the ancient or the modern Near East and must be approved in advance by the committee supervising the interdisciplinary program. The study of modern Arabic or Hebrew is encouraged.

Other courses may be suggested by the supervisory committee within the limits of a 10-course major. The number of courses taken within this program applicable toward fulfilling the College distribution requirements will vary according to the selection of courses.

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**NURSING**

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Professor: Rodgers (Chairman)

Instructor: Pagana

Students wishing to major in nursing will be admitted to the College under the usual admission standards and be classified as "Pre-Nursing." To be considered for admission to the Department of Nursing, freshmen should follow the nursing curriculum for the freshman year in the sequence designated. A supplementary application must be submitted to the Department of Nursing by March 1 of the freshman year. Students will be

notified by letter of their admission status no later than April 1.

The major in nursing consists of: Nursing 20, 21, 30, 31, 32, 33, 34, 35, 36, 40, 41, 42, and 43 or 80-89. In addition, the following are required prerequisites for specific nursing courses: Chemistry 8, 15, Biology 13-14, 26, Psychology 10, 17, Mathematics 13 and Computer Science 15. The religion/philosophy distribution requirement is met by the required courses: Philosophy 19 and Religion 20. The history/social science distribution requirement is met by the required courses: Psychology 10 and 17. In addition, the student is required to take one course from among Sociology/Anthropology 10, 14, 16, 20, or 28. The fine arts/foreign language distribution requirement can be met by two courses in one department from among art, literature, music, theatre, or in foreign language on the intermediate or higher course level.

A grade of C or better is required in all clinical nursing courses in order to continue in the nursing program. These courses are Nursing 21, 30, 31, 32, 33, 36, 40 and 41.

Unless otherwise indicated, nursing courses are open only to nursing majors.

20 CONCEPTS OF NUTRITION IN FAMILY HEALTH

Essentials of normal nutrition and their relationship to the health of individuals and families. These concepts serve as a basis for the development of an understanding of therapeutic application of dietary principles and the health professional's role and responsibility in this facet of client care. *Three hours of lecture. Three-quarter unit. Prerequisites: Chemistry 8, 15, or consent of instructor. Open to non-nursing majors.*

21 FOUNDATIONS OF PROFESSIONAL NURSING PRACTICE

Introduction of major theoretical elements underlying professional nursing practice. Focus on the concept of health and common health problems recognizing the multidirectional influence of the individual, family, and environment. In this first clinical course the student will utilize



the nursing process in assisting clients to attain a maximum level of functioning. *Three hours of lecture and five hours clinical laboratory. 1 1/4 units. Prerequisites: Chemistry 8, 15, and Biology 13.*

**30-31 NURSING CARE OF THE DEVELOPING FAMILY**

Examination of health and nursing needs of beginning and developing families. Emphasis on nursing needs of mothers and infants within the family unit as well as the common health problems of children through adolescence. *Three hours of lecture and seven and one-half hours clinical laboratory. 1 1/2 units. Prerequisite for Nursing 30: Nursing 21, Biology 14 and 26. Prerequisite for Nursing 31: Nursing 30.*

**32-33 NURSING CARE OF THE ADULT**

Identification of adult health care needs and implementation of nursing activities based on an understanding of growth and development, pathophysiology, communication skills, interpersonal dynamics and psychosocial interventions. *Three hours of lecture and 7 1/2 hours clinical laboratory. 1 1/2 units. Prerequisite for Nursing 32: Nursing 21, Biology 14 and 26. Prerequisite for Nursing 33: Nursing 32.*

**34 BASIC CONCEPTS OF PHARMACOLOGY AND THERAPEUTICS**

Fundamentals of pharmacology and therapeutics are presented for the various classes of drugs. Relationship of pharmacological mechanisms to the affected biochemical and physiological processes. Interactions and toxicologic aspects of drug therapy are reviewed. *Four hours of lecture. One unit. Corequisite: Nursing 30, 32, or permission of instructor. Open to non-nursing majors.*

**35 RESEARCH IN NURSING**

Expansion of theoretical basis of research methodology with emphasis on analyzing, criticizing and interpreting nursing research. Development of a research proposal focusing on a nursing problem. *Four hours of lecture. One unit. Prerequisites: Mathematics 13, Computer Science 15, and Nursing 30 and 32.*

**36 THE NURSE IN THE SOCIAL SYSTEM**

Seminar discussions and clinical laboratory using the hospital as a prototype. Theories of social systems. Examination of induction into the hospital system. Evaluation of standards of care. Focus on utilization of change theory. *Twelve hours of lecture and 96 hours*

*clinical laboratory. One unit. Prerequisites: Nursing 31, 33. Required for the nursing major and offered only in May term.*

**40 NURSING CARE OF THE EMOTIONALLY TROUBLED INDIVIDUAL AND FAMILY**

Examination of disturbed human relationships with focus on intrapsychic, interpersonal and physiologic etiology. Emphasis on advanced therapeutic nurse-patient relationships within context of family, community, and health care systems. *Three hours of lecture and 7 1/2 hours clinical laboratory. 1 1/2 units. Prerequisites: Nursing 31, 33, 36.*

**41 COMPREHENSIVE NURSING CARE**

Culminating nursing course with focus on utilizing nursing theory in a choice of clinical settings. Seminars will provide opportunities for students to share commonalities and unique aspects of professional practice. *Three hours of lecture and 7 1/2 hours clinical laboratory. 1 1/2 units. Prerequisites: Nursing 36, 40.*

**42 PROFESSIONAL ISSUES**

An analysis of nursing issues in the context of the historical background of the profession, the social forces which influence nursing, and nursing's impact upon society. *Two hour seminar. One-half unit. Prerequisite: Senior standing.*

**43 TOPICS IN NURSING**

Selected topic courses in nursing designed to permit students to pursue subjects which, because of their specialized nature, may not be offered on a regular basis. *One-half unit. Prerequisite: Senior standing.*

**80-89 INDEPENDENT STUDY IN NURSING**

An opportunity to develop and implement an individual plan of study under faculty guidance. *One-half unit. Prerequisite: Senior standing or permission of the chairman.*

the arts, and other human enterprises. A major in philosophy, together with appropriate other courses, can provide an excellent preparation for policy-making positions of many kinds, for graduate study in several fields, and for careers in education, law, and the ministry. The major in philosophy consists of at least eight courses numbered 10 or above, of which six must be numbered 20 or above and must include 21 or 23, 22 or 24, and 49. In addition to the courses listed below, special courses are often offered.

**5 PRACTICAL REASONING**

A general introduction to topics in logic and their application to practical reasoning, with primary emphasis on detecting fallacies, evaluating inductive reasoning, and understanding the rudiments of scientific method.

**10 INTRODUCTION TO PHILOSOPHICAL PROBLEMS**

An introductory course designed to show the nature of philosophy by examination of several examples of problems which have received extended attention in philosophical literature. These topics often include the relation of the mind to the body, the possibility of human freedom, arguments about the existence of God, the conditions of knowledge, and the relation of language to thought. Some attention is also given to the principles of acceptable reasoning.

**14 PHILOSOPHY AND PERSONAL CHOICE**

An introductory philosophical examination of a number of contemporary moral issues which call for personal decision. Topics often investigated include: the "good" life, obligation to others, sexual ethics, abortion, suicide and death, violence and pacifism, obedience to the law, the relevance of personal beliefs to morality. Discussion centers on some of the suggestions philosophers have made about how to make such decisions.

**15 PHILOSOPHY AND PUBLIC POLICY**

An introductory philosophical examination of the moral and conceptual dimension of various contemporary public issues, such as the relation of ethics to politics and the law, the enforcement of morals, the problems of fair distribution of goods and opportunities, the legitimacy of restricting the use of natural resources, and the application of ethics to

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**PHILOSOPHY**

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Associate Professors: Griffith  
(Chairman), Whelan  
Assistant Professor: Herring

The study of philosophy develops a critical understanding of the basic concepts and presuppositions around which we organize our thought in science, religion, education, morality,

- business practice. Discussion centers on some of the suggestions philosophers have made about how to deal with these issues.
- 16 **ETHICAL ISSUES IN BUSINESS**  
An introductory philosophical examination of a variety of moral problems that arise concerning the American business system. Included are a systematic consideration of typical moral problems faced by individuals and an examination of common moral criticisms of the business system itself.
- 17 **PHILOSOPHICAL ISSUES IN EDUCATION**  
An examination of the basic concepts involved in thought about education, and a consideration of the various methods for justifying educational proposals. Typical of the issues discussed are: Are education and indoctrination different? What is a liberal education? Are education and schooling compatible? What do we need to learn? *Alternate years.*
- 18 **PHILOSOPHICAL ISSUES IN CRIMINAL JUSTICE**  
An introductory examination of various philosophical issues and concepts which are of special importance in legal contexts. Discussion includes both general topics, such as the justification of punishment, and more specific topics, such as the insanity defense and the rights of the accused. Readings are arranged topically and include both classical and contemporary sources.
- 19 **ETHICAL ISSUES IN BIOLOGY AND MEDICINE**  
A philosophical investigation of some of the ethical issues which arise as a result of contemporary medical and biological technology. Typical of these issues are euthanasia, behavior control, patient rights, experimentation on humans, fetal research, abortion, genetic engineering, population control, and distribution of health resources.
- 20 **SYMBOLIC LOGIC**  
A study of modern symbolic logic and its application to the analysis of arguments. Included are truth-functional relations, the logic of propositional functions, and deductive systems. Attention is also given to various topics in the philosophy of logic.
- 21 **ANCIENT GREEK ETHICAL AND POLITICAL PHILOSOPHY**  
An examination of the ethical and political views of Socrates, Plato, and Aristotle. Considerable attention is paid to the relationship between these views and the social and intellectual milieu out of which they developed. However, the primary emphasis is on understanding the philosophical issues raised in selected Aristotelian and Platonic texts. *Prerequisite: freshmen must have instructor's permission. Alternate years.*
- 22 **HISTORY OF MODERN POLITICAL PHILOSOPHY**  
An historical survey of the most important social and political philosophers of the modern period. Particular attention is paid to the social contract theories of Hobbes, Locke, and Rousseau, and some consideration will be given to the political philosophies of Hegel, Marx, and Mill. *Prerequisite: freshmen must have instructor's permission. Alternate years.*
- 23 **ANCIENT GREEK SCIENCE AND METAPHYSICS**  
An historical survey of the first attempt to understand the physical universe scientifically. Particular attention is paid to the common origins of philosophy and science in the works of the pre-Platonic philosophers, to the question of how scientific and philosophical thinking is distinct from mythological and technological thinking, and to the interaction between philosophy and science in formulating the fundamental problems about the physical universe and in developing and criticizing the various concepts introduced in attempts to solve those problems. *Prerequisite: freshmen must have instructor's permission. Alternate years.*
- 24 **EARLY MODERN SCIENCE AND METAPHYSICS**  
An historical survey of the early modern attempt to understand the physical universe. Particular attention is paid to the continuities and discontinuities between early modern science and metaphysics, to the rationalism-empiricism dispute in science and metaphysics, and to the interaction between philosophy and science in formulating fundamental questions about the physical universe and in developing and criticizing concepts designed to answer them. *Prerequisite: freshmen must have instructor's permission. Alternate years.*
- 31 **PHILOSOPHICAL ISSUES IN CONTEMPORARY PSYCHOLOGY**  
Theories in psychology which attempt to explain human behavior seem to conflict in various ways with religion, with common ideas about morality, and with commonsensical ways of explaining human behavior. This course examines some of those conflicts philosophically. *Prerequisite: students without previous study in philosophy must have instructor's permission. Alternate years.*
- 32 **PHILOSOPHY OF RELIGION**  
A philosophical examination of religion. Included are such topics as the nature of religious discourse, arguments for and against the existence of God, and the relation between religion and science. Readings from classical and contemporary sources. *Prerequisite: students without previous study in philosophy must have instructor's permission. Alternate years.*
- 33 **PHILOSOPHY OF NATURAL SCIENCE**  
A consideration of philosophically important conceptual problems arising from reflection about natural science, including such topics as the nature of scientific laws and theories, the character of explanation, the import of prediction, the existence of "non-observable" theoretical entities such as electrons and genes, the problem of justifying induction, and various puzzles associated with probability. *Prerequisite: students without previous study in philosophy must have instructor's permission. Alternate years.*
- 34 **SOCIAL AND POLITICAL PHILOSOPHY**  
A systematic philosophical investigation of the relation between human nature and the proper social and political order. Topics studied include the purpose of government, the nature of legitimate authority, the foundation of human rights, and the limits of human freedom. Emphasis is placed on the logic of social and political thought and on the analysis of basic principles and concepts. *Prerequisite: students without previous philosophy must have instructor's permission.*
- 35 **ETHICAL THEORY**  
An inquiry concerning the grounds which distinguish morally right from morally wrong actions. Central to the course is critical consideration of the proposals and the rationale of relativists, egoists, utilitarians, and other ethical theorists. Various topics in metaethics are also included. *Prerequisite: students without previous study in philosophy must have instructor's permission.*
- 49 **DEPARTMENTAL SEMINAR**  
An investigation, carried on by discussions and papers, into one philosophical problem, text, philosopher, or movement.

A different topic is selected each semester. Recent topics include Sidgwick's ethics, religious language, Kierkegaard, legal punishment, Wittgenstein, personal identity and human rights. This seminar is designed to provide junior and senior philosophy majors and other qualified students with more than the usual opportunity for concentrated and cooperative inquiry. *Prerequisite: consent of instructor. This seminar may be repeated for credit.*

70-79 INTERNSHIP (See Index)

80 INDEPENDENT STUDY

Recent independent studies in philosophy include Nietzsche, moral education, Rawls' theory of justice, existentialism, euthanasia, Plato's ethics, and philosophical aesthetics.

90 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS

**PHYSICAL EDUCATION**

Associate Professor: Burch (Chairman)

Assistant Professor: Whitehill  
Instructors: Hair, Holmes

1 PHYSICAL EDUCATION

Coeducational physical education classes. Basic instructions in fundamentals, knowledge, and appreciation of sports that include swimming, tennis, bowling, volleyball, archery, field hockey, soccer, golf, badminton, modern dance, skiing, elementary games (for elementary teachers), toneastics, physical fitness, and other activities. Backpacking, cross-country and alpine skiing, jogging, and cycling are offered on a contract basis. Beginning swimming is required for all nonswimmers. Students may select any activity offered. A reasonable degree of proficiency is required in the activities. Emphasis is on the potential use of activities as recreational and leisure-time interests. Two semesters of physical education (two hours per week) are required. All physical education classes are open to men and women.

**Athletic Training**

Lycoming College established an apprenticeship program in athletic training in 1979 after recognizing two conditions: the importance of the care and prevention of athletic injuries by trained professionals and

the career's promising growth potential.

To complete this non-credit program students participate in practical as well as classroom work under the supervision of Lycoming's certified athletic trainer. Students become eligible to participate in the National Athletic Trainers Association (N.A.T.A.) Certification Examination to earn the status of an N.A.T.A. certified trainer.

**POLITICAL SCIENCE**

Professor: Giglio (Chairman)

Associate Professor: Roskin

Assistant Professor: Grogan

The major is designed to provide a systematic understanding of government and politics at the international, national, state, and local levels. Majors are encouraged to develop their faculties to make independent, objective analyses which can be applied to the broad spectrum of the social sciences.

Although the political science major is not designed as a vocational major, students with such training may go directly into government service, journalism, teaching, or private administrative agencies. A political science major can provide the base for the study of law, or for graduate studies leading to administrative work in federal, state, or local governments, international organizations, or college teaching. Students seeking certification to teach secondary school social studies may major in political science but should consult their advisers and the education department.

A major consists of eight political science courses. Political Science 15 is required unless exempted by the department. Exemptions will be granted only if they strengthen the student's program. In addition, students must take at least one course in each of the five areas (A to E) below. To encourage familiarity with other social sciences, at least two courses must be completed from the

following: American Studies 10; Business 35 and 36 (recommended for prelaw); Economics 10, 11, 32, 45; History 24, 32, 33, 34; Philosophy 21, 22; Sociology and Anthropology 26, 38.

Students also may take a minor in political science. Three minors are offered: 1) a minor in *political science* consists of any four courses numbered above 15 from areas A to E, including Political Science 15; 2) a minor in *foreign affairs* consists of four courses selected from the following offerings: Political Science 20, 25, 26, 27, 38 and 39; and 3) a minor in *legal studies* consists of the following courses: Political Science 30, 31, 35, and 36.

Students are encouraged to consult with department members on the selection of a minor.

15 INTRODUCTION TO POLITICS

The behavior and misbehavior of the political animal, man. Why he forms political communities; how he may improve and destroy them. *Required of all political science majors; open to a limited number of other interested students.*

**A. American Government**

10 GOVERNMENT AND POLITICS IN THE UNITED STATES

An introduction to American national government which emphasizes both structural-functional analysis and policy-making processes. In addition to the legislative, executive, and judicial branches of government, attention will be given to political parties and interest groups, elections and voting behavior, and constitutional rights. Recommended to all social science education majors and to those students who have had inadequate or insufficient preparation in American government.

11 STATE AND LOCAL GOVERNMENT

An examination of the general principles, major problems, and political processes of the states and their subdivisions, together with their role in a federal type of government.

30 THE AMERICAN CONSTITUTIONAL SYSTEM

An analysis of the Supreme Court in the American system of government with some attention paid to judicial decision

making. Topics include: judicial review, federalism, constitutional limits on legislative and executive powers, elections, and representation. *Alternate years.*

### 31 CIVIL RIGHTS AND LIBERTIES

What are our rights and liberties as Americans? What should they be? A frank discussion of the nature and scope of the constitutional guarantees. First Amendment rights, the rights of criminal suspects and defendants, racial and sexual equality, and equal protection of the laws. Students will read and brief the more important Supreme Court decisions. *Prerequisite: junior or senior standing or consent of instructor.*

### 33 BUREAUCRACY AND PUBLIC ADMINISTRATION

What is bureaucracy? Why and how do bureaucracies arise? What has been the political impact of growth of bureaucracy in government? These questions, among other, will be considered in this examination of public bureaucracies. This course is highly recommended to students planning to take an internship in city or county government through the political science department.

## B. American Politics

### 22 POLITICAL PARTIES AND INTEREST GROUPS

An examination of the history, organization, functions, and methods of American political parties. Special attention is devoted to the role of organized interest groups in the political process. *Alternate years.*

### 23 AMERICAN PRESIDENCY

A study of the office and powers of the president with analysis of his major roles as chief administrator, legislator, political leader, foreign policy maker, and commander-in-chief. Special attention is given to those presidents who led the nation boldly.

### 24 THE LEGISLATIVE PROCESS

A study of the role of the legislature in the framework of the national and state governments. Consideration of the influence of the parties, pressure groups, public opinion, constituencies, the "committee system," the "administration," and the constitution in the lawmaking process. *Alternate years.*

### 28 CONTEMPORARY ISSUES IN PUBLIC POLICY I

Introduction to basic principles of policy analysis, including identification of con-

temporary public policy problems, alternative solutions, formal government and other participants in the policy-making process, and evaluation of policy impact. Includes a detailed case-study analysis of one major policy controversy. This is a one-half unit course (first seven weeks of semester). Students wishing to register in full unit course should register for both PS 28 and PS 29; those wishing to register for a one-half unit course only should register for PS 28. *Alternate years.*

### 29 CONTEMPORARY ISSUES IN PUBLIC POLICY II

A continuation of PS 28 with an emphasis on the variety of major issues in public policy confronting American government and society. Includes a detailed case-study analysis of one major public policy controversy (will differ from that analyzed in PS 28). This is a one-half unit course (second seven weeks of semester). *Prerequisite: PS 28. Students wishing to register in a full-unit course should register for both PS 28 and PS 29. Alternate years.*

### 32 THE POLITICS OF CITIES AND SUBURBS

An examination of the history, legal basis, power, forms, services, and problems of the cities and their suburbs, with special reference to current experiments in the solution of the problems of metropolitan areas.

## C. Political Theory and Methodology

### 35 LAW AND SOCIETY

An examination into the nature, sources, functions, and limits of law as an instrument of political and social control. Included for discussion are legal problems pertaining to the family, crime, deviant behavior, poverty, and minority groups. *Prerequisite: junior or senior standing or consent of instructor.*

### 46 CONTEMPORARY POLITICAL IDEOLOGIES

The growth, development, and current status of liberalism, conservatism, nationalism, socialism, communism, and fascism. *Alternate years.*

### 47 THE AMERICAN POLITICAL TRADITION

An examination of the significant ideas which have shaped the American political tradition from their European origins to the present, with emphasis on the influence of these ideas in the development of American democracy. Special attention will be paid to an analysis of contemporary ideological movements: Black

power, new left, and radical feminism. *Alternate years.*

### 48 PUBLIC OPINION AND POLLING

A course dealing with the general topic and methodology of polling. Content includes exploration of the processes by which people's political opinions are formed, the manipulation of public opinion through the uses of propaganda, and the American response to politics and political issues.

## D. Comparative Politics

### 20 EUROPEAN POLITICS

A study of the political systems of East and West Europe with emphasis on comparison and patterns of government. The course will review politics in Northern (Britain, West Germany, Sweden), Latin (France, Italy, Spain), and Eastern (Soviet Union, East Germany, Yugoslavia) Europe and attempt to find underlying similarities and differences.

### 26 POLITICAL CULTURES

An exploration of the "people" aspects of political life in several countries. The way people interact with each other and with government, what they expect from the system, how they acquire their political attitudes and styles, and how these contribute to the type of government. *Alternate years.*

### 38 POLITICS OF DEVELOPING AREAS

The causes and possible cures for socio-political backwardness in Asia, Africa, and Latin America. *Alternate years.*

## E. International Relations

### 25 WORLD POLITICS

Why is there war? An introduction to international relations with emphasis on the varieties of conflicts which may grow into war.

### 27 CRISIS AREAS IN WORLD POLITICS

The study of several current areas of international tension and conflict, including relations among the United States, Soviet Union, and China, plus the Middle East and whatever new danger spots arise over time. *Alternate years.*

### 39 AMERICAN FOREIGN POLICY

The U.S. role in the world in geographic, strategic, historical, and ideological perspectives, plus an examination of the domestic forces shaping U.S. policy. *Alternate years.*

## F. Non-area Electives

### 34 POLITICAL NEWSWRITING

A workshop course in the reporting and rewriting of public affairs at the local, national, and international levels. There will be neither texts nor examinations, but short written assignments will be due every class meeting. *Prerequisite: English 18 or 19 or consent of instructor. Alternate years.*

### 36 MASS MEDIA LAW AND REGULATION

An examination of the legal structure and the system by which mass communication is controlled in this society. The forces which shape, influence, and make policy will be considered. *Cross-listed as Mass Communication 31.*

## G. Special Programs

### 70-79 INTERNSHIPS (See Index)

Students may receive academic credit for serving as interns in structured learning situations with a wide variety of public and private agencies and organizations. Students have served as interns with the Public Defender's office, the Lycoming County Court Administrator, and the Williamsport city government.

### 80-89 INDEPENDENT STUDY (See Index)

Current studies relate to elections—local, state, and federal—while past studies have included Soviet and world politics.

### 90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

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## PSYCHOLOGY

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Professor: Hancock

Associate Professor: Berthold  
(Chairman)

Assistant Professor: Ryan

Part-time Instructor: Vestermark

The major provides training in both theoretical and applied psychology. It is designed to meet the needs of students seeking careers in psychology or other natural or social sciences. It also meets the needs of students seeking a better understanding of human behavior as a means of furthering individual and career goals in other areas. Certain courses are particularly appropriate for ma-

jors in other areas. Psychology majors and others are urged to discuss course selections in psychology with members of the department to help insure appropriate course selection.

A major consists of Psychology 10, 31, 32, 36, and four other psychology courses. Statistics also is required.

### 10 INTRODUCTORY PSYCHOLOGY

An introduction to the empirical study of human and other animal behavior. Areas considered may include: learning, personality, social, physiological, sensory, cognition, and developmental.

### 12 GROUP PROCESSES AND INTERPERSONAL COMMUNICATION

The introduction to the research and theory from social psychology related to small-group dynamics and interpersonal communication. Topics covered will include communication processes, interpretation of motivation, conceptualization of individual personalities, problem solving and leadership. The first stage of the course will focus on research and theory; the second half will emphasize the development of skills and techniques where students become members of a self-analytic — practicing the skills and making a case study of the processes involved. *May term only.*

### 15 INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY

The application of the principles and methods of psychology to selected industrial and organizational situations. *Prerequisite: Psychology 10 or consent of instructor.*

### 16 ABNORMAL PSYCHOLOGY

An introduction to the patterns of deviant behavior with emphasis on cause, function, and treatment. The various models for the conceptualization of abnormal behavior are critically examined. *Prerequisite: Psychology 10.*

### 17 DEVELOPMENTAL PSYCHOLOGY

A study of the basic principles of early human growth and development. *Prerequisite: Psychology 10.*

### 18 ADOLESCENT PSYCHOLOGY

The study areas will include theories of adolescence; current issues raised by as well as about the "generation of youth;" research findings bearing on theories and issues of growth beyond childhood, and self-exploration. *Prerequisite: Psychology 10.*

### 24 SOCIAL PSYCHOLOGY

An examination of behavior in social contexts, including motivation, perception, group processes and leadership, attitudes, and methods of research. *Prerequisite: Psychology 10.*

### 31 LEARNING EXPERIMENTAL PSYCHOLOGY

Learning processes. The examination of the basic methods and principles of animal and human learning. *Prerequisite: Psychology 10, Statistics.*

### 32 SENSORY EXPERIMENTAL PSYCHOLOGY

The examination of psychophysical methodology and basic neurophysiological methods as they are applied to the understanding of sensory processes. *Prerequisite: Psychology 10, Statistics.*

### 33 PHYSIOLOGICAL PSYCHOLOGY

An introduction to the physiological psychologist's method of approach to the understanding of behavior as well as the set of principles that relate the function and organization of the nervous system to the phenomena of behavior. The course emphasis is on the relationship between brain function and the physiological bases of learning, perception, and motivation. Laboratory experience includes both behavioral testing and basic small-animal neurosurgical technique as well as histological methodology. *Prerequisite: Psychology 10 or consent of instructor.*

### 34 PRINCIPLES OF MEASUREMENT

Psychometric methods and theory, including scale transformation, norms, standardization, validation procedures, and estimation of reliability. *Prerequisite: Psychology 10, Statistics.*

### 35 HISTORY AND SYSTEMS OF PSYCHOLOGY

The growth of scientific psychology and the theories and systems that have accompanied its development. *Prerequisite: four courses in psychology.*

### 36 PERSONALITY THEORY

Theories of personality. A comparison of different theoretical views on the development and functioning of personality. Examined in detail are three general viewpoints of personality: psychoanalytic, stimulus-response (behavioristic), and phenomenological. *Prerequisite: Psychology 10.*

### 37 COGNITION

An investigation of human mental processes along the two major dimensions of

directed and undirected thought. Topic areas include recognition, attention, conceptualization, problem-solving, fantasy, language, dreaming, and creativity. *Prerequisite: Psychology 10.*

38 EDUCATIONAL PSYCHOLOGY

An introduction to the empirical study of the teaching-learning process. Areas considered may include educational objectives, pupil and teacher characteristics, concept learning, problem solving and creativity, attitudes and values, motivation, retention and transfer, evaluation and measurement. *Prerequisite: Psychology 10 or consent of instructor.*

39 BEHAVIOR MODIFICATION

A detailed examination of the applied analysis of behavior. Focus will be on the application of experimental method to the individual clinical case. The course will cover targeting, behavior, base-rating, intervention strategies, and outcome evaluation. Learning-based modification techniques such as contingency management, counter-conditioning, extinction, discrimination training, aversive conditioning, and negative practice will be examined. *Prerequisite: Psychology 10 or consent of instructor.*

41 PSYCHOLOGY OF WOMEN

A review of contemporary theory and research on the psychology of women. Topics of discussion include the conflicts of women in today's society, psychological sex differences, achievement motivation, the behavioral effect of hormones, and women in therapy. *Prerequisite: Psychology 10.*

48-49 PRACTICUM IN PSYCHOLOGY

An off-campus involvement in the application of psychological skills and principles in institutional settings. The experience includes training in behavior modification and traditional counseling techniques as applied in prisons, mental health centers, and schools for the mentally retarded. Classroom training focuses on various therapeutic techniques and on students' understanding of themselves in the counselor role. *Prerequisite: consent of instructor.*

70-79 INTERNSHIP (See Index)

Internships give students an opportunity to relate on-campus academic experiences to society in general and to their post-baccalaureate objectives in particular. Students have, for example, worked in prisons, public and private schools, county government, and for the American Red Cross.

80-89 INDEPENDENT STUDY (See Index)

Independent Study is an opportunity for students to pursue special interests in areas for which courses are not offered. In addition, students have an opportunity to study a topic in more depth than is possible in the regular classroom situation. Studies in the past have included child abuse, counseling of hospital patients, and research in the psychology of natural disasters.

90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)

Honors in psychology requires original contributions to the literature of psychology through independent study. The most recent honors project was a study of the relationship between socioeconomic status and visual vs. auditory learning.

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## RELIGION

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Professor: Guerra (Chairman)  
Associate Professor: Hughes  
Assistant Professor: Robinson

A major consists of 10 courses, including Religion 13, 14, and 20. At least seven courses must be taken in the department. The following courses may be counted toward fulfilling the major requirements: Greek 11 and 12, Hebrew 11 and 12, History 39 and 41, Philosophy 32, and Sociology 33.

13 OLD TESTAMENT FAITH AND HISTORY

A critical examination of the literature within its historical setting and in the light of archaeological findings to show the faith and religious life of the Hebrew-Jewish community in the biblical period, and an introduction to the history of interpretation with an emphasis on contemporary Old Testament criticism and theology.

14 NEW TESTAMENT FAITH AND HISTORY

A critical examination of the literature within its historical setting to show the faith and religious life of the Christian community in the biblical period, and an introduction to the history of interpretation with an emphasis on contemporary New Testament criticism and theology.

20 DEATH AND DYING

A study of death from personal, social, and universal standpoints with emphasis upon what the dying may teach the living. Principal issues are the stages of dying, bereavement, suicide, funeral conduct, and the religious doctrines of death and immortality. Course includes, as optional, practical projects with terminal patients under professional supervision. *Only one course from the combination 20-21 may be used for distribution.*

21 AFTER DEATH AND DYING

An examination of the question of life after death in terms of contemporary clinical studies, the New Testament resurrection narratives, the Asian doctrine of reincarnation, and the classical theological beliefs of providence and predestination. *Religion 20 is recommended but not required. Only one course from the combination 20-21 may be used for distribution.*

22 PROTESTANTISM IN THE MODERN WORLD

An examination of changing Protestant thought and life from Luther to the present against the backdrop of a culture rapidly changing from the 17th century scientific revolution to Marxism, Darwinism, and depth psychology. Special attention will be paid to the constant interaction between Protestantism and the world in which it finds itself.

23 CHRISTIAN ORIGINS

A study of the historical, cultural, and religious background of the formation of Christianity and the antecedents of Christian belief and practice in post-exilic Judaism and in Hellenism.

24 JUDAISM AND ISLAM

An examination of the rise, growth, and expansion of Judaism and Islam with special attention given to the theological contents of the literatures of these religions as far as they are normative in matters of faith, practice, and organization. Also, a review of their contributions to the spiritual heritage of mankind.

25 ORIENTAL RELIGION

A phenomenological study of the basic content of Hinduism, Buddhism, and Chinese Taoism with special attention to social and political relations, mythical and aesthetic forms, and the East-West dialogue.

28 HISTORY AND CULTURE OF THE ANCIENT NEAR EAST

A study of the history and culture of Mesopotamia, Anatolia, Syria-Palestine,

and Egypt from the rise of the Sumerian culture to Alexander the Great. Careful attention will be given to the religious views prevalent in the ancient Near East as far as these views interacted with the culture and faith of Biblical man.

**30 PSYCHOLOGY OF RELIGION**

A study into the broad insights of psychology in relation to the phenomena of religion and religious behavior. The course concentrates on religious experience or manifestations rather than concepts. Tentative solutions will be sought to questions such as: What does it feel like to be religious or to have a religious experience? What is the religious function in human development? How does one think psychologically about theological problems?

**31 CHRISTIAN SOCIAL ETHICS**

A study of Christian ethics as a normative perspective for contemporary moral problems with emphasis upon the interaction of law and religion, decision making in the field of biomedical practice, and the reconstruction of society in a planetary civilization.

**32 CONTEMPORARY PROBLEMS IN CHRISTIAN SOCIAL ETHICS**

An examination of the approach of religion and other disciplines to an issue of current concern; current topics include the theological significance of law, the ethics of love, and the Holocaust. *The course may be repeated for credit.*

**33 ROMAN CATHOLIC THOUGHT**

The development of Thomism, Neo-Thomism, and Transcendental Thomism; limited attention given to pastoral and ecclesiological issues in the post-conciliar era after Vatican II.

**37 BIBLICAL TOPICS**

An in-depth study of Biblical topics related to the Old and New Testaments. Topics include prophecy, wisdom, literature, the Dead Sea Scrolls, the teachings of Jesus, Pauline theology, Judaism and Christian origins, reaction criticism — the way the Synoptic Gospels and John give final form to their message. *Course will vary from year to year and may be taken for credit a second time if the topic is different from one previously studied.*

**41 CONTEMPORARY RELIGIOUS ISSUES**

A study of the theological significance of some contemporary intellectual developments in western culture. The content of this course will vary from year to

year. Subjects studied in recent years include the theological significance of Freud, Marx, and Nietzsche; Christianity and existentialism; theology and depth psychology, the religious dimension of contemporary literature.

**42 THE NATURE AND MISSION OF THE CHURCH**

A study of the nature of the Church as "The People of God" with reference to the Biblical, Protestant, Orthodox, and Roman Catholic traditions.

**43 THE EDUCATIONAL MINISTRY OF THE CHURCH**

A study of religious education as a function of the church with special attention given to the nature and objectives of Christian education, methods of teaching religion, and the relations between faith and learning.

**46 BIBLE, ARCHAEOLOGY, AND FAITH**

A study of the role of archaeology in reconstructing the world in which the Biblical literature originated with special attention given to archaeological results that throw light on the clarification of the Biblical text. Also, an introduction to basic archaeological method and a study in depth of several representative excavations along with the artifacts and material culture recovered from different historical periods.

**70-79 INTERNSHIP (See Index)**

Interns in religion usually work in local churches under the supervision of the pastor and a member of the faculty.

**80-89 INDEPENDENT STUDY (See Index)**

Current study areas are in the biblical languages, New Testament theology, comparative religions, and the ethics of technology.

**90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)**

A recent project was on the theology of hope with reference to the thought of Ernst Bloch and Alfred North Whitehead.

**SOCIOLOGY-ANTHROPOLOGY**

Professor: McCrary  
Associate Professors: Jo (Chairman), Wilk  
Assistant Professor: Strauser

A major consists of Sociology-Anthropology 10, 14, 16, 44, 47, and

three other courses within the department with the exception of 15, 23, 25, and 40. Religion 46 may also be counted toward the major. Sociology-anthropology majors are encouraged to participate in the internship program.

**10 INTRODUCTION TO SOCIOLOGY**

An introduction to the problems, concepts, and methods in sociology today, including analysis of stratification, organization of groups and institutions, social movements, and deviants in social structure.

**14 INTRODUCTION TO ANTHROPOLOGY**

An introduction to the subfields of anthropology; its subject matter, methodology, and goals. Examination of biological and cultural evolution, the fossil evidence for human evolution, and questions raised in relation to human evolution. Other topics include race, human nature, primate behavior, and prehistoric cultural development.

**15 INTRODUCTION TO AMERICAN CRIMINAL JUSTICE SYSTEM**

An introduction to the role of law enforcement, courts, and corrections in the administration of justice; the historical development of police, courts, and corrections; jurisdiction and procedures of courts; an introduction to the studies, literature, and research in criminal justice, careers in criminal justice.

**16 CULTURAL ANTHROPOLOGY**

An examination of cultural and social anthropology designed to familiarize the student with the analytical approaches to the diverse cultures of the world. The relevancy of cultural anthropology for an understanding of the human condition will be stressed. Topics to be covered include the nature of primitive societies in contrast to civilizations, the concept of culture and cultural relativism, the individual and culture, the social patterning of behavior and social control, an anthropological perspective on the culture of the United States.

**20 MARRIAGE AND THE FAMILY**

The history, structure, and functions of modern American family life, emphasizing dating, courtship, factors in marital adjustment, and the changing status of family members. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*

- 21 **JUVENILE DELINQUENCY**  
A multidisciplinary approach to the study of the constellation of factors that relate to juvenile delinquency causation, handling the juvenile delinquent in the criminal justice system, treatment strategies, prevention, and community responsibility. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*
- 22 **PEOPLES AND CULTURES OF MEXICO**  
Examination of the diverse cultures of Mesoamerica from prequest indigenous peoples to modern Mexican state, including the rise and fall of Aztec and Maya civilization, transformation from primitive agriculturalist to peasant, concepts of folk society, and culture of poverty; an analysis of contemporary problems of rural Mexico, and the role of peasants in modern revolutionary movements. *Offered at least once every three years.*
- 23 **INTRODUCTION TO LAW ENFORCEMENT**  
Principles, theories, and doctrines of the law of crimes, elements in crime, analysis of criminal investigation, important case law. *Prerequisite: Sociology-Anthropology 15 or consent of instructor.*
- 24 **RURAL AND URBAN COMMUNITIES**  
The concept of community is treated as it operates and affects individual and group behavior in rural, suburban, and urban settings. Emphasis is placed upon characteristic institutions and problems of modern city life. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*
- 25 **INTRODUCTION TO CRIMINAL INVESTIGATION**  
This course is designed for advanced criminal justice majors. Emphasis is placed on an in-depth study of detection and investigation of major crimes. Particular attention is placed on the use of criminalistics, legal parameters of evidence and interrogation, and prosecutory procedures. *Prerequisite: Sociology-Anthropology 23 or consent of instructor. Will not be counted toward the sociology/anthropology major.*
- 26 **SOCIAL MOVEMENTS**  
An analysis of the dynamics, structure, and reactions to social movements with focus on contemporary social movements. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*
- 27 **SOCIALIZATION THROUGH THE LIFE SPAN**  
Examination of the relationship between the individual and society in the development of behavior potentials of groups and cultures. The course will study the continual process of learning how to be "human," which occurs throughout the life span. A cross-cultural approach is utilized to examine the process of acquisition of skills, motives, and attitudes necessary for role performance in childhood and adolescence with an emphasis on young adulthood, adulthood, middle age, and old age. Life span developmental theory will be used in conjunction with socialization theory and role theory. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*
- 28 **AGING AND SOCIETY**  
Analysis of cross-cultural characteristics of the aged as individuals and as members of groups. Emphasis is placed upon variables: health, housing, socioeconomic status, personal adjustment, retirement, and social participation. Sociological, social psychological, and anthropological frames of reference utilized in analysis and description of aging and its relationship to society, culture, and personality.
- 29 **20TH CENTURY CHINESE SOCIETY**  
An analysis of the interaction between the individual and society undergoing rapid social change in the Chinese cultural context. Topics include Confucian examination system and social mobility, the traditional Chinese village and family, origins of Chinese Marxism and how it has been implemented in social institutions of The People's Republic of China. *Alternate years.*
- 30 **CRIMINOLOGY**  
Analysis of the sociology of law, conditions under which criminal laws develop, etiology of crime, epidemiology of crime, including explanation of statistical distribution of criminal behavior in terms of time, space, and social location. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*
- 31 **SOCIOLOGY OF WOMEN**  
A sociological examination of the role of women in American society through an analysis of the social institutions which affect their development. Role-analysis theory will be applied to the past, present, and future experience of women as it relates to the role options of society as a whole. Students will do an original research project on the role of women. *Prerequisite: Sociology-Anthropology 10. Alternate years.*
- 32 **INSTITUTIONS**  
Introduces the student to the sociological concept of social institution, the types of social institutions to be found in all societies, and the interrelationships between the social institutions within a society. The course is divided into two basic parts: 1. That aspect which deals with the systematic organization of society in general, and 2. The concentration on a particular social institution: economic, political, educational, or social welfare. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*
- 33 **SOCIOLOGY OF RELIGION**  
An examination of the major theories of the relationship of religion to society and a survey of sociological studies of religious behavior. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*
- 34 **RACIAL AND CULTURAL MINORITIES**  
Study of racial, cultural, and national groups within the framework of American cultural values. An analysis will include historical, cultural, and social factors underlying ethnic and racial conflict. Field trips and individual reports are part of the requirements for the course. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*
- 35 **CULTURE AND PERSONALITY**  
Introduction to psychological anthropology, its theories and methodologies. Emphasis will be placed on the relationship between individual and culture, national character, cognition and culture, culture and mental disorders, and cross-cultural considerations of the concept of self. *Prerequisite: Sociology-Anthropology 16 or consent of instructor. Offered at least once every three years.*
- 36 **THE ANTHROPOLOGY OF PRIMITIVE RELIGIONS**  
The course will familiarize the student with the wealth of anthropological data on the religions and world views developed by primitive peoples. The functions of primitive religion in regard to the individual, society, and various cultural institutions will be examined. Subjects to be surveyed include myth, witchcraft, vision quests, spirit possession, the cultural use of dreams, and revitalization movements. Particular emphasis will be given to shamanism, transcultural religious experience, and the creation of cultural realities through religions. Both a



social scientific and existentialist perspective will be employed. *Prerequisite: Sociology-Anthropology 16 or consent of instructor. Alternate years.*

**37 THE ANTHROPOLOGY OF AMERICAN INDIANS**

An ethnographic survey of native North American Indian and Eskimo cultures, such as the Iroquois, Plains Indians, Pueblos, Kwakiutl, and Netsilik. Changes in native lifeways due to European contacts and United States expansion will be considered. Recent cultural developments among American Indians will be placed in an anthropological perspective. *Offered at least once every three years.*

**38 LEGAL AND POLITICAL ANTHROPOLOGY**

The course is designed to familiarize the student with the techniques of conflict resolution and the utilization of public power in primitive society as well as the various theories of primitive law and government. The rise of the state and an anthropological perspective on modern law and government will be included. The concepts of self-regulation and social control, legitimacy, coercion, and exploitation will be the organizing focus. *Prerequisite: Sociology-Anthropology 16 or consent of instructor. Alternate years.*

**39 THE AMERICAN PRISON SYSTEM**

Nature and history of punishment, evolution of the prison and prison methods with emphasis on prison community, prison architecture, institutional programs, inmate rights, and sentences. Review of punishment vs. treatment, detention facilities, jails, reformatories, prison organization and administration, custody, and discipline. *Prerequisite: Sociology-Anthropology 15.*

**40 PROBATION AND PAROLE**

A course designed for the advanced criminal justice major. While the course concerns the study of probation and parole as parts of the criminal justice system and their impact on the system as a whole, the primary emphasis is the impact on the offender. Particular attention is given to diagnostic report writing on offenders, pre-sentence investigation, offender classification, and parole planning. *Prerequisite: Sociology-Anthropology 15 and 39. Alternate years.*

**41 SOCIAL STRATIFICATION**

An analysis of stratification systems with specific reference to American society. The course will include an analysis of poverty, wealth, and power in the United States. Particular attention will be given

to factors which generate and maintain inequality, along with the impacts of inequality on the lives of Americans. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*

**42 INTRODUCTION TO SOCIAL WORK**

Consideration of basic social-work concepts, principles and techniques of interviewing, individual case work, group work and community organization, development of skills, and techniques of social work applied to the correctional setting. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*

**43 ALTERNATIVE LIFE STYLES**

Analysis of new life styles in American society: life styles of minority groups and others who are considered by society to be nonconforming. Examination of the challenges to conformity and ramifications of nonconformity in American society. Will include an inquiry into behavior which has historically been labeled deviant, covering such topics as mental illness, addiction to alcohol and narcotics, homosexuality, and prostitution. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*

**44 SOCIAL THEORY**

The history of the development of sociological thought from its earliest philosophical beginnings is treated through discussions and reports. Emphasis is placed upon sociological thought since the time of Comte. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*

**45 ANTHROPOLOGICAL THEORY**

The history of the development of anthropological thought from the 18th century to the present. Emphasis is placed upon anthropological thought since 1850. Topics include evolutionism, historical-particularism, cultural idealism, cultural materialism, functionalism, structuralism, and ethnocentrism. *Prerequisite: Sociology-Anthropology 16 or consent of instructor. Offered at least once every three years.*

**46 PEOPLE AND CULTURES OF THE AMERICAN SOUTHWEST**

Field experience in the analysis of tri-cultural communities of Northern New Mexico, Southern Colorado, and North-eastern Arizona, including the eastern Pueblos of New Mexico, Zuni Navajo and Apache reservations, isolated Spanish-American mountain villages of Northern New Mexico, religious ashrams and communes, and cities of the Southwest and Juarez, Mexico. Emphasis upon Taos,

Rio Arriba, Santa Fe, and Los Alamos counties of New Mexico. *Prerequisite: Sociology 10 or consent of instructor. May or summer only.*

**47 RESEARCH METHODS IN SOCIOLOGY-ANTHROPOLOGY**

Study of the research process in sociology-anthropology. Attention is given to the process of designing and administering research and the application of research. Different methodological skills are considered, including field work, questionnaire construction, and other methods of data gathering and the analysis of data. *Prerequisite: Sociology-Anthropology 10 and Mathematics 13 or consent of instructor.*

**48-49 PRACTICUM IN SOCIOLOGY**

Introduces the student to a practical work experience involving community agencies in order to effect a synthesis of the student's academic course work and its practical applications in a community agency. Specifics of the course to be worked out in conjunction with department, student, and agency. *Prerequisite: Sociology-Anthropology 10 or consent of instructor.*

**70-79 INTERNSHIP (See Index)**

Interns in sociology-anthropology typically work off campus with social service agencies under the supervision of administrators. However, other internship experiences, such as with the Lycoming County Historical Museum, are available. Interns in criminal justice work off campus in criminal justice agencies, such as penal institutions and probation and parole departments, under the supervision of administrative personnel.

**80-89 INDEPENDENT STUDY (See Index)**

An opportunity to pursue specific interests and topics not usually covered in regular courses. Through a program of readings and tutorials, the student will have the opportunity to pursue these interests and topics in greater depth than is usually possible in a regular course.

**90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)**

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**THEATRE**

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Professor: Falk (Chairman)  
Assistant Professor: Carlson

The major consists of eight courses: Theatre 10 and seven others; a concentration in acting, directing, or

design is possible. In addition to the course requirements, majors are expected to participate actively in Arena Theatre productions. Majors are urged to include courses in art, music, psychology, and English, or other areas of special interest.

The fine arts distribution requirement may be satisfied by selecting any two of the following recommended courses: Theatre 10, 11, 14, 18, 32, 33 or other courses with the consent of the instructor.

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|---|---|---|
| <p>10 INTRODUCTION TO THEATRE<br/>Designed as a comprehensive introduction to the aesthetics of theatre. From the spectator's point of view, the nature of theatre will be explored, including dramatic literature and the integrated functioning of acting, directing, and all production aspects.</p> <p>11 INTRODUCTION TO FILM<br/>A basic course in understanding the film medium. The class will investigate film technique through lectures and by viewing regular weekly films chosen from classic, contemporary, and experimental short films.</p> <p>14 INTRODUCTION TO ACTING<br/>An introductory study of the actor's preparation with emphasis on developing the actor's creative imagination through improvisations and scene study.</p> <p>18 INTRODUCTION TO PLAY PRODUCTION<br/>Stagecraft and the various other aspects of play production are introduced. Through material presented in the course and laboratory work on the Arena Theatre stage, the student will acquire experience to produce theatrical scenery.</p> <p>26 INTRODUCTION TO DIRECTING<br/>An introductory study of the function of the director in preparation, rehearsal, and performance. Emphasis is placed on developing the student's ability to analyze scripts, and on the development of the student's imagination. <i>Prerequisite: Theatre 14.</i></p> <p>28 INTRODUCTION TO SCENE DESIGN AND STAGECRAFT<br/>An introduction to the theatre with an emphasis on stagecraft. Productions each semester serve as the laboratory to provide the practical experience necessary to understand the material presented in the classroom. <i>Prerequisite: Theatre 18 or consent of instructor.</i></p> | <p>31 ADVANCED TECHNIQUES OF PLAY PRODUCTION<br/>A detailed consideration of the inter-related problems and techniques of play analysis, production styles, and design. <i>Offered summer only.</i></p> <p>34 INTERMEDIATE STUDIO: ACTING<br/>Instruction and practice in character analysis and projection with emphasis on vocal and body techniques. <i>Prerequisite: Theatre 14.</i></p> <p>35 THEORIES OF THE MODERN THEATRE<br/>An advanced course exploring the philosophical roots of the modern theatre from the birth of realism to the present and the influences on modern theatre practice. Selected readings from Nietzsche, Marx, Jung, Freud, Whitehead, Kierkegaard, Sartre, Camus, Antoine, Copeau, Stanislavski, Shaw, Meyerhold, Artaud, Brecht, Brook, Grotowski. <i>Alternate years.</i></p> <p>36 INTERMEDIATE STUDIO: DIRECTING<br/>Emphasis is placed on the student's ability to function in preparation and rehearsal. Practical experience involves the directing of two one-act plays from the contemporary theatre. <i>Prerequisite: Theatre 26.</i></p> <p>37 PLAYWRITING AND DRAMATIC CRITICISM<br/>An investigation of the techniques of playwriting with an emphasis on creative writing, culminating in a written one-act play, plus an historical survey of dramatic criticism from Aristotle to the present with emphasis upon developing the student's ability to write reviews and criticism of theatrical productions and films. <i>Alternate years.</i></p> <p>38 INTERMEDIATE STUDIO: LIGHTING DESIGN<br/>The theory of stage and lighting design with emphasis on their practical application to the theatre. <i>Prerequisite: Theatre 18 or consent of instructor.</i></p> <p>40 MASTERS OF WORLD DRAMA<br/>An intensive and detailed analysis of the plays and related works, including criticism of great authors, that have shaped world theatre. Authors to be selected on the basis of interest of students and faculty. At times, more than one author will be treated in a term. Ibsen, Brecht, Moliere, Williams, Albee. <i>Alternate years. May be accepted toward English major with consent of English department.</i></p> | <p>42 ADVANCED STUDIO: COSTUME DESIGN<br/>The theory of costuming for the stage, elements of design, planning, production, and construction of costumes for the theatre. Students will participate in the design of a production. <i>Prerequisite: Theatre 18 or consent of instructor.</i></p> <p>43 ADVANCED STUDIO: PROPERTIES DESIGN<br/>The theory of properties design for the stage, including the production of specific properties for staging use. Elements of design, fabrication, and the construction of properties employing a variety of materials and the application of new theatrical technology. <i>Prerequisite: Theatre 18 or consent of instructor.</i></p> <p>44 ADVANCED STUDIO: ACTING<br/>Preparation of monologues and two-character scenes, contemporary and classical. The student will appear in major campus productions. <i>Prerequisite: Theatre 34.</i></p> <p>46 ADVANCED STUDIO: DIRECTING<br/>Emphasis will be placed on the student's ability to produce a major three-act play from the script to the stage for public performance. <i>Prerequisite: Theatre 36.</i></p> <p>48 ADVANCED STUDIO: DESIGN<br/>Independent work in conceptual and practical design. The student will design one full production as his major project. <i>Prerequisite: Theatre 28 or 38 and consent of instructor.</i></p> <p>70-79 INTERNSHIP (See Index)<br/>Interns in theatre work off campus in theatres such as the Guthrie Theatre, Minneapolis, and at the New Jersey Shakespeare Festival.</p> <p>80-89 INDEPENDENT STUDY (See Index)<br/>Some recent independent studies have been the roles of women as characters in drama, scene design, and lighting design for an Arena production.</p> <p>90-99 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See Index)<br/>A typical study could be the writing and production of an original play.</p> |
|---|---|---|

# Student Services

## ADMINISTRATION

The program of student services at Lycoming is administered by the Office of Student Services. It is designed to respond to a diversity of student needs. The six staff members, five of whom live on campus, are assigned the specific responsibilities of:

- career counseling and placement;
- residence life;
- student activities, student union, student government, Intrafraternity Council and Panhellenic Adviser, retention program;
- religious life, health services, study skills program, reading improvement courses.

All members of the staff are available to counsel and advise individual students.

## PERSONAL COUNSELING

All members of the staff of the Office of Student Services are qualified and available to provide non-therapeutic assistance to students with adjustment problems. A psychiatrist serves as a consultant to the staff and is available for evaluation of individual students who may be in need of professional services. Continuing therapy is available through referral to public agencies and private clinicians in the Williamsport community. Financial arrangements for these referral services are made directly by the student with the agency and/or individual clinician involved.

## HEALTH SERVICES

Normal medical treatment by the health service staff at the College is provided without cost to the student. During the fall and spring semesters, the College maintains an out-patient service in Rich Hall. It is staffed with a registered nurse five days a week from 9 a.m. to 5 p.m. The College physician is available from 11 a.m. to 12 noon, Monday through Friday. At other times, emergency care is available at the emergency rooms of Williamsport and Divine Providence Hospitals, located a short distance

from the campus. The College pays the emergency room charge and the emergency room physician's fee for *illness* when the health service is closed.

Medical-service charges paid by the student are: emergency room and emergency room physician's charges (except as indicated above), special medications, X-rays, surgery, care for major accidents, immunizations, examinations for glasses, physician's visits other than in the health service, referrals for treatment by specialists, special nursing services, and special services.

Entering students must provide basic health information to the College between the time of admission and the beginning of classes of the term to which they are admitted. This information is secured through participation in the computerized health-information service provided by Medical Datamation, Inc. New students complete the DASH Medical Information Questionnaire that is mailed to students shortly after they have confirmed their admission to Lycoming. The completed form is sent by the student to Medical Datamation together with a check for \$10. Both the student and the College receive reports based on the questionnaire responses. The student report consists of a Medical Database Report, a Health Risk Index, and as many health information brochures as requested. Information provided by the student is confidential and is available only to qualified health service and student-services personnel.

## STUDY IMPROVEMENT SERVICES

**Skills Seminars**—The seminars, consisting of three one-hour sessions on scheduling of time, test-taking, and study methods, are scheduled on demand for six to 10 students.

**Reading Course**—Designed to improve reading speed and comprehension, this three-week course is offered at various times during the academic year for a fee of \$15.

## CAREER DEVELOPMENT SERVICES

The Career Development Center provides services which are designed to help students identify their abilities and interest, set realistic career goals, and plan academic programs to meet these goals. Counseling for Lycoming students begins in the freshman year.

In addition to individual guidance, the center maintains a library on specific careers, employment outlooks, and career trends. Services offered by the center include:

- individual counseling;
- career-planning seminars in values clarification, skill assessment, and decision making;
- 2500-volume career library;
- relaxation workshops and assertiveness training;
- SHARE (Students Having A Real Experience), a program in which students observe and work with a professional in the field;
- placement services to aid seniors in implementing their career plans;
- assistance to students in securing internships, summer employment, and part-time employment;
- speaker's program which brings professionals from a variety of careers to campus seminars;
- video-cassette programs relating to job skills and career information;
- microfiche copies of graduate- and professional-school catalogs for the United States and abroad.

## RESIDENCE AND RESIDENCE HALLS

Students who are single and do not live at home are required to live in residence halls and eat in the dining room. All new resident students are forwarded a room-agreement form to

sign after confirmation of their admission to Lycoming. This agreement is renewed each spring. Exceptions to the residence policy may be granted to those students who wish to live with relatives, and students who are 23 years of age or older and have established non-resident status. Requests for such exemptions must be submitted to the Assistant Dean of Student Services for Residence Life before the first day of the term to which the student has been admitted.

Resident students assume responsibility for their rooms and furnishings. The College reserves the right to enter and inspect any room for reasons of damage, health, or safety, and to search any room when there is reason to believe a violation of College rules or the law is occurring or has occurred. Charges are assessed for damage to rooms, doors, furniture, and common areas. Wherever possible, damage to dormitory property will be charged to the person or persons directly responsible. Damage and breakage occurring in a room will be the responsibility of students occupying the room. Hall and bathroom damages will be the responsibility of all students of the section where damage occurs. Actual costs of repairs will be charged.

Residence halls are not available for occupancy during the vacation periods. Quiet hours for study purposes, which are established by residence hall councils or the Office of Student Services, are published in the student handbook and posted on bulletin boards.

Room visitation by members of the opposite sex is permitted in the halls under conditions established by the College in cooperation with the various residence hall councils, which share responsibility for developing and monitoring regulations, and which are organized each fall semester before visitation schedules are established.

## STANDARDS OF CONDUCT

Lycoming students are expected to accept responsibilities required of adults. The rights of every member of the College community are protected by established regulations. Although the acceptance of the College's standards of behavior is an individual responsibility, it also calls for group responsibility. Students should influence their peers to conduct themselves responsibly for the collective good.

Students who are unable to demonstrate that they have accepted these responsibilities or who fail to abide by established policies may be dismissed at any time or denied readmission for a subsequent term or semester. Further, after the conclusion of any term or semester, the College may deny a student the privilege of attending any subsequent term or semester when the administration deems this to be in the best interest of the College.

Lycoming College does not approve of the use or misuse of alcoholic beverages and encourages students to abstain from their use and to abide by the legal restrictions on alcohol use established by the Commonwealth of Pennsylvania. Observance of the law is the individual responsibility of each student, and failure to obey the law may subject the student to prosecution by civil authorities, either on or off campus.

Students also are expected to be aware of the College's attitude toward the use and misuse of alcohol and to acknowledge the College's right to its position. The College will not tolerate any public use of alcohol. Officials of the College will prescribe penalties for the public or private misuse of alcohol. These penalties will be applied in a consistent manner.

Lycoming recognizes its responsibility, however, for providing

students with reliable information about the social and medical implications of the use of alcohol. Lycoming makes every effort to create and maintain a community in which individual choice is coupled with responsible behavior and respect for the rights of others.

Upon enrolling, students are given a handbook which contains the College's official policies, rules, and regulations. These policies, rules, and regulations are part of the contractual agreement students enter into when they register at Lycoming.

# Admission to Lycoming

## POLICY AND STANDARDS

Lycoming College welcomes applications from prospective students regardless of age, sex, race, religion, financial resources, color, national or ethnic origin, or handicap. Admission is based on the following standards:

- graduation from an accredited secondary school;
- completion of a college preparatory program that includes English and mathematics plus units in foreign language, natural science and social science;
- satisfactory College Entrance Examination Board Scholastic Aptitude Test (SAT) or American College Test (ACT) scores.

A secondary-school student of exceptional maturity and with significant academic preparation may apply to Lycoming as a candidate for early admission. If admitted, the student enters the College after completing the junior year in school. Students who are not enrolled in a degree program and who wish to enroll in one or more courses in any semester are welcome to apply.

Lycoming is fully approved for the educational program for veterans.

## APPLICATION AND SELECTION PROCESS

For students considering a fall semester admission, applications should be filed by April 1. The application should be accompanied by a \$20 application fee, an official secondary school transcript forwarded by the school guidance office, and the results of either the Scholastic Aptitude Test (SAT) or the American College Test (ACT). Applications are considered after April 1 on a space-available basis.

The completed application is evaluated individually by identifying each applicant's academic achieve-

ment, talents, qualities, and interests. Lycoming notifies applicants of their acceptance as soon as possible after all credentials have been received and evaluated. In some instances, additional information may be needed to complete the evaluation. The review process normally begins after January 1.

Admitted applicants must notify the College of their intent to enroll by May 1, the national candidates' reply date. This notification must be accompanied by a \$100 advance deposit which is applied to the first-term tuition. After May 1, the \$100 deposit is not refundable.

## ADVANCED STANDING BY TRANSFER

The College welcomes transfer students from other accredited colleges and universities according to the following standards and procedures:

- applicant must be in good academic standing, and present a minimum transfer grade point average of 2.0;
- all courses comparable to those offered in the curriculum at Lycoming will be accepted for transfer;
- the grades earned in all transferable courses are included in the computation of the transfer grade point average;
- academic standing at Lycoming will be based on an evaluation of all courses attempted at all other institutions;
- the final eight courses for a degree must be taken at Lycoming.
- official copies of transcripts from all institutions attended must be submitted as a part of the admission application.

## ADMISSIONS OFFICE LOCATION AND HOURS

Prospective students and their families are encouraged to visit the campus for a student-conducted tour and an interview with an admissions officer, who will provide additional information about the College and answer any questions.

The Admissions Office is located on the first floor of Long Hall. For an appointment, telephone (717) 326-1951, or write Office of Admissions, Lycoming College, Williamsport, PA 17701. Office hours are:

- Weekdays—September through April  
9 a.m. to 4:30 p.m.  
—May through August  
9 a.m. to 4 p.m.
- Saturdays—September through April  
9 a.m. to 12 noon  
—May through August  
No Saturday hours.



# Expenses and Financial Aid

## EXPENSES FOR THE ACADEMIC YEAR 1982-83

The following expenses are effective for the regular fall and spring semesters. The College reserves the right to adjust fees at any time. The fees for each semester are payable not later than the second day of classes for the semester.

Fees	Per Semester	Per Year
Comprehensive Fee.....	\$2,490	\$4,980
Board and Room Rent .....	1,100	2,200
Total .....	\$3,590	\$7,180

### One-Time Student Fees

Application Fee.....	\$ 20
Admissions Deposit.....	100
Contingency Deposit .....	75

### Part-Time Student Fees

Application Fee.....	\$ 20
Each Unit Course .....	625

### Additional Charges

Applied Music Fee (half-hour per week per semester .....	95
Cap and Gown Rental .....	prevailing cost
Laboratory Fee per Unit Course.....	5 to 50
Registration Fee.....	25
Parking Permit (for the academic year).....	10 to 15
Parking Permit with Reserved Space (for the academic year).....	15 to 35
Practice Teaching Fee (Payable in Junior Year) .....	150
R.O.T.C. Basic Course Deposit (Payable at Bucknell University).....	60
R.O.T.C. Advanced Course Deposit (Payable at Bucknell University).....	60
Transcript Fee (No charge to full-time students .....	3
Medical Questionnaire Fee (Payable to Medical Datamation, Inc.) .....	10

The comprehensive fee covers the regular course load of three to four courses each semester. Resident students must board at the College unless, for extraordinary reasons, authorization is extended for other eating arrangements. If a double room is used as a single room, there is an additional charge of \$200 per semester. The estimated cost for

books and supplies is up to \$200 per year, depending on the course of study. Special session (May term and summer term) charges for tuition, room, and board are established during the fall semester.

## ENTRY FEES AND DEPOSITS

**Application Fee**—All students for admission must submit a \$20 application fee. This charge defrays the cost of processing the application and is nonrefundable.

**Admissions Deposit**—After students have been notified of their admission to Lycoming, they are required to make a \$100 admissions deposit to confirm their intention to matriculate. The deposit is applied to the general charges for the first semester of attendance. After May 1, the deposit is nonrefundable.

**Contingency Deposit**—A contingency deposit of \$75 is required of all full-time students as a guarantee for payment of damage to or loss of College property, for library and parking fines, or similar penalties imposed by the College. The deposit is collected along with other charges for the initial semester. The balance of this deposit is refunded after all debts to the College have been paid, either upon graduation or upon written request submitted to the Registrar two weeks prior to voluntary permanent termination of enrollment at Lycoming College.

## PARTIAL PAYMENTS

For the convenience of those who find it impossible to follow the regular schedule of payments, arrangements may be made with the College Business Manager for the monthly payment of College fees through various educational plans. Additional information concerning partial payments may be obtained from the Business Manager or Director of Admissions.

## REFUNDS FOR STUDENTS WHO WITHDRAW

Refunds of tuition and board are made to students who voluntarily and officially withdraw from the College while in good standing according to the following schedule for the fall and spring semesters and the comparable period for the May and summer terms:

Period of Withdrawal	Refund %	Charge %
During the first week of the semester	80	20
During second and third week	60	40
During the fourth and fifth week	40	60
During the sixth and seventh week	20	80
After seven weeks	0	100

The date on which the Dean of the College approves the student's withdrawal form is considered the official date of withdrawal. Charges are levied for services provided after withdrawal.

Lycoming scholarships and grants are applied during the fall and spring semesters on the same basis as tuition charges. If a withdrawing student is charged 60% tuition, he/she will receive 60% of the scholarship or grant. Government financial aid is adjusted according to federal and state guidelines.

Room charges, which are established on a semester basis, and special charges, such as laboratory fees, are not refundable if a student leaves the College prior to the end of the semester.

Full-time students who after reducing their loads continue to be enrolled for 12 or more semester hours are not eligible for a refund of tuition for an individual course. Similarly, students who register for extra hours in excess of 16 hours per semester and who later reduce their loads are not eligible after the fifth day of the semester

for a refund of the fee charged for overloads. Charges will be recalculated for students who enroll full time and subsequently assume part-time status by reducing their loads below 12 hours during the drop-add period. The assumption of part-time status normally involves a substantial reduction of financial aid since most financial aid programs do not extend eligibility to part-time students.

#### **NON-PAYMENT OF FEES PENALTY**

Students will not be registered for courses in a new semester if their accounts for previous attendance have not been settled. Diplomas, transcripts, and certifications of withdrawals in good standing are issued only when a satisfactory settlement of all financial obligations has been made in the Business Office.

#### **FINANCIAL AID POLICY AND PROCEDURES**

The dominant factor in determining the amount of financial aid awarded to individual students is the establishment of need. Scholarships may be awarded on the basis of financial need and academic ability, while grants are provided on the basis of financial need. Long-term, low-cost educational loans are available from federal and state sources to most students who can demonstrate need. Part-time employment is available to students.

To apply for financial assistance, obtain Lycoming's Financial Aid Application (FAA) from the Office of Financial Aid and the CSS Financial Aid Form (FAF) from the secondary-school guidance office or Lycoming's Office of Financial Aid. Submit the FAA to Lycoming and the completed FAF to the College Scholarship Service, P.O. Box 2700, Princeton, NJ 08541, as early as possible after January 1. Renewal applications are required annually.

**Scholarships**—Freshman Recognition Scholarships of \$700 to \$1,000 each are awarded to applicants who have superior academic qualifications but do not demonstrate financial need. These scholarships are renewable each year if the student maintains a minimum 3.25 cumulative grade point average. Other scholarships, ranging from \$400 to full tuition, are awarded to freshman who rank in the top fifth of their secondary-school class and have a combined score of more than 1100 on the College Entrance Examination Board Scholastic Aptitude Test (SAT). These scholarships are renewable each year if the student maintains a minimum 3.00 cumulative grade point average.

**Grants-In-Aid**—Lycoming has established an extensive program of grants-in-aid for worthy students who do not qualify for scholarships. Awards are based on demonstrated need and the prospect of the student contributing positively to the College community. Renewal requires continued financial need, maintenance of satisfactory academic and citizenship standards, and participation in College activities.

**Ministerial Grants-In-Aid**—Children of ministers of the Central Pennsylvania Conference of The United Methodist Church receive grants equal to one-third of the charges for tuition, while children of ministers of other Conferences of The United Methodist Church and of other denominations receive grants equal to one-fourth of the charges for tuition. Students who will be entering the ministry may apply for a preministerial student grant equal to one-fourth tuition. Applicants must complete and submit the Financial Aid Form (FAF), and pre-ministerial students must also submit the Application for Pre-Ministerial Grant. If an applicant demonstrates more need for financial assistance than a ministerial grant-in-aid provides, additional types of aid will be considered. These grants-in-aid are part

of a total financial assistance award to meet demonstrated need and are not given in addition to awards designed to meet established needs.

**Pell Grant formerly Federal Basic Educational Opportunity Grant (BEOG)**—These grants, established through the Educational Amendments of 1976, provide up to \$1,600 per year for full-time students who can demonstrate financial need. Application can be made when submitting the Financial Aid Form (FAF), the PHEAA State Grant Application, or by separate federal application on forms which are available in secondary-school guidance offices and the Office of Student Financial Aid at Lycoming. All students are urged to apply for this program.

**Supplemental Educational Opportunity Grants (SEOG)**—This federal government program provides additional assistance to those students with financial need. Awards can be made in amounts ranging from \$200 to \$2,000 and are usually based entirely on exceptional financial need. Renewal is possible if the applicant has no reduction in financial need in succeeding years.

**National Direct Student Loan (NDSL)**—This federal five percent interest loan permits a total of \$6,000 to be borrowed by the undergraduate student at a rate not to exceed \$3,000 the first two years. Repayment does not begin until after graduation or withdrawal from college. Loans are normally renewed annually if the applicant files a renewal application by May 1 and continues to demonstrate financial need.

**Federal College Work-Study Grants (CWSP)**—An opportunity is provided through this program for students to earn part of their college expenses and to gain some practical experience by working on campus. Federal government financial-need guidelines must be met to be eligible for this program. Students who do not meet these guidelines should consult with the Career Development Center or Office of Student Financial

Aid for other employment opportunities.

#### **Other Sources of Financial Assistance—**

*State Grants.* All applicants for financial aid are urged to investigate programs sponsored by their home states and to learn about and heed application deadlines. Pennsylvania applicants should apply for state aid during their senior year in high school, usually before April 30. For additional information, applicants should contact their secondary-school guidance counselor or write: Pennsylvania Higher Education Assistance Agency (PHEAA), Towne House, Harrisburg, PA 17102. New Jersey applicants should use the New Jersey version of the CSS Financial Aid Form to apply for their state Tuition Aid Grant.

*State Guaranteed Loans.* Most states, including Pennsylvania, New Jersey, and New York, provide state-guaranteed loans through local banks

and lending institutions. This program provides 7-9 percent interest loans of up to \$2,500 per year for educational expenses with repayment extended over a long-term schedule. Applicants should consult local banks early in their senior year.

*PLUS Loans.* PLUS Loans are meant to provide additional funds for educational expenses. The interest rate is 14 percent. Parents of dependent undergraduate students may borrow up to \$3,000 per year. Independent undergraduates may borrow up to \$2,500 per year; however, the PLUS loan, combined with any GSL the undergraduate may have for that level, cannot exceed \$2,500. Applications and information are available from your bank or other lending institution.

*Community Scholarships.* In many communities, foundations and organizations, and in some cases high schools, provide funds for worthy students. Applicants should consult with their guidance counselor or principal.

*Education Financing Plans.* The Business Office at Lycoming provides information about plans which enable parents to pay college expenses on a monthly basis through selected companies.

*Reserve Officers Training Corps (ROTC) Scholarships.* Students who participate in Army ROTC are eligible for three, two, and one-year ROTC scholarships to finance tuition, books, laboratory fees, and other charges with the exception of room and board. ROTC-scholarship students also receive \$100 per month during the academic year.

*Reserve Officers Training Corps (ROTC) Stipends.* Students who participate in the Army ROTC program receive \$100 per academic month of their junior and senior years. They also receive half of a second lieutenant's pay plus travel expenses for a six-week advanced summer camp between junior and senior years.





# Academic Calendar: 1982-83

	<b>Fall semester</b>	<b>Spring semester</b>
Bills are due.....	August 26	January 6
Orientation of new faculty .....	August 27	
Residence halls open.....	August 29	January 9
Faculty available for advising .....	August 30	
Classes begin first period .....	August 31	January 10
Processing of drop/add begins .....	August 31	January 10
Re-registration fee of \$25 applies after this date.....	September 6	January 14
Last day for drop/add .....	September 6	January 14
Last day to elect audit and satisfactory/unsatisfactory grades .....	September 6	January 14
Last day for submission of final grades for courses for which Incomplete grades were recorded in spring, May, and summer terms .....	October 12	
Mid-semester deficiency reports for freshmen due in Registrar's Office at noon.....	October 18	February 28
Last day for submission of final grades for courses for which Incomplete grades were recorded in fall semester .....		February 18
Preregistration for students who have completed at least one semester .....	November 8-10	
Preregistration for sophomores through seniors .....		April 4-6
Preregistration for freshmen.....	November 13	April 9
Last day to withdraw from courses with W, WP, WF grades.....	November 23	April 8
Residence halls close at 10 a.m. for Thanksgiving recess .....	November 24	
Residence halls open at noon after Thanksgiving recess .....	November 28	
Classes resume first period after Thanksgiving .....	November 29	
Residence halls close at 9 p.m. for spring recess .....		March 4
Residence halls open at noon after spring recess.....		March 13
Classes resume first period after spring recess .....		March 14
Semester ends at 5 p.m. ....	December 17	April 29
Residence halls close at 9 p.m.....	December 17	April 29
	<b>May term</b>	<b>Summer term</b>
Residence halls open.....	May 8	June 19
Classes begin .....	May 9	June 20
Last day for drop/add .....	May 10	June 22
Last day to elect audit and satisfactory/unsatisfactory grades .....	May 10	June 22
Last day to withdraw from courses with W, WP, WF grades.....	May 27	July 15
Terms ends.....	June 3	July 29
Residence halls close at 4 p.m.....	June 3	July 29

## Special dates to remember:

Freshman convocation .....	August 31
All-College picnic.....	September 4
Labor Day (classes in session).....	September 6
Homecoming Weekend .....	October 1-3
Parents Weekend .....	October 15-17
Long weekend (classes suspended).....	October 29
Thanksgiving recess .....	November 23-28
Spring recess.....	March 4-13
Good Friday (afternoon classes suspended) .....	April 1
Honors Day.....	April 12
Baccalaureate.....	May 8
Commencement.....	May 8
Memorial Day (no classes).....	May 30
Independence Day (no classes).....	July 4

# Directory

## BOARD OF TRUSTEES

### Officers

W. Gibbs McKenney, LL.D. .... Chairman  
 Nathan W. Stuart, J.D. .... Vice Chairman  
 Paul G. Gilmore ..... Secretary  
 William L. Baker ..... Treasurer  
 Fred A. Pennington, LL.D. .... Chairman Emeritus

### Honorary Trustees

Bishop Hermann W. Kaebnick,  
 D.D., L.H.D., LL.D. .... Hershey  
 Ralph E. Kelchner ..... Jersey Shore  
 Arnold A. Phipps, II ..... Williamsport  
 Mrs. Donald G. Remley ..... Williamsport  
 George L. Stearns, II ..... Williamsport

### Trustees

*Term expires 1983*

#### Elected

1980 Richard W. DeWald ..... Montoursville  
 1974 Daniel G. Fultz ..... Pittsford, NY  
 1980 David M. Heiney, Ed.D. .... Hughesville  
 (Alumni Representative)  
 1965 James G. Law, D. Text. Sci. .... Bloomsburg  
 1970 John E. Person, Jr. .... Williamsport  
 1972 Donald E. Shearer, M.D. .... Montoursville  
 1961 Nathan W. Stuart, J.D. .... Williamsport  
 1971 Willis W. Willard, III, M.D. .... Hershey  
 1954 W. Russell Zacharias ..... Allentown

*Term expires 1984*

#### Elected

1981 John B. Ernst ..... Doylestown  
 (Alumni Representative)  
 1969 Samuel H. Evert ..... Bloomsburg  
 1972 The Rev. Brian A. Fetterman ..... Harrisburg  
 1978 Harold D. Hershberger, Jr. .... Williamsport  
 1969 Kenneth E. Himes ..... Williamsport  
 1978 John C. Lundy ..... Williamsport  
 1981 William Pickelner ..... Williamsport  
 1978 John Y. Schreyer ..... Little Falls, NJ  
 1978 M. L. Sharrah, Ph.D. .... New Canaan, CT  
 1972 Harold H. Shreckengast, Jr. .... Jenkintown

*Term expires 1985*

#### Elected

1979 David Y. Brouse ..... Williamsport  
 1951 Paul G. Gilmore ..... Williamsport  
 1982 Mrs. Margaret D. L'Heureux ..... Williamsport  
 1973 Robert G. Little, M.D. .... Harrisburg  
 1979 David J. Loomis, Ph.D. .... Troy  
 (Alumni Representative)  
 1964 W. Gibbs McKenney, LL.D. .... Baltimore, MD

1973 G. Jackson Miller ..... Altoona  
 1958 Fred A. Pennington, LL.D. .... Mechanicsburg  
 1982 Mrs. Marguerite G. Rich ..... Woolrich  
 1961 The Rev. Wallace F. Stettler, HH.D. .... Kingston  
 1982 The Rev. Stratford C. Taylor ..... Montoursville

## ADMINISTRATIVE STAFF

### FREDERICK E. BLUMER (1976)

President  
*B.A., Millsaps College; B.D., Ph.D., Emory University*

### SHIRLEY A. VAN MARTER (1979)

Dean of the College  
*B.A., Mundelein College; M.A., Northwestern University; M.A., Ph.D., University of Chicago*

### WILLIAM L. BAKER (1965)

Treasurer  
*B.S., Lycoming College*

### JACK C. BUCKLE (1957)

Dean of Student Services  
*A.B., Juniata College; M.S., Syracuse University*

### PAUL C. HASSENPLUG (1981)

Director of Institutional Planning and Development  
*B.S., Rochester Institute of Technology*

### MARSHALL RAUCCI, JR. (1982)

Director of Admissions  
*B.A., Marist College; M.S. Ed., SUNY College at Buffalo*

### CHRISTINE D. BARTH (1982)

Admissions Counselor  
*B.A., Lycoming College*

### BETTY S. BECK (1965)

Bookstore Manager

### DALE V. BOWER (1968)

Director of Alumni Affairs  
*B.S., Lycoming College; B.D., United Theological Seminary*

### GEORGE W. BRELSFORD (1982)

Residence Area Coordinator  
*B.S., Davis & Elkins College*

### CLARENCE W. BURCH (1962)

Director of Athletics  
*B.S., M.Ed., University of Pittsburgh*

### LOUISE A. CALIGIURI (1978)

Associate Dean of Student Services  
*B.S., M.S., Duquesne University*

### JOANNE B. DAY (1981)

Assistant Dean of Student Services  
*B.A., M.Ed., Western Maryland College*

### ROBERT L. EDDINGER (1967)

Director of Buildings & Grounds

JERRY L. EISCHEID (1981)  
 Campus Minister  
*B.S., Mansfield State College; M.Div., United Theological Seminary at Dayton*

FRED L. GROGAN (1977)  
 Assistant Dean of the College  
*A.B., Bates College; M.A., Arizona State University; Ph.D., University of Missouri*

THOMAS J. HENNINGER (1966)  
 Director of Computer Services  
*B.S., Wake Forest College; M.A., University of Kansas*

MARY E. HERRING (1978)  
 Assistant Director of Admissions  
*B.A., Albright College*

RICHARD A. HUGHES (1970)  
 Chaplain of the College  
*B.A., Indiana Central College; S.T.B., Ph.D., Boston University*

BRUCE M. HURLBERT (1982)  
 Director of Library Services  
*B.A., The Citadel; M.S.L.S., Florida State University*

HAROLD H. HUTSON (1969)  
 President Emeritus  
*B.A., LL.D., Wofford College; B.D., Duke University; Ph.D., University of Chicago; L.H.D., Ohio Wesleyan University*

DOUGLAS J. KEIPER (1970)  
 Assistant Director of Admissions  
*A.B., Lycoming College; M.Ed., The Pennsylvania State University*

BETTY J. PARIS (1963)  
 Registrar  
*A.B., Lycoming College*

JULIANN T. PAWLAK (1979)  
 Director of Financial Aid  
*B.A., Lycoming College; M.A., Bucknell University*

MARLENE D. PETTER (1982)  
 Assistant Director of Public Relations  
*B.A., The Pennsylvania State University*

JEFFREY L. RICHARDS (1982)  
 Controller and Assistant Treasurer  
*B.A., Lycoming College*

WILLIAM H. RUPP (1979)  
 Director of Public Relations  
*B.A., M.A., The Pennsylvania State University*

GORDON S. STEARNS (1982)  
 Residence Area Coordinator  
*B.A., Bowdoin College*

THOMAS P. WOZNAK (1979)  
 Associate Dean of Student Services  
*B.A., Merrimack College; M.Ed., Worcester State College*

RALPH E. ZEIGLER, JR. (1980)  
 Assistant Director of Admissions

*A.B., Lycoming College; M.A., The Pennsylvania State University*

## FACULTY

### EMERITI

MABEL K. BAUER  
 Professor Emeritus of Chemistry  
*B.S., Cornell University; M.S., University of Pennsylvania*

LEROY F. DERR  
 Professor Emeritus of Education  
*A.B., Ursinus College; M.A., Bucknell University; Ed.D., University of Pittsburgh*

ROBERT H. EWING  
 Professor Emeritus of History  
*A.B., College of Wooster; M.A., University of Michigan; HH.D., Lycoming College*

JOHN P. GRAHAM  
 Professor Emeritus of English  
*Ph.B., Dickinson College; M.Ed., The Pennsylvania State University*

HAROLD W. HAYDEN  
 Librarian Emeritus and Professor Emeritus of Library Services  
*A.B., Nebraska State Teachers College; B.S., University of Illinois; M.A. in L.S., University of Michigan*

GEORGE W. HOWE  
 Professor Emeritus of Geology  
*A.B., M.S., Syracuse University; Ph.D., Cornell University*

M. RAYMOND JAMISON  
 Assistant Professor Emeritus of Physics  
*B.S., Ursinus College; M.S., Bucknell University*

WALTER G. McIVER  
 Professor Emeritus of Music  
*Mus.B., Westminster Choir College; A.B., Bucknell University; M.A., New York University*

LORING B. PRIEST  
 Professor Emeritus of History  
*Litt.B., Rutgers University; M.A., Ph.D., Harvard University*

DONALD G. REMLEY  
 Assistant Professor Emeritus of Mathematics and Physics  
*A.B., Dickinson College; M.A., Columbia University*

MARY LANDON RUSSELL  
 Associate Professor Emeritus of Music  
*Mus.B., Susquehanna University Conservatory of Music; M.A., The Pennsylvania State University*

LOUISE R. SCHAEFFER

Associate Professor Emeritus of Education  
*A.B., Lycoming College; M.A., Bucknell University;  
D.Ed., The Pennsylvania State University*

JAMES W. SHEAFFER

Associate Professor Emeritus of Music  
*B.S., Indiana University of Pennsylvania; M.S.,  
University of Pennsylvania*

FRANCES K. SKEATH

Professor Emeritus of Mathematics  
*A.B., M.A., Bucknell University; D.Ed., The  
Pennsylvania State University*

JOHN A. STUART

Professor Emeritus of English  
*B.A., William Jewell College; M.A., Ph.D.,  
Northwestern University*

HELEN B. WEIDMAN

Professor Emeritus of Political Science  
*A.B., M.A., Bucknell University; Ph.D., Syracuse  
University*

#### PROFESSORS

MALTHON M. ANAPOL (1981)

Mass Communication  
*B.S., Rutgers University; M.A., Temple University;  
Ph.D., The Ohio State University*

ROBERT F. FALK (1970)

Theatre Marshal of the College  
*B.A., B.D., Drew University; M.A., Ph.D., Wayne  
State University*

MORTON A. FINEMAN (1966)

Physics  
*A.B., Indiana University; Ph.D., University of  
Pittsburgh*

ERNEST D. GIGLIO (1972)

Political Science  
*B.A., Queens College; M.A., SUNY at Albany;  
Ph.D., Syracuse University*

EDUARDO GUERRA (1960)

Religion  
*B.D., Southern Methodist University; S.T.M., Ph.D.,  
Union Theological Seminary*

JOHN G. HANCOCK (1967)

Psychology  
*B.S., M.S., Bucknell University; Ph.D., The  
Pennsylvania State University*

JOHN G. HOLLENBACK (1952)

Business Administration  
*B.S., M.B.A., University of Pennsylvania*

JAMES K. HUMMER (1962)

Chemistry  
*B.N.S., Tufts University; M.S., Middlebury College;  
Ph.D., University of North Carolina*

JACK S. McCRARY (1969)

Sociology  
*B.A., M.A., Southern Methodist University; Ph.D.,  
Washington University*

ROGER W. OPDAHL (1963)

Economics  
*A.B., Hofstra University; M.A., Columbia University;  
D.Ed., The Pennsylvania State University*

ROBERT W. RABOLD (1955)

Economics  
*B.A., The Pennsylvania State University; M.A.,  
Ph.D., University of Pittsburgh*

JOHN A. RADSPINNER (1957)

Chemistry  
*B.S., University of Richmond; M.S., Virginia  
Polytechnic Institute; D.Sc., Carnegie-Mellon  
University*

LOGAN A. RICHMOND (1954)

Accounting  
*B.S., Lycoming College; M.B.A., New York  
University; C.P.A. (Pennsylvania)*

JANET A. RODGERS (1981)

Nursing  
*B.S. Wagner College; M.A., Ph.D., New York  
University*

SHIRLEY A. VAN MARTER (1979)

Dean of the College English  
*B.A., Mundelein College; M.A., Northwestern  
University; M.A., Ph.D., University of Chicago*

#### ASSOCIATE PROFESSORS

ROBERT B. ANGSTADT (1967)

Biology  
*B.S., Ursinus College; M.S., Ph.D., Cornell  
University*

HOWARD C. BERTHOLD, JR. (1976)

Psychology  
*B.A., Franklin and Marshall College; M.A.,  
University of Iowa; Ph.D., The University of  
Massachusetts*

CLARENCE W. BURCH (1962)

Physical Education  
*B.S., M.Ed., University of Pittsburgh*

JACK S. DIEHL, JR. (1971)

Biology  
*B.S., M.A., Sam Houston State College; M.S., Ph.D.,  
University of Connecticut*

BERNARD P. FLAM (1963)

Spanish  
*A.B., New York University; M.A., Harvard  
University; Ph.D., University of Wisconsin*

WILLIAM D. FORD (1972)

English

*B.A., Occidental College; M.A., M.F.A., Ph.D.,  
University of Iowa*

DAVID A. FRANZ (1970)

Chemistry

*A.B., Princeton University; M.A.T., The Johns  
Hopkins University; Ph.D., University of Virginia*

CHARLES L. GETCHELL (1967)

Mathematics

*B.S., University of Massachusetts; M.A., Ph.D.,  
Harvard University*

STEPHEN R. GRIFFITH (1970)

Philosophy

*A.B., Cornell University; M.A., Ph.D., University of  
Pittsburgh*

DAVID K. HALEY (1980)

Mathematics

*B.A., Acadia University; M.S., Ph.D., Queen's  
University*

JOHN R. HUBBARD (1975) \*

Mathematics

*A.B., University of Rochester; A.M., Ph.D.,  
University of Michigan*

RICHARD A. HUGHES (1970)

Religion

*B.A., Indiana Central College; S.T.B., Ph.D., Boston  
University*

BRUCE M. HURLBERT (1982)

Library Services

*B.A., The Citadel; M.S.L.S., Florida State University*

EMILY R. JENSEN (1969)

English

*B.A., Jamestown College; M.A., University of  
Denver; Ph.D., The Pennsylvania State University*

MOON H. JO (1975) \*\*

Sociology

*B.A., Valparaiso University; M.A., Howard  
University; Ph.D., New York University*

FORREST E. KEESBURY (1970)

Education

*B.S., Defiance College; M.A., Bowling Green State  
University; Ed.D., Lehigh University*

ROBERT H. LARSON (1969)

History

*B.A., The Citadel; M.A., Ph.D., University of  
Virginia*

PAUL A. MacKENZIE (1970)

German

*A.B., A.M., Ph.D., Boston University*

GERTRUDE B. MADDEN (1958)

English

*A.B., University of Pennsylvania; M.A., Bucknell  
University*

ROBERT J. B. MAPLES (1969)

French

*A.B., University of Rochester; Ph.D., Yale University*

JOHN F. PIPER, JR. (1969)

History

*A.B., Lafayette College; B.D., Yale University;  
Ph.D., Duke University*

DAVID J. RIFE (1970)

English

*B.A., University of Florida; M.A., Ph.D., Southern  
Illinois University*

MICHAEL G. ROSKIN (1972)

Political Science

*A.B., University of California at Berkeley; M.A.,  
University of California at Los Angeles; Ph.D., The  
American University*

ROGER D. SHIPLEY (1967)

Art

*B.A., Otterbein College; M.F.A., Cranbrook  
Academy of Art*

JOHN M. WHELAN, JR. (1971)

Philosophy

*B.A., University of Notre Dame; Ph.D.,  
The University of Texas at Austin*

STANLEY T. WILK (1973)

Anthropology

*B.A., Hunter College; Ph.D., University of Pittsburgh*

ROBERT A. ZACCARIA (1973)

Biology

*B.A., Bridgewater College; Ph.D., University of  
Virginia*

\*On Sabbatical Fall Semester 1982-83

\*\*On Sabbatical Spring Semester 1982-83

#### ASSISTANT PROFESSORS

RICHARD J. BARKER (1982)

Spanish

*B.A., Hamilton College;  
M.A., University of Iowa; Ph.D. University of Oregon*

SUSAN K. BEIDLER (1975)

Library Services

*B.A., University of Delaware; M.L.S., University of  
Pittsburgh*

GARY M. BOERCKEL (1979)

Music

*B.M., Oberlin College; M.M., Ohio University;  
D.M.A., University of Iowa*

JON R. BOGLE (1976)

Art

*B.F.A., B.S., M.F.A., Tyler School of Art, Temple  
University*

- ROLF T. CARLSON (1981)  
Theatre  
*B.S., Kearney State College; M.F.A., University of Montana*
- JOHN H. CONRAD (1959)  
Education  
*B.S., Mansfield State College; M.A., New York University*
- RICHARD R. ERICKSON (1973)  
Astronomy and Physics  
*B.A., University of Minnesota; M.S., Ph.D., University of Chicago*
- EDWARD G. GABRIEL (1977)  
Biology  
*B.A., M.S., Alfred University; Ph.D., The Ohio State University*
- FRED L. GROGAN (1977)  
Political Science  
*A.B., Bates College; M.A., Arizona State University; Ph.D., University of Missouri*
- THOMAS J. HENNINGER (1966)  
Director of Computer Services Mathematics  
*B.S., Wake Forest College; M.A., University of Kansas*
- OWEN F. HERRING (1965)  
Philosophy  
*B.A., Wake Forest College*
- DAVID N. JEX (1978)  
Music  
*B.M., University of Toledo; M.M., Bowling Green State University; D.M.A., Cleveland Institute of Music*
- DAN O. KING (1977)  
Biology  
*B.A., University of South Florida; M.A., Ph.D., Indiana University*
- ELIZABETH H. KING (1956)  
Business Administration  
*B.S., Geneva College; M.Ed., The Pennsylvania State University*
- ELDON F. KUHN, II (1979)  
Accounting  
*B.A., Lycoming College; M. Accounting, University of Oklahoma; C.P.A. (Pennsylvania)*
- DIANE M. LESKO (1978)  
Art History  
*B.A., M.A., Ph.D., SUNY at Binghamton*
- RICHARD J. MORRIS (1976)  
History  
*B.A., Boston State College; M.A., Ohio University; Ph.D., New York University*
- CAROLE MOSES (1982)  
English  
*B.A., Adelphi University; M.A., The Pennsylvania State University; Ph.D., SUNY at Binghamton*
- STEPHEN E. ROBINSON (1979)  
Religion  
*B.A., M.A., Brigham Young University; Ph.D., Duke University*
- KATHRYN M. RYAN (1981)  
Psychology  
*B.S., University of Illinois; M.S., Ph.D., University of Pittsburgh*
- GENE D. SPRECHINI (1981)  
Mathematics  
*B.S., Wilkes College; M.A., Ph.D., SUNY at Binghamton*
- LARRY R. STRAUER (1973)  
Sociology  
*A.B., Lycoming College; M.P.A., University of Arizona*
- FRED M. THAYER, JR. (1976)  
Music  
*A.B., Syracuse University; B.M., Ithaca College; M.M., SUNY at Binghamton; D.M.A., Cornell University*
- H. BRUCE WEAVER (1974)  
Business Administration  
*B.B.A., Stetson University; J.D., Vanderbilt University; M.B.A., Florida Technological University*
- BUDD F. WHITEHILL (1957)  
Physical Education  
*B.S., Lock Haven State College; M.Ed., The Pennsylvania State University*
- RICHARD E. WIENECKE (1982)  
Accounting  
*B.A., Lycoming College; M.S., Bucknell University; M.B.A., Long Island University*
- FREDRIC M. WILD, JR. (1978)  
English  
*B.A., Emory University; M.A., Ph.D., Ohio State University; M.Div., Yale Divinity School*
- MELVIN C. ZIMMERMAN (1979)  
Biology  
*B.S., SUNY at Cortland; M.S., Ph.D., Miami University*
- \*On Sabbatical Spring Semester 1982-83*
- INSTRUCTORS**
- MARY ANN DOYLE (1982)  
Education  
*B.A., University College of New York at Oswego; E.D.M., State University of New York at Buffalo*
- GEOFFREY L. GORDON (1981)  
Business Administration  
*B.S., Lehigh University; M.B.A., Duke University*

DAVID B. HAIR (1979)

Physical Education

*B.S., East Stroudsburg State College*

DEBORAH J. HOLMES (1976)

Physical Education

*B.S., M.S., The Pennsylvania State University*

WILLIAM E. KEIG (1980)

Astronomy and Physics

*A.B., University of California at Santa Cruz;*

*M.S., University of Chicago*

JACK D. MURPHY (1978)

Mathematics

*B.S., M.S., Drexel University*

KATHERINE PAGANA (1982)

Nursing

*B.S.N., University of Maryland; M.S.N., University of Pennsylvania*

RICHARD D. TROXEL (1978)

Mathematics

*B.A., Oberlin College; M.A., Indiana University*

#### LECTURERS & SPECIAL APPOINTMENTS

DON M. LARRABEE II (1972)

Lecturer in Law

*A.B., Franklin and Marshall; LL.B., Fordham University*

#### PART-TIME FACULTY

JOSIAH ALFORD (1982)

Mathematics

*B.A., Principia College; M.A., George Washington University*

MARY P. BAGGETT (1977)

Chemistry

*B.A., Regis College; M.A., Wellesley College*

ADELLE DOTZEL (1981)

Mathematics

*B.S., Kings College; M.A., The Pennsylvania State University*

ROME A. HANKS (1982)

Art

*B.A., M.F.A., The Pennsylvania State University*

DANIEL HARTSOCK (1982)

English

*B.A., The Pennsylvania State University; M.A., Indiana University of Pennsylvania*

RAYMOND MCGINNIS (1982)

Sociology

*B.A., Temple University; M.S.W., Marywood College*

MARY J. VESTERMARK (1977)

Psychology

*A.B., Oberlin; M.A., Stetson University; Ph.D., University of North Carolina at Chapel Hill*

#### APPLIED MUSIC TEACHERS

RICHARD J. LAKEY (1979)

Organ and Piano

*A.B., Westminster Choir College;*

*M.A., Indiana University of Pennsylvania*

THOMAS GALLUP (1982)

Flute and Voice

*B.S., Mansfield State College*

ALBERT NACINOVICH (1972)

Brass

*B.A., in Music Education, Mansfield State College;*

*M.S., in Music Education, Ithaca College*

MARY L. RUSSELL (1936)

Piano

*M.B., Susquehanna University;*

*M.A., The Pennsylvania State University*

JUANITA M. SERANG

Violin

#### ADJUNCT FACULTY & STAFF

ALBERT J. STUNKARD, M.D.

Director of Institute of Community Health

#### MEDICAL STAFF

FREDERIC C. LECHNER, M.D.

College Physician

*B.S., Franklin and Marshall College;*

*M.D., Jefferson Medical College*

ROBERT S. YASUI, M.D.

College Surgeon

*M.D., Temple University*

EVELYN L. SEAMAN, R.N.

College Nurse

*Williamsport Hospital School of Nursing*

## ADMINISTRATIVE ASSISTANTS

Randy J. Baker ..... Athletic Trainer  
*(B.S., Lock Haven State College; M.S., University of Illinois)*

Louise S. Banks ..... Periodicals Assistant in Library

Rebecca Bastian ..... Data Entry Clerk

Pauline Berrigan ..... Secretary, United Campus Ministry

Emily C. Biichle ..... Coordinator Facilities Scheduling/Purchasing

Barbara J. Bodner ..... Secretary to the Director of Admissions

Barbara Bowes ..... Bookstore Assistant

Pauline M. Brungard ..... Student Loan Coordinator  
*(B.S., Lycoming College)*

Nancy Carlin ..... Faculty Secretary

Kathy A. Confair ..... Cashier/Bookkeeper

Richard L. Cowher ..... Press Operator

Elizabeth G. Cowles ..... Career Development Secretary

Patricia Cundiff ..... Systems Analyst

Robert L. Curry ..... Administrative Assistant in Athletics  
*(A.B., Lycoming College)*

Mary Dahlgren ..... Admissions Data Entry Assistant

June L. Evans ..... Secretary, Education Office

Irene Everdale ..... Secretary to the Director of Buildings and Grounds

S. Jean Gair ..... Secretary, Music and Art Departments

Anne S. Gibbon ..... Secretary, Biology and Chemistry Departments

Irene V. Gohrig ..... Secretary to Dean of Student Services

Diane Hassinger ..... Secretary to Director of Development

Ralph W. Hellan ..... Computer Operations Programmer  
*(A.B., Lycoming College)*

Helen C. Heller ..... Secretary to the Registrar

Mary C. Hendricks ..... Supervisor of Housekeeping

Esther L. Henninger ..... Administrative Assistant for Admissions  
 Computer Applications

Diane C. Hess ..... Receptionist/Sec'y, Office of Student Services

Bernadine G. Hileman ..... Office Services Coordinator

Phyllis M. Holmes ..... Secretary to the President

Barbara E. Horn ..... Secretary to the Athletics Director

Sherrie Landon ..... Administrative Assistant in Student Financial Aid

D. Maxine McCormick ..... Records Clerk

Christine McCracken ..... Computer Programmer

Mary Jane Murphy ..... Secretary in Admissions Office

Marilyn Mullings ..... Faculty Secretary

Phyllis B. Myers ..... Secretary to the Director of Alumni Affairs

Marion R. Nyman ..... Secretary to the Treasurer

Kimberly A. Owen ..... Library Assistant

Rosalie Pfaff ..... Switchboard Operator

Terry Ann Raup ..... Secretary, Athletics Office

Dolores J. Reed ..... J.L.L. Assistant/AV Coordinator

Pearl M. Ringler ..... Bookstore Assistant

Betty June Swanger ..... Assistant in Treasurer's Office

Sheran L. Swank ..... Faculty Secretary

Patricia J. Triaca ..... Library Assistant

Helen J. Vincent ..... Library Assistant

Deborah E. Weaver ..... Damage Assessment Clerk

Vickie Weaver ..... Secretary to Director of Student Aid

Loretta M. Whipkey ..... Secretary to the Director of Public Relations

Madelyn Wonderlich ..... Secretary to the Dean of the College

Cheryl A. Yearick ..... Library Assistant

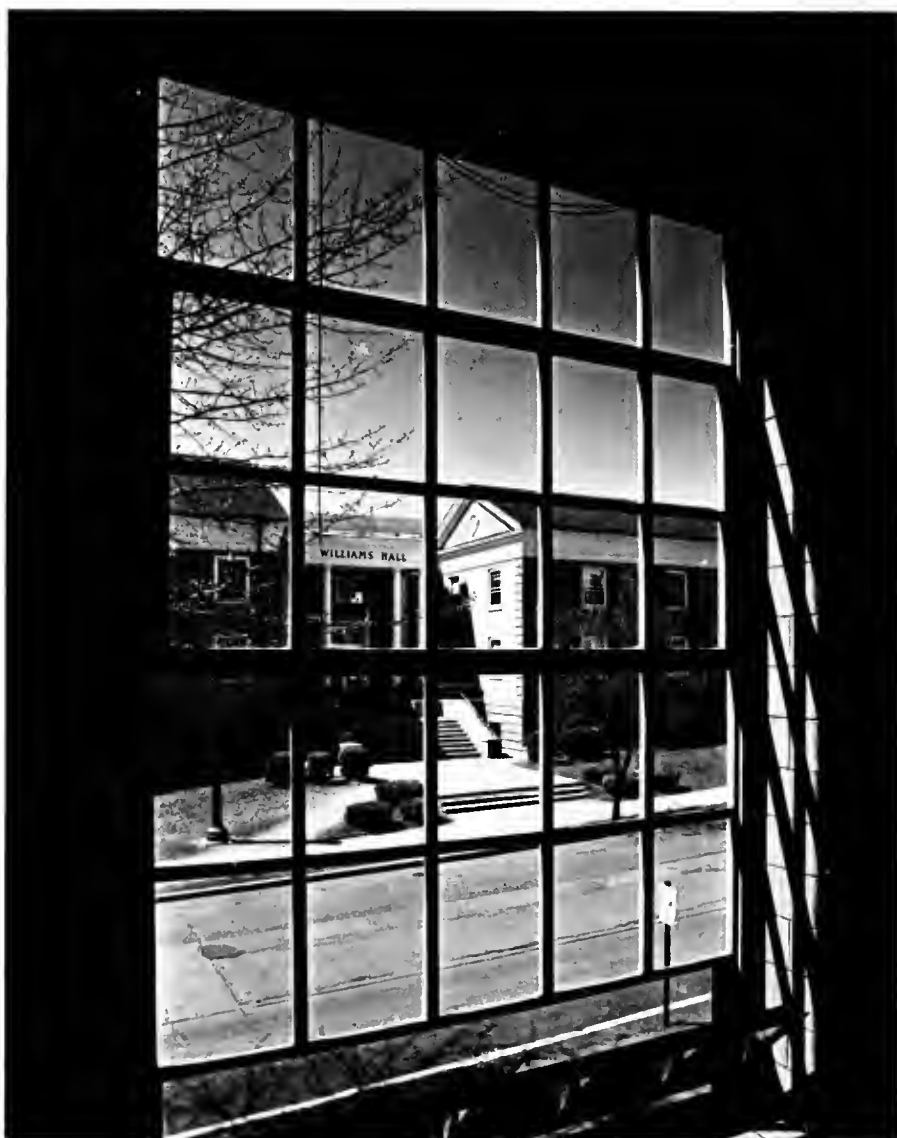




# Index

Academic Advisement .....	8	Counseling, Personal .....	57	International Studies .....	39
Academic Calendar .....	63	Course Credit by Examination .....	11	Internship Programs .....	14
Academic Honesty .....	10	Course Descriptions .....	20	Interviews .....	59
Academic Honors .....	11	Criminal Justice (EIM) .....	30	Johnson Atelier .....	22
Academic Program .....	5	Curriculum .....	20	Legal Professions, Advisement for .....	8
Academic Standing .....	10	Damage Charges .....	58	Literature (EIM) .....	40
Accounting Curriculum .....	20	Degree Programs .....	5	Loans .....	61
Accounting-Mathematics (EIM) .....	21	Degree Requirements .....	5	Location .....	3
Accreditation .....	4	Dental School, Advisement for .....	8	London Semester .....	17
Administrative Assistants .....	70	Departmental Honors .....	13	Lycoming Scholar Program .....	18
Administrative Staff .....	64	Departmental Majors .....	7	Major .....	7
Admission .....	59	Deposits .....	60	Admission to .....	7
Admissions Deposit .....	60	Deposit Refunds .....	60	Departmental .....	7
Admissions Office .....	59	Distribution Requirements .....	6	Interdisciplinary (EIM, IIM) .....	7
Admission Policy .....	59	English .....	6	Mass Communication (EIM) .....	41
Admission Standards .....	59	Fine Arts .....	6	Mathematical Sciences .....	42
Advanced Placement .....	11	Foreign Language .....	6	Mathematics Requirements .....	6
Advanced Standing by Transfer .....	59	History and Social Science .....	7	May Term .....	14
Advisory Committees .....	8	Mathematics .....	6	Medical School, Advisement for .....	8
Health Professions .....	8	Natural Science .....	7	Medical History .....	57
Legal Professions .....	8	Philosophy .....	6	Medical Staff .....	69
Medical Technology .....	8	Religion .....	6	Medical Technology .....	15
Theological Professions .....	8	Early Admission Procedure .....	59	Military Science .....	16
Allopathic Medicine, Advisement for .....	8	Economics Curriculum .....	31	Ministerial Grants-in-Aid .....	61
American Studies (EIM) .....	21	Education Curriculum .....	32	Minor .....	7
Anthropology Curriculum .....	53	Education Financing Plans .....	60	Music Curriculum .....	44
Application Fee and Deposits .....	60	Educational Opportunity Grants .....	61	National Direct Student Loans	
Application Process .....	59	Engineering, Cooperative Program .....	15	(NDSL) .....	61
Applied Music Requirements .....	45	English Curriculum .....	34	Natural Science Requirement .....	6
Art Curriculum .....	22	English Requirement .....	6	Near East Culture and	
Astronomy and Physics Curriculum .....	23	Entrance Examinations (CEEB) .....	11	Archaeology (EIM) .....	46
Athletic Training .....	49	Entry Fees and Deposits .....	60	Non-Payment of Fees Penalty .....	61
Attendance, Class .....	10	Environmental Studies .....	15	Nuclear Medicine Technology .....	16
Audit .....	14	Established Interdisciplinary		Nursing .....	46
Awards .....	11	Major (EIM) .....	7	Optometry .....	16
BFA Degree .....	5	Expenses .....	60	Optometry School, Advisement for .....	8
Basic Educational Opportunity		Faculty .....	65	Osteopathy School, Advisement for .....	8
Grants (BEOG) .....	61	Federal Grants and Loans .....	61	Overseas Studies Opportunities .....	14
Biology Curriculum .....	25	Fees .....	60	Part-time Student Opportunities .....	15
Board of Trustees .....	64	Financial Aid .....	60	Payment of Fees .....	60
Books and Supplies .....	60	Financial Assistance .....	60	Payments, Partial .....	60
Business Administration Curriculum .....	27	Financial Information .....	60	Penalty for Non-Payment of Fees .....	61
Calendar, Academic .....	63	Fine Arts Requirements .....	6	Personal Counseling .....	57
Career Development Services .....	57	Foreign Language Requirement .....	6	Philosophy Curriculum .....	47
Chemistry Curriculum .....	29	Foreign Languages and Literatures		Philosophy Requirement .....	6
Christian Ministry, Advisement for .....	8	Curriculum .....	35	Physical Education Curriculum .....	49
Class Attendance .....	10	Forestry, Cooperative Program .....	15	Physics Curriculum .....	23
College and the Church .....	4	French Curriculum .....	36	Placement Services .....	57
College Directory .....	64	General Expenses .....	60	Podiatric Medicine, Cooperative Program .....	17
College Level Examination Program		German Curriculum .....	36	Political Science Curriculum .....	49
(CLEP) .....	11	Grading System .....	9	Psychology Curriculum .....	51
Community Scholarships .....	62	Graduation Requirements .....	5	Purpose and Objectives .....	3
Computer Science Curriculum .....	42	Grants-in-Aid .....	61	Reading Improvement Course .....	57
Conduct, Standards of .....	58	Greek Curriculum .....	37	Refunds .....	60
Contents .....	2	Health Professional Careers .....	8	Registration .....	9
Contingency Deposits .....	60	Health Services .....	57	Regulations (Standards of Conduct) .....	58
Cooperative Programs .....	15	Hebrew Curriculum .....	37	Religion Curriculum .....	52
Engineering .....	15	History Curriculum .....	38	Religion Requirement .....	6
Environmental Studies .....	15	History of the College .....	4	Repeated Courses .....	9
Forestry .....	15	History Requirements .....	7	Requirements, Distribution .....	6
Medical Technology .....	15	Honor Societies .....	11	Requirements for Admission .....	59
Military Science .....	17	Honors, Academic .....	11	Requirements for Graduation .....	5
Nuclear Medicine Technology .....	16	Honors, Departmental .....	13	Reserve Officer Training Corps	
Optometry .....	16	Independent Study .....	13	Program (ROTC) .....	17
Podiatric Medicine .....	17	Interdisciplinary Majors .....	7	Scholarships (ROTC) .....	62
Sculpture .....	17	Established Majors (EIM) .....	7	Residence .....	57
Counseling, Academic .....	8	Individual Majors (EIM) .....	7	Residence Halls .....	57

Scholarships .....	61
Selection Process .....	59
Sculpture .....	22
Social Science Requirement .....	6
Sociology-Anthropology	
Curriculum .....	53
Spanish Curriculum .....	37
Special Features .....	13
Independent Study .....	13
Internship Program .....	14
May Term .....	14
Overseas Studies Opportunities .....	14
Standards of Admission .....	59
Standards of Conduct .....	58
State Grants and Loans .....	62
Student Enrichment Semester (SES) .....	17
Student Records .....	10
Student Services .....	57
Study Abroad .....	14
Summer Session Calendar .....	63
Supplemental Educational Opportunity	
Grant (SEOG) .....	61
Theatre Curriculum .....	55
The Harrisburg Urban Semester	
THUS .....	17
Theological Professions, Advisement .....	8
Transfer .....	59
Trustees .....	64
Unit Course System .....	9
United Nations Semester .....	17
Veterans, Approval .....	59
Veterinary School, Advisement for .....	8
Washington Semester .....	17
Withdrawal from College .....	60
Work-Study Grants .....	61



The general regulations and policies stated in this catalog are in effect for the 1982-83 academic year. Students beginning their first term at Lycoming College in the fall of 1982 or the spring of 1983 are thereafter governed by the policies stated in this catalog. Requirements governing a student's major are those in effect at the time a major is formally declared and officially accepted by the major department.

If changes are made in subsequent editions of the catalog to either general requirements or major requirements, students may be permitted the option of following their original program or a subsequent catalog version, but the College always reserves the right to determine which requirements apply.

If a student interrupts his or her education for more than one semester, the catalog requirements in effect at the time of readmission will apply. Students on an approved leave of absence retain the same requirements they had when they entered, if their leave does not extend beyond one year.

Lycoming College reserves the right to amend or change the policies and procedures stated in this catalog without prior notice to those who may be affected by them.

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**LYCOMING COLLEGE**

Williamsport, Pennsylvania 17701-5192