

General Education at the SUNY College of Environmental Science and Forestry

(modified 10 August 2000)

Guiding Principles

The College Faculty adopted the following **9** Guiding Principles in developing the design of one campus-wide general education program that incorporates alternative curricula for each undergraduate major. Each curricula will meet the required outcomes standards and build on an appropriate portion of the general education requirement within their professional or science curricula, thereby reinforcing and enriching, rather than diverting from mission and accreditation concerns.

1. Each specialized ESF program has always included a rich array of general education learning outcomes, with exceptional strength and depth in the natural sciences along with fully integrated competencies in critical thinking and information management. The depth and breadth of specific requirements in mathematics, social sciences, humanities and communications have varied according to program needs.
2. Beginning in the Fall of the year 2000 each entering first year undergraduate at ESF will, as a degree requirement, satisfy nine of the ten knowledge areas and both competency areas of the State University General Education Requirement.
3. The College has no formal campus-wide knowledge requirement for proficiency in the understanding and use of a foreign language and knowledge of the distinctive features of culture(s) associated with such foreign language.
4. Each student will demonstrate knowledge in the nine remaining areas through learning outcomes in at least **27** credit hours of coursework. All students will attain competency in critical thinking and information management throughout their academic programs.
5. Of the **27** credit hours dedicated to the remaining nine areas of the State University General Education Requirement, no more than **3** credit hours may be accounted for in any single knowledge area.
6. ~~In at least six of the knowledge areas students will achieve and demonstrate assessed learning outcomes equivalent to expectations in at least 3 credit hours of study. Included are:~~
 1. ~~Mathematics~~

~~2) Natural Sciences~~

~~3) Social Sciences~~

~~1. or 5) American History or Western Civilization~~

~~7) Humanities~~

~~10) Basic Communication.~~

~~1. In the remaining three State University General Education Requirement knowledge areas students will achieve and demonstrate assessed learning outcomes equivalent to expectations in at least 1 credit hour of study. Included are:~~

~~1. or 5) American History or Western Civilization~~

~~6) Other World Civilization~~

~~8) The Arts.~~

1. Each ESF degree program has its unique rationale for general education that delineates the philosophy of their program's general education content and approach to student advising.
2. The general and specialized education components of each ESF degree program are designed with the success of transfer students in mind. Accordingly, no more than 6 credit hours of general education coursework is expected to be at the upper division level.
3. Faculty collaboration in the design of ESF general education has helped develop a rich array of general education coursework and learning outcomes appropriate to our specialized programs. When greater breadth or more likely greater depth is appropriate to the curriculum and student educational needs the wide array of more traditional arts and science offerings at neighboring Syracuse University is utilized.
4. Competencies in both critical thinking (reasoning) and information management are infused throughout the ESF general education program. In Bachelor of Science programs the development of competencies will be given emphases in the knowledge areas of mathematics, natural sciences, social sciences and basic communication.

Rationale

The high value of an ESF undergraduate education is well known. The accomplishments of graduates from its array of programs are remarkable across a wide range of societal need in relatively specialized areas of science, management and policy, engineering and design. Increasingly, the ability of ESF graduates to deal with new knowledge and societal change and its global context calls for improved ways to deliver and validate student success in their general education as well as in their curricula's relatively specialized aspects.

Shaping the future through new expectations for student learning in general education at ESF requires understanding of the influence of ESF's specialized mission on its undergraduate curricula. ESF is not a university and it need not become merely a copy of one. Rather, in relatively specialized areas its undergraduate program degrees include only the Bachelor of Science and the professional Bachelor of Landscape Architecture. This mission and program context provide excellent grounds for distinctive programs that celebrate those emphases while achieving the learning outcome goals of general education in the spirit of and within the parameters defined by State University Trustees. In so doing, ESF can significantly impact the progress of higher education in and beyond the State University of New York.

While ESF is not a liberal arts college and it does not offer a Bachelor of Arts degree, its scientific and professional programs are profoundly influenced by its societal-based mission. Thus ESF has many excellent faculty whose principal contributions include instruction in the humanities and the social sciences. Such ESF general education offerings are complemented as appropriate with accessory instruction from Syracuse University. By this approach, each graduate of an ESF bachelor's level degree program will possess a thorough grounding in specialized areas and the ability to solve complex problems in cooperation with others. Each will comprehend worldwide implications of parochial decisions and communicate effectively to make contributions as well-educated citizens in a changing world.

LEARNING OUTCOMES

KNOWLEDGE AND SKILL AREAS

1. MATHEMATICS

Students will show competence in the following quantitative reasoning skills:

- Arithmetic;
- Algebra;
- Geometry;
- Data analysis; and
- Quantitative reasoning;

All programs require at least one of the following courses: Across programs at the lower division, the number of mathematics credits required ranges from 3 to 15, but no more than six credits may be used to meet this knowledge and skill area.

At least one course must be chosen from among the following:

APM 105 Survey of Calculus and its Applications I (4)

APM 106 Survey of Calculus and its Applications II (4)

APM 391 Introduction to Probability and Statistics (3)

MAT 111 Basic Algebra (3)

MAT 112 Algebraic Operations and Functions (3)

MAT 117 Foundational Mathematics via Problem Solving I (3)

MAT 118 Foundational Mathematics via Problem Solving II (3)

MAT 121 Probability and Statistics for the Liberal Arts I (3)

MAT 122 Probability and Statistics for the Liberal Arts II (3)

MAT 194 Precalculus (3)

MAT 295 Calculus I (4)

MAT 296 Calculus II (4)

1. NATURAL SCIENCES

Students will demonstrate:

- Understanding of the methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis; and
- Application of scientific data, concepts, and models in one of the natural sciences.

All programs require at least one of the following courses: Across programs at the lower division, the number of natural sciences credits required ranges from 11 to over 30, but no more than six credits may be used to meet this knowledge and skill area.

All programs require EFB 226 General Botany (4) and at least one other course chosen from among the following:

EFB 120 Global Environment (3)

EFB 226 General Botany (4)

EFB 285 Principles of Zoology (4)

EFB 320 General Ecology (4)

EFB 321 Fundamentals of Ecology for Designers and Planners (3)

FCH 150/151 General Chemistry I (3)(1)

FCH 152/153 General Chemistry II (3) (1)

FCH 210 Elements of Organic Chemistry (3)

FCH 221/222 Organic Chemistry I (3)(1)

FCH 223/224 Organic Chemistry II (3)(1)

GOL 101 Introduction to Geology (4)

PHY 211/221 General Physics I (3)(1)

PHY 212/222 General Physics II (3)(1)

1. SOCIAL SCIENCES

Students will demonstrate:

- Understanding of the methods social scientists use to explore social phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical and interpretive analysis, and
- Knowledge of major concepts, models and issues of at least one discipline in the social sciences.

All programs require at least one of the following courses: Across programs at the lower division, the number of social sciences credits required ranges from 3 to 12, but no more than six credits may be used to meet this knowledge and skill area. Courses must be chosen from among the following:

EST 221 Introduction to American Government (3)

EST 225 Introduction to Legal Processes (3)

EST 366 Attitudes, Values and the Environment (3)

EST 390 Social Processes and the Environment (3)

FOR 202 Introduction to Sociology (3)

FOR 207 Introduction to Economics (3)

GEO 103 Population and Environment (3)

MAX 132 Global Community (3)

PAF 101 An Introduction to the Analysis of Public Policy (3)

PSC 123 Comparative Government and Public Policy

PSC 124 International Relations (3)

PSC 125 Introduction to Political Theory (3)

PSY 205 Foundations of Human Behavior (3)

SOC 248 Ethnic Inequalities and Intergroup Relations (3)

SOC 281 Sociology of Families (3)

1. AMERICAN HISTORY

Students will demonstrate:

- Knowledge of basic narrative on American history: political, economic, social, and cultural, including knowledge of unity and diversity in American society;
- Knowledge of common institutions in American society and how they have affected different groups; and
- Understanding of America's evolving relationship with the rest of the world.

All programs require at least one of the following courses: the equivalent of at least one credit hour chosen from among the following courses, but no more than three credits may be used to meet this knowledge and skill area:

For all students:

HST 101 American History to 1865 (3)

HST 102 American History Since 1865 (3)

For students scoring above 84 of Regents:

EIN 371 American Landscape History (3)

EST 361 History of the American Environmental Movement (3)¹

ETS 116 U.S. Literary History (3)

1. WESTERN CIVILIZATION

Students will demonstrate:

- Knowledge of the development of the distinctive features of the history, institutions, economy, society, culture, etc., of Western civilization; and
- Relate the development of Western civilization to that of other regions of the world.

All programs require at least one of the following courses: the equivalent of at least one credit hour chosen from among the following courses, but no more than three credits may be used to meet this knowledge and skill area:

ANT 229 Tradition and Change in Europe (3)

EIN 471 History of Landscape Architecture (3)

ETS 211 Early European Literary History (3)

FIA 105 Arts and Ideas (3)

FIA 106 Arts and Ideas (3)

HST 111 Early Modern Europe, 1350-1815 (3)

HST 210 The Ancient World (3)

HST 211 Medieval and Renaissance Europe (3)

HST 212 Religion in Medieval and Reformation Europe (3)

LIT 203 Greek and Roman Epic in English Translation (3)

LIT 211 Greek and Roman Drama in Translation (3)

PHI 111 Plato's Republic (3)(moved from Humanities)

PSC 125 Introduction to Political Theory (3)

REL 205 Ancient Greek Religion (3)

REL 206 Greco-Roman Religion (3)

REL 214 The Bible (3)

REL 215 Jewish Scriptures (3)

6. OTHER WORLD CIVILIZATIONS

Students will demonstrate:

- Knowledge of either a broad outline of world history, **or**
- The distinctive features of the history, institutions, economy, society, culture, etc., of one non-Western civilization.

All programs require at least one of the following courses: ~~the equivalent of at least one credit hour chosen from among the following courses, but no more than three credits may be used to meet this knowledge and skill area:~~

AAS 241 African Religions: An Introduction (3)

ANT 121 Peoples and Cultures of the World (3)

ANT 185 Global Encounters: Comparing World Views and Values

Cross-Culturally (3)

ANT 324 Modern South Asian Cultures (3)

ANT 326 Africa Through the Novel (3)

GEO 172 World Cultures (3)

HIS 320 Traditional China (3)

HIS 321 Modern China (3)

REL 101 Religions of the World (3)

REL 285 Hinduism (3)

REL 286 Buddhism (3)

7. HUMANITIES

Students will demonstrate:

- Knowledge of the conventions and methods of at least one of the humanities in addition to those encompassed by other knowledge areas required by the General Education program.

All programs require at least one of the following courses: the equivalent of at least one credit hour chosen from among the following courses, but no more than three credits may be used to meet this knowledge and skill area:

AAS 231 African American Literature to 1900: An Introduction (3)

AAS 235 African American Drama (3)

CLL 290 Perspectives on the Environment (3)

EST 245 Nature and Popular Culture (3)

ETS 107 Living Writers (3)

ETS 141 Readings and Interpretation I: From Language to Discourse (3)

ETS 151 Interpretation of Poetry (3)

ETS 153 Interpretation of Fiction (3)

ETS 192 Gender and Literary Texts (3)

LIN 201 The Nature and Study of Language (3)

LIT 203 Greek and Roman Epic in English Translation (3)

PHI 107 Theories of Knowledge and Reality (3)

REL 217 The New Testament (3)

REL 231 Judaic Literature (3)

REL 235 Judaism (3)

REL 248 American Religious Thought (3)

REL 252 Religious Ethics and Social Issues (3)

REL 256 Christianity (3)

1. THE ARTS

Students will demonstrate:

- An understanding of at least one principal form of artistic expression and the creative process inherent therein.

All programs require at least one of the following courses: ~~All programs require the equivalent of at least one credit hour chosen from among the following courses, but no more than six credits may be used to meet this knowledge and skill area.~~

APH 241 Art Photography, Introduction (3)

ETS 215 Sophomore Poetry Workshop (3)

ETS 217 Sophomore Fiction Workshop (3)

FIA 105/106 Arts and Ideas (3)(3)

FIA 115 The Arts in North America (3)

FIA 125 Introductory Music Theory (3)

FIA 165/166 Understanding Music I, II (3)(3)

FIA 281 The Symphonies of Beethoven (3)

FIA 301 Masterpieces of Art (3)

FIA 317 Nineteenth-Century American Painting and Sculpture (3)

LSA 182 Drawing Studio (3)

1. FOREIGN LANGUAGE

Students will demonstrate:

- Basic proficiency in the understanding and use of a foreign language; and
- Knowledge of the distinctive features of culture(s) associated with the language they are studying.

The College has no campus-wide knowledge requirement for proficiency in the understanding and use of a foreign language and knowledge of the distinctive features of culture(s) associated with such a foreign language. A waiver of this knowledge and skill area has been requested.

1. BASIC COMMUNICATION

Students will:

- Produce coherent texts within common-level written forms;
- Demonstrate the ability to revise and improve such texts;
- Research a topic, develop an argument, and organize supporting details;
- Develop proficiency in oral discourse; and
- Evaluate an oral presentation according to established criteria.

All programs require *CLL 190 Writing and the Environment (3)*.

COMPETENCIES

The following two competencies should be infused throughout the General Education program:

1. CRITICAL THINKING (REASONING)

Students will:

- Identify, analyze, and evaluate arguments as they occur in their own or others' work; and
- Develop well-reasoned arguments.

Through the integration of courses, programs, and capstone experiences, all programs at ESF seek to achieve the stated Vision for our students which is that "ESF graduates possess a thorough grounding in their specializations, think broadly, have the ability to solve complex problems in cooperation with others, comprehend worldwide implications of parochial decisions, and communicate effectively to make contributions as well-educated citizens in a changing world".

1. INFORMATION MANAGEMENT

Students will:

- Perform the basic operations of personal computer use;
- Understand and use basic research techniques; and
- Locate, evaluate and synthesize information from a variety of sources.

All programs require at least one computing methods or applications course and most all programs require a course in information management. Additionally, students will need the skills and insights learned in these courses to complete many other of the required courses in their major.

Footnotes:

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~~1One credit of this course may be applied to meet the knowledge and skill area for Social Science and two credits may be applied to meet the knowledge and skill area for American History.~~

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~~2One credit of this course may be applied to meet the knowledge and skill area for Western Civilization and two credits may be applied to meet the knowledge and skill area for Other World Civilizations.~~

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~~3One credit of this course may be applied to meet the knowledge and skill area for Western Civilization and two credits may be applied to meet the knowledge and skill area for The Arts.~~

Operational Activities

1. The College's Dean of Instruction in collaboration with policy direction from the College's Committee on Instruction will maintain a current roster of ESF and Syracuse University courses having learning outcomes appropriate to each of the knowledge areas. The mechanism for adding and deleting courses from the roster and appropriate course action will be reviewed annually.
2. The College's degree audit system will be modified and upgraded as appropriate to meet the needs of faculty advisors and curriculum coordinators for ensuring all degree requirements are fulfilled in a logical manner without extending the time to graduation of any student.
3. The College's criteria for advanced standing credit to be applied for individual students to program of study at ESF apply equally to credit earned while the student is in high school, college, military service or studying independently. Credit is granted for course content, which is essentially equivalent to ESF requirements, as established in consultation with the ESF Faculties.
 - a. Coursework from accredited colleges: Students must submit official transcripts directly from each post-secondary institution attended. Credit is granted for any college level coursework completed for which a grade of "C" or higher was earned.

- b. Advanced Standing Program of the College Board: Students must submit an official score report directly from the testing agency. Credit is granted for scores of 3, 4 or 5.

 - c. College Level Examination Program of the College Board: Students must submit an official score report directly from the testing agency. Credit is granted based on the American Council on Education recommended score for each examination. These recommendations are included on each score report.

 - d. Military Education: Students must submit official documentation of course completion (military education records or transcript). Credit is granted based on the American Council on Education's Guide to the Evaluation of Educational Experiences in the Armed Services.
4. The College will accept for transfer with full credit up to **27** credit hours of general education coursework provided by any institution in the system as they apply to the 9 knowledge areas in the ESF General Education program. In any event all required courses must be fulfilled.