
**The Ohio State University
General Education Curriculum (GEC)**

A Model Curriculum Developed by the Special Committee for Undergraduate Curriculum Review in Arts and Sciences and Approved by the Faculty of the Colleges of the Arts and Sciences, June 8, 1988

In his October 1985 address to the University Senate, President Jennings called for a University-wide review of the undergraduate curriculum, with the goal “to identify a basic body of knowledge, thoroughly grounded in the liberal arts, that each of our students would be required to achieve.” At the suggestion of the Faculty Council of the University Senate, he subsequently appointed a Special Committee for Undergraduate Curriculum Review broadly representative of the University faculty chaired by Professor Gerald Reagan of Educational Policy and Leadership. In its interim report, published as a special supplement in On Campus on February 12, 1987, the Special Committee for Undergraduate Curriculum Review has set an ambitious goal for the University’s undergraduate degree programs. The committee has, in effect, provided a definition of general education that ably argues its case on both the broader theoretical level and from within the more particular responsibilities of The Ohio State University. In relating what it defines as the attributes of the educated person to the curricular goals of the various faculties of the University, the Committee has therefore taken into consideration the mission that is envisioned in the University’s motto, disciplina in civitatem (“training for citizenship”), and its particular charge as a land-grant, flagship institution.

In December of 1986 Provost Myles Brand further implemented the process by the creation of a Special Committee for Undergraduate Curriculum Review in Arts and Sciences, which he charged “primarily, with directing the revision of the undergraduate curriculum in Arts and Sciences, a revision which will be a point of departure for undergraduate curricula in all the colleges on campus.” The committee was asked:

1. to propose a model for general education in the Arts and Sciences,
2. to supervise the implementation of that model when it had been approved by the faculty, and
3. to oversee the review of major programs in the five colleges.

The provost requested the committee to move as rapidly as possible with its deliberations and asked it to interact with members of the Arts and Sciences faculty, chairpersons, and deans, and to communicate and coordinate throughout with the University-wide Special Committee for Undergraduate Curriculum Review and as needed with the standing Curriculum Committee in Arts and Sciences.

Curriculum is an evolving and continuous factor in an academic institution. We recognize that the Colleges of the Arts and Sciences have undertaken several major reviews of curriculum in recent decades, the last put in place for classes entering Autumn Quarter 1983 and later, at which time substantial reduction of the Liberal Arts

Core (hereinafter LAC) options was effected and the current Liberal Arts Requirements (hereinafter LAR) instituted. In addition, there are many modifications of offerings each year. The committee has kept this situation in mind as it considered options for the proposed model. Another factor has been important. In the turbulence of the 60's and 70's many colleges and universities dropped or reduced a number of requirements, many of which are now being reintroduced. The Ohio State University largely maintained its degree requirements and standards. The wisdom of this decision has become evident, and the present review of the undergraduate curriculum in the Arts and Sciences can therefore be founded on a solid tradition.

Starting in January 1987 the committee met weekly during the winter quarter and twice a week during much of the spring quarter. In addition to local consultation and documentation, members of the committee read widely in the extensive literature on undergraduate curriculum and examined curricula from a variety of colleges and universities. At the invitation of the Lilly Endowment four members of the committee attended its Workshop on the Liberal Arts at Colorado College, where they were able to discuss curriculum with teams from 23 other colleges and universities and prepare a draft model based on the committee's deliberations. This draft as revised by the committee formed the basis of the report presented to the faculty on 1 November 1987 as a model for the General Education component of the curriculum in the Arts and Sciences.

As of 15 March 1988 the committee received over 110 written comments on the proposed model from individuals, committees, and academic units. In addition, the committee held two open hearings for the entire Arts and Sciences faculty and, individually and in groups, met with numerous committees, councils, and faculty groups. On April 27, 1988, we distributed a second draft and requested responses primarily from teaching units. The document here presented represents a revision based upon these latter responses.

The tradition and practice of general education embodied in the Colleges of the Arts and Sciences envision the development of knowledge, perceptions, attitudes, and skills that allow a student to move into society with an understanding of its traditions and past, of its accomplishments and aspirations, of its relation to and responsibility for the natural world, of its diversity and plurality, of its problems and needs. It is hoped that the individual will attain a sense of self within that society that invites a continuing ability and desire to learn and to work with others for further development of the human potential.

In proposing a model for undergraduate general education in the Colleges of the Arts and Sciences, the committee took as its point of departure the interim report's "Attributes of the Educated Person":

"To achieve the aims of education, there are certain capacities and understandings, certain qualities, abilities, and characteristics, which are part of what we understand as the liberating process a university is particularly suited to develop, nourish, and home. Primary among these capacities is the ability to

write and speak with clarity and precision; to read and listen critically and with comprehension. Of the same order is the ability to engage in careful logical thinking and critical analysis, including the abilities that permit intelligent responses to problems and arguments which involve quantitative data.

“An understanding of and appreciation for the important modes of human thought and inquiry are crucial characteristics of a liberal education. An understanding of the methods of modern science and social science, the effect of science and technology on the natural and social environment, and the nature of mathematical knowledge constitutes part of this knowledge. The development of a refined historical, artistic, and literary consciousness is a further part. A liberal education should also develop and sharpen the capacity and confidence to make informed and discriminating ethical and aesthetic judgments.

“We believe that a liberal education in a university in our own nation today should foster an understanding of American institutions and the pluralistic nature of American society. It should also promote an understanding of the global interdependence of the modern world and should ensure facility with at least one language other than English. Finally, we think that an American university should seek to develop a deep appreciation for the cultural traditions that have formed and informed our nation and to develop a sense of the place of other cultures in world history.”

In developing these drafts to meet the broad expectations of this set of aspirations, the committee has worked within this set of principles:

1. The traditional components of the bachelor’s degree, general education, major concentration, and elective elements, are in the main sound and should be retained as a framework.
2. General education should provide a basis for life-long learning, one of the most important principles of the liberal arts education.
3. General education courses should not be limited to the early quarters or years, but should extend throughout a student’s curriculum.
4. General education is best served at Ohio State by a variety of course formats and class sizes.
5. General education, emphasizing goals rather than disciplines or departments, should not be thought of as a series of introductions to the subject matter of many discrete disciplines.
6. The goals of general education should be realized not only in “general education” courses, but also in appropriate major and elective components.

7. Students should gain from their courses both substantive knowledge and an appreciation of different methodologies.
8. A synthesis of knowledge that transcends the boundaries of discrete disciplines should play an important role in general education.
9. General education should introduce students to contemporary knowledge and also give them a sense of the historical context in which it arose.
10. Understanding the rationale of the requirements for a degree is as important for a student as understanding the goals and expectations of individual courses.
11. To the extent possible, the general education element in a degree program should be an experience that provides for appropriate interrelation of courses or requirements.
12. The regular faculty must assume a larger degree of the responsibility for developing, teaching, and maintaining general education courses.
13. General education must bear responsibility, but by no means all of the responsibility, for developing a sensitivity to social concerns and, in particular, for fostering sensitivity to race, ethnocentric, and gender biases; it should enhance a student's awareness of, and respect and appreciation for, the physical and cultural diversity of individuals within society and of societies within the larger world community.
14. The student should have an opportunity to explore the world community beyond Europe and the United States.
15. While general education certainly includes much that is traditional in content and even in presentation, it is also an area of the curriculum that should respond to experimentation and new curricular approaches; the faculty will likely need to expand their personal horizons and abilities in order to design and teach in ways not envisioned in their earlier training or experience.

The committee strongly endorses the retention of the existing fifteen credit hours as free electives for every Arts and Sciences undergraduate degree student. The spirit of this requirement should be accepted and enforced by all those responsible for the implementation of the total degree program in the Colleges of the Arts and Sciences.

The committee is aware that not all elements desirable in general education can be addressed in specific course assignments. Consequently the proposed model does not accommodate every suggested change or addition forwarded to the committee. Although special emphasis on writing and critical analysis skills has been proposed for

particular courses in general education, the committee strongly believes that substantial writing expectations of varying kinds should be included in all appropriate general education courses. Faculty members are urged to include similar elements across the entire range of the curriculum. As a second example, faculty members are urged to make use of modern technologies, particularly computers, in all courses where these tools can extend the human faculty in knowledge acquisition, organization, analysis, and synthesis.

The University Honors Program and the Colleges of the Arts and Sciences Honors Programs have developed special courses and sequences that complement the current B.A. and B.S. degree requirements. The committee expects and encourages departments and individual faculty members to continue their support for honors versions of general education courses and to include in their responses to this new model consideration of how the goals of the Arts and Sciences Honors Program might best be accommodated.

Education at the University is predicated on the continuum of preparation through which a student moves from kindergarten through grade 12. Any post-secondary curriculum must presume this preparation at a certain level of quality and intensity. The recent initiatives at Ohio State and the other state universities toward college-preparatory matriculation requirements and the positive response from the secondary schools have allowed the committee to assume continuing improvement in the preparation of students new to the University.

The following description of the proposed model assumes a five-credit-hour course norm for convenience in comparison. However, the reshaping of curricula must necessarily include reassessment of appropriate patterns of instruction. The flexibility of the current academic calendar based on the quarter system, as well as alternative course formats (e.g., credit hours, contact hours, number and length of class meetings per week), needs to be considered. The goal should be the establishment of class schedules that preserve the academic integrity of courses, enhance programmatic goals, and accommodate the needs of students and faculty. The need for flexible scheduling is particularly important for Ohio State's regional campuses.

The committee wishes to stress that the following curricular model for the Bachelor of Arts and the Bachelor of Science degrees in the Colleges of the Arts and Sciences has been designed with an academic breadth intended to engage the creative thinking of a broad spectrum of the faculty whose interests and expertise will form the basis of undergraduate general education.

Academic units within the College of the Arts which have tagged degrees will be invited to work with a special committee on tagged degrees in the arts in responding to the University's Special Committee for Undergraduate Curriculum Review.

COMPONENTS OF THE MODEL

FOUNDATIONS

1. WRITING AND RELATED SKILLS

The University Special Committee for Undergraduate Curriculum Review has clearly stated the rationale for having a component in the curriculum designed to develop skills in writing, reading, critical thinking, and oral expression:

“The abilities to read and listen with comprehension and critical acuity are requisite to the gaining of knowledge in a university setting. The ability to express oneself with clarity, both orally and in writing, provides the deepest proof of understanding. Only through such expression can one demonstrate the powers of careful thinking and critical analysis.

“Further, we recognize that writing especially is a primary tool in learning itself, not just a means of expressing learning that has taken place. Writing is a powerful mode of thinking; writing involves making choices and then ordering those choices effectively.”

To develop these abilities the curriculum should first provide for the acquisition of college-level writing skills. Once the basic skills have been introduced, students should then move on to experience writing and oral expression as integral parts of the process of thinking and learning. That means that while the English Department will continue to provide students with a foundation in basic writing skills, the mastery of such skills and the integration of them in the learning process must take place in all disciplines and at all levels of study. In other words, instructors from all disciplines must assume some responsibility for teaching students to write, speak, and think clearly, critically, and effectively.

A set of three courses with an emphasis on writing, extending from the freshman to the junior/senior level, will enable students to progress from the development of fundamental skills to their application and mastery. These courses must be kept to a size appropriate to the realization of the goals of college composition courses.

First Course

The first course is a freshman-level course designed to train students in the fundamentals of expository writing. As such, this course is a prerequisite for the remaining two courses in the required set. This first course will be housed in the English Department and will most likely be taught by graduate teaching associates on the Columbus campus and by English faculty and lecturers on the regional campuses.

Second Course

In the sophomore year skills in expository writing as well as in oral discussion and/or presentation will be developed through the study of major topics and writings pertaining to the United States (e.g., women in United States society as they appear in literature, the assimilation of immigrant populations, the United States in the world community, the impact of technology on contemporary culture, equality and individual freedom in the United States, public and private patronage of the arts).

Topics that deal with the pluralistic nature of institutions, society, and culture in the United States, with special attention to issues of race, gender, class, and ethnicity, are particularly appropriate.

The principal thrust of such a course will be analysis, discussion, and writing with the goal of extending the student's ability to read carefully and to express ideas effectively.

This second course will be taught by instructors from the Colleges of the Arts and Sciences as well as other colleges. Courses will bear the departmental designation of the discipline in which they are offered.

Third Course

In the junior or senior year students are required to take an upper-level course in their major that contains a significant writing component (e.g., a writing component that would combine essay examinations, out-of-class writing assignments, and requirements of revision after the instructor's feedback). Departments may choose to accept 1) one or more courses each of which meets this requirement, 2) writing sections of single courses each of which meets this requirement, 3) a group of courses, each containing a writing component, which together meet this requirement, or 4) a course which counts for the major but is outside of the major department.

In addition to requiring students to apply writing skills to their major, this third course should also develop students' skills in the oral articulation of ideas as well as their critical and analytical abilities in reading demanding texts and synthesizing ideas. Course work might include a research project that exposes students to scholarly literature in their majors and requires them to improve library skills or to access information through computer systems. As is the case with many of the proposed requirements in general education, it is assumed that many courses presently offered by major programs may be adapted and that a variety of patterns may be proposed to meet the spirit of this requirement.

This third course will be taught by faculty members from an area related to the student's major. Class size will be carefully limited to the number of students commensurate with the goals of a writing skills course at this level.

The Departments of English and Communication will be asked to make available workshops for faculty and graduate teaching associates from other departments who teach in the second and third courses. The primary purpose of these workshops would be to address issues related to the teaching and evaluation of composition and basic skills in oral communication.

2. QUANTITATIVE AND LOGICAL SKILLS

Among the foundational skills that should be developed early in a student's undergraduate education are those of logical, mathematical, and algorithmic reasoning, including the ability to develop valid arguments and draw conclusions from quantitative data.

The study of logic enhances understanding of the structure and processes involved in mathematics, inductive and deductive reasoning, decision making, scientific inference, and general problem-solving. It sharpens a student's ability to reason critically, construct valid arguments, think creatively, analyze objectively, assess evidence, perceive tacit assumptions, and weigh evidence.

A command of computational skills and familiarity with geometry and algebra should be universally expected. Mathematics, not merely at the basic level, has always played a central role in the development of an educated citizen. In a technological age, it is apparent that it should play an even more important role. Mathematical methods are used throughout our study of the world, not only in the natural sciences but increasingly in the social and behavioral sciences and in the arts and humanities. In its own right, mathematics is a subject of great historical importance. Although it is surely not a practical goal for all students, as many students as possible should progress through mathematics at least to the basic ideas of the calculus.

In the last few decades, the notion of algorithm or method of computation has also achieved great importance. This notion, which lies at the center of the study of computer science and computer programming, is important to an understanding of the role of computers in our society. All students should become familiar with the use and application of computers in their areas of interest, and should study enough of the theoretical background of computation to understand the power and limitations of computers.

Students should be able to discriminate between the truth and fiction inherent in quantitative presentations used for planning, budgeting, or other matters affecting the general public, as well as in academic studies. They should have a command of mathematical concepts and methods adequate to understand arguments based on statistical, graphical, or measurement data, as well as surveys and polls. These skills

are essential both to meeting the learning objective of many areas of study and to dealing with contemporary issues in an informed way.

The quantitative and logical skills area of the curriculum model has three components. A basic computational skills requirement serves as a prerequisite for the remaining branches, and will frequently be met by means of a placement test. Mathematical and logical analysis requires course work emphasizing both the conceptual background and practical methods for presentation, interpretation, and analysis of quantitative data.

A. BASIC COMPUTATIONAL SKILLS

As a prerequisite to further work in the quantitative and logical skills area, a student must achieve mathematics placement level R or above, or complete the corresponding mathematics courses. This requirement reflects a working understanding of high school mathematics on the algebra I level, and a general understanding of topics on the algebra II level. Students at this level or higher will be comfortable with standard algebraic manipulations, and they will have the ability to apply these skills to fairly involved practical or “word” problems.

B. MATHEMATICAL AND LOGICAL ANALYSIS

A student in a B.A. program must take one course that focuses on argument in a context that emphasizes natural language, mathematics, computer science, or quantitative applications not primarily involving data. Courses which emphasize the nature of correct argumentation either in natural languages or in symbolic form would satisfy this requirement, as would many mathematics or computer science courses. Some courses should be available which require only the basic skills of part A. The courses themselves should emphasize the logical processes involved in mathematics, inductive or deductive reasoning, or computing and the theory of algorithms. A student in a B.S. program will satisfy this requirement by completing two quarters of calculus or the equivalent.

C. DATA ANALYSIS

A fundamental course in data analysis should enable a student to deal with problems of data-gathering, presentation, and interpretation. The student should develop an understanding of problems of measurement, deal critically with numerical and graphical arguments, and gain an understanding of the impact of statistical ideas in daily life and in specific fields of study. Students should develop the ability to present the salient features in data using summary measures and graphical techniques as well as the ability to recognize the uses and misuses of statistics and related quantitative arguments. The development of these skills requires exposure to the fundamental ideas of probability. This course should also introduce the students to the use of the computer in problems of data analysis.

The curricular model requires that both B.A. and B.S. students each take one course in this area. Two types of courses meeting the goals are described below. Courses proposed for B.A. students should have at least a mathematics prerequisite consonant with A above; those for B.S. students should have a calculus requirement. As described in paragraph (ii) below, the data analysis content in a group of courses may fulfill this requirement under certain circumstances, and in some instances the data analysis course will double-count within the major.

(i) General data analysis. Whether for B.A. or B.S. students, this course should emphasize both concepts and applications following the general principles discussed above.

(ii) Specialized courses in data analysis. Departments or divisions within the University may wish to design a data analysis course within their own programs. Courses in this area should cover topics and emphasize points of view similar to those in the general data analysis courses above, but in the context of a particular subject matter. In particular a conceptual background including some use of probability must be included. Such courses, if on a suitable level, could cross-count in the student's major program. Under some circumstances a group of courses, each containing some data analysis, might be presented for this requirement, but a single course with a primary emphasis on data analysis will be the usual situation. Departments will be invited to cooperate in the proposal of a model data analysis course. Many courses in applied or mathematical statistics or probability theory will also be suitable for this requirement.

3. FOREIGN LANGUAGE

In an increasingly interdependent world, the ability to understand and communicate across ethnic, cultural, ideological, and national boundaries should be a primary goal of education. Cultural mores and concepts are closely reflected in language, which can, therefore, provide one vital access to that understanding and lead to the potential of real communication. Linguistic differences are fully as important as linguistic similarities, and although full mastery of a second language requires much more than academic course work, elementary and intermediate study of language can reveal much about the patterns of thought and cultural principles of another people as well as of one's own. Access to the literature and comparable artistic achievements of another culture enhances one's consciousness of the creativity and aspirations of many others in a world wherein the dominance of a single mode of thought and expression should not be assumed. The careful study of a foreign language, including general attention to critical thinking, provides a desirable, practical, and often necessary resource for the personal and professional life of the individual and the community within and outside of national boundaries.

The minimal level of proficiency required for both the B.A. and the B.S. degrees will be the successful completion of the fourth course of a foreign language. Three patterns for meeting this requirement will be usual: (1) a student will choose to continue a language already begun elsewhere and will be placed through testing in the proper level of

language study, thereupon proceeding to the completion of the requirement; (2) a student will demonstrate proficiency through the last required level by testing and will not be required to take further language work as a part of general education; (3) a student will decide to begin a new language and will enroll in the first course, proceeding through the last required level.

In the language sequences the first two courses will normally be devoted to the developing of basic language skills of speaking, listening, reading, and writing, with the additional goal of introducing a student to the cultural context that has produced the language and in which it is used. The student will learn of the relationship between language and culture, as well as learn that the proper approach to language is not through a set of translation equivalencies but through a combined linguistic and cultural study that should lead to an understanding of the people and how they express themselves. The third and fourth courses should continue the acquisition and development of skills and further enhance the understanding of the culture. Class size should be carefully limited to the number of students commensurate with the goals of a foreign language skills course at this level.

As with most other elements of education, the study of a foreign language is not, and cannot be, simply a classroom experience. As language itself is a changing mode of expression and communication, so a student must seek every opportunity to hear and use the language in a variety of contexts. Only through such extended study and application can the intent of any component of general education be realized and its minimum requirements serve their proper purpose. Many options are open to a student through the departments of foreign languages and the programs of the Office of International Affairs. Students should be strongly encouraged to take more advanced courses in the language, to participate in foreign study programs, to take courses in other subjects taught in the target language, to take advantage of the many language- and culture-based events on the campus and in the community, and to recognize the potential of one of the University's notable educational assets, its students from other cultures and countries.

In practical terms, language is simple common sense for students in the foreseeable future. In a world of rapid change the continued dominance of a single language as a lingua franca cannot be assumed. Nor can we assume that mechanical handling of language will provide a viable alternative tool for communication. More important, however, is the need to recognize that neither the predominant use of one language, however temporary, nor the use of mechanical aids to basic communication can contribute adequately to real understanding in the international community. In addition to access to a rich and diverse foreign experience, a student should thus be able to appreciate more fully his or her own equally rich and diverse heritage.

4. SOCIAL DIVERSITY IN THE UNITED STATES

The Special Committee for Undergraduate Curriculum Review asserts that “A liberal education in a university in our own nation today should foster an understanding of American institutions and the pluralistic nature of American society.” Only with such understanding can citizens appreciate the significance of diversity in our society and the importance of the values of tolerance and equality.

To that end, each student must select a course that gives significant treatment to the pluralistic nature of institutions, society, and culture in the United States with special attention to issues of race, gender, class, and ethnicity. Such courses or sections of courses will be designated by a special symbol.

Social diversity courses can be offered by any appropriate department in the University. Historical, normative, interdisciplinary, or international perspectives on social diversity in the United States might be included in such courses.

This requirement will not add credit hours to a student’s degree program. It should be possible for a student to select a designated course from among general education requirement courses, major courses, and electives.

NATURAL SCIENCE

Natural science is the study of the laws and structure of the material universe, ranging in size from subatomic particles to galaxies, in time from billionths of seconds to billions of years, and in complexity from idealized spheres to ecosystems and beyond. The Interim Report of the Special Committee for Undergraduate Curriculum Review lists among the attributes of the educated person “an understanding of the methods of modern science” and “the effect of science and technology on the natural and social environment.” Two other aspects of science education—history and basic information—are not explicitly mentioned, but may be inferred.

Developments in the natural sciences and in technology over the past century have produced profound changes in knowledge and understanding of the material universe, in means of communication, in social and commercial organization, in philosophy—indeed in almost every aspect of life—on a global scale. While it is possible to exist without knowledge or understanding of modern science and technology, it is dangerous to do so and is hardly the hallmark of an educated person. The University has a responsibility to provide students with insights and understanding about the natural sciences and technology and their relations to life and society. Natural science should be presented not as a collection of isolated facts but as a highly unified and consistent view of the physical world. Attention should be given to the nature of scientific

evidence, to the means by which it is obtained, and to the interdependence of experiment and theory.

GENERAL LEARNING OBJECTIVES

1. To understand the basic principles and central facts of the physical and biological sciences, and their interrelationships.
2. To understand when, where, and how the most important principles and facts were discovered, thus understanding the key events in the history of science both as events in human history and as case studies of the methods of science.
3. To understand the interaction between science and technology.
4. To understand the social and philosophical implications of major scientific discoveries.

Students can fulfill the general education requirements in natural science by completing one of two options. Students pursuing the B.A. may complete Option 1 or Option 2 below. B.S. students must complete Option 2.

OPTION 1. The student will complete two 2-course sequences from an approved list. In one of the sequences, at least one course must be from the basic physical sciences; in the other sequence, at least one course must be from the basic biological sciences. At least one course of the four must contain an appropriate laboratory component.

The approved list may contain already existing courses with possible alterations as required for general education. However, new 2-course sequences prepared specifically for this requirement are encouraged. These new sequences could be given within a single department, or they could be shared between two departments within a college or from two different colleges. There is no assumption that such courses will involve team teaching although some faculty may find that desirable. While the specific new courses on this list must await the creative efforts of the faculty proposing them, a few possible examples might be:

A sequence shared between chemistry and biochemistry on the development of life on earth; a sequence shared between chemistry and physics involving quantitative measurements; a chemistry and geology sequence on hazardous waste and the environment; a physics and geography sequence on atmospheric sciences; a physics and engineering sequence in applied physics and technology.

This list of examples is, of course, intended to be illustrative rather than restrictive. In each case, the designers of a course will specify the nature of an appropriate laboratory component, if any. Such laboratory experiences may range from familiar experimental work to field trips, astronomical observation, or the like.*

OPTION 2. The student will complete five courses from an approved list that should include one 2-course sequence, at least one course in basic physical sciences and at least one course in basic biological sciences.

Option 2 is essentially identical to the present requirement for the B.S. degree. At least three of the courses in this option will include a laboratory to provide concrete experiences of the principles being presented and of the problems of observation, measurement, and proof in the natural sciences. Recognizing that knowledge in the natural sciences is especially hierarchical, it is understood that some of these five courses are prerequisite to courses required in natural science majors. This option—which requires students to take courses in both the physical and biological sciences and which assumes appropriate preparation in mathematics—provides a general base for students who then proceed to take more specialized courses in the sciences and will be useful also for pre-medical students.

*The committee notes an interest among some faculty in developing an integrated three quarter sequence in the basic natural sciences. In the event that a proposal for such a sequence materializes and meets goals and quality standards for the natural science requirement, the committee would see this sequence, followed by a fourth course in natural science or technology, as an acceptable method of satisfying the requirements of Option 1.

SOCIAL SCIENCE

Social science consists of the systematic study of the behavior of individuals; of the structure of human societies, cultures, and institutions; and of the processes by which individuals, groups, and societies allocate and use resources. Social scientists recognize that historical and cross-cultural perspectives are important in understanding social, religious, and political phenomena.

The knowledge gained from social science enhances the understanding of human behavior and cognition and is often used to direct social problem-solving and policy-making. In that context, the underlying importance of human values is recognized.

GENERAL LEARNING OBJECTIVES

1. To understand the behavior of individuals, the social and cultural contexts of human existence, and the processes by which groups, organizations, and societies function.
2. To become familiar with theories and methods of social scientific inquiry so as to gain an appreciation of their applicability and limitations.

3. To examine human differences and similarities (e.g., physical, social, class, gender, ethnic) in psychological, social, religious, cultural, economic, geographic, and political contexts.
4. To appreciate the contemporary world from an understanding of the past and to make cross-cultural and cross-temporal comparisons.
5. To develop a sense of the world's social, political, economic, and cultural diversity, with special attention to the institutions of the United States and other nations as well as to international perspectives.
6. To develop an ability to comprehend and assess individual and social values and an ability to participate in social and political communities.

Students will take one course from each of the following three categories. These courses should come from two or more departments. One course should have an international focus (a non-United States, cross-cultural and/or world focus). Courses in each category will be broad general education courses that contribute to the general learning objectives noted above although no single course can be expected to meet all of the objectives at once. Each category will include courses from several departments. A department might offer courses in more than one category. The topic(s) of each course could fall in one or more of the areas listed below each heading.

1. Individuals and groups

Perception, cognition, and language as a human phenomenon
 Behavior of individuals and groups
 Individual identity and development
 Value formation
 Human similarities and differences (e.g., race, gender, ethnicity, class, religion)
 Relations and interaction (individuals, groups, cultures, societies)
 Cultural identity and change
 Social structure and change

2. Organizations and polities

Power and authority
 Ideologies
 Institutions and organizations
 Polities and governments
 Policies and policy-making
 Interrelations among nations

3. Human, natural, and economic resources (e.g., land, labor, capital, population, and environment)

Use
Distribution/diffusion
Allocation
Exchange
Decision-making
Policies
Global interdependence

Note that an additional course in the area of social science might be taken to fulfill the advanced study requirement (see Capstone).

ARTS AND HUMANITIES

Humanistic inquiry is most often pursued through the study of what are commonly called the humanities and the arts. The humanities, according to a definition accepted by the National Endowment, are “fields of study and branches of learning which record, investigate, analyze, and evaluate the products of human imagination, activity, and culture.” This broad definition is meant to include the history and criticism of the arts. To it must be added production of all forms of artistic expression and the capacity to understand and judge them aesthetically and in cultural context. Humanistic inquiry assesses, across temporal, cultural, or theoretical divisions, how humans view themselves in relation to other humans, to nature, to the divine; what questions they ask about important concerns; and how they express their responses to the conditions of their existence. Language, memory, and symbol are central to the study of both the humanities and the arts. Both also ask questions about the values by which individuals and societies live and the tolerance and mutual understanding needed to allow the full realization of human potential and diversity. Therein they cultivate an appreciation for the unique, particular, and distinctive, for the dated and the placed, often focusing on “tradition” as well as on the intangible aspects of human activity and on the ability of individuals to push against constraints. Therefore, the continuing forms by which humans communicate with, advise, and entertain one another are important, but equally so are those individuals and moments through which new possibilities are opened for the human experience.

The overall goal of this component is to develop knowledge of the humanities and the arts and a humanistic perspective that fosters capacities for: (1) aesthetic and historical response and judgment; (2) interpretation and evaluation; (3) critical listening, reading, seeing, thinking, and writing; and (4) experiencing the arts and reflecting on that experience. As a result of meeting this requirement, each student should have studied

significant writings and works of art that can be shown to be of lasting and fundamental importance for humanistic inquiry.

GENERAL LEARNING OBJECTIVES

1. To have direct contact with major forms of human thought and expression as distinctive and as interrelated cultural phenomena, and to nurture informed responsiveness to them and heightened participation in them.
2. To acquire a perspective on human history and an understanding of the force of the past in shaping human activity. Such a perspective should enable a student to examine the present cross-culturally and cross-temporally; to view cultural phenomena in context; and to be aware of human interaction with the material world.
3. To develop a capacity to comprehend and evaluate critically the personal and social values of one's own world as compared with those of other communities in time and space.
4. To contribute to a student's sense of social and cultural diversity and sensitivity to problems of inequity and of individual similarity and difference (e.g., race, color, gender, ethnicity, religion, and class).
5. To examine the cultures of major regions of the world and through such study to develop international and global perspectives.
6. To contribute to a student's understanding of the foundations of human beliefs, the nature of reality, and the norms which guide human behavior.
7. To learn to appreciate and interpret significant writings (e.g., literary, philosophical, or religious).
8. To develop abilities to be an enlightened observer or an active participant in a discipline within the visual, spatial, musical, theatrical, rhetorical, or written arts.

Each student will complete parts 1 and 2 below. Of the five required courses, students must select at least one course with a focus on the United States or Europe, and one with a focus other than on Europe or the United States.

1. One two-quarter broad historical survey, covering one of the following:

- Africa
- Asia
- Europe
- Latin America
- United States
- World History

The two-quarter sequence should provide a broad chronological overview with special attention to the interrelationships of various types of change (e.g., economic, political, social, cultural, artistic, intellectual, and technological).

2. Three courses aimed at a close analysis of texts and works of art treated in the following ways: cultural, aesthetic, generic, thematic, or foundations/theoretical. Among these choices must be one in literature and one in the visual and/or performing arts.

Students will be able to select from a number of approved general education courses. Groups of departments may cooperatively offer interdisciplinary courses as well as linked sets of course sequences that fulfill these requirements.

Note that an additional course in the area of arts/humanities might be taken to fulfill the advanced study requirement (see Capstone).

CAPSTONE EXPERIENCES

1. ADVANCED STUDY (B.A. STUDENTS ONLY)

For general education to be cumulative, students must not only experience a breadth of learning, but must also advance from introductory study to more in-depth study. In the junior or senior year, each B.A. student will take an upper-division course in social science or in arts and humanities. Courses fulfilling this requirement should meet the general criteria of the social science or arts and humanities general education components explained above. In addition, they should build on introductory general education requirement courses to the extent that they present more advanced, specialized, and in-depth study of subjects than would occur at an introductory level. This course can be any upper-division course in an academic unit (other than that in which the student majors) from which the student took a general education course to meet the social science or arts/humanities requirement.

2. ISSUES OF THE CONTEMPORARY WORLD

During the senior year each student will select one course that considers one or more contemporary issues of broad and worldwide significance. While issues addressed may arise out of the interests of the sponsoring units, they must also be issues that have worldwide significance and illustrate global interdependence. Topics from which such contemporary issues might be drawn include: energy, urbanization, food production, race and gender, war and peace, technology and the arts, literacy, cross-cultural communication, the role of religion, governmental regulation, environment, disease and hunger, industrial and technological development, social responsibility, and the social impact of the arts or literature.

Each course should bring together students from diverse majors, thereby creating an integrative learning environment in which, through interaction, the students themselves demonstrate the relationships or connections between information derived from different departments. The thematic approach of the course should ultimately permit students to appreciate the application of knowledge from diverse disciplines to contemporary issues.

Given the academic characteristics of the courses in this category, students must be at level four of their studies. Course requirements should include writing or research components. Such courses may properly be based within a discipline or be interdisciplinary in design. Class size will usually be limited to a maximum of 40 students. However, larger classes might be appropriate provided that accompanying discussion sections are limited to 25 students.

In general, it is expected that courses designed for the existing LAR requirement (III C) can be adapted to fit this new category.

IMPLEMENTATION

The president and the provost have undertaken to provide the fiscal resources necessary to implement the proposed model curriculum. However, the ultimate success of any curriculum revision lies in the hands of the teaching faculty. It is only with their acceptance and active cooperation that improvements in the teaching of students can be achieved. This third draft is now forwarded to the Faculty Senate of the Colleges of the Arts and Sciences with a request that it be endorsed before it is submitted by the committee for a vote to the faculty of the Colleges of the Arts and Sciences. Acceptance by a simple majority of the votes cast by the faculty will signify approval.

After the model has been approved, the Special Committee will call for proposals of courses designed to meet the model's requirements. Proposals should be submitted by departments and divisions to the curriculum committee of their college. In the event of a joint submission by two or more departments or divisions housed in different colleges, submission should be made to each appropriate college curriculum committee. Submissions should follow the general patterns now in place for new course proposals: in particular, letters of concurrence should be obtained from appropriate departments and divisions within the University.

When a course is forwarded from the college curriculum committee to the Arts and Sciences Curriculum Committee and is proposed as a general education requirement, the Special Committee will meet jointly with the Arts and Sciences Curriculum Committee and make a joint decision concerning the course's appropriateness for satisfying the general education requirements. The joint committee may also appoint panels of specialists in the particular areas of the model. The special panels may serve

as initial oversight committees for such areas as the writing requirement, social diversity, and data analysis. When the course proposal is approved, possibly after some revision, the joint Special Committee/ASC Curriculum Committee will forward it to the Council on Academic Affairs.

The Special Committee expects that many existing courses will be suitable for inclusion as general education courses with little change and that the approval process for such courses will be routine. In those cases where funding may be required for planning and developing new courses, academic units may wish to consult informally with the committee about the courses' appropriateness to the goals of the model.

Effective Autumn Quarter 1990, after a body of general education courses has been approved and an understanding of the application of the guidelines has been developed, the Special Committee will disband, and the continued approval and maintenance of the general education program will be the responsibility of the ASC Curriculum Committee.

Many thoughtful faculty responses to the previous drafts revolved around problems of implementation and the implications of the model for our colleges. Although implementation of the model must necessarily be a process that will involve the departments, deans, curriculum committees and office of the provost in full consultation about personnel, fiscal, space and equipment matters, the special committee makes certain specific assumptions in proposing the model to the faculty:

- (1) A curricular revision of this scope will require a phase-in process over several years; 1988-89 will be a year of planning, examining current courses for presentation with such revision as is needed, designing of some new courses, and initial piloting; 1989-90 should see major planning of new courses and piloting as needed; by 1990-91 most of the courses that will effect the model should be in place, but there may well be some more complex or demanding course designing still in process.
- (2) Important as it is to the University's goals, undergraduate curriculum review cannot be isolated from other aspects of the University's mission, and must be complementary to, rather than disruptive of, the teaching and research roles of the faculty: it is expected that in the process of the University's implementation of the model, and beyond, full and fair attention will be given to the impact of course development and to the increase or change in pattern of teaching that may be required of some units, with particular concerns for appropriate teaching loads and class size, for rewards and incentives for course development and teaching, especially in considerations of promotion and tenure, and for continued strong support for the faculty's research and publication responsibilities.
- (3) Funding information will, as it presently is, be a regular part of the curricular process: as revised or new course proposals are prepared, they will naturally include a statement about funding expectations and will emerge as a joint effort

among faculty, chairpersons, deans, and the provost; if proposals include the suggestion that unusual funding needs are foreseen, an informal proposal may properly be discussed with those normally appropriate to the curricular process and referred to the special committee for an initial response.

These assumptions are made by a faculty committee reporting to the faculty in the expectation that this model will be viewed as a step in a larger process, a process which in implementation will invoke the full cooperative resources of the faculty and the administration in creating an undergraduate general education consistent with the needs of the students, the potential of the faculty, and the mission of the University.

Ojo Arewa, Anthropology
Charles Babcock, Classics, Chairperson
David Horn, Entomology
Susan Huntington, History of Art
Leonard Jossem, Physics, Associate Chairperson
Craig Kirchhoff, School of Music
Robert Ross, Biochemistry
David Solacoff, Student Member
Marilyn Waldman, History and Comparative Studies in the Humanities
Herbert Weisberg, Political Science
Bostwick Wyman, Mathematics

Ex-officio

Representatives from the Special Committee for Undergraduate Curriculum Review
David Frantz, English
Raymond Krasniewski, Accounting and Management Information Systems
Representative for the regional campuses
Beverly Kahn, Political Science at Mansfield
Provost's representative
Joan Leitzel, Associate Provost
Secretary for the Committee
Don Good, Acting Dean, Undergraduate Studies, Arts and Sciences

CONSPECTUS OF THE MODEL *

		Credits	
		B.A.	B.S.
FOUNDATIONS			
1. Writing and Related Skills			
Three courses:	first course	5	5
	second course	5	5
	third course	[within major]	
2. Quantitative and Logical Skills			
Placement for basic computational skills		0	0
Mathematical and Logical Analysis [Calculus for B.S. students]		5	10
One course:	Data Analysis	0-5	[within major]
3. Foreign Language			
Two to four courses		10-20	10-20
4. Social Diversity			
		0	0
NATURAL SCIENCE			
Four to five courses		20-25	25
SOCIAL SCIENCE			
Three courses		15	15
ARTS AND HUMANITIES			
Two courses:	chronological overview	10	10
Three courses:	structured selection	15	15
CAPSTONE EXPERIENCES			
1. Advanced Study in Social Science or Arts and Humanities		5	not required
2. Issues of the Contemporary World		5	5
Total credit hours:		95-115	100-110
Total courses:		19-23	20-22

*for detail, see narrative