

# General Education Program

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General Education at NC State provides the opportunity for a broad and informed understanding of the world, offering our students the foundation for rich and productive lives. General Education is valuable for students because logical and creative thinking are fundamental to improving the human condition; because a respect for the value of diversity and an understanding of human history and cultures are essential to true citizenship; because the development of global knowledge has become increasingly important in response to international interdependence; because knowledge of science and the ability to apply scientific reasoning provide the basis for an appreciation of the workings of the universe and the richness, variety, and ecological interconnectedness of the world around us; because well-considered moral, philosophical, aesthetic, and intellectual convictions are necessary for contributing to human thought and achievement; because effective communication is central to productive engagement in academic, professional, and civic communities; because an ability to understand and evaluate the interaction among science, technology, and society is important in a world that is changing through technological innovation and scientific discovery; and because the development of attitudes and skills for a healthy life is essential to social, mental, and physical well-being. For the most current information available, please see the GEP website (<https://oucc.dasa.ncsu.edu/courses/general-education-program/>).

**Special Note:** If a student changes a General Education course except for HES courses from a letter grade to credit-only (S/U), then the course will not satisfy the GEP requirements. Consult your academic advisor if you have questions.

## Mathematical Sciences

**Rationale:**

A logical approach to problem solving is important for successful functioning in society. It is also important that students be able to formulate models, be critical consumers of quantitative information, communicate mathematically and solve problems.

**Objectives for courses in the category of Mathematical Sciences:** Each course in the Mathematical Sciences category will provide instruction and guidance that help students to:

1. improve and refine mathematical problem-solving abilities; and
2. develop logical reasoning skills.

## Mathematical Sciences Requirement

(6 credit hours)

A total of six credit hours from the university approved GEP Mathematical Sciences course list. At least one course must have an MA or ST prefix.

## Natural Sciences

**Rationale:**

The natural sciences pursue basic questions about the workings of the universe, and the richness, variety and interconnectedness of the world around us. Students today are exposed to an increasing volume of information, from a large variety of sources, in diverse and changing formats. Training in the natural sciences is essential to help students develop skills to distinguish between testable and un-testable ideas,

recognize scientifically valid tests of theories, and understand how information relates to those tests. By studying the natural sciences, students learn to reason both inductively and deductively, develop and test scientific hypotheses, and understand the value and limitations of scientific studies. The development and application of new technologies require scientifically literate citizens who can understand technological issues and evaluate the role of science in society's debate of those issues.

**Objectives for courses in the category of Natural Sciences:**

Each course in the Natural Sciences category will provide instruction and guidance that help students to:

1. Use the methods and processes of science in testing hypotheses, solving problems and making decisions; and
2. Make inferences from and articulate scientific concepts, principles, laws, and theories, and apply this knowledge to problem solving.

## Natural Sciences Requirement

(7 credit hours)

A total of seven credit hours from the university approved GEP Natural Sciences course list including at least one laboratory course or course with a laboratory.

## Humanities

**Rationale:**

The humanities comprise the subjects and disciplines that use various models of rational inquiry to understand human nature and experience, organization and change in human societies, the nature of the world, and rational inquiry itself. An education in the humanities and social sciences requires reading significant works, gaining an exposure to a variety of methodologies, and learning to apply these in written exposition. An education in the basic humanistic disciplines is necessary to become a citizen with a broad knowledge of human cultures and with well-considered moral, philosophical, aesthetic, and intellectual convictions.

**Objectives for courses in the category of Humanities:**

Each course in the Humanities category will provide instruction and guidance that help students to:

1. Engage in the human experience through the interpretation of human culture; and
2. Become aware of the act of interpretation itself as a critical form of knowing in the humanities; and
3. Make academic arguments about the human experience using reasons and evidence for supporting those reasons that are appropriate to the humanities.

## Humanities Requirement

(6 credit hours)

A total of six credit hours from the university approved GEP Humanities course list. The selected courses must be from two different disciplines.

## Social Sciences

**Rationale:**

The study of social sciences enables students to understand individual and collective human behavior by exploring meaning within a variety of social, cultural, political, and economic contexts, analyzing the structures

within which human goals are established and human choices are made, and applying theoretical and empirical models to specific cases.

Objectives for courses in the category of Social Sciences:  
Each course in Social Sciences category will provide instruction and guidance that help students to:

1. Examine at least one of the following: human behavior, culture, mental processes, organizational processes, or institutional processes; and
2. Demonstrate how social scientific methods may be applied to the study of human behavior, culture, mental processes, organizational processes, or institutional processes; and
3. Use theories or concepts of the social sciences to analyze and explain theoretical and/or real-world problems, including the underlying origins of such problems.

## Social Sciences Requirement

(6 credit hours)

A total of six credit hours from the university approved GEP Social Sciences course list. The selected courses must be from two different disciplines.

## Introduction to Writing

Rationale:

Writing is a powerful way of understanding ourselves and the world in which we live. It is through writing that the various disciplines and professions define the knowledge and methodologies that characterize them. Mastery of writing and information skills is central to engaging in the productive life of academic and professional communities.

Objectives for courses in the category of Introduction to Writing:  
Each course in this category will provide instruction and guidance that help students to:

1. Write effectively in specific situations, which may include various academic, professional, or civic situations, and
2. Understand and respond appropriately to the critical elements that shape written communication situations, such as audience, purpose, and genre, and
3. Demonstrate critical and evaluative thinking skills in locating, analyzing, synthesizing, and using information in written communication.

## Introduction to Writing Requirements

(ENG 101 Academic Writing and Research - 4 credit hours)

A total of four credit hours of English (ENG 101 Academic Writing and Research) are required to fulfill this category. Successful completion of ENG 101 Academic Writing and Research requires a grade of C- or better and is required for graduation.

## Health and Exercise Studies

Rationale:

The development of attitudes and skills for a healthy life is essential to a university student's education. In addition to developing and gaining an appreciation of health-related fitness and wellness concepts and fundamental motor skills, student participation in physical activities and sport significantly decreases major health risks, reduces stress from the

pressures of academic life, and improves general social and mental well-being.

Objectives for courses in the category of Health and Exercise Studies:  
Each course in the Health and Exercise Studies category will provide instruction and guidance that help students to:

1. Acquire the fundamentals of health-related fitness, encompassing cardio-respiratory and cardiovascular endurance, muscular strength and endurance, muscular flexibility and body composition; and
2. Apply knowledge of the fundamentals of health-related fitness toward developing, maintaining, and sustaining an active and healthy lifestyle; and
3. Acquire or enhance the basic motor skills and skill-related competencies, concepts, and strategies used in physical activities and sport; and
4. Gain a thorough working knowledge, appreciation, and understanding of the spirit and rules, history, safety, and etiquette of physical activities and sport.

## Health and Exercise Studies Requirement

(2 credit hours)

A total of two credit hours/two courses including one Fitness and Wellness course from the university approved GEP Health and Exercise Studies course list. (Fitness and Wellness courses are those found in the HESF 100-level series). Students have the option of taking HES courses on a credit-only (S/U) basis.

## Interdisciplinary Perspectives

Rationale:

Interdisciplinary study provides students with the opportunity to synthesize knowledge and skills, to make connections between fields of study, to consider more than one disciplinary approach or methodology, and to bring to bear the insights from two or more disciplines in examining and/or responding to complex problems.

Objectives for courses in the category of Interdisciplinary Perspectives:  
Each course in Interdisciplinary Perspectives will provide instruction and guidance that help students to:

1. Distinguish between the distinct approaches of two or more disciplines; and
2. Identify and apply authentic connections between two or more disciplines; and
3. Explore and synthesize the approaches or views of the two or more disciplines.

## Interdisciplinary Perspectives Requirement

(5 credit hours)

A total of five credit hours from the university approved GEP Interdisciplinary Perspectives course list.

## Additional Breadth

Rationale:

One purpose of the General Education Program is to introduce students to a variety of disciplines. To this end, students are required to successfully complete a course from a general education category list that represents an approach to scholarship that is clearly distinct from the primary approach of their major. Determining an appropriate group of lists

from which their students choose is an exercise in judgment best left to faculty in the major; accordingly, each program will select the group of lists from which their majors will choose a course to fulfill this requirement (either the group “Humanities/Social Sciences/Visual and Performing Arts” or the group “Mathematics/Natural Sciences/Engineering”). The program faculty’s selection will be reviewed through appropriate college-level mechanisms and then be subject to review by CUE.

## Additional Breadth Requirement (3 credit hours)

A total of three credit hours in the Additional Breadth category must be selected from the university approved GEP course lists that represent an approach to scholarship that is clearly distinct from the primary approach of the Major. These two approaches are distinguished for GEP purposes as “Humanities/Social Sciences/Visual and Performing Arts” or the “Mathematics/Natural Sciences/Engineering.” Note: At this time, there is no Engineering course list.

## Visual and Performing Arts

The Visual and Performing Arts category is part of the Additional Breadth Requirement.

Rationale:

The Visual and Performing Arts constitute a separate, unique, and independent mode of inquiry distinct from both the Humanities and Social Sciences and the Science, Technology, Engineering, and Mathematics disciplines. Being conversant in the symbolic languages of the Arts is as important as familiarity with other modes of inquiry. Many of the most profound expressions of meaning and value are embodied in the arts, and developing sensitivity and responsiveness to these through visual and performing arts courses encourages students’ aesthetic sensitivities, critical judgment, and creativity. Courses in the arts also provide students with an understanding of the cultural and historical dimensions of artistic expression.

Objectives for courses in the category of Visual and Performing Arts: Each course in Visual and Performing Arts category will provide instruction and guidance that help students to:

1. deepen their understanding of aesthetic, cultural, and historical dimensions of artistic traditions; and
2. strengthen their ability to interpret and make critical judgments about the arts through the analysis of structure, form, and style of specific works; and
3. strengthen their ability to create, recreate, or evaluate art based upon techniques and standards appropriate to the genre.

## U.S. Diversity Co-requisite

Rationale:

The study of diversity in the United States provides students the opportunity to consider questions of difference and culture, identity and community, privilege and oppression, and power and responsibility in our nation, and to gain an understanding of how these issues affect both individuals and communities.

Objectives for courses in the category of U.S. Diversity: Each course in U.S. Diversity will provide instruction and guidance that help students to achieve at least 2 of the following:

1. Analyze how religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age identities are shaped by cultural and societal influences;
2. Categorize and compare historical, social, political, and/or economic processes producing diversity, equality, and structured inequalities in the U.S.;
3. Interpret and evaluate social actions by religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age groups affecting equality and social justice in the U.S.;
4. Examine interactions between people from different religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age groups in the U.S.

## U.S. Diversity Requirement

(1 course, 0 additional credit hours)

Choose one course from the university approved GEP U.S. Diversity course list. Courses on additional GEP course lists that satisfy the U.S. Diversity co-requisite will have a “USD” co-requisite indicator next to the course.

## Global Knowledge Co-requisite

Rationale:

Global knowledge is necessary for students to understand the world and their place in it. The global knowledge requirement provides students the opportunity to explore the complex interrelationships among nations, to gain a deeper appreciation of other cultures and peoples, and to evaluate the impact of U.S. culture and policy on the rest of the world.

Objectives for courses in the category of Global Knowledge: Each course in Global Knowledge will provide instruction and guidance that help students to achieve goal #1 plus at least one of #2, #3, or #4.

1. Identify and examine distinguishing characteristics, including ideas, values, images, cultural artifacts, economic structures, technological or scientific developments, and/or attitudes of people in a society or culture outside the United States.

And at least one of the following:

1. Compare these distinguishing characteristics between the non-U.S. society and at least one other society.
2. Explain how these distinguishing characteristics relate to their cultural and/or historical contexts in the non-U.S. society.
3. Explain how these distinguishing characteristics change in response to internal and external pressures on the non-U.S. society.

## Global Knowledge Requirement

(1 course designated as a GEP GK course or an academic course taken via study abroad, 0 additional credit hours)

Choose one course from the university approved GEP Global Knowledge course list. Courses on additional GEP course lists that satisfy the Global Knowledge co-requisite will have a “GK” co-requisite indicator next to the course. Any academic course taken in a study abroad context may satisfy the GEP global knowledge requirement.

## Foreign Language Proficiency

Rationale:

In a sense, languages are keys to the world. The continuous expansion of international relations makes the knowledge of foreign languages

increasingly significant. In learning a foreign language and studying its literature and cultures, students acquire a body of knowledge about how humans think, view the world, express themselves, and communicate with one another. Language learning also expands one's ability to create and discover new meaning in one's own language and culture. Knowledge of the linguistic structures of a second language helps students to understand their own language better. Likewise, an awareness of contrasting cultural concepts sensitizes students to the differences between their own culture and others. Such awareness has become increasingly important as the communities of the world have become more interconnected and interdependent. The needs of our global society require that more citizens have access to other languages and cultures in order to cooperate in the process of improving the quality of human life.

## Foreign Language Proficiency Requirement

To fulfill the GEP Foreign language requirement, the student must have proficiency at the FL\* 102 level. This can be demonstrated by completing two years of high school study of the same language with a grade better than a C- in each of the two years, or a passing grade at the FL\* 102 level, or by placement into the FL\* 201 by examination. Additional Foreign Language requirements above the FL proficiency requirement (FL\*102) have been established by some Colleges and programs.

American Sign Language (ASL) is accepted in satisfying the foreign language proficiency requirement with two years of ASL in high school with a grade "C" or better in each year.

The Cherokee language is an accepted language for satisfying the foreign language proficiency requirement.

## Technology Fluency

Rationale:

Today's graduate must achieve technology fluency appropriate to the needs of his/her discipline, including technologies for problem solving, empirical inquiry and research. Students will demonstrate critical thinking skills, analytical skills, proficiency and ethical use of the technology within the discipline, which includes responding to and readily adapting to change in those technologies.

Technology Fluency Requirement: Instruction in technologies appropriate to the discipline will be included and assessed within each curriculum.

## Communication In The Major

Rational and Requirement:

Writing and speaking are fundamental to all disciplinary and scholarly work, also serving as powerful ways of learning and evaluating learning in the disciplines. Each undergraduate curriculum must be designed and taught so that the Major enhances students' learning through writing and speaking activities and helps students to communicate competently for academic and professional contexts. Because effective communication in these contexts often demands proficiency in the use of information technologies and resources, students must gain a basic understanding of how information is identified, organized, and accessed, in both the print and digital environments.

Associate deans are responsible for providing evidence that their college's curricula are designed to comply with this requirement's rationale and objectives and ensuring that academic programs assess and report student achievement of the objectives.

Objectives:

Each undergraduate curriculum must be designed to provide instruction and ample opportunities for guided practice that enable students to:

1. Learn more deeply and effectively through the use of writing and speaking activities, and
2. Master the kinds of writing and speaking that are appropriate to their academic or professional majors, and
3. Use information technologies and search strategies appropriate to their academic or professional majors to identify and access information and then to evaluate, synthesize, and incorporate that information effectively in their writing and speaking.

## GEP Thematic Track Option

Rationale:

The purpose of thematic tracks is to encourage students to connect knowledge from different disciplinary areas while focusing on a unifying theme or topic. It is well suited to students who have an interest in a particular topic and who would benefit by exploring that topic from multiple disciplinary perspectives. Students will be credited with no more than one thematic track.

All students have three options for thematic tracks within the General Education Program (GEP). A student may:

1. Choose a thematic track that has been approved by the Council on Undergraduate Education (CUE). Completion of one approved thematic track will be noted in the student's official transcript upon graduation provided that the student selects the thematic track prior to completion of degree requirements.
2. Create a thematic track of their own choice. In this case, the thematic track will not be noted in the student's transcript.
3. Choose to complete the GEP without a thematic track.

Objective for a thematic track: Thematic tracks will provide educational experiences that help students to use critical thinking skills to connect multiple disciplinary perspectives around a common topic or theme.

## Requirement for Completion of a Thematic Track

(12 credit hours)

Choose a total of twelve credit hours in the thematic track category as a combination of four courses or more (12 credit hours) - which are linked by a common theme or topic. At least one course must come from the university approved GEP Mathematical Sciences/Natural Sciences/Engineering lists; at least one course must come from the GEP Humanities/Social Sciences/Visual and Performing Arts lists. The remaining courses are also to be chosen from the approved GEP lists.

## General Education Competencies

The assessment of General Education at NC State is coordinated through the Office of Assessment in the Division of Academic and Student Affairs (<http://dasa.ncsu.edu/>) (DASA). In spring 2012, five general education competencies were identified and defined by NC State faculty and were vetted through faculty senate, the Council on Undergraduate Education, and the Associate Deans.

The Office of Assessment, in partnership with faculty from across campus, uses rubrics with student work to assess oral communication and written communication. Critical and creative thinking has been

assessed through testing, surveys, and rubrics applied to student products through NC State's Quality Enhancement Plan (<https://think.dasa.ncsu.edu/the-plan-and-annual-reports/>). In addition, we assess writing, reading, mathematics and critical thinking for first-year and senior students using the ETS Proficiency Profile, (<http://www.ets.org/proficiencyprofile/about/>) the Critical Thinking Assessment Test (CAT) (<https://www.tntech.edu/cat/>), and ETS HEIghten Quantitative Literacy Assessment.

**For more information on General Education Competencies, please visit the Office of Assessment website (<https://assessment.dasa.ncsu.edu/academic-assessment/general-education-assessment/>).**

The General Education Competencies are defined as follows:

## Written Communication Competency

**Definition:** Written communication is the purposeful development, expression, and revision of ideas in writing for specific audiences. Effective written communication follows appropriate genre conventions and may include a combination of text and other media.

## Oral Communication Competency

**Definition:** For the purposes of the GEP, the oral communication competency involves the ability to ethically and responsibly use verbal and nonverbal communication for clear expression of ideas and collaborative processes; engage in active listening; build, express, and justify a claim; and adapt messages to varying situations and contexts.

## Critical and Creative Thinking

**Definition:** Critical thinking is the active, persistent and careful consideration of a belief or form of knowledge. It includes analysis and judgments about the ideas and conditions that support beliefs and the conclusions that follow. Critical thinking involves analyzing and evaluating one's own thinking and that of others. It is subject to intellectual standards, including clarity, accuracy, precision, relevance, significance, depth, breadth, logic, and fairness.

**Definition:** Creative thinking is the generation of new ideas within or across disciplines. It draws upon or breaks rules and procedures in those disciplines and actively engages students in bringing together existing ideas into new configuration; developing new properties or possibilities for something that already exists; and discovering or imagining something entirely new. Standards for judging creative thinking include originality, appropriateness, flexibility, and contribution to the domain.

## Quantitative Literacy

**Definition (AAC&U)<sup>1</sup>:** "also known as Numeracy or Quantitative Reasoning (QR)- is a 'habit of mind,' competency, and comfort in working with numerical data. Individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They understand and can create sophisticated arguments supported by quantitative evidence and they can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc. as appropriate" (Rhodes, 2010).

Rhodes. Copyright 2010 by the Association of American Colleges and Universities.

## References

Rhodes, Terrel, ed. 2010. *Assessing Outcomes and Improving Achievement: Tips and Tools for Using Rubrics*. Washington, DC: Association of American Colleges and Universities

<sup>1</sup> Excerpted with permission from *Assessing Outcomes and Improving Achievement: Tips and Tools for Using Rubrics*, edited by Terrel L.