



## **College Core Curriculum (CCC) College of Arts and Sciences**

Prepared by the Arts and Sciences Curriculum Committee:

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## Introduction

The College of Arts and Sciences is the home of liberal arts education at Bucknell, and its curriculum embodies the academic priorities for faculty and students within the College. The curriculum must provide the foundational preparation for a lifetime of critical thinking and civic engagement while offering opportunities for intellectual exploration and in-depth study in an academic discipline. It must also prepare students for meaningful involvement with a rapidly changing world characterized by diverse individual perspectives, globalization and multi-cultural interactions, and scientific/technological innovation. To enable our students to achieve these ends, the curriculum must also provide students with opportunities to build and enhance their abilities to understand the social and natural worlds around them, to analyze, evaluate, and integrate the information available to them, and to synthesize and communicate thought effectively.

The proposed curriculum detailed below achieves these goals through a combination of specific coursework and ample opportunity for intellectual exploration. Its development was informed by substantial input from the Arts and Sciences faculty, including a formal survey, several open forums and lunchtime discussion meetings, and substantial feedback from both individuals and groups within the College. Focus groups consisting of students from all four class years also informed the process. This curriculum was compared with the curricula of peer institutions, and its development was further influenced by discussions of curriculum and curriculum development fostered on the national scale by institutions such as the American Association of Colleges & Universities (AAC&U) and the Carnegie Foundation for the Advancement of Teaching (CFAT).

The proposed curriculum is based on an interrelated set of principles that emphasize intellectual and practical skills, transferable tools for integrative learning, and disciplinary perspectives. It recognizes writing, oral communication, and information literacy as central tools for learning and for disseminating new knowledge that permeate the entirety of the learning experience. The curriculum will help students understand the synergistic and complementary relationship between disciplines and discipline-specific approaches to describing, analyzing, comprehending, interpreting, and critiquing a range of phenomena in both human cultures and the physical and natural world. In doing so, it should prepare students to apply the skills, knowledge and sense of responsibility they have gained to new settings and complex problems as engaged citizens in an interconnected world.

The curriculum is also guided by the University's new Learning Goals and Educational Vision statement. The Learning Goals have shaped not only the list of courses required within the curriculum, but also the expectations and objectives for these courses. Each of the components in the new curriculum is designed to address one or more of the University's Learning Goals, and the entire curriculum provides students with a means to attain all of these stated goals. The University Educational Goals and their Arts and Sciences curricular component are noted below:

1. Learn, integrate, and apply knowledge and methodological approaches through in-depth study of an academic discipline. [The major(s)]

2. Integrate and synthesize a range of knowledge, perspectives, and creative methods acquired through study and practice across multiple academic disciplines and diverse educational experiences. [IP course, Disciplinary Perspectives]
3. Develop knowledge and skills for interpreting the commonalities and differences among human societies, including diverse cultural perspectives and traditions within the United States and internationally, to enable living and working effectively in a global context. [Foreign Language, Diversity in the US, Global Connections]
4. Develop knowledge and skills to identify and respond creatively and effectively to local and global challenges to humans and the natural world. [Foreign Language, Quantitative Reasoning, Environmental Connections, Diversity in the US, Global Connections, Laboratory Science, Oral Communication, Information Literacy, Disciplinary Perspectives]
5. Understand the importance of and develop the capacities for self-assessment, ethical reasoning, and effective interaction with others so as to act responsibly and to promote justice in professional and communal life. [Major, Disciplinary Perspectives, Diversity in the US, Global Connections, Environmental Connections]
6. Develop critical thinking skills to evaluate arguments and address complex issues using techniques including quantitative and qualitative analysis and scientific reasoning. [Major, Laboratory Science, Quantitative Reasoning, Disciplinary Perspectives]
7. Develop skills in oral and written communication to articulate ideas and arguments clearly and effectively. [Oral Communication, Writing Requirement]
8. Develop information literacy and technological competency across disciplines. [Foundation Seminar, Major]
9. Develop the desire and intellectual skills for life-long learning. [IP course, Major, Disciplinary Perspectives]

## **A History of the Curricular Review Process**

On the 12<sup>th</sup> of April 2001, the Curriculum Committee presented its last review of the Common Learning Agenda (CLA). It recommended that: “The entire CLA should be reviewed beginning in 2007. The review should begin with a college-wide discussion of the important questions to be answered at that time” (21). In April of 2004 an evaluation team representing Middle States Commission on Higher Education released a *Report to the Faculty, Administration, Trustees, Students of Bucknell*. The report included the following comment:

There has not been a thorough, institution-wide review of curriculum in more than ten years. It is overdue. Although the faculty have continued to give fine service to their students, broader curricular matters have been addressed with some apathy... (14)

In this same report specific critiques were made regarding the structure of the general education curriculum, including the observation that the "CLA appears to have taken a very traditional distribution requirement and added the bookends of foundation seminar and capstone experience. The "broadened perspectives" dimension of the CLA is clumsy and the "natural and fabricated world" dimension is not intuitive" (16-17). Further, it claimed that "the oral communication dimension of the CLA is not readily discernible."

In August of 2006, the Curriculum Committee began a systematic review of Bucknell's CLA, the curricula of peer institutions, and the national literature on Liberal Education.

By March of 2007 the Curriculum Committee circulated a *Survey of Faculty Attitudes Toward the CLA* which was sent to all continuing Arts and Sciences faculty members, and the faculty response to these issues echoed the concerns noted by the Middle States evaluators in several instances. This survey and a summary of faculty responses have been made available at the CLA Review Blackboard site. Approximately 98 faculty responded (i.e., about a 40% response rate) and the analysis of this survey was made public shortly thereafter.

In April of 2007 the Curriculum Committee presented to the faculty its *Preparation for the Review of the CLA: A Report on the Current Ideas and Trends in Liberal Education, Both at Bucknell and Beyond* (see the CLA Review Blackboard site). This document contained three sections, including: (1) A Survey of the National Literature on Liberal Education, which summarized many of the national trends and the most representative and innovative scholarship being published on the subject of general education; (2) The CLA at Bucknell, and (3) CLA Analogs at Peer Institutions which, as its name suggests, contained an exhaustive catalogue of the curricular requirements and trends being established in some of our peer and aspirant institutions.

On May 1, 2007 the Curriculum Committee called an Arts and Sciences Faculty Meeting where the aforementioned Report was discussed. On October 4, 2007 the Committee called an Arts and Sciences Faculty meeting to discuss the structure for the CLA review. At that time it also released *A Survey of Faculty Attitudes Toward the CLA: Summary of Results* (see the CLA Review Blackboard site) and opened the floor for faculty feedback and response. This conversation was continued on October 11, 2007 during a set of lunchtime group discussions focusing on components of a new curriculum. Specifically, the discussion groups addressed the following five curricular issues:

1. Is there a first-year academic experience?
2. Broadening the academic experience
3. Balancing breadth and depth
4. What could be a culminating senior-year academic experience?
5. New directions for the Arts and Sciences curriculum

The minutes of these discussions are available at the CLA Review Blackboard site.

On November 15, 2007 the Curriculum Committee conducted a second set of midday small-group discussions focusing on disciplinary depth and the major. Discussions were organized around the following five questions:

1. What is the purpose of the major?
2. Should the minimum course requirements within the BA major be raised from 8-10? If so, by how much?
3. Should we remove the 12 course cap on the major in the BA?
4. Should there be an equivalent BS degree made available to students within the disciplines of the Humanities and Social Sciences?
5. Should there be a culminating experience for all students at the end of the major?

Again, the minutes of these discussions are posted on the CLA Review Blackboard site.

In December 2007, a survey was administered to all faculty teaching Foundation Seminars. With a 58% response rate, the overwhelming consensus was to reduce the number of overarching learning goals for these courses. The two learning goals cited most by faculty were: 1. Foster intellectual development through reading, speaking, listening, and writing (74%). 2. Promote active learning and responsibility and to encourage students to become accountable for their own learning (65%).

On January 11, 2008 the Curriculum Committee participated in a day-long retreat to begin formulating a structure for the revised curriculum taking into account the faculty input and commentary gathered from the above events.

During the fall semester of the 2007-2008 Academic Year, four student focus groups, comprised of students from all four class years, met with Mary Jean Moser from Information Services and Resources to provide feedback concerning various aspects of the Common Learning Agenda and their academic experiences. In February of 2008, Mary Jean delivered to the Curriculum Committee a report in which she summarized the findings of the focus group discussions.

On March 6, 2008 an Arts and Sciences Faculty Meeting was called to discuss "Current Thinking" on a revised curriculum. Substantial feedback, both individually and from groups and campus organizations, regarding the structure of the emerging revised curriculum was solicited and gathered by the Committee. Also, two faculty groups prepared and submitted specific proposals to the Curriculum Committee over the period of this review which influenced the development of the revised curricular structure which is presented in the next section of this document:

1. October 2, 2006 -- submission of a "Proposal to CC for a Language and Foreign Cultures Requirement of A&S students..." by the Department of Foreign Language Programs in consultation with Departments of Spanish, East Asian Studies, and Classics.
2. December 11, 2007 -- submission of an "Environmental Literacy Proposal for the Common Learning Agenda Review" by a group of faculty associated with the Environmental Center.

In May, 2008, a series of breakfast meetings took place with interested faculty. Three mornings focused on individual topics (IP courses, local and global challenges and lab science) and two mornings were left open for general comment. Faculty from across the College and representing a variety of departments participated. Notes were taken by members of the Curriculum Committee at each of these open discussions and used to summarize faculty sentiment on the proposed curriculum when the Curriculum Committee resumed its work in September, 2008.

On November 13, 2008, the Arts and Sciences faculty was invited to an open forum to discuss the revision of the earlier proposed curriculum. Subsequent modifications were made to the proposal based upon questions raised at this meeting.

On February 6, 2009, the Curriculum Committee circulated to all faculty a final revised proposal of the Core College Curriculum.

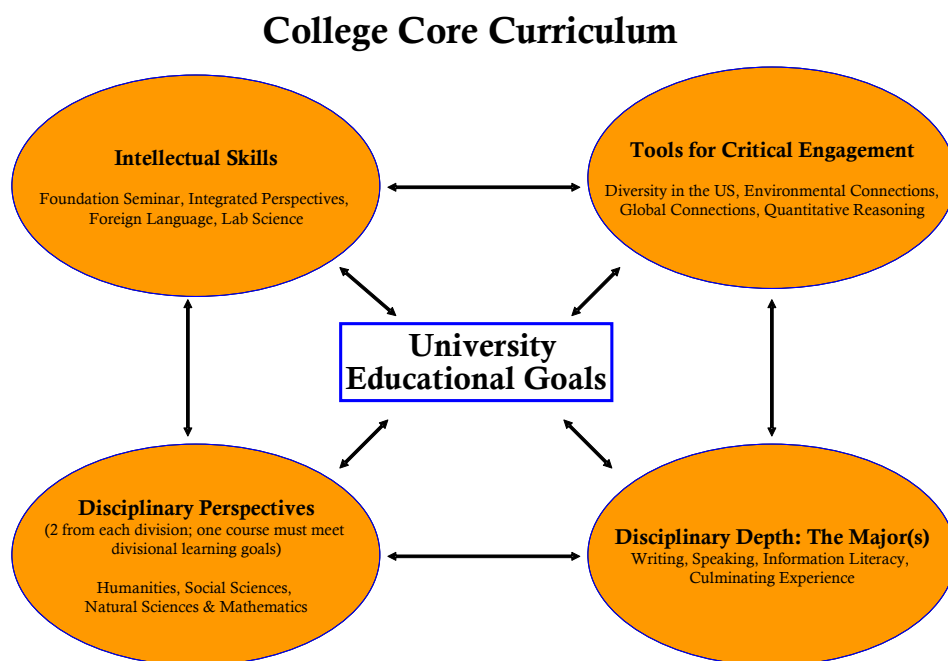
On February 10, 2009, the Curriculum Committee held an open forum on the proposal.

On February 19, 2009, the faculty of the College of Arts and Sciences voted to approve the proposal.

## Curricular Structure

Guiding the Curriculum Committee's deliberations about the Core Curriculum were extensive consultations with faculty, extensive research regarding best practices in curricular design in higher education, and a review of the practices of peer and aspirant institutions. This research supports the educational and intellectual advantages associated with integrative learning experiences that retain disciplinary breadth and depth. The curricular structure was also influenced by our findings that courses which stress the development of intellectual skills gained from the study of quantitative reasoning, foreign language, and scientific literacy are important for addressing contemporary social and global issues. These curricular features are also increasingly prominent in liberal arts curricula.

The curricular structure is summarized in the diagram below:



## Components of the College Core Curriculum

Intellectual Skills	Tools for Critical Engagement	Disciplinary Perspectives (2 from each division; one course must meet each set of divisional learning goals)	Disciplinary Depth
<b>Foundation Seminar</b>	<b>Diversity in the U.S.</b>	<b>Arts &amp; Humanities</b>	<b>The Major(s)</b>
<b>Lab Science</b>	<b>Global Connections</b>	<b>Natural Sciences &amp; Mathematics</b>	<b>Academic Conventions of Writing, Speaking, and Information Literacy</b>
Integrated Perspectives*	<b>Environmental Connections</b>	<b>Social Sciences</b>	<b>Culminating Experience</b>
Foreign Language	<b>Quantitative Reasoning</b>		

\*Required for the Class of 2018 and beyond

**One course from each of the Tools for Critical Engagement categories may also count as a course within the Disciplinary Perspectives categories, but not the Disciplinary Perspectives course(s) used to meet the CCC learning goals. AP and IB credits may only be used to fulfill requirements that are not linked to learning goals. Those credits transferred from other institutions may be used to fulfill requirements with or without learning goals only when approved by the appropriate department chair or the coordinator of the CCC. Any course that fulfills a College Core Curriculum requirement can count toward a major or minor or to fulfill the Writing Requirement.**

**Courses satisfying major requirements may satisfy other requirements.**

The rationale and specific learning goals for each component of the new curriculum are detailed in a separate section below.

### Intellectual Skills

Transferable knowledge and a range of intellectual abilities drawn from different modes of inquiry across disciplines are essential components of any liberal education. These courses help students develop important academic capacities for use in the academy and in the rapidly-changing world they will enter after college. The specific rationale and learning outcomes for each separate requirement are described below.



## **The Foundation Seminar**

Foundation seminars introduce first-year students to the learning community in which they are expected to participate actively while at Bucknell. Through a wide variety of activities, students come to value and to emulate the characteristics of an engaged learner. In particular, they take responsibility for their own learning and understand how specific activities are related to the learning goals of a course. They take an active role in evaluating their own learning, and if necessary, seek assistance in order to achieve the learning goals. They can apply and transfer knowledge across disciplines and can make connections at various levels. They are aware that learning is a social act that requires collaboration and self-awareness as well as being receptive to constructive criticism and alternative ideas or solutions.

Students improve their ability to analyze, evaluate and interpret materials they encounter to synthesize and communicate the results of their studies, and to create works of their own. This process fosters critical thinking skills complemented by the creative dimensions of imagination and insight. Through exposure to different perspectives, students come to realize the limitations of a single viewpoint, while learning to construct persuasive arguments based on close analysis of multiple viewpoints.

All foundation seminars are taught as W-1 courses with enrollment limited to 16 students. The foundation seminar instructor also serves as the student's academic adviser, unless the student enters Bucknell with a declared major (B.S. in the natural sciences, mathematics, or education; B. Mus.; B.S.B.A.; or B.S. in Engineering), or until the student declares a major.

### Learning Outcomes:

1. Students will develop writing, reading, speaking, listening, and information literacy skills necessary for collegiate-level academic work.
2. Students will develop capacities for independent academic work and become more accountable for their own learning.

## **Foreign Language**

The ability to understand, speak, read, and write a language other than English is increasingly important for students preparing for life and work in the global community. The proposed foreign language requirement ensures that students will either improve their proficiency in a previously studied language (at a new level of rigor) or begin the study of a language entirely new to them. Through such disciplined study, students are challenged to grapple with the underlying structures and grammatical principles of language; they thus become more competent as communicators in both their native and second languages. Additionally, students also become more capable of understanding the complex role that language plays in constructing identities, cultures, and meaning across a range of languages and communities.

The following languages are taught at Bucknell: Arabic, American Sign Language,

(Mandarin) Chinese, French, German, (Ancient) Greek, (Biblical) Hebrew, Italian, Japanese, Latin, Russian, and Spanish. Students are required to complete one credit of foreign language study, either at the appropriate level of a previously studied language or at the introductory level of a new language. All students must complete this requirement at Bucknell or another post-secondary institution, or as part of a post-secondary study-abroad program. This would also include students whose first language is not English. Students who take a foreign language course elsewhere, either in a study-abroad situation or at another post-secondary education, must obtain prior approval either from the appropriate department or program (if the language is offered at Bucknell) or by the chair of the Department of Foreign Language Programs (if the language is not offered at Bucknell).

#### Learning Outcomes:

1. Students will study language as a complex multifunctional phenomenon – as a system for communicating thought and information and as an essential element of human thought processes, perceptions, and self-expression – that allows them to understand different peoples and their communities.
2. Students will examine the world, their own culture, and their own language through the lens of a foreign language and culture.

#### **Integrated Perspectives**

The concepts of integrative learning, critical thinking and synthesis of ideas across disciplines appear prominently in Bucknell's Learning Goals, and the Integrated Perspectives program is designed to help address these goals. Taken in the sophomore or junior year, this course builds upon the intellectual groundwork established in Foundation Seminars and draws upon students' experiences from their first semesters exploring Bucknell's curriculum. It will be taught by teams of two or three professors from different departments; teams that include faculty from different divisions are encouraged. The course encourages students and faculty to approach complex issues requiring integration and synthesis of a range of knowledge, perspectives and methods acquired through study and practice across multiple disciplines and diverse educational experiences. The course encourages an early awareness of the connections that exist between different ways of thinking by crossing borders that separate disciplines, and deepens this awareness as students move through the curriculum, examining relations among diverse works, across cultures and centuries.

#### Learning Outcome:

1. Students will recognize, construct, and evaluate connections among different intellectual methods, ways of learning, and bodies of knowledge.

#### **Laboratory Science**

Science is the intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural worlds through observation and

experimentation. The scientific method refers to bodies of techniques for investigating phenomena, acquiring new knowledge, and integrating and revising previous models of understanding. A scientific method consists of the collection of data through observation and experimentation, and the formulation and testing of hypotheses.

For a student to be minimally prepared to deal with the ever-increasing body of scientific and technical knowledge, it is necessary to have an appreciation of what science is and how science is done. Successfully addressing the challenges of the 21st century will require the insights of multiple disciplines within and beyond science and mathematics.

Courses that fulfill the lab science requirement focus on scientific content and principles in a disciplinary or interdisciplinary field within the natural sciences. Lab courses engage students in the methods of contemporary natural science by providing substantial and direct experience in doing science, including data collection and analysis of experimental results. Labs that are exploratory in nature or aimed at discovery are strongly encouraged.

#### Learning Outcomes:

1. Students will develop a unified understanding of scientific theory and practice in modern natural science.
2. Students will demonstrate an understanding of the development of science as an intellectual pursuit and of the ways in which scientific ideas are formulated, modified, and come to be accepted.
3. Students will demonstrate skill in the application of scientific techniques and methods, including the collection, analysis, and interpretation of data, and communication of results.

## **Tools for Critical Engagement**

The University's Learning Goals specify that students will not only “integrate and synthesize a range of knowledge, perspectives, and creative methods acquired through study and practice across multiple academic disciplines and diverse educational experiences,” but that they will also “develop knowledge and skills to identify and respond creatively and effectively to local and global challenges to humans and the natural world.” The Tools for Critical Engagement component of the core curriculum provides students with an opportunity to apply their skills and knowledge to problems and issues that challenge us today or have done so throughout history.

These challenges are grouped into the following general categories: the relationship of individuals and subgroups within larger social structures; the connections between humans, both individually and collectively, and the natural environment; the ways that quantitative reasoning can inform human thinking and decision-making; and the workings of cultures different from our own and/or the global interdependencies that characterize our contemporary times.

Because these courses are offered throughout the curriculum, their particular goals will be met by taking coursework in various divisions. Accordingly, a course taken to meet the Tools for Critical Engagement requirement can double count as a Disciplinary Perspectives course (but not a course meant to satisfy a Disciplinary Perspectives divisional learning goal).

### **Diversity in the United States**

These courses have as their central concern various approaches to gender, sexual orientation, class, race, religion, or ethnicity, and explore these approaches as they have evolved and responded to the changing cultural landscape of the United States; they may explore the ways in which these issues were, in part, formulated not only by the historical movements of peoples from other parts to the world, but also by those indigenous peoples already present. All diversity courses will develop in students the ability to analyze and evaluate complex interrelationships between people and social structures, especially as they have evolved in this country.

#### Learning Outcomes:

1. Students will acquire contextualized knowledge about some aspect of complex group interactions in the United States.
2. Students will use concepts and tools of inquiry from at least one discipline to analyze issues related to the diversity of cultural experience in the United States.
3. Students will reflect critically on the ways in which diversity (broadly understood) within the United States shapes the experience of citizens and persons residing in the U.S.

### **Environmental Connections**

Our civilization is profoundly influenced by the opportunities and constraints presented by our natural environment. We depend on natural resources for our survival as well as for the continued functioning of our society, and the future health of our natural environment depends on our individual and collective actions. Through courses satisfying the Environmental Connections requirement, students confront this complex relationship from a variety of disciplinary perspectives.

These courses help students understand their personal connection to the environment through analysis of environmental systems, cultural narratives (past and present) that shape our relationship with the environment, or societal mechanisms through which we collectively interact with the environment. Emphasis is placed on developing an informed and responsible perspective regarding human interactions with the environment.

#### Learning Outcomes:

1. Students will analyze, evaluate, and synthesize complex interrelationships between humans and the natural world.

2. Students will evaluate critically their personal connections to the natural world in one of the following ways: reasoning about ethical issues, directly experiencing the natural world, connecting to their community, or relating individual choices to larger societal goals.
3. Students will apply knowledge of the physical, cultural, or social connections between humans and the natural world, according to their interests and disciplinary preferences, in at least one of the following ways:
  - tracing the fundamental physical interconnections between humans, other species, and the environment
  - explaining how natural systems function and how human actions affect them
  - distinguishing between human impacts and natural changes
  - elucidating the concept of sustainability
  - analyzing current cultural narratives that shape our relationship to the environment
  - analyzing past cultural constructions of the environment
  - analyzing societal mechanisms that influence our relationship to the environment
  - assessing governance and political conflicts regarding human environment relationships
  - understanding the role of technological, economic and scientific knowledge in environmental decision-making and power relations between social actors

### **Global Connections**

We live in a world in which globalization is reshaping politics and economics as well as social and cultural relations. Global Connections courses expose students to those questions of difference that have evolved over time, between peoples and social systems across the global community, as well as the interdependence that underscores the very nature of such studies.

Global Connections courses, including some study abroad experiences, provide students with the necessary tools to identify and explore different cultural perspectives and the interrelationships between and across cultures. Global Connections courses provide students with the requisite knowledge to understand and analyze problems, policies and issues from their interdependent points of view.

#### Learning Outcomes:

1. Students will use concepts and tools of inquiry to examine the beliefs, history, social experiences, social structures, artistic or literary expressions, and/or traditions of one or more cultures or societies located outside the United States.

**OR**

2. Students will use appropriate tools of inquiry to understand the interdependent nature of the global system and the consequences this interdependence has for political, economic and social problems.

### **Quantitative Reasoning**

Basic quantitative literacy is essential for a liberally educated student. Every Bucknell graduate will regularly encounter quantitative evidence and will be faced with evaluative claims and prescriptive arguments based on that evidence. For many students, quantitative evidence and arguments will be an essential part of their disciplinary program and, later, a part of their professional work. For all students, such evidence and argument will be a key feature of their involvement in the realms of politics, health, economics, and many more. To prepare students for engagement with quantitative examination, students will take at least one course in the necessary skills for comprehending, evaluating and communicating basic quantitative claims and evidence.

Quantitative Reasoning (Q) courses vary in their substantive emphasis and can be found across the disciplines, but each course should educate students to: formulate questions and propositions for quantitative analysis; employ appropriate techniques (such as algorithms, formal logic, or deduction) for building mathematical or statistical models; interpret and evaluate the results of mathematical or statistical models; and assess the limits of mathematical and statistical analysis.

Q courses can be offered within the major as appropriate, or as electives in any department. Q courses fulfilling the objectives described above may be substantively-focused courses within a departmental curriculum that emphasize the application of quantitative tools to specific questions, or they may be courses in mathematics, statistics, or computer science that give substantial attention to problem-solving and application.

Learning Outcomes:

- 1a. Students will demonstrate college-level knowledge of a body of mathematical and/or statistical techniques suitable for modeling and analyzing real world questions/situations, and will gain some experience in such modeling, including experience in building, describing, testing, analyzing, and making predictions from such models.

**OR**

- 1b. Based on a focused course experience, students will apply basic mathematical and/or statistical techniques at a college level of sophistication in the analysis and modeling of real-world questions or problems, including experience in building, describing, testing, analyzing, and making predictions from such models.

## AND

2. Students will formulate questions and propositions for quantitative analysis, translate the question into a form appropriate for the chosen quantitative model, and interpret and evaluate the results of the model in ways meaningful to the problem at hand. Students will demonstrate the ability to assess the validity and limitations of quantitative models and an understanding of the role of the assumptions made in the construction of these models.

## Disciplinary Perspectives

The academic offerings of the College are broad and varied, and students should be exposed to a wide range of modes of intellectual inquiry. To ensure that students sample broadly from the curricular offerings of the College, they are required to take at least two courses from each of the College's divisions – including the Division of Humanities, the Division of Social Sciences, and the Division of Natural Sciences & Mathematics. One course in this area must meet the learning goals stated below for each division. One course in each of the Disciplinary areas can double count with courses taken in Tools for Critical Engagement and/or the Major(s) (not the one that is used to satisfy the divisional learning goals).

### Options within each of the divisions:

#### Arts and Humanities

##### Textual Analysis and Interpretation

Texts are cultural productions that tell us about what it means to be human. By learning to analyze and discuss complex texts, such as novels, essays, archaeological artifacts, and so on, we become part of a long historical attempt to understand the ways humans make meaning.

##### Learning Outcomes:

1. Students will interpret texts with awareness of the texts' basic orientation in the world (historical, philosophical, religious, linguistic, etc.).
2. Students will construct arguments and evaluate canons using the evidence and tools of critical analysis appropriate to the object of inquiry.
3. Students will develop an appreciation of the fundamental ambiguities and complexities involved in all human attempts to answer questions about knowledge, values, and life.

**OR**

### **Arts Literacy and Practice**

The arts are a necessary and fundamental medium through which people communicate, understand, and respond to the complexity and richness of the human experience. By learning to interpret, discuss, create or perform artistic works in such disciplines as creative writing, dance, film, music, theatre, and the visual arts we develop an understanding and appreciation of how the arts serve the intrinsic human need for symbolic meaning and imaginative expression in our lives.

#### Learning Outcomes:

1. Students will appreciate, evaluate, and articulate the aesthetic and formal elements of a work of art.

**OR**

2. Students will comprehend and interpret works of art within historical and cultural contexts.

**OR**

3. Students will synthesize conceptual, formal, aesthetic and technical elements resulting in the performance or creation of works of art.

### **Natural Sciences and Mathematics**

Science is the intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural worlds through observation and experimentation. Mathematics uses quantitative reasoning, logical arguments, and proofs to develop quantitative understandings of the world. Mathematics is also an important component in an ever increasing number of fields.

For a student to be minimally prepared to deal with the ever-increasing body of scientific and technical knowledge, it is necessary to have an appreciation of what science is, how science is done, and the mathematical tools used in scientific endeavors. Successfully addressing the challenges of the 21st century will require the insights of multiple disciplines within and beyond science and mathematics.

Courses that fulfill the natural science and mathematics divisional requirement focus on scientific and mathematical content and principles in a disciplinary or interdisciplinary field within the natural sciences and mathematics.

#### Learning Outcomes:

1. Students will demonstrate knowledge of scientific and/or mathematical content



and principles in a disciplinary field.

2. Students will develop skills that enhance their ability to think critically about scientific, technological, and/or mathematical issues.

## **Social Sciences**

### **Social and Behavioral Analysis**

Courses in Social and Behavioral analysis examine how and why: (a) people organize and interact as social beings; and/or (b) the complex relationships between people and their environments develop. The focus of these courses may span a continuum ranging from patterns of aggregate behavior in social relations or social institutions to individual behavior to systems that govern human behavior and shape consciousness and ways of being.

Courses with an emphasis on social analysis view human behavior in terms of patterns of choices and/or patterns of interaction. Such courses examine the ways that people behave in the face of social sanctions, institutional incentives and constraints, and social structures or systems. In addition, these courses examine the ways in which social practices, composed of understandings, emotions, and actions, shape and are shaped by social institutions and structures.

Courses with a behavioral analysis emphasis focus on how endogenous factors and/or the physical and social environment influence the way humans and nonhumans behave as they adapt to their environment, learn new information, and react to it. These behaviors change as the individual develops, as new tasks are mastered, and as individuals choose exposure to a variety of conditions. Behavior can be studied in animals both to understand animal behavior per se and also to develop an understanding of general principles of behavior applicable to humans.

#### Learning Outcomes:

- 1a. Students will understand and examine the ways in which individuals interact with, and are shaped by, social groups, institutions, and social structures and how these social constructions shape history, space, values, culture, and behavior.

**OR**

- 1b. Students will understand how behavior is shaped by biological and environmental history and the choices made throughout life.

**AND**

2. Students will apply principles of social and/or behavioral analysis drawn from various theoretical frameworks to critically interpret behavior and/or social issues.

## **Disciplinary Depth: The Major(s)**

The disciplinary depth component of the curriculum provides students with the opportunity for sustained study in an academic discipline. Students learn to think deeply about a set of linked topics and to use the methodology of academic investigation in a specific field or a set of subfields. As a result, they extend and develop their own intellectual ideas with more sophisticated and informed analysis. They acquire the intellectual confidence that comes from mastery of a body of knowledge and develop the skills to apply their learning beyond their coursework.

The academic major provides students with a framework for such focused disciplinary study. Through a set of linked courses, students develop expertise in their discipline. Students in major courses have common academic backgrounds, and therefore upper-level major courses can address academic material at a sophisticated level.

### Intellectual competencies that are incorporated in the major

The College faculty has identified writing, speaking, and information literacy as essential intellectual abilities that need to be mastered by competent graduates. These skills are interdisciplinary, and students will have multiple opportunities to practice and improve them in many settings over their four-year education. However, in-depth and discipline-specific study affords students an opportunity to practice these skills at a high level; therefore every major incorporates intellectual skills-development into required coursework.

### Learning Outcomes:

1. Students will develop their writing abilities through coursework in the University Writing Program, which requires that students take a minimum of three writing courses (two of which are linked to writing in particular disciplines). Courses in the major will allow students to apply their writing ability to address and investigate issues at a more sophisticated level due to their mastery of the subject matter.
2. Students will develop skills in formal presentation at a level reasonable for a college graduate in the particular major. Ways in which this skill can be obtained and practiced include but are not restricted to a course with student presentations, honors thesis defense, talk in a student colloquium series, presentation at a conference, or presentation of significant course projects.
3. Students have achieved basic competency in finding, analyzing, evaluating, and effectively using various sources of information in the Foundation Seminar and other courses. Courses in the major will build on these skills and introduce

students to field-specific information retrieval techniques and to critical evaluation of content as customary in the field.

**Specific Learning Outcomes for Information Literacy:**

- a. Students will determine and articulate a need for information, be able to frame the research question, and select resources appropriate to specific research needs;
- b. Students will construct and refine search strategies to locate, access, and retrieve information efficiently;
- c. Students will critically evaluate resources and content, and understand the legal and ethical standards of information access and use;
- d. Students will use technology effectively to organize, communicate, and present information to support academic work.

**Culminating Experience**

In addition to completing a body of specialized coursework, students in each major will complete an approved culminating experience usually in their senior year. Second-semester juniors may complete a culminating experience in a major with permission of the adviser and the department chair or program coordinator. The successful culminating experience will draw together a student's disciplinary experiences and provide a more coherent appreciation of the major's academic discipline. The structure of the culminating experience is left to the discretion of the faculty in the department or program offering the major (subject to the review of the Arts & Sciences Curriculum Committee). Types of culminating experiences will vary by major, but they may include a senior seminar, interdisciplinary course, independent study project, service learning, or an honors thesis.

**Academic Advising**

Effective academic advising is essential to helping all students create the best experience within any college curriculum. Indeed, the Curriculum Committee believes that the advisor-advisee relationship is central to helping this curriculum reach its intended goals. In the academic advising process both faculty and students have a responsibility to understand the synergy between the University Learning Goals, the College of Arts & Sciences Learning Goals, the Learning Goals of a student's chosen major(s), and each individual student's anticipated outcomes for his or her Bucknell education. This means that both faculty and students need to inform themselves about these aims, discuss the relationship among these aims, and work together to chart a course that will allow students to fulfill these goals within eight academic semesters. This type of advising relationship between faculty advisors and students helps students understand the spirit and intellectual aims behind the general education requirements, ultimately avoiding a "box checking" mentality that can undermine the students' perception of the value of their general education courses.

The Committee will encourage relevant University bodies to explore ways to support faculty in providing the engaged advising that is necessary to make any general education curriculum successful for each student. These topics likely include training on effective advising and establishing a culture among faculty of superior academic advising that is appropriately rewarded.

To ensure that we are providing our students with the best advising possible, Associate Dean Robbins has been charged by Dean Christopher Zappe to devise an assessment plan for advising. This plan will detail specific outcomes for both faculty members and students in regard to the advising process and will include appropriate assessment mechanisms. As soon as this plan is approved by the Faculty, it will become a part of this document.

## **Faculty Oversight**

### **College Core Curriculum (CCC) Council**

The College Core Curriculum (CCC) Council is an elected body consisting of representatives from each of the divisions of the College of Arts and Sciences and the CCC Coordinator (formerly known as the Common Learning Coordinator). This body provides faculty oversight of the various components of the College Core Curriculum, including those requirements pertaining to general education. Furthermore, this body ensures both the effective implementation and the ongoing functioning of the CCC. The CCC Council reports to the Arts and Sciences College Curriculum Committee and is chaired by the CCC Coordinator. The Arts and Sciences College Curriculum Committee serves as the nominating body for the CCC and seeks broad representation from each division of the College.

The CCC Council is working with the Dean of the College of Arts and Sciences and the CCC Coordinator to implement the new College curriculum over a multi-year period.

Specifically, the CCC Council

- a. reviews proposals from faculty members to denote specific courses as satisfying particular requirements of the CCC;
- b. works with the Dean of Arts and Sciences to ensure that there are sufficient numbers of courses available to satisfy each of the various general education requirements contained within the College Core Curriculum;
- c. works closely with and affirms the position of program and department chairs to approve courses taken off-campus in meeting general education requirements;
- d. works with the Dean of the College of Arts and Sciences and the Chair of the Faculty Development Committee to ensure that there are sufficient faculty development resources to support those faculty who are creating new courses and significantly revising existing courses to contribute to various components of the CCC;
- e. closely monitors relevant data pertaining to and resources for the implementation of all aspects of the curriculum, with particular attention to the foreign language requirement and the Integrated Perspectives requirement;

- f. coordinates with the College of Arts and Sciences Curriculum Committee, the Assessment Committee, the Composition Council, and the various Arts and Sciences departments and programs; and
- g. works with the College of Arts and Sciences Curriculum Committee to periodically review the College Core Curriculum.

The membership of the College Core Curriculum (CCC) Council is as follows:

- CCC Coordinator (appointed to serve a three-year term by the Dean of the College of Arts and Sciences in consultation with the Curriculum Committee). The CCC Coordinator serves as the Chair of the CCC Council.
- Two elected representatives from the Division of Arts and Humanities (one representative commenced a one-year term in the Fall of 2009 and the second representative commenced a two-year term in the Fall of 2009; hereafter, the elected representatives will serve staggered two-year terms).
- Two elected representatives from the Division of Social Sciences (one representative commenced a one-year term in the Fall of 2009 and the second representative commenced a two-year term in the Fall of 2009; hereafter, the elected representatives will serve staggered two-year terms).
- Two elected representatives from the Division of Natural Sciences and Mathematics (one representative commenced a one-year term in the Fall of 2009 and the second representative commenced a two-year term in the Fall of 2009; thereafter, the elected representatives will serve staggered two-year terms).
- Associate Dean for Student Academic Affairs (ex officio)
- Writing Program Director (ex officio)

## **Implementation and Assessment Plan**

A Proposed Implementation Timeline for the CCC is attached to this document as Appendix A. This timeline is designed to address the three salient implementation issues for any significant curricular revision: (1) how to minimize the disruption to students and faculty in the transition period; (2) how to allow departments sufficient time to adjust their course offerings and major structures to reflect the new general education requirements; and (3) ensuring that funds are available for the necessary faculty development and course staffing in order to make the CCC an institutional reality.

As the Timeline shows, a phased implementation of the CCC will begin with the Class of 2014 (entering in the Fall of 2010) and concludes not before the Class of 2016 enters in the Fall of 2012. This transition period will allow departments and programs to research

and discuss their options for designing new culminating experiences and adjusting their course offerings. Individual faculty members will have time to reflect on how their specific pedagogic and scholarly goals could be served by the CCC. Administrators will have time to plan for how the new curriculum could most effectively be implemented using available resources. This implementation plan will likely be informed by the planning for a potential shift from our present course credit system to a credit hour system for counting courses, which may begin as early as the fall of 2010. Finally, this transition period recognizes that the University's financial situation has changed significantly since the last open forum on November 13, 2008 and that some elements of the CCC (specifically the Integrated Perspectives course and the foreign language requirement) will require significant funding for course development and staffing for effective implementation.

The departmental data that has already been gathered about faculty interest in converting extant capstone seminars into IP courses and developing new IP courses will be made available. A survey will be conducted in Fall 2009 to assess student preferences about fulfilling the foreign language requirement. The Curriculum Committee solicits suggestions from faculty about other data collection exercises that would be helpful for implementing these changes.

Every element of the CCC will be subject to ongoing assessment and revision by the CCC Council and the College Curriculum Committee; faculty input will be a crucial part of their deliberations. In particular, the foreign language requirement will be reviewed at the end of academic year 2013-14 to assess student enrollment data. A full review of the CCC will be conducted during the academic year 2015-16 in order to determine what, if any, adjustments need to be made to the comprehensive curriculum for the College of Arts and Sciences.

# Appendix A

## CLA/CCC Requirements by Class Year

	Class of 2012 (Entered 2008)	Class of 2013 (Entered 2009)	Class of 2014 (Entered 2010)	Class of 2015 (Entered 2011)	Class of 2016 (Enters 2012)	Class of 2017 (Enters 2013)	Class of 2018 (Enters 2014)
<b>Common Requirements</b>							
Foundation Seminar (1)	X	X	X	X	X	X	X
<b>CCC Requirements</b>							
Lab Science (1)			X	X	X	X	X
Foreign Language (1)				X	X	X	X
Integrated Perspectives (1)							X
Diversity in the US (1)			X	X	X	X	X
Global Connections (1)			X	X	X	X	X
Environmental Connections (1)			X	X	X	X	X
Quantitative Reasoning (1)				X		X	X
Disciplinary Perspectives:							
Arts & Humanities (2)*			X	X	X	X	X
Social Sciences (2)*			X	X	X	X	X
Nat'l Sciences & Math (2)*			X	X	X	X	X
Culminating Experience (1)			X	X	X	X	X

\*One course must satisfy the learning outcomes defined by the division

<b>CLA Requirement</b>				
Natural & Fabricated Worlds (1)	X	X	X	X
Human Diversity (1)	X	X	X	X
Disciplinary Perspectives:				
Arts & Humanities (4)	X	X	X	X
Social Sciences (2)	X	X	X	X
Lab Science (2)	X	X	X	X
Natural Science & Math (1)	X	X	X	X
Capstone (1)	X	X	X	