



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

# *University Core Curriculum*

**A Guide for Students**

**2003 - 2004**

*Updated: July 1, 2003*

### **A Note About Using This Handbook:**

This handbook will assist students and parents in understanding the goals and structure of the university's program of liberal education, which is required for all undergraduates. **Students should use the handbook in consultation with their advisors as they plan their academic programs. Students should always consult with their advisors before registering for classes each term.**

Because the University Core Curriculum is a "living curriculum," there will be some changes from year to year. Courses added to the Core offerings are generally available to students immediately after being approved for the University Core Curriculum. Some requirements of the Core are phased in over a multi-year period. **Thus, it is essential that students consult with their advisors.**

The complete handbook for the University Core Curriculum is available at

**<http://www.provost.vt.edu>**

# *University Core Curriculum:*

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## The University Core Curriculum Statement of Purpose

The following statement of purpose was adopted by University Council in March 1992 as a guide for students, advisors and faculty with respect to the broad purposes of liberal education at Virginia Tech.

As we move into the 21st Century, both continuity and change are required in higher education. On the one hand, we must continue to foster vital links with our common cultural heritage and to inculcate crucial intellectual skills. On the other hand, the contemporary world presents a number of critical issues with which every society must grapple. Educated citizens in the years ahead must be able to react creatively to cultural, racial, and gender-based diversity, and to cope effectively with problems and potentialities stemming from such developments as technological advances and environmental crises. As the rate of change accelerates, our graduates need a curriculum of liberal education that gives them both a sense of tradition in the hard-won values of the past and a feeling of competence in dealing with newly-arising challenges.

To address these aims, any successful educational program must combine breadth and depth — an exposure to a variety of approaches and subject matters and a further concentration in one area of study. While the major may be expected to provide in-depth study in one discipline, the core curriculum is designed to introduce the student to a range of traditions, modes of thinking and inquiry, and issues of central human importance now and for the future.

The core requirements are designed as an integrated program of studies which enable the student to:

1. Acquire a broadly based foundation of knowledge outside the area of specialization;
2. Gain knowledge of and competence in using the analytic and creative problem-solving processes that form the central bases of intellectual inquiry and cultural achievement;
3. Develop a global perspective on the diversity and dilemmas of human experience and knowledge;
4. Understand how diverse intellectual skills and forms of knowledge can be brought together to make informed judgments about complex issues;
5. Acquire skill in the communication of ideas and knowledge;
6. Develop the capacities of discernment, appreciation, and criticism as they pertain to cultures, values, information, and ideas;
7. Develop and maintain the habit of learning and responding to new ideas throughout life.

## Introduction

As you embark on an exciting new chapter in your life and a time of change and evolution, I encourage you to take every opportunity to understand and utilize the University Core Curriculum as part of your Virginia Tech education. How will you “utilize” it? Attached are some listings and guides to help, but a little introduction to the following pages is needed. In fact, you may be wondering exactly what a Core Curriculum is? Some very general background may help you to understand how Virginia Tech views this part of your education. This is very important since, for many of you, courses selected from the Core will account for almost one-third of your academic curriculum.

Stretching over many decades scholars and experts have debated ideas about what is fundamental to knowledge? What should all educated persons know? What is the educational trademark or stamp of an entire university or school? Some see fundamental knowledge as highly concentrated in the classics, philosophy, or history, and focused on a very limited number of courses and texts that all students in a particular school would study. At the other end of the spectrum, it can mean a much wider variety of exposure to many independently selected subjects and courses that represent a broadening of one’s knowledge outside of one’s focus or specialization. In this case each student experiences a somewhat different curriculum. At Virginia Tech our Core Curriculum has elements of each of these two approaches with an overall tendency toward the second. We have “core” values as a university and “core” goals for the Core Curriculum. The Core Curriculum has seven content areas, each with a specialized set of goals that all courses in that area are expected to meet. The selections you make from these content areas will create your general education program of study.

You are entering an era in higher education when there is a great deal of debate about the quantity of detailed and specific information you will need in your chosen major, compared to the content and skills residing in the territory we call general education and liberal studies. There is much you will need to learn in your chosen major, but there is also an increasing likelihood that you will change careers (and possibly majors while at VT) several times. *General education is the part of your education that will “travel” and serve you well as you make transitions between careers and life directions, as you negotiate the global workplace, and as you speak with future colleagues.*

Many benefits of this general education will also be realized when seeking employment after graduation, when moving on to advanced or graduate study, and perhaps most fundamentally in being a well rounded and contributing citizen in your chosen communities. Just a few examples of these general education outcomes are:

- ▶ The ability to make connections between varying levels and types of knowledge, to operate despite uncertainty, to be creative in seeing options and alternatives – skills sometimes referred to as critical thinking;
- ▶ The ability to communicate ideas and knowledge through multiple means;
- ▶ The ability to understand and demonstrate ethical behavior, ranging from workings of the business and industrial worlds, to the academic integrity expected in our classrooms;
- ▶ The ability to know where to go and how to find new information when needed as well as the ability to continue learning throughout life; and,
- ▶ The ability to be sensitive and knowledgeable about people of all cultures, races, and ethnic backgrounds.

Virtually every university today has, in whatever form it is practiced, what is frequently referred to as a general and/or liberal studies program, which in our case is referred to as the Core Curriculum. Despite this commonality across universities, the specific content, goals, names given its constituent parts, types/levels of courses required, and variety of faculty members involved in its execution all vary to such a degree that such a curriculum can be almost indistinguishable from one university to another.

At Virginia Tech we have been developing our general education program (Core Curriculum) for over twenty years. The Student Guide to the Core Curriculum [[www.provost.vt.edu](http://www.provost.vt.edu)] lists over 500 courses divided into seven content areas. You will, with the help of advisors, be asked to make choices and these choices will have greater meaning than you might imagine. It is critical to always think, as much as possible, about the whole of your education, and not get too caught up

in just fulfilling the parts semester by semester. Many factors will play into your choices. Class types, sizes, and the requirements of your major will vary greatly and will contribute to what can and should be chosen. Your individual goals and interests combined with advising support will help to determine not just courses that will work, or those held at the most desirable times of the day, but courses that “fit” with your particular needs at specific times in your personal and educational development. Beginning to understand and know your most productive learning styles and patterns will greatly assist in your choices in the Core Curriculum. As you mature semester by semester, it will be expected that you increasingly take more of a leading role in what we refer to as a *developmental* advising model. Please be sure and read the included statements on your Core Guide website about student, advisor and university responsibilities in advising.

Many faculty members and university administrators are continually working to reconsider Virginia Tech’s Core Curriculum. Though we feel the current curriculum is strong as it is, there is always room for improvement and updating, and some change is inevitable. Please do not be concerned about possible changes, but rather think of them as quite exciting. Early considerations and projections of the faculty and university administration are quite intriguing and should foster changes and improvements, many of which you will be able to see and experience as a student at Virginia Tech.

As a final note, I wish you the best of luck in your entire academic career at Virginia Tech, and I urge you to get the most out of your education. Always remember to seek advice and support about your decisions from your faculty members and advisors who are here to assist you in making your undergraduate experience all that it can be.

Ron Daniel

Professor of Architecture  
Associate Provost for Undergraduate Education

# Framework for Advising Undergraduate Students at Virginia Tech

*The Framework for Advising Undergraduate Students was developed and adopted in Spring 2000 as a result of the work of the University Task Force on Academic Advising and the Implementation Committee for the Report of the University Task Force on Academic Advising. This framework outlines the importance of student/advisor collaboration and is the foundation for advising undergraduate students at Virginia Tech.*

## *Definition*

Advising at Virginia Tech is a collaborative process between student and advisor leading to the exchange of information that encourages the individual student to make responsible academic and career decisions.

## *Philosophy*

Virginia Tech demonstrates a commitment to advising through recognizing and supporting the needs of students and advisors. Each undergraduate student at the University is provided information and assistance, which aids the individual student in making responsible academic and career decisions. Each advisor is provided the necessary tools to respond to student needs and the opportunity to be recognized and rewarded for exemplary advising. Virginia Tech, in support of this philosophy will provide student focused advising and assist students in developing skills that lead them to take active responsibility for the advising process.

## *Statement of University Responsibility*

Senior leaders will provide leadership by:

- ▶ Reviewing the advising process to assess the impact of the recommendations implemented;
- ▶ Providing information for students, advisors, parents, and other constituents that clearly explains responsibilities and expectations related to advising;
- ▶ Making information available about advising for all new faculty and appropriate staff;
- ▶ Collecting and disseminating information that contributes to effective advising;
- ▶ Assisting students in clarification of academic and long term goals;
- ▶ Supporting initiatives to enhance the use of technology in advising;
- ▶ Providing support for a web based interactive advising support system for students, advisors, parents, and other
- ▶ Supporting a Virginia Tech plan that would effectively assess, recognize, and reward advising in the annual professional evaluation.

### *Statement of Student Responsibility*

The student shares the responsibility for developing an advising partnership with the advisor. Over time, the partnership results in increased responsibility for the student. This is achieved through the students:

- ▶ Communicating goals, needs, wants, and concerns to the advisor in a respectful and sincere manner;
- ▶ Keeping abreast of their own academic progress and requirements related to their academic programs;
- ▶ Making, keeping, and being prepared for appointments with the advisor;
- ▶ Informing the advisor of changes in plans and/or circumstances that might impact academic performance;
- ▶ Knowing departmental procedures regarding changing advisors; and
- ▶ Bringing concerns regarding quality of advising to the attention of the advisor.

### *Statement of Advisor Responsibility*

The advisor shares the responsibility for developing an advising partnership with undergraduate students. This is achieved through the advisor:

- ▶ Communicating with students and delivering individualized and accurate information in a professional and sincere manner;
- ▶ Being informed of, and providing accurate information about current academic policies and procedures;
- ▶ Keeping appointments and being available for assistance;
- ▶ Providing appropriate referrals, contacts, and information;
- ▶ Doing appropriate follow-up with students; and
- ▶ Seeking out and taking advantage of opportunities for professional development.

*More information is available at  
<http://www.provost.vt.edu/academic.html>*



# Planning Your Program

## Frequently Asked Questions and Answers

### 1. What is the purpose of the University Core Curriculum?

Core courses enhance and deepen your education by introducing fields of study other than your major and by promoting the development of crucial intellectual skills such as critical thinking and writing. The University Core includes distinctive areas of study that encompass central approaches to intellectual inquiry and knowledge, such as mathematical sciences and the humanities. The core incorporates many courses that introduce you to contemporary issues and perspectives, as well as courses that focus on the past.

### 2. What unifies courses in the core curriculum?

The subjects of core courses vary by discipline, but they are unified by a focus on distinctive modes of inquiry and discourse, critical thinking, problem solving, and effective communication.

### 3. Is there any way I can be exempted from meeting these requirements?

No, all students must complete the core curriculum requirements.

### 4. How many credits are required?

Students must take 36 to 44 semester hours of core courses, from seven curricular areas of study. Area 7, Critical Issues in a Global Context, may be taken separately from other core courses, or may be chosen to satisfy a requirement in another area of the Core Curriculum. Area 7 courses may also overlap with requirements in one's major, minor, or area of concentration. Students entering as freshmen in the Fall of 1999 and after will be required to complete two (2) Writing Intensive courses, at least one of which should be in their major. See page 12 for complete listing.

### 5. Are the core requirements the same in all majors and colleges at Virginia Tech?

No, there are differences among the colleges in how the University Core Curriculum is to be fulfilled. For example, some colleges and departments specify that certain core courses must be taken for particular majors. Some colleges also have additional "college core" requirements that go beyond the University Core Curriculum. Some basic information is provided in this booklet, but you should always consult with your advisor about the core requirements in your college or department when planning your program of study and before registering for courses.

### 6. How do I choose among core courses?

Some of your choices will depend upon your major; for instance, though all students take Freshman Writing in Area

1, many colleges and departments require their students to take specific mathematics courses from those listed in Area 5. Some majors have several specific core requirements; others leave most of the choices up to you. Your academic advisor can help you to identify your options.

### 7. Where do I go to obtain more information about the core requirements for my college or department?

Your academic advisor, the undergraduate office of your college, and the Undergraduate Catalog are the best sources of information. You should always consult your advisor when planning your program of study.

### 8. May I use Advanced Placement credits to meet University Core Curriculum requirements?

Yes, Advanced Placement credits can be used in several areas of the core. However, in order to get the full benefit and best quality from your undergraduate education, it is wise to take core curriculum courses. For example, if you place out of a course you might take a more advanced course in the same area of study.

### 9. If I am a transfer student, must I complete the core curriculum requirements?

Yes, all students graduating from Virginia Tech must fulfill core curriculum requirements. Courses taken at other institutions may be transferred to Virginia Tech and may count for credit if they are equivalent to the courses we offer here. Such decisions are determined by an analysis of your transcript when you enter Virginia Tech. Transfer students will graduate under the University Core requirement in effect for the class level (Freshman, Sophomore, Junior, Senior) at which they enter Virginia Tech. Transfer students should consult with the Associate Dean for Undergraduate Programs (or Academic Affairs) in their college to make a precise determination of the core requirements that they must fulfill.

### 10. While enrolled at Virginia Tech, may I take core curriculum courses at another college or university and transfer them here?

Yes, provided that the courses you take are equivalent to specific core courses taught at Virginia Tech. Some colleges require that you obtain authorization from your academic dean before you take courses elsewhere if you intend to transfer those courses to Virginia Tech. Credit, but not grades, can be transferred. Check with your Advisor.

### 11. Should I take only University Core courses in the first year?

No. You will also want to take other courses that are appropriate for freshmen in your major, or foundational courses such as College Success Strategies that may be of help in your success in college.

**12. How long does it take to complete the University Core requirements?**

The core is the equivalent of about one full year's academic work, or about 25% of your degree. However, most students complete most or all core requirements over at least a two-year period, usually in the freshman and sophomore years. It is wise not to take all core courses together, but to integrate them from the very beginning with your program of study in the major. Although you may want to take some upper-level core courses as a junior or senior, you should not wait until your senior year to complete most of your core requirements, because this is the time when you need most to concentrate on completing your major.

**13. I've heard of something called "Satisfactory Progress." How does this relate to the core?**

There are two checkpoints, according to the University's definition of "Satisfactory Progress," by which students must have successfully completed a certain number of credits within the University Core Curriculum. (a) By the time you have attempted 36 semester credits, you must have completed 12 credits of University Core requirements. (b) By the time you have attempted 72 semester credits, you must have completed at least 24 semester credits of University Core requirements. For further information, be sure to see "Satisfactory Progress" on p. 42 of the 2002-2004 Undergraduate Catalog. Departments also set criteria for satisfactory progress within their majors, and students should check with the department or their advisor regarding this requirement.

**14. Do I need to plan the whole program at once?**

No, but you should be thinking about which courses you would like to take from each area (see enclosed Worksheet). Look over the options for each area to see which courses interest you most — keeping in mind the specific requirements of your major and the fact that not all core courses are offered every term. Your advisor can help you. (See Core Curriculum Worksheet pp. 28-29).

**15. Who teaches the Core Curriculum courses?**

Members of all faculty ranks participate in the development and instruction of core classes.

**16. Can I take Honors Courses to satisfy University Core requirements?**

Each semester, sections of some core courses are designated as "Honors" sections. Students in the University Honors Program may register for these sections (although they are not required to do so) and may use them to fulfill University Core requirements. One "Honors" course, English H1204, may be taken both by students in the University Honors Program and by other qualified students who are placed in the course prior to summer orientation; students who take this course should be aware that for them, this one course will satisfy the Freshman Writing requirement. For more information about the Honors Program, contact its Director, Dr. Charles J. Dudley, at 231-4591.

**17. May I take University Core courses pass/fail?**

Courses taken on a pass/fail basis may not be used to fulfill University Core Curriculum requirements unless the course is offered ONLY on a pass/fail basis.

**18. What if I don't get a core course that I requested?**

Try again during the student drop-add periods. If you are unsuccessful in adding the course, you can plan to register for it the next time it is offered, or you can consult with your advisor about an alternative course.

**19. What if the second course in a sequence is not offered in the semester in which I want to take it?**

You or your advisor can check with the department offering the course to see when it will next be offered and adjust your overall course plans accordingly.

**20. May I take additional University Core courses, even if I have completed the University Core Curriculum requirements?**

Yes, your college may require some core courses in addition to the ones necessary to satisfy the University Core. You may also choose to take some additional core courses as electives. Your advisor can tell you how additional core courses would count toward your degree.

**21. Does the university have a foreign language requirement?**

Yes, the foreign language requirement is described in the Undergraduate Catalog. Requirements may vary by college or department. Consult with your advisor.

**22. Can some core requirements be fulfilled through study-abroad programs?**

Yes, the university has a Center for European Studies and Architecture near Lugano, Switzerland, and several other study-abroad opportunities. Check with your advisor to determine if your college or department offers study-abroad programs that carry core curriculum credit.

**23. What are Depth Studies?**

Most colleges require students to complete an approved two-course combination in one or two areas of the core. In other areas students are allowed to choose 2 courses from among any of the approved core courses. Check with your advisor or an academic dean about specific requirements for your college.

**24. Can core courses count toward more than one area simultaneously?**

Generally, No. While there are some courses which do meet requirements in more than one area, they can only count toward one core area at a time. The only exception to this rule is that some Area 7 courses may simultaneously fulfill the requirements of another area in addition to Area 7. Courses approved for core Areas 2-7 may also fulfill the Writing Intensive requirement if so indicated.

## Area 1: Writing and Discourse

6 credit hours (2 courses) Selected from first-year writing courses  
 Students entering in Fall 1999 and thereafter must complete two (2) Writing Intensive courses.  
 Students should consult with an advisor.

### Goals for students in Area 1:

1. Understand the use of words as basic tools of thought;
2. Engage in defining, developing, and understanding ideas through the process of writing;
3. Understand modes of verbal discourse that are central to college-level academic work, such as argument, interpretation, analysis, and metaphor;
4. Develop clear and effective prose through attention to style, grammar, and other elements of composition;
5. Engage in planning, inventing, editing, and revising as elements of the writing process;
6. Read texts and write analytical and interpretive prose as a reciprocal means of expanding powers of understanding and imagination; and
7. Participate in verbal discussion of texts and ideas as an essential element of discourse and communication.

Area 1 requirements reflect the centrality of discourse in the larger intellectual community. Our first-year writing courses introduce students to the interrelated and shared modes of verbal communication that are distinctive to college life — argument, interpretation, analysis, and metaphor — and whose various usages substantially delineate what it means to become broadly educated. These beginning courses should be considered the springboard for further writing and discourse throughout the undergraduate curriculum, especially in the disciplinary concentration.

In order to enable students to meet the aims of both liberal education and of professional preparation, we include writing in many courses throughout the university, even if it may not be the main intellectual capacity emphasized in the course. Students are encouraged to seek out courses that offer frequent opportunities for writing and related forms of discourse, both for the enhanced learning these courses can offer and for their benefit in terms of professional preparation. Many courses in the core curriculum build upon the writing and verbal skills that are the direct goal of Area 1 by including a significant writing component and by encouraging the achievement of excellence in communicating ideas and knowledge.

Students may meet the first-year writing requirement in one of three ways:

- a. By successful completion of the two-semester sequence, ENGL 1105-1106 or COMM 1015-1016 (Note: COMM courses are limited. No advanced placement credit will be given for COMM courses. Student must take both COMM courses to satisfy Area 1.
- b. By successful completion of ENGL 1106 for students who are awarded Advanced Standing (based on standardized test scores and high school class rank) and are placed in ENGL 1106. Advanced Standing students who complete ENGL 1106 at Virginia Tech in the first enrollment with a C- or better receive pass/fail credit for ENGL 1105;
- c. By successful completion of H1204 for students who meet University Honors Standards or English Department Honors Standards. Honors students who successfully complete ENGL H1204 at Virginia Tech in the first enrollment with a C- or better receive pass/fail credit for ENGL 1105.

In addition, Virginia Tech accepts ETS Advanced Placement credit for the Freshman Writing sequence.

### *The Writing Intensive\* requirement*

Writing Intensive (WI) courses are designed to pay special attention to the particular approaches to verbal communication that are used regularly in the disciplines, professions, and businesses that students are preparing to enter. These courses will include at least 15 pages of writing, in several assignments, with opportunities for revision and response.

Some speech-oriented classes are included here as well, if they include a substantial writing component. Because oral communication is a natural dimension of verbal discourse, the WI courses will include opportunities for discussion and — when feasible — various forms of oral presentation.

Writing Intensive courses are offered throughout the undergraduate curriculum (major, electives, other core courses, and labs). The Writing Intensive requirement may be met by: (1) the successful completion of two courses designated Writing Intensive (WI) by the Core Curriculum Committee, regardless of the number of credit hours attached to those courses (some designated combinations of courses constitute one WI course); or (2) the successful completion of two sequences of courses designated by the Core Curriculum Committee as providing Writing Across the Major (WAM); or (3) the successful completion of one Writing Intensive course, regardless of the number of credit hours attached to that course, and one sequence of courses designated Writing Across the Major; or (4) other writing experiences approved by the University Core Curriculum Committee. *Students should consult with an advisors for specific instructions.*

\* See page 12 for a complete listing of Writing Intensive courses. Core courses are designated by (WI) throughout this guide.

## Undergraduate Writing Intensive Courses

Additional courses are now in the approval process. A full description of the Writing Intensive requirement is on page 11. Writing Intensive (WI) courses that are also available for Core credit are designated with a superscripted number that corresponds to the appropriate Area. Note: Writing Across the Major (WAM) courses are not included in this list, although departments with a WAM requirement are noted. Faculty and Advisors please see the Appendix in the Faculty and Advisors Core Guide for a complete list of WAM courses.

### College of Agriculture and Life Sciences

#### *Agriculture Life Sciences*

ALS 4244 (see EDTE 4244)  
ALS 3624

#### *Agricultural and Applied Economics*

AAEC 3424    AAEC 4204    AAEC 4314

#### *Animal and Poultry Sciences*

APSC 3004  
APSC - Writing Across the Major

#### *Biochemistry*

BCHM 4124 (6 credit lab)

#### *Biological Systems Engineering*

BSE 2105 – 2106  
BSE 4125 – 4126

#### *Crop and Soil Environmental Sciences*

CSES 4004

#### *Dairy Science*

DASC 4074 (for DASC majors only)  
(replaces DASC 4075 and DASC 4076)

#### *Environmental Science*

ENSC 4004

#### *Food Science and Technology*

FST 4524

#### *Horticulture*

HORT 4304    HORT 4664  
HORT — Writing Across the Major  
(consult with HORT for approved course list)

#### *Human Nutrition, Foods and Exercise*

HNFE 3025  
HNFE 4004

#### *Plant Pathology, Physiology & Weed Science*

PPWS 3444 / BIOL 3444

### College of Architecture and Urban Studies

#### *Architecture*

ARCH - Writing Across the Major

#### *Art and Art History*

ART 2384    ART 3384<sup>2,6</sup>    ART 3884<sup>2,6</sup>

#### *Building Construction*

BC 4434

#### *Interior Design*

ITDS 3164 (for Interior Design majors only)  
ITDS -- Writing Across the Major

#### *Landscape Architecture*

LAR 4034  
LAR — Writing Across the Major

#### *Urban Affairs and Planning*

UAP 3014<sup>3</sup>  
UAP / PSCI 3714 (previously 3715)  
UAP 4264<sup>2</sup>

### Pamplin College of Business

#### *Accounting & Information Systems*

ACIS 4415 (for ACCT majors only)  
ACIS 4524 (for ACCT majors only)

#### *Business Information Technology*

BIT 4434 (for BIT majors only)

#### *Economics*

ECON 4024    ECON 4124<sup>7</sup>  
ECON 4084    ECON 4924

#### *Finance*

FIN 4104 (for Business juniors and seniors only)

#### *Hospitality and Tourism Management*

HTM 2964    HTM 4534    HTM 4964

#### *Management*

MGT 4344 (for MGT seniors only)

#### *Marketing*

MKTG 4754 (for MKTG seniors only)

### College of Engineering

#### *Aerospace & Ocean Engineering*

AOE 4065  
AOE 4066

#### *Chemical Engineering*

ChE 4185    ChE 4186

#### *Civil & Environmental Engineering*

CEE—Writing Across the Major

#### *Computer Science*

CS 3604

#### *Electrical and Computer Engineering*

ECE 3534

#### *Engineering Science and Mechanics*

ESM 3034 combined with ESM 3064  
ESM 4015 combined with ESM 4016

#### *Industrial and Systems Engineering*

ISE 3014    ISE 3414    ISE 3624

**Writing Intensive Courses** (Continued)

*Materials Science & Engineering*  
MSE 4894 (6 hours)

*Mechanical Engineering*  
ME 4006      ME 4015      ME 4016

*Mining & Minerals Engineering*  
MINE 3514      MINE 3544      MINE 4535–4536

**College of Liberal Arts and Human Sciences**

*Apparel, Housing and Resource Management*  
AHRM 3214 (for Clothing & Textile majors only)  
AHRM 4214 (for Clothing & Textile majors only)  
AHRM 4694  
AHRM 2504

*Communication*  
COMM 2024      COMM 3144  
COMM 4144      COMM 3174

*English*  
ENGL 2604      ENGL 3764  
ENGL 3534<sup>2,7</sup>      ENGL 3774  
ENGL 3754      ENGL 4784

*Foreign Languages and Literatures*  
FR 4154      FR 4314  
GER 3106      GER 4154  
LAT 3004 (In major)  
SPAN 3105      SPAN 4324

*History*  
HIST 1224<sup>7</sup>      HIST 4004      HIST 4064  
HIST 2004      HIST 4014      HIST 4074  
HIST H2104<sup>3</sup>      HIST 4024      HIST 4214  
HIST 3264      HIST 4034      HIST 4224  
HIST 3584      HIST 4044      HIST 4234  
HIST 3594      HIST 4054      HIST 4244  
HIST 3634

*Human Development*  
HD 2335 - 2336 (for Human Services majors only)  
HD 3244 (for ECED majors only)  
HD 4214 (for ECED majors only)  
Human Services — Writing Across the Major

*Interdisciplinary Studies*  
HST/WS 4704<sup>3</sup>  
IDST 3114      IDST 4114  
WS 2244<sup>2</sup>

*International Studies*  
IS 4004

*Music*  
MUS 3114      MUS 3134  
MUS 3124      MUS 3144

*Philosophy*  
PHIL 4204<sup>2</sup>      PHIL 4334<sup>2</sup>  
PHIL 4214<sup>2</sup>      PHIL 4604  
PHIL 4224<sup>2</sup>      PHIL 4614<sup>2</sup>

*Political Science*  
PSCI 2024      PSCI/UAP 3714

*Sociology*  
SOC 3104

*Teaching and Learning*  
EDCI 4404  
EDPE 2204      EDTE 4244 (ALS 4244)  
EDTE 2604      EDTE 4424

*Theatre Arts*  
TA 2114      TA 3105      TA 3106

**College of Natural Resources**

*Fisheries and Wildlife*  
FIW 4714

*Forestry*  
FOR 3314      FOR 3364      FOR 4434

*Geography*  
GEOG 3224      GEOG 3234

*Wood Science and Forest Products*  
WOOD 4614

**College of Science**

*Biology*  
BIOL 1205<sup>4</sup>      BIOL 4244  
BIOL 1206<sup>4</sup>      BIOL 4314  
BIOL H3404      BIOL 4324  
BIOL 3444/PPWS 3444      BIOL 4524  
BIOL 4014      BIOL 4534  
BIOL 4204      BIOL 4644  
BIOL 4234      BIOL 4774  
Biology—Writing Across the Major

*Chemistry*  
CHEM 3626 (for CHEM majors only)  
CHEM 4014

*Economics*  
ECON 4024      ECON 4124<sup>7</sup>  
ECON 4084      ECON 4924

*Geological Sciences*  
GEOL 3204      GEOL 4024 (for GEOL majors only)

*Mathematics*  
MATH 3034      MATH 4044

*Physics*  
PHYS 4315

*Psychology*  
PSYC 3054      PSYC 4354      PSYC 4364

*Statistics*  
STAT 4004



## Area 2: Ideas, Cultural Traditions, and Values

6 credit hours (2 courses)  
Selected from approved core courses

### Goals for students in Area 2:

1. Examine some of the formative ideas and cultural traditions that have shaped Western experience;
2. Study classic and contemporary texts that have influenced or exemplified currents in Western thought and imagination;
3. Gain an understanding of some aspects of human achievement and experience that have been persistently overlooked in mainstream Western culture, including those of women, minorities, and non-Western peoples;
4. Analyze creative works of various mediums both in the arts and technology from the viewpoints of cultural meanings and influence;
5. Gain acquaintance with historical traditions and with humanistic methods of studying and interpreting them;
6. Consider the contributions of philosophical, ethical, or religious systems to human life;
7. Recognize how the interaction of tradition and innovation nourishes both individuality and community;
8. Gain critical and appreciative perspective upon one's own culture by studying other historical periods and other cultural traditions;
9. Study the life, thought, and creative activity of men and women of achievement in various fields of human endeavor.

Every student should be introduced to some of the ideas, cultural traditions, and values that have shaped the human world we now inhabit. An educated person sees the present in connection with the past, and understands that presently prevailing values and meanings derive from the creative thought and action of men and women who have preceded us. A study of influential texts, ideas, representative works of art and technology, and the development of cultural traditions begins to free the student from the superficial fads of the moment and from narrow provincialisms. By examining some of the enduring ideas about human nature and human achievement both past and present, the individual gains a greater degree of self-knowledge and is better able to formulate worthwhile aims and commitments.

Courses in this curricular area take the human condition and values as their main focus, while dealing with a range of subject matters: philosophy, literature and communication, history, religion, the arts, and technology. Most of these courses deal with some aspect of Western cultural experience in its numerous varieties. Relatively neglected dimensions of this experience such as the experience of women and minorities will be acknowledged and dealt with, both as an integral aspect of many existing courses and in separate courses which focus directly upon these dimensions. The foreign language courses approved for Area 2 study the literatures of other countries in their cultural contexts. Moreover, since we are living in an increasingly global cultural context, courses are included that introduce the student to formative non-Western ideas, arts, and traditions as well.

All of the following courses are approved for the University Core Curriculum for Area 2. If your college requires "depth studies" in this Area, you may choose one of the course combinations listed on page 26, or courses in a sequence (course number ending with 5 and 6; for example ARCH 3115 and ARCH 3116). Colleges may also recommend particular combinations of courses (see page 27). Sequenced courses may be taken individually, unless listed together on one line below. **Some courses noted in this section can be counted for Area 6 credit; remember that they CANNOT be used to count for BOTH Area 2 and Area 6 for an individual student.**

Some of these courses are not offered every term. Check the catalog and timetable for relevant offerings.

#### *Agricultural and Applied Economics:*

AAEC 2244 Food and Clothing: Cultural Traditions, Conflicts and Possibilities (cross-listed with AHRM 2244)  
AAEC 2424 Cooperatives and Their Impact on the Human Condition

#### *Apparel, Housing and Resource Management:*

AHRM 2244 Food and Clothing: Cultural Traditions, Conflicts and Possibilities (cross-listed with AAEC 2244)

#### *Architecture:*

ARCH 3115 History of Architecture I (also in Area 6)  
ARCH 3116 History of Architecture II (also in Area 6)

#### *Art: (Note: All core Art classes below are also in Area 6)*

ART 2385 Survey of the History of Western Art I  
ART 2386 Survey of the History of Western Art II  
ART 3084 Greek Arts and Architecture (Pre: ART 2385)  
ART 3184 Roman Art and Architecture (Pre: ART 2385)  
ART 3284 Medieval Art and Architecture (Pre: ART 2385)  
ART 3384 Italian Renaissance Art and Architecture (WI) (Pre: ART 2386)  
ART 3484 Baroque and Rococo Art and Architecture (Pre: ART 2386)  
ART 3584 Nineteenth Century Art: Neo-classicism to Post-Impressionism (Pre: ART 2386)  
ART 3784 Twentieth Century Art and American Art (Pre: ART 2386)  
ART 3884 American Art to 1914 (WI) (Pre: ART 2386)

*Black Studies:*

- BLST 1714 Black Studies  
 BLST 1814 Introduction to African Studies  
 (cross-listed with IDST 1814) (also in Area 7)

*Classics:*

- CLA 2444 Ancient Greek and Roman Mythology  
 (cross-listed with ENGL 2444 and HUM 2444)  
 CLA 2454 Ancient Greek and Latin Literature in English  
 Translation (cross-listed with ENGL 2454 and HUM 2454)

*Communication:*

- COMM 2064 The Rhetorical Tradition

*English: (prior completion of the Freshman English sequence is required)*

- ENGL 1604 Introduction to Poetry (also in Area 6)  
 ENGL 1614 Introduction to Short Fiction (also in Area 6)  
 ENGL 1624 Introduction to Detective Fiction  
 ENGL 1634 Intro. to Shakespeare (also in Area 6)  
 ENGL 1644 Intro. to World Literature (also in Area 7)  
 ENGL 1654 Intro. to Science Fiction and Fantasy  
 ENGL 1664 Intro. to Women's Literature  
 ENGL 1674 Intro. to African American Literature  
 ENGL 2324 Introduction to Drama  
 ENGL 2334 Introduction to Satire  
 ENGL 2444 Ancient Greek and Roman Mythology  
 (cross-listed with CLA 2444 and HUM 2444)  
 ENGL 2454 Ancient Greek and Latin Literature in English  
 Translation (cross-listed with CLA 2454 and HUM 2454)  
 ENGL 2515 Survey of British Literature (Pre: ENGL 1106 or  
 H1204 or COMM 1016)  
 ENGL 2516 Survey of British Literature (Pre: ENGL 1106 or  
 H1204 or COMM 1016)  
 ENGL 2525 Survey of American Literature (Pre: ENGL 1106  
 or H1204 or COMM 1016)  
 ENGL 2526 Survey of American Literature (Pre: ENGL 1106 or  
 H1204 or COMM 1016)  
 ENGL 3404 French Literature in English Translation  
 (cross-listed with FR 3404)  
 ENGL 3414 German Literature in English Translation  
 (cross-listed with GER 3414)  
 ENGL 3424 Russian Literature in English Translation  
 (cross-listed with RUS 3424)  
 ENGL 3434 Hispanic Literature in English Translation  
 (cross-listed with SPAN 3434)  
 ENGL 3534 Literature and Ecology (WI)  
 (Pre: ENGL 1106 or H1204) (also in Area 7)  
 ENGL 3644 Postcolonial Cultural Studies  
 (Pre: ENGL 1106 or H1204) (also in Area 7)  
 ENGL 4165 Shakespeare I  
 ENGL 4166 Shakespeare II

*Foreign Languages:*

- Courses taught in the foreign language: (Pre: 2106 in the language)  
 FR 3205 French Culture and Civilization I  
 FR 3206 French Culture and Civilization II  
 FR 3305 Survey of French Literature I (Pre: FR 3304)  
 FR 3306 Survey of French Literature II (Pre: FR 3304)  
 GER 3305 Intro. to German Literature I (Pre: GER 3304)  
 GER 3306 Intro. to German Literature II (Pre: GER 3304)  
 SPAN 3204 Spanish Civilization and Culture (Pre: SPAN 3105)  
 SPAN 3214 Spanish-American Civilization and Culture  
 (Pre: SPAN 3105)

- SPAN 3314 Survey of Peninsular Literature (Pre: SPAN 3304)  
 SPAN 3324 Survey of Spanish-American Literature  
 (Pre: SPAN 3304)

*Courses taught in English:*

- FR 2714 Intro. to French Culture and Civilization  
 (cross-listed with HUM 2714)  
 FR 3404 French Literature in English Translation  
 (cross-listed with ENGL 3404) (Pre: 2000 level ENGL course)  
 GER 2724 Intro. to German Culture and Civilization  
 (cross-listed with HUM 2724)  
 GER 3414 German Literature in English Translation  
 (cross-listed with ENGL 3414) (Pre: 2000 level ENGL course)  
 RUS 2734 Intro. to Russian Culture and Civilization  
 (cross-listed with HUM 2734) (also in Area 7)  
 RUS 3424 Russian Literature in English Translation  
 (cross-listed with ENGL 3424) (Pre: 2000 level ENGL course)  
 SPAN 2744 Intro. to Spanish Culture and Civilization  
 (cross-listed with HUM 2744)  
 SPAN 2754 Intro. to Spanish-American Culture and Civilization  
 (cross-listed with HUM 2754)  
 SPAN 3434 Hispanic Literature in English Translation  
 (cross-listed with ENGL 3434) (Pre: 2000 level ENGL course)

*Forestry:*

- FOR 2554 Nature and American Values

*History:*

- HIST 1024 Ancient History  
 HIST 1025 Intro. to European Civilization I  
 HIST 1026 Intro. to European Civilization II  
 HIST 2054 Engineering Cultures (cross-listed with HST 2054)  
 (also in Area 7)

*Horticulture:*

- HORT 3524 History of Landscape Architecture  
 (Pre: junior standing)

*Humanities:*

- HUM 1114 Intro. Humanities: The Classical Age  
 HUM 1124 Intro. Humanities: The Roman World and Early  
 Christianity  
 HUM 1214 Intro. Humanities: The Medieval World  
 HUM 1224 Intro. Humanities: The Renaissance  
 HUM 1314 Intro. Humanities: Enlightenment & Romanticism  
 HUM 1324 Intro. Humanities: The Modern World  
 HUM 1604 Intro. to Humanities and the Arts  
 HUM 1704 Intro. to Appalachian Studies  
 HUM 1914 Explorations in Traditional Asian Cultures  
 HUM 1924 Explorations in Modern Asian Cultures  
 HUM 2204 Humanities and the Arts: The Creative Process  
 HUM 2444 Ancient Greek and Roman Mythology  
 (cross-listed with ENGL 2444 and CLA 2444)  
 HUM 2454 Ancient Greek and Latin Literature in English  
 Translation (cross-listed with ENGL 2454 and CLA 2454)  
 HUM 2714 Intro. to French Culture and Civilization  
 (cross-listed with FR 2714)  
 HUM 2724 Intro. to German Culture and Civilization  
 (cross-listed with GER 2724)  
 HUM 2734 Intro. to Russian Culture and Civilization  
 (cross-listed with RUS 2734) (also in Area 7)  
 HUM 2744 Intro. to Spanish Culture and Civilization  
 (cross-listed with SPAN 2744)  
 HUM 2754 Intro. to Spanish-American Culture and Civilization  
 (cross-listed with SPAN 2754)  
 HUM 4404 Appalachian Folk Culture (Pre: HUM 1704)

*Humanities, Science, and Technology:*

- HST 1504 Intro. to Humanities, Science, and Technology  
 HST 2054 Engineering Cultures (cross-listed with HIST 2054)  
 (also in Area 7)  
 HST 2154 Humanities, Technology, and Life Sciences  
 HST 2354 Humanities, Technology, and Physical Sciences  
 HST 3105 Science and Technology in Modern Society  
 HST 4304 Contemporary Issues in Humanities, Sciences, and  
 Technology

*Judaic Studies:*

- JUD 2414 Hebrew Bible/Old Testament  
 (cross-listed with REL 2414)

*Landscape Architecture:*

- LAR 4034 Evolution of the American Landscape (WI)

*Leadership:*

- LDRS 1015 Exploring Citizen Leadership: Contexts and  
 Competencies

*Music:*

- MUS 1005 Theory/Fundamentals I  
 MUS 1006 Theory/Fundamentals II  
 MUS 1104 Music Appreciation (also in Area 6)  
 MUS 2115 Survey of Music I (also in Area 6)  
 MUS 2116 Survey of Music II (also in Area 6)  
 MUS 3115 Music in America I (also in Area 6)  
 MUS 3116 Music in America II (also in Area 6)

*Philosophy:*

- PHIL 1204 Knowledge and Reality  
 PHIL 1304 Morality and Justice  
 PHIL 2115 Ancient through Medieval Philosophy I  
 PHIL 2116 Ancient through Medieval Philosophy II  
 PHIL 2125 History of Modern Philosophy I  
 PHIL 2126 History of Modern Philosophy II  
 PHIL 2304 Global Ethics (also in Area 7)  
 PHIL 2605 Reason and Revolution in Science I  
 PHIL 2606 Reason and Revolution in Science II  
 PHIL 3015 Political Theory I (cross-listed with PSCI 3015)  
 (Pre: PSCI 1024)  
 PHIL 3016 Political Theory II (cross-listed with PSCI 3016)  
 (Pre: PSCI 1024)  
 PHIL 3314 Ethical Theory (Pre: 3 cr. in PHIL)  
 PHI 3454 Philosophy of Religion  
 PHIL 4204 Philosophy of Mind (WI)(Pre: 3 cr. in PHIL)  
 PHIL 4214 Metaphysics (WI) (Pre: 3 cr. in PHIL)  
 PHIL 4224 Epistemology (WI) (Pre: 3 cr. in PHIL)  
 PHIL 4304 Topics in Social and Political Philosophy  
 (Pre: 3 cr. in PHIL)  
 PHIL 4334 Jurisprudence (WI) (Pre: 3 cr. in PHIL)  
 PHIL 4614 Philosophy of Science (WI)  
 (Pre: 1-year science, 3 cr. in PHIL)

*Political Science:*

- PSCI 3015 Political Theory I (cross-listed with PHIL 3015)  
 (Pre: PSCI 1024)  
 PSCI 3016 Political Theory II (cross-listed with PHIL 3016)  
 (Pre: PSCI 1024)

*Religion:*

- REL 1014 Asian Religions  
 REL 1024 Judaism, Christianity, Islam (also in Area 7)  
 REL 1034 Religion and the Modern World  
 REL 1044 Religious Ethics  
 REL 2124 Religion in American Life  
 REL 2234 Women, Ethics and Religion  
 (cross-listed with WS 2234) (also in Area 7)  
 REL 2414 Hebrew Bible / Old Testament  
 (cross-listed with JUD 2414)  
 REL 2424 New Testament  
 REL 3024 Religion and Literature  
 REL 3214 Religion and Culture in India  
 REL 3224 Religions of China and Japan  
 REL 3414 Jesus and the Gospels (Pre: REL 2414 or 2424)  
 REL 3424 Paul and His Interpreters (Pre: REL 2414 or 2424)

*Sociology:*

- SOC 2024 Minority Group Relations  
 (ONLY in combination with Black Studies 1714)

*Teaching and Learning:*

- EDPE 3114 20th Century Dance

*Theatre Arts:*

- TA 2014 Introduction to Theatre (also in Area 6)  
 TA 2024 Introduction to Acting (also in Area 6)

*Urban Affairs and Planning:*

- UAP 4264 Environmental Ethics and Policy (WI)

*Women's Studies:*

- WS 1824 Introduction to Women's Studies  
 WS 2224 Women and Creativity  
 WS 2244 Women and Science (WI) (Pre: WS 1824)  
 WS 2254 Feminist Activism (Pre: WS 1824)



## Area 3: Society and Human Behavior

6 credit hours (2 courses)  
Selected from approved core courses

### Goals for students in Area 3:

1. Examine distinctive quantitative and qualitative modes of inquiry appropriate to the scientific study of societal institutions, patterns of culture, and human behavior;
2. Understand specific patterns and processes that affect the organization of society and the relationship between the individual and society;
3. Investigate institutions, systems, and ideologies in the realms of government, family, community, economy, education, science, religion, and other dimensions of culture;
4. Investigate human psychological and developmental processes through quantitative and qualitative methodologies;
5. Compare alternative theories about human society, culture, and behavior;
6. Examine patterns that involve inclusion and exclusion pertaining to race, class, community, gender and ethnic identity, and other forms of social grouping.

Human beings are not only participants in the world of human culture; we are also observers of it. The cultivation of the systematic approaches to the study of humanity is one of the great achievements of the human intellect. Every student should therefore be introduced to the sciences of society and human behavior, a goal that can be accomplished through several avenues: through the study of psychology; through the study of social structures such as government, family, community, or economy; or through more wide-ranging examination of social patterns and processes. Such studies may examine past as well as present, non-Western as well as Western societies.

Courses in this curricular area are best characterized by their methods of study and theoretical frameworks. They look for regularities in human behavior rather than giving primary attention to the unique or non-repeatable aspects of life. When varied human values and allegiances nevertheless make their appearance within these disciplines, they do so more as objects to be investigated than as commitments to be honored.

All of the following courses are approved for the University Core curriculum for Area 3. If your college requires “depth studies” in this Area, you may choose one of the course combinations listed on page 26, or courses in sequence (course number ending with 5 and 6; for example, AAEC 1005 and 1006). Colleges may also recommend particular combinations of courses (see page 27). Sequenced courses may be taken individually, unless listed together on one line.

Some of these courses are not offered every term. Check the catalog and timetable for relevant offerings.

#### *Agricultural and Applied Economics:*

AAEC 1005 Economics of the Food & Fiber System I  
AAEC 1006 Economics of the Food & Fiber System II  
(Pre: AAEC 1005)  
AAEC 1014 Survey of American Economic History  
(cross-listed with HIST 1014)

#### *Aerospace Studies:*

AS 3215 Air Force Management & Leadership  
(Pre: AS 2116 or Instructor Consent)

#### *Communication:*

COMM 1014 Introduction to Communication Studies

#### *Economics:*

ECON 2005 – ECON 2006 Principles of Economics  
ECON H2025 – H2026 Honors Principles of Economics

#### *Geography:*

GEOG 1004 Introduction to Human Geography  
GEOG 1014 World Regions (Pre: GEOG 1004) (also in Area 7)  
GEOG 2055 World Politics and Economy I  
(cross-listed with PSCI 2055 and IS 2055) (also in Area 7)

#### *Human Development:*

HD 1004 Human Development I: Childhood and Adolescence  
HD 3004 Human Development II: Adulthood and Aging  
(Pre: HD 1004)

#### *History:*

HIST 1004 Intro. to the History of the United States  
HIST 1014 Survey of American Economic History  
(cross-listed with AAEC 1014)  
HIST 1115 History of the United States I  
HIST 1116 History of the United States II  
HIST H2104 Critical Issues in American History (WI)  
(Pre: Honors Status or permission from instructor)  
HIST 3155 History of American Cities I  
HIST 3156 History of American Cities II  
HIST 3505 European Diplomatic History I  
HIST 3506 European Diplomatic History II  
HIST 3705 History of Science I (cross-listed with HST 3705)  
HIST 3706 History of Science II (cross-listed with HST 3706)

*Humanities, Science and Technology:*

HST 3705 History of Science I (cross-listed with HIST 3705)  
 HST 3706 History of Science II (cross-listed with HIST 3706)  
 HST 4704 Gender and Science (cross-listed with WS 4704) (WI)

*International Studies:*

IS 2055 World Politics and Economy I  
 (cross-listed with PSCI 2055 and GEOG 2055) (also in Area 7)  
 IS 2056 World Politics and Economy II  
 (cross-listed with PSCI 2056) (also in Area 7)

*Leadership:*

LDRS 1016 Exploring Citizen Leadership: Communities of Praxis

*Naval Science:*

MN 4005 Leadership and Management

*Political Science:*

PSCI 1014 Intro. to US Government and Politics  
 PSCI 1024 Intro. to Comparative Government and Politics  
 (also in Area 7)  
 PSCI 2055 World Politics and Economy I  
 (cross listed with IS 2055 and GEOG 2055) (also in Area 7)  
 PSCI 2056 World Politics and Economy II  
 (cross-listed with IS 2056) (also in Area 7)

*Psychology:*

PSYC 2004 Introductory Psychology  
 PSYC 2034 Developmental Psychology (Pre: PSYC 2004)  
 PSYC 2044 Psychology of Learning (Pre: PSYC 2004)  
 PSYC 2054 Psychology of Personality (Pre: PSYC 2004)  
 PSYC 2064 Nervous Systems and Behavior (Pre: PSYC 2004)  
 PSYC 2084 Social Psychology (Pre: PSYC 2004)  
 PSYC 3014 Abnormal Psychology (Pre: PSYC 2004)

*Sociology:*

SOC 1004 Introductory Sociology  
 SOC 1014 Introduction to Social Anthropology  
 SOC 2004 Social Problems  
 SOC 2014 Dating, Marriage, and Divorce  
 SOC 2024 Minority Group Relations  
 SOC 2304 Individual in Society  
 SOC 2504 Comparative Social Change  
 SOC 3004 Social Organization and Stratification  
 (Pre: SOC 1004)  
 SOC 3304 Collective Action (Pre: SOC 1004)  
 SOC 3504 Population Trends and Issues  
 SOC 3604 Work in Modern Society  
 SOC 4304 Small Groups (Pre: SOC 2304)

*School of Public and International Affairs:*

SPIA 1004 Nations and Nationalities (also in Area 7)

*Urban Affairs and Planning:*

UAP 1024 Public Issues in an Urban Society  
 UAP 2014 Urbanization and Development  
 UAP 2024 World Cities  
 UAP 3014 Urban Policy and Planning (WI)  
 UAP 3894 World Poverty/Hunger in Urban Regional Context

*Women's Studies:*

WS 2264 Race, Class and Gender (Pre: WS 1824)  
 WS 4704 Gender and Science (cross-listed with HST 4704) (WI)

## Area 4: Scientific Reasoning and Discovery

6 credit hours of lecture (2 courses)  
 \*\*\*2 credit hours of related laboratory (2 labs)  
 Selected from approved core courses

\*\*\*The University Provost has implemented an administrative change to Area 4 of the Core Curriculum, due to budget priorities and insufficient resources for basic science laboratory courses. The University Provost has approved the following, effective June 24, 2003 for all students entering Fall 2003 and beyond: Waiver of the 2 credit hours of related laboratory courses as stated in Area 4 for all majors that do not wish to require a laboratory component. NOTE: this waiver does not eliminate any credit from the total required for graduation for each major. The 2 credit hours eliminated from Area 4 must be made up as free electives. Students should consult with their advisor about Core requirements in their division of the college.\*\*\*

### Goals for students in Area 4:

1. Understand how, in the natural sciences, knowledge is created, developed, and changed through experimentation and reasoning;
2. Participate in scientific experimentation through laboratory and field exercises;
3. Understand successive experimentation as a means of replicating, controlling variables, explaining error, and building explanatory models;
4. Practice problem-solving using quantification, statistical analysis, and/or data manipulation;
5. Understand the basic scientific methods, concepts, and principles that pertain to one or more of the sciences;
6. Examine from a scientific perspective some of the major potentialities and constraints associated with the environment and human society, including the various roles that can be played by technology;
7. Understand the contributions of men and women to scientific knowledge and achievement.

For many students at Virginia Tech, acquiring detailed knowledge of one or more of the natural sciences is essential. But for all students a liberal education involves the study of what science is, of how it can be conducted, of what it can and cannot tell us about the world. Without scientific study and the experience offered by a laboratory, students perceive only vaguely how and why science functions as a crucial standard for knowledge and inquiry in modern life. The study of a science engages the student in analysis and deduction as well as empirical experimentation — that is, in scientific reasoning and discovery.

The impact of the natural sciences and technology on our globally interdependent world is one of the most important realities we face as we enter the 21st century. The science courses in the core curriculum have a special role in educating students about the critical relevance of scientific knowledge to the potentialities and dilemmas of our natural and social environments.

All of the following courses are approved for the University Core Curriculum for Area 4. If your college requires “depth studies” in this Area, you may choose one of the course combinations listed on page 26, or courses in a sequence (course numbers ending with 5 and 6; for example, BIOL 1005 + 1015 and 1006 + 1016). Colleges may also recommend particular combinations of courses (see page 27). Sequenced courses may be taken individually, unless listed together on one line. Lab courses are linked to lecture-discussion courses.

Some of these courses are not offered every term. Check the catalog and timetable for relevant offerings.

#### *Biology:*

BIOL 1005+BIOL 1015 General Biology I and General Biology Lab I  
 BIOL 1006+BIOL 1016 General Biology II and General Biology Lab II  
 BIOL 1105+BIOL 1115 Principles of Biology I and Principles of Biology Lab I  
 BIOL 1106+BIOL 1116 Principles of Biology II and Principles of Biology Lab II  
 BIOL H1205 Honors Biology I (includes lab) (WI)  
 BIOL H1206 Honors Biology II (includes lab) (WI)

#### *Chemistry:*

CHEM 1015+CHEM 1025 Introduction to Chemistry I and Introduction to Chemistry Lab  
 CHEM 1016+CHEM 1026 Introduction to Chemistry II and Introduction to Chemistry Lab (Pre: CHEM 1015+1025)  
 CHEM 1035+CHEM 1045 General Chemistry I and General Chemistry Lab  
 CHEM 1036+CHEM 1046 General Chemistry II and General Chemistry II Lab (Pre: CHEM 1035+1045)  
 CHEM 1074+CHEM 1084 General Chemistry for Engineers and General Chemistry Lab for Engineers

CHEM H1074+CHEM H1084 General Chemistry for Engineers and General Chemistry Lab for Engineers

#### *Geological Sciences:*

GEOL 1004 + GEOL 1104 Physical Geology and Physical Geology Laboratory  
 GEOL 1014 The Earth and Life Through Time (includes lab)  
 GEOL 1024 + GEOL 1124 Resources Geology and the Environment and Resources Geology Laboratory  
 (GEOL 1024 also in Area 7)

#### *Physics:*

PHYS 1055 + PHYS 1155 Introduction to Astronomy I and Astronomy Lab  
 PHYS 1056 + PHYS 1156 Introduction to Astronomy II and Astronomy Lab  
 (Pre: PHYS 1055+1155)  
 PHYS 2205 + PHYS 2215 General Physics I and Physics Lab  
 (Pre: MATH 1016)  
 PHYS 2206 + PHYS 2216 General Physics II and Physics Lab  
 PHYS 2305 Foundations of Physics I (part 1) (includes lab)  
 PHYS 2306 Foundations of Physics I (part 2) (includes lab)

## Area 5: Quantitative and Symbolic Reasoning

6 credit hours (2 courses)  
Selected from approved core courses

### Goals for students in Area 5:

1. Increase basic competence in quantitative reasoning and problem solving, starting at an appropriate entry level;
2. Understand some fundamental principles of reasoning that are involved in mathematics or logic;
3. Understand quantitative and symbolic reasoning through the study of significant applications of mathematical sciences.

Like writing, mathematics is essential to intellectual inquiry in many areas. It is a basic language of the natural and social sciences and has become a useful tool for research in the humanities. The technological uses of mathematics and related forms of symbolic analysis are of tremendous significance to human society. Furthermore, the history of quantitative and symbolic reasoning as an intellectual discipline is linked with philosophy, the arts, and other aspects of human culture. Thus, a broad education must include these forms of reasoning, both as skills and as central modes of thought. Mathematics, statistics, and certain areas of computer science and philosophy can all contribute to broadening a student's knowledge of quantitative and symbolic reasoning.

A diagnostic formula and testing procedure has been derived to predict readiness for Engineering/Science Calculus at Virginia Tech. A purpose of MATH 1015 is to serve those students who need further preparation. You can obtain information about the math diagnostic test from your advisor.

Many departments throughout the university have specific math sequence requirements. Be sure to check with your advisor about the requirements for your program.

All of the following courses are approved for the University Core Curriculum for Area 5. If your college requires “depth studies” in this Area, you may choose one of the course combinations listed on page 26, or courses in sequence (course number ending with 5 or 6; for example, MATH 1015 and 1016). Colleges may also recommend particular combinations of courses (see page 27).

Some of these courses are not offered every term. Check the catalog and timetable for relevant offerings.

#### *Computer Science:*

CS 1044 Introduction to Programming in C

#### *Philosophy:*

PHIL 1504 Language and Logic

PHIL 3505–3506 Modern Logic and Its Development

#### *Mathematical Sciences:*

MASC 1024 Mathematics: A Liberal Arts Approach

MASC 1034 Statistics: A Liberal Arts Approach

MASC 1044 Computer Science: A Liberal Arts Approach

#### *Statistics:*

STAT 2004 Introduction to Statistics (Pre: MATH 1015)

STAT 2404 Introduction to Probability (Pre: MATH 1015)

STAT 3005 Statistical Methods (Pre: MATH 1206)

STAT 3604 Statistics for the Social Sciences (Pre: MATH 1015)

STAT 3615 Biological Statistics

#### *Mathematics:*

MATH 1015–MATH 1016 Elementary Calculus with  
Trigonometry, I

MATH 1205–MATH 1206 Calculus I and II

MATH 1525–MATH 1526 Elementary Calculus with Matrices  
I and II

MATH 1535–MATH 1536 Geometry and Mathematics of Design

MATH 2015–MATH 2016 Elementary Calculus with  
Trigonometry, II (Pre: MATH 1016)

MATH 2524 Matrices, Modeling and Linear Programming  
(Pre: MATH 1016 or MATH 1205 or MATH 1526)

## Area 6: Creativity and Aesthetic Experience

1 credit hour from approved core courses

(College of Science majors must take one 3-credit course)

(Most majors in the College of Liberal Arts and Human Sciences must take one 3-credit course. See your advisor.)

### Goals for students in Area 6:

1. Participate in cultural events and activities on campus, in both popular and classical arts;
2. Understand how the artists or designers who produce these events and works have shaped their ideas;
3. Examine intuitive and metaphorical thought processes and their relationship to the human imagination and other intellectual abilities;
4. Explore the interaction of art and society, including the contributions of diverse groups to cultural life, such as women and members of minority groups;
5. Study selected classic works of fine and applied arts;
6. Participate in interpretive discussions, lectures, and demonstrations led by artists, designers, architects, musicians, and/or performers;
7. Explore connections between the arts and other forms of design and creativity.

The arts contribute significantly both to the experience and to the interpretation of human life. Creativity and aesthetic response span the boundaries among intellectual ideas, the imagination, and actual design. Moreover, the arts are always intimately linked with the material culture of a society — its modes of production and design — as well as with its values and ideas. Thus, the arts can be studied and experienced in a variety of ways: not only as “high culture” for an elite, but also as a means of tracing the history and ideas of particular societies; or as an active process of creative design and expression in many different physical forms. The metaphorical and intuitive thought processes that are essential to making and experiencing works of art are woven into many other human cultural and creative activities. Therefore, the arts have an important role to play in broadening both aesthetic and intellectual sensibilities. Most artistic media include a highly public dimension — concerts, exhibitions, performances, publications, public installations, and the built environment — in which the creative works of artists, designers, and their collaborators are accepted or contested as meaningful elements of the larger social fabric. A guided exposure to the arts can provide a valuable framework for continued participation in and appreciation of them beyond college.

**All of the following courses are approved for the University Core Curriculum Area 6. Courses marked with an asterisk are also listed in Area 2; remember that they CANNOT be used to count for BOTH Area 2 and Area 6 for an individual student. College of Science majors must choose one 3 credit hour course. Most majors in the College of Liberal Arts and Human Sciences must choose one 3 credit hour course.**

#### *Agriculture and Life Sciences:*

ALS 1004 Agriculture, The Arts, and Society

#### *Apparel, Housing, and Resource Management:*

AHRM 2254 Idea Development and Creativity in Apparel Design  
(3 cr.)

#### *Architecture:*

ARCH 1015 Foundation Design Laboratory (3 cr.)

(for ARCH majors only)

\*ARCH 3115 History of Architecture I (3 cr.)

\*ARCH 3116 History of Architecture II (3 cr.)

#### *Art and Art History:*

ART 1004 Experiencing the Visual Arts (1 cr.)

ART 1114 Living with Art and Design (3 cr.)

\*ART 2385 Survey of the History of Western Art I (3 cr.)

\*ART 2386 Survey of the History of Western Art II (3 cr.)

\*ART 3084 Greek Arts and Architecture (3 cr.) (Pre: ART 2385)

\*ART 3184 Roman Art and Architecture (3 cr.) (Pre: ART 2385)

\*ART 3284 Medieval Art and Architecture (3 cr.) (Pre: ART 2385)

\*ART 3384 Italian Renaissance Art and Architecture (3 cr.) (WI)  
(Pre: ART 2386)

\*ART 3484 Baroque and Rococo Art and Architecture (3 cr.)  
(Pre: ART 2386)

\*ART 3584 Nineteenth Century Art: Neo-classicism to Post-Impressionism (3 cr.) (Pre: ART 2386)

\*ART 3784 Twentieth Century European and American Art (3 cr.)  
(Pre: ART 2386)

\*ART 3884 American Art to 1914 (3 cr.) (WI) (Pre: ART 2386)

#### *Communication:*

COMM 2054 Introduction to Film (3 cr.)

(Pre: sophomore standing)

#### *English:*

\*ENGL 1604 Introduction to Poetry

\*ENGL 1614 Introduction to Short Fiction

\*ENGL 1634 Intro. to Shakespeare

ENGL 2744 Introduction to Creative Writing (Pre: ENGL 1106)

#### *Teaching and Learning:*

EDPE 2204 Creative Dance (3 cr.)

#### *Fine Arts:*

FA 2004 Creativity and Aesthetic Experience (1 cr.)

*Horticulture:*

HORT 2164 Floral Design (3 cr.)

*Humanities:*

HUM 2214 Experiences in the Arts (1 cr.)

*Interior Design:*

ITDS 1114 Design Appreciation (2 cr.)

*Landscape Architecture:*

LAR 1144 Introduction to Landscape Architecture (1 cr.)

*Music:*

\*MUS 1104 Music Appreciation (3 cr.)

\*MUS 2115 Survey of Music I (3 cr.)

\*MUS 2116 Survey of Music II (3 cr.)

\*MUS 3115 Music in America I (3 cr.)

\*MUS 3116 Music in America II (3 cr.)

MUS 3314 Instrumental Ensemble Music (1 cr.)

(Pre: consent of instructor)

MUS 3414 Choral Ensemble Music (1 cr.)

(Pre: consent of instructor)

*Theatre Arts:*

\*TA 2014 Introduction to Theatre (3 cr.)

\*TA 2024 Introduction to Acting (3 cr.)

\* indicates in Area 2 also



## Area 7: Critical Issues in a Global Context

3 credit hours (1 course)  
Selected from approved core courses

### Goals for students in Area 7:

Goals 1–4 apply to all courses in Area 7. The remaining goals are addressed to varying degrees, depending on the content of the course.

1. Examine an issue or a group of related issues whose influence on contemporary life extends beyond the boundaries of the United States and significantly involves other societies, cultures, and geographical locations;
2. Develop an informed understanding of the context of the critical issues under study, including relevant historical, technological, cultural, and/or scientific factors;
3. Learn how to interpret and evaluate controversial issues of the day from several distinctive and differing points of view, using appropriate information from varied sources;
4. Relate contemporary events at home and abroad to the subject matter of the course;
5. Gain an informed understanding of the crucial national and international role played by technology with respect to selected critical issues;
6. Examine the root causes and influences of such dynamics as racism, ethnic prejudice, sexism, and other forms of social exclusion;
7. Develop an understanding of the culture, the state of technological and economic development, and the values of a particular society or people outside the United States;
8. Examine the role of ethical thinking and action in relation to issues in such areas as technological development, political policy, the environment, and social and economic patterns.

Global interdependence is a powerful fact of life as we enter the 21st century. The dilemmas and possibilities humankind faces cannot be effectively addressed by any single culture or group of people acting alone. An awareness of critical issues of the day is thus an essential extension of liberal education and prepares students to respond thoughtfully to the complex world in which they will live. As a state institution of higher education, Virginia Tech has a particular responsibility to prepare students to react creatively and constructively to the social, international and intercultural, and environmental challenges that confront the Commonwealth and the world.

The university therefore requires that undergraduates take at least one course that deals in a substantial way with major issues of critical importance for the larger global society. Courses that satisfy this requirement can be taken in any area of the curriculum, including the major, the core curriculum courses, or electives. Students may select from a wide range of courses that focus on major international and intercultural issues in contemporary world affairs, including such areas as politics, the management of conflict, the roles of economic competition and cooperation, demographic issues, and the emerging world order. Many science courses in Area 7 examine global issues associated with environmental decline and restoration. Some engineering courses study the role of technology as a major force in shaping the cultural and economic conditions of human societies. Alternatively, some courses include comparative or cross-disciplinary examinations of cultures, societies, and belief systems, including those of third-world countries. Other courses examine the social and personal implications of cultural, racial, and gender-based differences. But regardless of the topical focus of the course, all Area 7 courses utilize interdisciplinary approaches in which a number of relevant factors — historical, ethical, technological, cultural, and/or scientific are brought to bear on the issues under discussion.

In many cases, students whose curriculum already emphasizes one of these areas should take a Critical Issues course in another topical area, as a means of broadening their exposure to important issues of the day. **A course taken to satisfy another area of the Core that is listed within Area 7 will satisfy the Area 7 requirement simultaneously.**

All of the following courses are approved for the University Core Curriculum for Area 7. Indications are listed with each course if it is also an approved course for another area of the University Core Curriculum. Area 7 courses may also fulfill requirements in majors, minors, or college curricula.

Some of these courses are not offered every term. Check the catalog and timetable for relevant offerings.

*Agricultural and Applied Economics:*

- AAEC 2464 Religion and Science  
(cross-listed with HST 2464 and REL 2464)  
AAEC 3204 International Agricultural Development and Trade  
(Pre: AAEC 1005, 1006)  
AAEC 3314 Environmental Law

*Aerospace Studies:*

- AS 4215 National Security Forces in Contemporary American Society

*Apparel, Housing and Resource Management:*

- AHRM 4604 Housing: Energy and the Environment  
(Pre: AHRM 3604)

*Biological Systems Engineering:*

- BSE 4394 Water Supply and Sanitation in Developing Countries

*Biology:*

- BIOL 2204 Plants and Civilization

*Black Studies:*

- BLST 1814 Introduction to African Studies  
(cross-listed with IDST 1814) (also in Area 2)

*Civil Engineering:*

- CEE 3104 Introduction to Environmental Engineering  
(Pre: CHEM 1035, 1036, MATH 1205, PHYS 2175)  
CEE 4554 Natural Disaster Mitigation and Recovery  
(Pre: 3014, 3304, 3404, 3514, 3684)

*Communication:*

- COMM 3204 Multicultural Communication  
(cross-listed with HUM 3204)

*Crop and Soil Environmental Sciences:*

- CSES 3444 World Crops and Cropping Systems  
(Pre: junior standing)

*Economics:*

- ECON 4124 Growth and Development (WI)  
(Pre: ECON 2005, 2006)  
ECON 4135 International Economics I  
(Pre: ECON 2005, 2006)  
ECON 4136 International Economics II  
(Pre: ECON 3204)

*Engineering:*

- ENGR 1814 Energy, Resource Development and the Environment  
ENGR 2864 Electric Energy and Global Environment  
(Pre: Math 1114 & 1205 or 1525)

*English:*

- ENGL 1644 Intro. to World Literature (also in Area 2)  
ENGL 3534 Literature and Ecology (also Area 2) (WI)  
(Pre: ENGL 1106 or H1204)  
ENGL 3644 Postcolonial Cultural Studies (also Area 2)  
(Pre: ENGL 1106 or H1204)

*Entomology:*

- ENT 2004 Insects and Human Society

*Environmental Science:*

- ENSC 3604 Fundamentals of Environmental Science

*Finance:*

- FIN 4144 International Financial Management (Pre: FIN 3104)

*Fisheries and Wildlife Sciences:*

- FIW 2114 Principles of Fisheries and Wildlife Management  
(Pre: BIOL 1006 or 1106)

*Forestry:*

- FOR 3784 World Forestry (cross-listed with WOOD 3784)  
(Pre: junior standing)

*Foreign Languages:*

- RUS 2734 Russian Culture and Civilization  
(cross-listed with HUM 2734) (also in Area 2)

*Geography:*

- GEOG 1014 World Regions (also Area 3)  
GEOG 2034 Geography of Global Conflict  
GEOG 2055 World Politics and Economy I  
(cross-listed with IS 2055 and PSCI 2055) (also in Area 3)  
GEOG 2134 Geography of Global Economy  
GEOG 3104 Environmental Problems, Population and Development  
GEOG 4074 Medical Geography (Pre: 3 hours of Geography)  
GEOG 4204 Geography of Resources  
GEOG 4764 International Development  
(cross-listed with SOC 4764 and UAP 4764)  
(Pre: junior standing)

*Geological Sciences:*

- GEOL 1024 Resources Geology and the Environment  
(also in Area 4)

*History:*

- HIST 1214 History of the Modern World  
HIST 1224 Introduction to Latin America (WI)  
HIST 2054 Engineering Cultures (cross-listed with HST 2054)  
(also in Area 2)  
HIST 3184 History of US Foreign Relations  
HIST 3394 Europe Since World War II  
HIST 3654 The Arab-Israeli Dispute

*Hospitality and Tourism Management:*

- HTM 2454 Travel and Tourism Management

*Human Development:*

- HD 3314 Human Sexuality (Pending governance approval)

*Humanities:*

- HUM 3204 Multicultural Communication  
(cross-listed with COMM 3204)  
HUM 2734 Intro. to Russian Culture and Civilization  
(cross-listed with RUS 2734) (also in Area 2)

*Humanities, Science, and Technology:*

- HST 2054 Engineering Cultures (cross-listed with HIST 2054)  
(also in Area 2)  
HST 2464 Religion and Science  
(cross-listed with AAEC 2464 and REL 2464)



*Industrial and Systems Engineering:*

ISE 4304 Global Issues in Industrial Management

*International Studies:*

IS 2055 World Politics and Economy I

(cross-listed with PSCI 2055 and GEOG 2055) (also in Area 3)

IS 2056 World Politics and Economy II

(cross-listed with PSCI 2056) (also in Area 3)

*Management:*

MGT 4314 International Management

(Pre: ECON 2005-2006 and junior standing)

*Marketing:*

MKTG 4704 International Marketing

(Pre: MKTG 3104 and junior standing)

*Mining and Mineral Engineering:*

MINE 3074 History of Mining (Pre: junior standing)

*Naval Science:*

MN 2104 Seapower and Maritime Affairs

*Philosophy:*

PHIL 2304 Global Ethics (also in Area 2)

*Physics:*

PHYS 2074 Highlights of Contemporary Physics

*Plant Pathology, Physiology and Weed Science*

PPWS 2104 Domesticating the Gene

(Pre: BIOL 1005, 1105 or equivalent)

*Political Science:*

PSCI 1024 Introduction to Comparative Government and Politics

(also in Area 3)

PSCI 2055 World Politics and Economy I

(cross-listed with IS 2055 and GEOG 2055) (also in Area 3)

PSCI 2056 World Politics and Economy II

(cross-listed with IS 2056) (also in Area 3)

*Religion:*

REL 1024 Judaism, Christianity, Islam (also in Area 2)

REL 2234 Women, Ethics, and Religion

(cross-listed with WS 2234) (also in Area 2)

REL 2464 Religion and Science

(cross-listed with AAEC 2464 and HST 2464)

*School of Public and International Affairs:*

SPIA 1004 Nations and Nationalities (also in Area 3)

*Sociology:*

SOC 3504 Population Trends and Issues

SOC 4764 International Development

(cross-listed with GEOG 4764 and UAP 4764)

(Pre: junior standing)

*Urban Affairs and Planning:*

UAP 3344 Global Environmental Issues: Interdisciplinary Perspectives

UAP 3894 World Poverty/Hunger in Urban Regional Context

UAP 4214 Women, Environment and Development in Global Perspective (Pre: UAP 3344 or 3354, or 3000 Level Social Science, or Women's Studies )

UAP 4764 International Development (Pre: junior standing)

(cross-listed with GEOG 4764 and SOC 4764)

*Wood Science and Forest Products:*

WOOD 2114 The Environment, Society and the Use of Wood

WOOD 3784 World Forestry (cross-listed with FOR 3784)

(Pre: junior standing)

*Women's Studies:*

WS 3214 Global Feminisms (Pre: WS 2264)

## Depth Studies Combinations

If your college requires “depth studies” you may choose one of the course combinations listed below, or courses in a sequence (course numbers ending with 5 and 6; for example, AAEC 1005 and AAEC 1006). Colleges may also recommend particular combinations of courses. It is recommended that you consult with your advisor to determine appropriate course combination for your college.

### ***Area 2: Ideas, Cultural Traditions, and Values***

ART 2385 and 1 of ART 3084, 3184, or 3284  
ART 2386 and 1 of ART 3384, 3484, 3584, 3784, or 3884

BLST 1714 and SOC 2024

CLA/ENGL/HUM 2444 and 2454

2 of SPAN 3204, 3214, 3314, or 3324  
2 of FR/ENGL 3404, GER/ENGL 3414, RUS/ENGL 3424,  
or SPAN/ENGL 3434  
2 of FR/HUM 2714, GER/HUM 2724, RUS/HUM 2734,  
SPAN/HUM 2744, or SPAN/HUM 2754

HORT 3524 and LAR 4034

2 of HUM 1114, 1124, 1214, or 1224  
HUM 1314 and 1324  
HST 1504 and 1 of HUM 1604, HST 2154, or 2354  
HUM 1604 and 2204  
HUM 1704 and 4404  
2 of HUM 1914, HUM 1924, or REL 1014  
HST 3105 and 4304

MUS 1104 and 1 of MUS 3115 or 3116

PHIL 1204 and 1304  
PHIL 1204 and 1 of PHIL 3454, 4204, 4214, or 4224  
PHIL 1304 and 1 of PHIL 3314, 4304, or 4334

REL 1014 and 1 of REL 1024, 3214, or 3224  
REL 1024 and REL 2124  
REL 2424 and 1 of REL 3414 or 3424

TA 2014 and 2024

WS 1824 and WS 2224

### ***Area 3: Society and Human Behavior***

GEOG 1004 and GEOG 1014

PSYC 2004 and SOC 1004  
PSYC 2004 and 1 of PSYC 2034, 2044, 2054, 2064, 2084,  
or 3014

SOC 1004 and 1 of SOC 2004, 2014, 2024, 2304, 3004, or  
3304

SOC 1014 and SOC 2504  
SOC 2304 and SOC 4304  
SOC 3504 and SOC 3604

UAP 1024 and UAP 3014  
UAP 2014 and UAP 2024

### ***Area 4: Scientific Reasoning and Discovery***

GEOL 1004 & Lab GEOL 1104 and 1 of GEOL 1014 or  
GEOL 1024 & Lab 1124

### ***Area 5: Quantitative and Symbolic Reasoning***

MASC 1024 and 1 of MASC 1034 or 1044  
MASC 1044 and 1 of CS 1024 or 1044

MATH 1016 and MATH 2015  
1 of MATH 1016 or 1205, and 1 of CS 1024, CS 1044,  
STAT 2004, STAT 2404, STAT 3005, STAT 3604,  
STAT 3615

MATH 1526 and 1 of MATH 2524, CS 1024, CS 1044,  
STAT 2004, STAT 2404, STAT 3005, STAT 3604,  
STAT 3615

PHIL 1504, and CS 1024 or CS 1044

## Summary of College Requirements in the Core Curriculum

There are some differences among the colleges and departments in how Core Curriculum courses are to be used. In this section, we identify particular Core Curriculum requirements that are unique to a college and/or vary within a college. Use the information to plan your program of core courses. **It is very important to consult with your advisor because your major department may also require certain core courses.**

### *College of Agriculture and Life Sciences*

In addition to the University Core Curriculum requirements, the College of Agriculture and Life Sciences requires 12 additional semester credits in Area 4, Scientific Reasoning and Discovery. The University Core requirement in Area 3 should be fulfilled by Agricultural Economics or Economics courses, except for Biochemistry majors who may choose from the Area 3 listings.

### *College of Architecture and Urban Studies*

Students in the College of Architecture and Urban Studies should check with their advisors about Core requirements in their division of the college.

### *Pamplin College of Business*

Specified core courses for all Pamplin College of Business majors:

#### *Area 3: Society and Human Behavior*

ECON 2005-2006: Principles of Economics

PSYC 2004 or SOC 1004

Two additional social science courses. Students are advised to choose one of these in common with Area 7 courses in the Social Sciences.

#### *Area 5: Quantitative and Symbolic Reasoning*

MATH 1525-1526: Elementary Calculus and Matrices

There are no college or department designations in the other areas.

### *College of Engineering*

In order to meet specific accreditation requirements for calculus and natural sciences, the college has specified required sequences in Areas 4 and 5.

Some departments may specify additional core courses on their checksheets.

#### *Area 4: Scientific Reasoning and Discovery*

All engineering students (except Mining) must complete PHYS 2305-2306.

Mining Engineering students are encouraged to speak with their academic advisor regarding satisfaction of Area 4 requirements.

#### *Area 5: Quantitative and Symbolic Reasoning*

All engineering students must complete MATH 1205, 1206. The college also specifies other courses in this area of study.

#### *Area 2: Ideas, Cultural Traditions, and Values; and*

#### *Area 3: Society and Human Behavior*

Students who enrolled at Virginia Tech prior to First Summer session 1998 are subject to depth and breadth requirements when selecting courses within Area 2 and Area 3. These students are instructed to see their academic advisor to ensure completion of these graduation requirements.

***Liberal Arts and Human Sciences***

Most Liberal Arts and Human Sciences students must complete an approved sequence of courses “depth studies” in Area 4: Scientific Reasoning and Discovery (8 hours) and Area 5: Quantitative and Symbolic Reasoning (6 hours).

In order to meet the foreign language requirement through work taken in high school, students in the majors of Classical Studies, Communication, English, French, German, History, Interdisciplinary Studies, International Studies, Music, Philosophy, Political Science, Sociology, Spanish and Theatre Arts must have passed the third year (Level 3) of one foreign language. Students in the majors of Apparel, Housing, and Resource Management, Education, and Human Development must have completed two years of the same language in high school.

Most Liberal Arts and Human Sciences students are required to take one 3-credit hour class in Area 6. Keep in mind that a course may not be counted in both Area 2 and Area 6 for an individual student.

For detailed information about the College of Liberal Arts and Human Sciences core requirements consult your advisor, your department’s undergraduate office of the Academic Dean’s office in 238 Wallace Hall.

***College of Natural Resources***

Students in the College of Natural Resources should refer to the degree-specific check sheets for University Core Curriculum requirements. Core requirements vary by option and specific Core courses often are required for each of the 7 Core Areas.

***College of Science***

Most Science students must complete an approved sequence of courses in Area 4: Scientific Reasoning and Discovery (8 hours) and Area 5: Quantitative and Symbolic Reasoning (6 hours).

In order to meet the foreign language requirement through work taken in high school, Science students must have passed the third year (Level 3) of one foreign language (the University requirement is Level 2).

Science students are required to take one 3-credit hours class in Area 6. Keep in mind that a course may not be counted in both Area 2 and Area 6 for an individual student.

For detailed information about the College of Science core requirements, consult the Guide Sheet, available through your advisor or at The Science Administration Building.

## Core Curriculum Worksheet

1. The following page is a worksheet which is intended to help you with tentative long-range planning.
2. Before completing the worksheet, check your University Catalog and the checksheet for your major to find out if your major or college predesignates specific courses in any Area(s) of study. (see also “Summary of College Requirements” in this handbook.)
3. Remember, the kind of consideration you put into this exercise will have a direct bearing on your academic experience at Virginia Tech. Work with your advisor to identify your goals and preferences as they relate to the Core Curriculum. You need to define how your Core Curriculum will complement the courses in your major.
4. Fill in the blanks with the department abbreviation and course number. Put a check beside each blank when you have successfully completed the course. Also note in Areas 2–5 whether there are additional college requirements.

## Course Preferences Worksheet

### Area 1: Writing and Discourse

6 semester credit hours of Freshman Writing

Additional College Requirements:

(3) \_\_\_\_\_

(3) \_\_\_\_\_

(3) In-major writing intensive \_\_\_\_\_

(3) Second writing intensive \_\_\_\_\_

### Area 2: Ideas, Cultural Traditions, and Values

6 semester credit hours selected from approved core courses

Additional College Requirements:

(3) \_\_\_\_\_

(3) \_\_\_\_\_

### Area 3: Society and Human Behavior

6 semester credit hours selected from approved core courses

Additional College Requirements:

(3) \_\_\_\_\_

(3) \_\_\_\_\_

### Area 4: Scientific Reasoning and Discovery

(See note on page 19 regarding the administrative change to the required labs for Area 4 and consult with your advisor in your major.)

8 semester credit hours selected from approved core courses

Additional College Requirements:

(3) \_\_\_\_\_

(1) \_\_\_\_\_

(3) \_\_\_\_\_

(1) \_\_\_\_\_

### Area 5: Quantitative and Symbolic Reasoning

6 semester credit hours selected from approved core courses

Additional College Requirements:

(3) \_\_\_\_\_

(3) \_\_\_\_\_

### Area 6: Creativity and Aesthetic Experience

1 semester credit hour selected from approved core courses

Additional College Requirements:

(Most College of Liberal Arts and Human Sciences majors must take one 3-credit course.) (College of Science majors must take one 3-credit course)

(1) \_\_\_\_\_

### Area 7: Critical Issues in a Global Context

3 semester credit hours selected from approved core courses

Additional College Requirements:

(3) \_\_\_\_\_

### Foreign Languages:

Check the University Undergraduate Catalog for university-wide requirements and for requirements specific to the College of Liberal Arts and Human Sciences and the College of Science (see page 28) and consult with your advisor.

For further information:

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