



University Core Curriculum

A Guide for Students

2006 - 2007

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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:

A Guide for Students 2006 - 2007

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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 utilize the University's Core Curriculum/Curriculum for Liberal Education as part of your Virginia Tech experience. How can you "utilize" it or perhaps, you might even ask, what is it? The course listings and guides which follow should help, but more introduction is needed. Some general background will help you understand how Virginia Tech views this part of your education. This is very important since courses in the Core Curriculum/Curriculum for Liberal Education may account for a third or more of your academic curriculum. We are now in the process of renewal of the university's liberal education goals as reflected by the proposed new name, *Curriculum for Liberal Education*.

Scholars and experts have long debated ideas about what is really fundamental to our knowledge? What should all educated persons know? What is the educational trademark of an entire university or school? Some see fundamental knowledge as highly concentrated in the classics, philosophy, or history, and focused on a limited number of courses and texts that all students in a particular school would study. Alternatively, 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 fundamental curriculum. At Virginia Tech our Core Curriculum/Curriculum for Liberal Education has elements of each, but with a primary tendency toward the second. We have "core" values as a university and "fundamental" goals for liberal education. The 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.

Currently there are debates about the quantity of detailed and specific information you will need in your chosen major, in relation to the content and skills in what we call liberal education. There is much you will need to learn in your chosen major, but there is an increasing likelihood that you may change careers (and possibly majors – maybe even several times). *The gains you will reap from a strong liberal education are the cornerstones 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 a liberal 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 citizen in your chosen community. Just a few examples of these liberal education outcomes are:

- The ability to make connections between varying levels and types of knowledge, to operate despite uncertainty, to be creative in finding 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, a general and/or liberal education program, which in our case is referred to as the Core Curriculum/Curriculum for Liberal Education.

At Virginia Tech we have been developing our Core Curriculum/Curriculum for Liberal Education program for over twenty years. This Core Curriculum Guide for Students /Curriculum for Liberal Education Student Guide list hundreds of courses divided into seven content areas. You can, with the help of advisors, make choices that will have greater meaning than you might imagine. Almost half of our first year students this summer will be offered the opportunity to develop a "Course of Study Planner" that will help you make educated estimations of the courses and directions you will pursue for your entire undergraduate career. We have also initiated a new concept to help you to holistically view your entire education called Virginia Tech Pathways for Learning (VT Pathways). It is critical to always think, as much as possible, about your entire education, and not get caught up in fulfilling courses semester by semester. Many factors will play into your choices. Class types, sizes, and the requirements of your major will vary greatly and contribute to what can be chosen. Your goals and interests combined with advising support will help you determine not just courses

that will work, or those held at the most desirable times of the day, but courses that “fit” with your needs at specific times in your personal and educational development. Beginning to understand and know the ways you learn the best will greatly assist in your choices in the Core Curriculum/Curriculum for Liberal Education. The ultimate goal is that as soon as possible, you must assume responsibility for the programming of your education – **No one else can do it for you**. Please be sure and read the statements on pages 7 and 8 about student, advisor and university responsibilities in advising.

Many faculty members and university administrators are continually working to reconsider Virginia Tech’s Core Curriculum/Curriculum for Liberal Education. The current curriculum is strong as it is, however there is always room for improvement. Please do not be concerned about possible changes, but 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. We are initiating a University Center for Undergraduate Education, (located in Hillcrest Hall) and all of the efforts and directions previously mentioned will fall into this organizational scheme.

Thanks for reading this introduction and I wish you the best of luck over your entire academic career at Virginia Tech. 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. And remember all Virginia Tech students and faculty members are charged to, *Invent the Future!*

Ron Daniel

Professor of Architecture
Associate Provost for Undergraduate Education
Director, University Center 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.

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 13 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 "Student's Responsibility - Satisfactory Progress Toward Degree" in the 2006-2007 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. 29-30).

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 1204H, 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 (see page 12).

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 1204H for students who meet University Honors Standards or English Department Honors Standards. Honors students who successfully complete ENGL 1204H 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**

Students entering in Fall 1999 and thereafter must complete two (2) Writing Intensive courses.
Students should consult with an advisor.

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.*

A complete listing of Writing Intensive courses can be found starting on page 13. Core courses are designated by (WI) throughout this guide.

****ViEWS – Visual Expression, Writing and Speaking (For students entering in Fall 2005 and thereafter.)**

Virginia Tech affirms its commitment to ensuring that every graduate is able to effectively use a variety of spoken, visual and written communication strategies which are necessary for success as a student, for employment, and for life as a responsible citizen. For students entering in Fall 2005 the writing-intensive (WI) and writing across the major (WAM) requirement is being transitioned into the ViEWS (Visual Expression, Writing and Speaking) requirement. The ViEWS requirement, unlike the WI requirement is the responsibility of the department to certify.

The responsibility for deciding how to implement curriculum to recognize communication needs and requirements will now be placed at the department level rather than at the university level. Departments may choose alternate curricular methods for addressing broader message development and presentation skills. Students should consult with the department to determine how this requirement will be met in their particular major.

Some departments will continue with the existing WI and WAM because it best meets their disciplinary demands and student needs. WI and WAM courses will continue to be listed in the University Core Curriculum Guide. Other departments have chosen alternatives to meet the requirement by specifying a given number of credit hours, either within or outside of the department; by keeping or modifying current WAM proposals; while others have identified a series or sequence of courses.

Please note that students who entered the university prior to Fall 2005 and maintain continuous enrollment until graduation must meet the previous WI requirement.

Students should consult with an advisors for specific instructions.

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

Agricultural and Extension Education
AEE 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^{2,6} ART 3884^{2,6}

Building Construction
BC 4434

Interior Design
ITDS -- Writing Across the Major

Landscape Architecture
LAR 4034²
LAR — Writing Across the Major

Urban Affairs and Planning
UAP 3014³
UAP / PSCI 3714 (previously 3715)
UAP 4264²

Pamplin College of Business

Accounting & Information Systems
ACIS 4415 (for ACCT majors only)
ACIS 4524 (for ACCT majors only)

Business Information Technology
BIT 4484 (for BIT majors only)
(replaces BIT 4434)

Economics
ECON 4024 ECON 4084
ECON 4924

Finance
FIN 4244 (for Business juniors and seniors only)
FIN 4254 (for Business juniors and seniors only)
FIN 4274 (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 4005 - 4006 (replaces ISE 3414 and 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 2504

AHRM 3214 (for Clothing & Textile majors only)

AHRM 4214 (for Clothing & Textile majors only)

AHRM 4694

Communication

COMM 2024 COMM 3144

COMM 4144 COMM 3174

English

ENGL 2604 ENGL 3764

ENGL 3534^{2,7} 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 1224⁷ HIST 4004 HIST 4064

HIST 2004 HIST 4014 HIST 4074

HIST 2104H³ 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)

Human Services — Writing Across the Major

Interdisciplinary Studies

IDST 3114 IDST 4114

STS/WS 4704³WS 2244²*International Studies*

IS 4004

Music

MUS 3114 MUS 3134

MUS 3124 MUS 3144

*Philosophy*PHIL 4204² PHIL 4334²PHIL 4214² PHIL 4604PHIL 4224² PHIL 4614²*Political Science*

PSCI 2024 PSCI/UAP 3714

Sociology

SOC 3104

Teaching and Learning

EDCI 4404

EDPE 2204

EDCT 2604 EDCT 4424

Theatre Arts

TA 2114 TA 3105 TA 3106

College of Natural Resources*Fisheries and Wildlife*

FIW 4714

FIW - Writing Across the Major

(for Wildlife Science majors)

Forestry

FOR 3314 FOR 3364 FOR 4434

Geography

GEOG 3224 GEOG 3234

College of Science*Biology*BIOL 1205H⁴ BIOL 4244BIOL 1206H⁴ BIOL 4314

BIOL 3404H 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 4084

ECON 4924

Geosciences

GEOS 3204 GEOS 4024 (for GEOS 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.

Africana Studies:

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

Architecture:

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

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

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)

Apparel, Housing and Resource Management:

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

- 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)

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 1684 Introduction to Drama
 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 1204H or COMM 1016)
 ENGL 2516 Survey of British Literature (Pre: ENGL 1106 or 1204H or COMM 1016)
 ENGL 2525 Survey of American Literature (Pre: ENGL 1106 or 1204H or COMM 1016)
 ENGL 2526 Survey of American Literature (Pre: ENGL 1106 or 1204H 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 1204H) (also in Area 7)
 ENGL 3644 Postcolonial Cultural Studies (Pre: ENGL 1106 or 1204H) (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)

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 3404 Early Peninsular Culture and Literature (Pre: SPAN 3304)
 SPAN 3414 Modern Peninsular Culture and Literature (Pre: SPAN 3304)
 SPAN 3434 Hispanic Literature in English Translation (cross-listed with ENGL 3434) (Pre: 2000 level ENGL course)
 SPAN 3444 Early Spanish-American Culture and Literature (Pre: SPAN 3304)
 SPAN 3454 Modern Spanish-American Culture and Literature (Pre: SPAN 3304)

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 STS 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

Interior Design:

ITDS 1114 Design Appreciation (3 cr.) (also in Area 6)

Judaic Studies:

JUD2414 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)
PHIL 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)

Science and Technology in Society:

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

Sociology:

SOC 2024 Minority Group Relations
(ONLY in combination with AFST 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 – 2006 Principles of Economics
ECON 2025H – 2026H Honors Principles of Economics

Geography:

GEOG 1004 Introduction to Human Geography
GEOG 1014 World Regions (Pre: GEOG 1004) (also in Area 7)
GEOG 2054 Introduction to World Politics
(cross-listed with PSCI 2054 and IS 2054) (also in Area 7)

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 2104H 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 STS 3705)
HIST 3706 History of Science II (cross-listed with STS 3706)

Hospitality and Tourism Management:

HTM 3484 Socio-Cultural Impacts of Tourism

Human Development:

HD 1004 Human Development I: Childhood and Adolescence
HD 2004 Human Development II: Adulthood and Aging

International Studies:

- IS 2054 Introduction to World Politics
(cross-listed with PSCI 2054 and GEOG 2054) (also in Area 7)
IS 2064 The Global Economy and World Politics
(cross-listed with PSCI 2064) (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 2054 Introduction to World Politics
(cross listed with IS 2054 and GEOG 2054) (also in Area 7)
PSCI 2064 The Global Economy and World Politics
(cross-listed with IS 2064) (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)

Science and Technology in Society:

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

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 STS 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. Describe the methods of inquiry that lead to scientific knowledge and be able to distinguish science from pseudoscience;
2. Evaluate the credibility of, use, and misuse of scientific information;
3. Recognize how science is self-correcting through formulation of hypotheses, testing of these hypotheses by carefully designed experiment or by observation, and by appropriate modification of hypotheses;
4. Given a theory or model, make predictions about the results of an experiment or observational study, observe the outcomes, and compare the predictions with the outcomes. Recognize how to reason scientifically, how to make appropriate assumptions, and how to use scientific methods and tools to solve basic problems within natural science;
5. Organize scientific information and data into trends and patterns using spatial, graphical, symbolic, and numerical methods to sort, analyze, and interpret natural phenomena;
6. Communicate effectively the results of a set of scientific experiments or observations;
7. Provide examples of the interdependence between social or ethical issues and developments in science and technology;
8. Give examples of the roles of diverse individuals and approaches in advancing scientific knowledge.

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 1205H Honors Biology I (includes lab) (WI)
 BIOL 1206H Honors Biology II (includes lab) (WI)

CHEM 1074H+CHEM 1084 General Chemistry for Engineers and General Chemistry Lab for Engineers

Geosciences:

GEOS 1004 + GEOS 1104 Physical Geology and Physical Geology Laboratory
 GEOS 1014 The Earth and Life Through Time (includes lab)
 GEOS 1024 + GEOS 1124 Resources Geology and the Environment and Resources Geology Laboratory (GEOS 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)

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

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 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

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

Apparel, Housing, and Resource Management:

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

*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)

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.)

Communication:

COMM 2054 Introduction to Film (3 cr.)

(Pre: sophomore standing)

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)

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 (3 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.

Africana Studies:

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

Agricultural and Applied Economics:

AAEC 2464 Religion and Science
(cross-listed with STS 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

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
(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

English:

ENGL 1644 Intro. to World Literature (also in Area 2)
ENGL 3534 Literature and Ecology (also Area 2) (WI)
(Pre: ENGL 1106 or 1204H)
ENGL 3644 Postcolonial Cultural Studies (also Area 2)
(Pre: ENGL 1106 or 1204H)

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 2054 Introduction to World Politics
(cross-listed with IS 2054 and PSCI 2054) (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)

Geosciences:

GEOS 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 STS 2054)
(also in Area 2)
HIST 2124 Critical Issues in World History
HIST 3184 History of US Foreign Relations
HIST 3394 Europe Since World War II
HIST 3554 Age of Globalization
HIST 3654 The Arab-Israeli Dispute

Hospitality and Tourism Management:

HTM 2454 Travel and Tourism Management

Human Development:

HD 2314 Human Sexuality

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)

Industrial and Systems Engineering:

ISE 4304 Global Issues in Industrial Management

International Studies:

IS 2054 Introduction to World Politics
(cross-listed with PSCI 2054 and GEOG 2054) (also in Area 3)
IS 2064 The Global Economy and World Politics
(cross-listed with PSCI 2064) (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 Minerals 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 2054 Introduction to World Politics
(cross-listed with IS 2054 and GEOG 2054) (also in Area 3)

PSCI 2064 The Global Economy and World Politics
(cross-listed with IS 2064) (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 STS 2464)

School of Public and International Affairs:

SPIA 1004 Nations and Nationalities (also in Area 3)

Science and Technology in Society:

STS 2054 Engineering Cultures (cross-listed with HIST 2054)
(also in Area 2)

STS 2464 Religion and Science
(cross-listed with AAEC 2464 and REL 2464)

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)

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

AFST 1714 and SOC 2024

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

CLA/ENGL/HUM 2444 and 2454

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

STS 1504 and 1 of HUM 1604, STS 2154, or 2354

HUM 1604 and 2204

HUM 1704 and 4404

2 of HUM 1914, HUM 1924, or REL 1014

STS 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

GEOS 1004 & Lab GEOS 1104 and 1 of GEOS 1014 or

GEOS 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 3005, STAT 3604, STAT 3615

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

PHIL 1504 and 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 _____

*(See note on page 12 regarding the ViEWS requirement for students entering in Fall 2005 and thereafter. Students should consult with an advisor for specific instructions.)

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 20 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 29) and consult with your advisor.

For further information:

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