PATHWAYS
TO GENERAL EDUCATION

VIRGINIA TECH™

1 - Discourse

- Exchange of ideas in writing or speaking, adapted to specific contexts and developed through discovery, analysis, creation, presentation, and evaluation. A student who is competent in discourse demonstrates the ability to reason, write, and speak effectively for academic, professional, and public purposes. In meeting the Discourse core concept, students will demonstrate increasing proficiency over the years. All learning indicators would be met in all courses, but expectations for proficiency would be heightened for advanced/applied courses.

- **Credit hours:** 9 credits -- 6 foundational + 3 advanced/applied writing and/or speaking courses

Student Learning Outcomes

1. Discover and comprehend information from a variety of written, oral, and visual sources.
2. Analyze and evaluate the content and intent of information from diverse sources.
3. Develop effective content that is appropriate to a specific context, audience, and/or purpose.
4. Exchange ideas effectively with an audience.
5. Assess the product/presentation, including feedback from readers or listeners.

2 - Critical Thinking in the Humanities

- Interpretation and analysis of texts and other created artifacts to understand ideas, values, and identities in various spatial, cultural, and temporal contexts. Courses or course sequences addressing this concept must meet a majority of the student learning outcomes.

- **Credit hours:** 6 credits

Student Learning Outcomes

1. Identify fundamental concepts of the humanities.
2. Analyze texts and other created artifacts using theories and methods of the humanities.
3. Interpret texts and other created artifacts within multiple historical, intellectual, and cultural contexts.
4. Synthesize multiple complex sources and create a coherent narrative or argument.

3 - Reasoning in the Social Sciences

- Utilization of quantitative and qualitative methods to explain the behavior and actions of individuals, groups, and institutions within larger social, economic, political, and geographic contexts. Courses meeting this concept will help students to understand that they are a small part of a larger global community and to engage with diverse individuals, groups, and ideas that have shaped or continue to shape the worlds they inhabit. Courses or course sequences addressing this concept must meet a majority of the student learning outcomes.

- **Credit hours:** 6 credits

Student Learning Outcomes

1. Identify fundamental concepts of the social sciences.
2. Analyze human behavior, social institutions and/or patterns of culture using theories and methods of the social sciences.
3. Identify interconnections among and differences between social institutions, groups, and individuals.
4. Analyze the ways in which values and beliefs relate to human behavior and social relationships.

p.1

PATHWAYS
TO GENERAL EDUCATION

VIRGINIA TECH™

4 - Reasoning in the Natural Sciences

- Involves the acquisition of the detailed knowledge of one or more of the natural sciences, hands-on experience with how science is conducted, what science can and cannot tell us about the universe, and the relationship between science and society. Courses or course sequences addressing this concept must meet a majority of the student learning outcomes.

- **Credit hours:** 6 credits (with an additional 2 lab credits for students in some majors)

Student Learning Outcomes

1. Explain the foundational knowledge of a particular scientific discipline.
2. Apply principles and techniques of scientific inquiry.
3. Evaluate the credibility and the use/misuse of scientific information.
4. Analyze the reciprocal impact of science and society.

5 - Quantitative and Computational Thinking

- Creative engagement with the world by the manipulation of precisely defined symbolic representations. Quantitative thinking is the formulation of questions that can be addressed using mathematical principles, leading to answers that include reliable and usable measures of accuracy. Computational thinking is the ability to conceive meaningful, information-based representations of the world that can be effectively manipulated using a computer. Courses or course sequences addressing this concept must meet a majority of the student learning outcomes. Only the combination and integration of quantitative and computational courses will serve to meet this concept.

- **Credit hours:** 9 credits -- 6 foundational + 3 advanced/applied

Student Learning Outcomes

1. Explain the application of computational or quantitative thinking across multiple knowledge domains.
2. Apply the foundational principles of computational or quantitative thinking to frame a question and devise a solution in a particular field of study.
3. Identify the impacts of computing and information technology on humanity.
4. Construct a model based on computational methods to analyze complex or large-scale phenomenon.
5. Draw valid quantitative inferences about situations characterized by inherent uncertainty.
6. Evaluate conclusions drawn from or decisions based on quantitative data.

6 - Critique and Practice in Design and the Arts

- A hands-on, minds-on approach by which students acquire the intellectual tools for a richer understanding and knowledge of the process, meaning, and value of the fine, applied, and performing arts and creative design. This outcome recognizes that the creative design process can and should be applied to a broad range of disciplines. Courses or course sequences addressing this concept must meet a majority of the student learning outcomes. To meet this core concept, students will study the arts and design thinking in two courses: either 1 design and 1 arts course, or 2 integrated courses.

- **Credit hours:** 6 credits -- 3 design + 3 arts, or 6 integrated design and arts

Student Learning Outcomes

1. Identify and apply formal elements of design or the arts.
2. Explain the historical context of design or the arts.
3. Apply interpretive strategies or methodologies in design or the arts.
4. Employ skills, tools, and methods of working in design or the arts.
5. Produce a fully developed work through iterative processes of design or the arts.

p.2

7 - Critical Analysis of Identity and Equity in the United States

- Explores the ways social identities related to race, ethnicity, gender, gender identity, gender expression, class, disability status, sexual orientation, religion, veteran status, economic status, age, and other socially salient categories and statuses influence the human condition and experience, with focus on the United States in particular or in comparative perspective. It recognizes that people in society have had different experiences and opportunities related to social categories, and challenges students to consider their ethical responsibilities to others in that context and in the context of Ut Prosim, to enhance their capacities to be engaged citizens and visionary leaders in an increasingly diverse society. Students will gain self-awareness of how they are situated relative to those around them based on social identities and foundational knowledge of the interactive dynamics of social identities, power and inequity. Courses addressing this concept must meet a majority of the student learning outcomes.

- **Credit hours:** 3 credits (may be double-counted with another core concept.

Student Learning Outcomes

1. Analyze how social identities, statuses, space, place, traditions, and histories of inequity and power shape human experience in the United States (particularly or in comparative perspective).
2. Analyze social equity and diversity in the United States (particularly or in comparative perspective) through multiple perspectives on power and identity.
3. Demonstrate how creative works analyze and/or reimagine diversity in human experiences in the United States (particularly or in comparative perspective).
4. Demonstrate how aesthetic and cultural expressions mediate identities, statuses, space, place, formal traditions, and/or historical contexts in the United States (particularly or in comparative perspective).
5. Analyze the interactive relationships between place, space, identity formation, and sense of community in the United States (particularly or in comparative perspective).
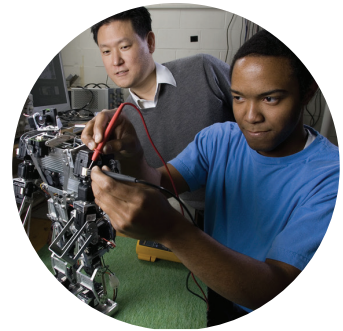
Integrative Concepts

Ethical Reasoning

- Principled evaluation of moral and political beliefs and practices. In today's complex and diverse world, ethical behavior requires more than just the desire to do the right thing. Foundational learning of ethical theories, issues, and applications provides tools that enable students to deliberate and to assess for themselves claims about ethical issues in their personal, public, and professional lives. Courses addressing this integrative concept must meet a majority of the student learning outcomes.

- **Credit hours:** This integrative concept will be met in conjunction with core concepts. No extra hours will be necessary.

Student Learning Outcomes

1. Explain and contrast relevant ethical theories.
2. Identify ethical issues in a complex context.
3. Articulate and defend positions on ethical issues in a way that is both reasoned and informed by the complexities of those situations.

Intercultural and Global Awareness

- Supports effective and appropriate interaction with a variety of people and different cultural contexts. Considerations of diversity and inclusion are crucial for students in an increasingly complex world. An important application of this learning is the critical analysis of global systems and legacies and their implications for people's lives and the earth's sustainability. Courses addressing this concept must meet a majority of the student learning outcomes.

- **Credit hours:** This integrative concept will be met in conjunction with core concepts. No extra hours will be necessary.

Student Learning Outcomes

1. Identify advantages and challenges of diversity and inclusion in communities and organizations.
2. Interpret an intercultural experience from both one's own and another's worldview.
3. Address significant global challenges and opportunities in the natural and human world.

p.3

Pathways Structure

The Pathways Curriculum includes a total of 45 credits over 7 core concepts and two integrative concepts. Students choose courses from the different concept categories to fulfill the credit hour requirements. Many AP, IB, dual enrollment, and transfer courses may count for credit.

Some students might pursue a **Pathways Minor** or an **Alternative Pathway** as means of completing a portion of the requirements.

Pathways Minor

Cross-disciplinary minors provide students with the opportunity to broaden their academic scope. All Pathways Minors must:
- Include 18 credits and a capstone
- Be offered by an academic department
- Include courses that meet at least three core concepts and both integrative concepts
- Provide eligibility to all undergraduate students

All students undertaking Pathways Minors must still complete the remainder of the Pathways credit hours and concepts not covered by the minor.

Alternative Pathway

General education credits could be met through the completion of high impact learning experiences. All Alternative Pathways must:
- Meet three core concepts and both integrative concepts
- Be overseen by a faculty advisor
- Be submitted and approved by UCCGE prior to being offered

This Pathway could include: Study Abroad, Co-Curricular experiences, Undergraduate Research, Presidential Global Scholars, and others.

All students undertaking Alternative Pathways must still complete the remainder of the Pathways credit hours and concepts not covered by the Alternative Pathway.

Pathways Minor
18 credits (out of 45)

Pathways Requirements for All Students

45 credits

Alternative Pathway
min 9 credits (out of 45)