

Annual Report on Program Student Learning Outcomes Assessment

Program: College of Arts & Sciences General Education

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1. List the learning outcomes for the program

The general education component of the B.A. enables students to grow intellectually and as members of society through the acquisition of a breadth of knowledge and ways of knowing across the liberal arts and sciences. General education in CAS is organized to ensure significant exposure to a variety of academic disciplines, with every student's program incorporating coursework in the 1) humanities, 2) computer and mathematical sciences, 3) natural sciences, and 4) social sciences.

All individual courses in the large and diverse subset approved for general education credit display commitment to a common core of student learning outcomes:

1. **Content:** Students who complete a general education course demonstrate knowledge of fundamental concepts and specific topics in an arts and sciences discipline or division.
2. **Methods and Tools:** Students acquire insights into a discipline's distinctive methods and scope of inquiry, the tools it enlists to produce new knowledge, the kinds of questions disciplines ask, and the standards they employ to evaluate the answers.
3. **Argumentation and Analysis:** Students demonstrate critical thinking by evaluating arguments for adherence to disciplinary standards, and by independently analyzing the objects, discourse, and/or findings of scholarship in the discipline.
4. **Communication:** Students communicate effectively about the discipline and use its terminology and genres appropriately in the development and communication of ideas.
5. **Application:** Students apply understanding of the discipline to solving problems.

These five learning outcomes constitute a template that structures and accommodates the particular contributions of each arts and sciences division to CAS students' breadth of learning.

General Education Student Learning Outcomes: Humanities

On completion of a Humanities course, students will be able to:

1. Demonstrate familiarity with a discrete body of material — texts, artifacts, stories, ideas — in the humanities, and with the history of how that material has been created and received (Content)
2. Demonstrate knowledge of concepts, methods, and terminology, as well as scholarly resources, within a specific field in the humanities (Methods and Tools)
3. Evaluate arguments about texts and topics in the humanities, and construct responses using research findings and direct evidence persuasively to support an analysis or interpretation (Argumentation and Analysis)
4. Read (view, listen) interpretively, and demonstrate clarity and precision in thinking, conversing, and writing about material in the humanities (Communication)
5. Discuss how humanistic practices of critical interpretation attend to public questions of meaning, purpose, conflict, and value (Application)

General Education Student Learning Outcomes: Computer and Mathematical Sciences

On completion of a Computer and Mathematical Sciences course, students will be able to:

1. Demonstrate knowledge of fundamental principles, topics, and operations in a specific area of mathematics, statistics, or computer science (Content)
2. Reason quantitatively, enlisting tools from computer science, mathematics, and/or statistics appropriately to represent, organize, and manipulate information (Methods and Tools)
3. Identify and quantitatively analyze data in order to evaluate logical arguments (Argumentation and Analysis)
4. Communicate effectively using languages from mathematics, statistics, or computer science to express ideas and solve problems (Communication)
5. Understand applications and limits of problem-solving tools from computer and mathematical sciences (Application)

General Education Student Learning Outcomes: Natural Sciences

Natural Sciences divisional courses introduce students to the concepts and methods of the disciplines that study the natural world. All CAS students are required to complete two courses approved for natural sciences divisional studies credit, including a substantial laboratory experience over one or two semesters. As a result, students develop an appreciation of the role of scientific knowledge in modern culture and improve their abilities to participate as citizens and community members in scientific decision-making.

On completion of a Natural Sciences course, students will be able to:

1. Demonstrate knowledge of fundamental concepts and specific topics in the physical, life, or interdisciplinary natural sciences (Content)
2. Demonstrate a broad understanding of scientific principles and the way scientists in a particular discipline conduct research (Methods and Tools)
3. Critically evaluate scientific arguments and understand the limits of scientific knowledge (Argument and Analysis)
4. Communicate scientific ideas effectively (Communication)
5. Solve complex problems requiring the application of several scientific concepts (Application)

In addition to the Learning Outcomes above, on completion of a Natural Sciences course (or course sequence) with a laboratory experience, students will be able to:

- Demonstrate proficiency in experimental science by making observations, understanding the fundamental elements of experiment design, generating and analyzing data using appropriate quantitative tools, reasoning abstractly to interpret data and relevant formulae, and testing hypotheses with scientific rigor

General Education Student Learning Outcomes: Social Sciences

On completion of a Social Science course, students will be able to:

1. Demonstrate knowledge of fundamental concepts and ideas in specific topical areas in the social sciences, including how culture, social structure, and other key elements of historical context shape individual and collective perception, action, and beliefs (Content)
2. Demonstrate understanding of the methods that produce knowledge in a specific field in the social sciences (Methods and Tools)
3. Demonstrate critical thinking in evaluating causal arguments in the social sciences and in analyzing conclusions, premises, and evidence (Argumentation and Analysis)
4. Use a range of methods and information technologies to conduct research and to communicate effectively about social science (Communication)
5. Explain how social science can be used to analyze political and social issues, behaviors, or policies (Application)