

## Student Learning Outcomes for Academic Programs

A.S. in Liberal Arts and Sciences (Mathematics and Science) Catalog Year 2017-18

### General Education Outcomes

1. Communicate effectively through written and oral forms
2. Use analytical reasoning to identify issues or problems and evaluate evidence in order to make informed decisions
3. Reason quantitatively as required in various fields of interest and in everyday life
4. Apply information management and digital technology skills useful for academic research and lifelong learning
5. Discipline specific outcomes: A robust general education is founded on the knowledge, concepts, methods and perspectives that students gain through study of the social sciences and history, the natural sciences, the arts and the humanities. These disciplinary studies stimulate intellectual inquiry, global awareness, and cultural and artistic appreciation; they equip students to make informed judgments and engage with life beyond the classroom.
  - a. Apply concepts and perspectives from history or the social sciences to examine the formation of ideas, human behavior, social institutions, or social processes and to make informed judgments
  - b. Apply concepts and methods of the natural and physical sciences to examine natural phenomena and to make informed decisions
  - c. Apply aesthetic and intellectual criteria to examine or create works in the humanities and the arts and to make informed judgments

### Program Outcomes

- A. Demonstrate proficiency in factual knowledge, conceptual understanding, and discipline-specific methodology required for transfer to the junior year in a baccalaureate program in natural science, mathematics, engineering, or computer science
- B. Disciplinary learning:
  - a. Apply basic calculus concepts to solve science or engineering problems.
  - b. Demonstrate proficiency in acquiring, processing, and analyzing scientific information in all its forms, as related to the field of concentration
  - c. Proficiently convey information specific to the discipline, through technical writing or oral presentation
  - d. Use current technology or experimental techniques to supplement the fundamental concepts and methodology used in the field of study
  - e. Work collaboratively to acquire and analyze data, or solve problems in the field of study
  - f. Demonstrate an understanding of the professional and ethical responsibilities of the field of study

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