

Mathematics and Science

Degree Type

Associate in Science

Type

Transfer

Division of STEAM

Associate Dean: Bradley Cole

This program is recommended for students interested in any area related to mathematics and science. Students who choose this program are typically interested in transferring to major in Astronomy, Biology, Chemistry, Ecology, Evolution, Geology, Physics, Mathematics, or Statistics, to name a few. It involves a more rigorous and concentrated level of mathematics and science, but still allows approximately 13 hours of electives. In all cases, students should look closely at the mathematics and science course descriptions to ensure that this program matches their abilities and career choice. Depending upon their long-term plans, they might also take a foreign language as an elective.

This is also the appropriate program for students interested in pursuing careers in Medicine, Ecology, Genetics, Dentistry, Veterinary, Meteorology, Pharmacy, Pharmaceutical Sciences, Actuary Science, Statistics, Scientific Research, Mathematics Education, Science Education or Forensic Science.

Students in this program must meet 7 of the 10 SUNY Knowledge and Skills areas, 2 core competencies (Critical Thinking and Information Literacy), and have 30 SUNY General Education credits. Please note that of the 7 Knowledge and Skills areas, the following 4 are required: Communication-Written and Oral; Mathematics and Quantitative Reasoning; Natural Sciences and Scientific Reasoning; and Diversity, Equity, Inclusion, and Social Justice. For more information on the SUNY General Education requirements please see General Education Requirements.

Graduates will demonstrate:

- Self-Direction (To Work on One's Own) – The ability to independently define, plan, and complete a project in conformance with assigned criteria, locating, evaluating, integrating, and correctly documenting any necessary primary or secondary source material;
- Analytical skills (To Think) – The ability to evaluate the quality of a claim, concept or process by careful consideration of the appropriateness, relevance, and/or truth of the supporting evidence;
- Understanding of the World (To Know) – The ability to demonstrate a foundation knowledge of the Natural World, The Physical World, The Social/Cultural World, The Historical World and The Contemporary World;
- Problem Solving (To Discover) – The ability to determine the best of many possible solutions to problems, whether numerical, symbolic, ethical, linguistic, or social
- Expressivity (To Communicate) – The ability to clearly present information through writing, speech, visual presentation, or performance;
- Understanding of Human Condition and Human Behavior (To Understand) – The ability to demonstrate a basic understanding of motive and resultant human behaviors and activities;
- Creativity (To Innovate) – The ability to devise and express original insights and/or distinctive relationships among concepts;
- World Citizenship (To Appreciate) – The ability to demonstrate fundamental appreciation of cultures other than one's own.

High school or equivalent preparation required: Two years of science and three years of mathematics, including algebra, geometry, intermediate algebra, and trigonometry. Students who don't have this preparation will be able to get it here, but it may take longer to complete the program.

Program Requirements

Item #	Title	Credits
ENGL 1110	College Communication	3.0
ENGL 1020	College Composition II	3.0
	MATH 1310 or higher	6
	Laboratory Science Sequence	8
	Social Sciences Elective	3
	Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course	3
	Mathematics and/or Science Concentration	20
	Free Electives	14
	Wellness	2
	Total Credits	62

Course Sequencing

First Semester

Intended as a guide for academic planning. It need not be followed exactly or completed in four semesters. The sequence of courses may vary from this sample depending on the student's intended eventual major.

Item #	Title	Credits
ENGL 1110	College Communication	3.0
	Laboratory Science Elective	4
	MATH 1310 or higher	3
	Mathematics and/or Science Concentration	4
	Wellness (Activity or Awareness)	1

Second Semester

Item #	Title	Credits
ENGL 1020	College Composition II	3.0
	Laboratory Science Elective	4
	MATH 1310 or higher	3
	Mathematics and/or Science Concentration	4
	Wellness (Activity or Awareness)	1

Third Semester

Item #	Title	Credits
	Mathematics and/or Science Concentration	8
	Social Sciences Elective	3
	Free Electives	6

Fourth Semester

Item #	Title	Credits
	Mathematics and/or Science Concentration	4
	Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course	3
	Free Electives	8

Math Focus Sample Sequence:

This sequence is a more specific guide for those who intend to transfer as a mathematics major.

First Semester

Item #	Title	Credits
ENGL 1110	College Communication	3.0
MATH 1610	Calculus I	4.0
	Laboratory Science Elective	4
	Computer Elective	3
	Free Electives	3

Second Semester

Item #	Title	Credits
ENGL 1020	College Composition II	3.0
MATH 1620	Calculus II	4.0
	Laboratory Science Elective	4
	Social Sciences Elective	3
	Wellness (Awareness Component)	1

Third Semester

Item #	Title	Credits
MATH 2610	Calculus III	4.0
	MATH 2350 or 2410	3
	Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course	3
	Free Electives	3
	Wellness (Activity Component)	1

Fourth Semester

Item #	Title	Credits
MATH 2560	Introduction to Linear Algebra	3.0
	MATH 2350 or 2620	3
	Free Electives	10

Footnotes

Laboratory Science Sequence: Courses must be selected from those that have a two-semester sequence and are numbered 1500 or higher. In addition, any two courses from GEOL 1510, 1520, and 1530 can count as a sequence.

Mathematics: Courses must be selected from courses numbered 1310 or higher. Students planning to transfer to a mathematics program at a four-year institution should select 1610-1620 to meet the mathematics requirement. To meet the concentration requirement, they should choose MATH 2610, and two courses from MATH 2330, 2410, 2560, 2620.

Mathematics/Science Concentration: Select from science courses numbered 1500 or higher, math courses numbered 1310 or higher, and up to 3 credits in a computer programming language from the following list: CSCI 1320, CSCI 2420, ENGR 1050, ELEC 2070, or TECH 1060.

Free Electives: Should be chosen from The Arts, US History & Civic Engagement, World History & Global Awareness, or World Languages. For a list of courses, see General Education Requirements. Students planning to transfer to a mathematics or physics program at a four-year institution are recommended to take a computer programming language.

Diversity, Equity, Inclusion, Social Justice (DEI/SJ) Course: See General Education Requirements for courses that meet this requirement.

ENGL 1110: Students may take ENGL 1010 and SPCH 1080 in place of ENGL 1110.

*Based on placement, students might be required to take developmental and/or prerequisite classes before taking the required English and Math courses.