Liberal Arts and Sciences: Mathematics and Natural Science

Degree Awarded: Associate in Science

Recommended Course Sequence

First Semester		Credits
ENG 101	Freshman English 1	3
_____	SUNY Social Science list	3
_____	SUNY Natural Science list	3/4
_____	MAT 113 Math for Liberal Arts or higher or Liberal Arts Science	3/4
MAT 121	College Algebra or higher*	3/4
PES 100	Concepts of Physical Wellness	1

Second Semester		
ENG 102	Freshman English 2	3
HIS____	Restricted History Elective*	3
_____	SUNY Natural Science list	3/4
_____	MAT 113 Math for Liberal Arts or higher **or**	
_____	Liberal Arts Science	3/4
MAT 121	College Algebra or higher **or** Liberal Arts Science	3/4
PES ____	Physical Education	1

Third Semester		
COM 101	Foundations of Communication	3
_____	MAT 113 Math for Liberal Arts or higher **or** Liberal Arts Science	3/4
_____	MAT 113 Math for Liberal Arts or higher **or** Liberal Arts Science	3/4
_____	Restricted SUNY Elective**	3
_____	Elective	3

Fourth Semester		
_____	MAT 113 Math for Liberal Arts or higher **or** Liberal Arts Science	3/4
_____	MAT 113 Math for Liberal Arts or higher **or** Liberal Arts Science*	3/4
_____	Elective	3
_____	Elective	3
_____	Elective	3

Total Credits: 62-72

*SUNY American History or Western Civilization or Other/World Civilization lists
**SUNY Arts or Foreign Language lists

A minimum of 30 credits of math and science combined is required for this degree. At least 6 credits of math must be College Algebra (MAT 121) or higher and at least 6 credits of science must be from the SUNY Natural Science list.
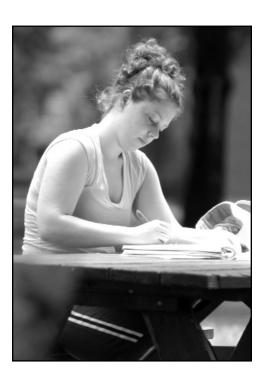
Program Description

The Associate in Science degree program in Liberal Arts and Sciences with a Mathematics and Science emphasis is designed specifically for students to transfer, with junior status, to the appropriate upper-level college or university of their choice, where they can complete the B.S./B.A. degree in their chosen field of study. As such, the program provides core courses and general education requirements that would be included in the first two years of study at four-year institutions. This degree gives mathematics/science students the flexibility to match a program to their individual goals, backgrounds and talents. The various curricula provide the opportunity to pursue a variety of academic and career interests in mathematics and in the natural/physical sciences.

The course distribution in mathematics and science is designed to provide a solid foundation in the basics of natural and physical sciences/mathematics: future advanced coursework will build on this foundation. The general education elective credits round out the curriculum in this degree program. Students should consult the appropriate department chairperson and faculty for specific advice about pursuing a particular discipline within this area. Only such consultation will guarantee the correct level of course choice and rigor required to match the student's transfer plans as they work toward a bachelor's degree.

Admission Criteria

Admission to this program requires that students be high school graduates or have high school equivalency diplomas (GEDs). If students are not high school graduates, they may be eligible for admission to the College's 24 Credit Hour Program. If students are home schooled, they may be eligible for admission. (See pages 7 through 13 for more details on the admission process for all applicants.)

Before initiating study for this A.S. degree a student must have achieved a mathematical proficiency which includes intermediate level algebra. At SUNY Orange, this means that a student must have tested beyond Intermediate Algebra (MAT 102) to begin progress toward this degree. If this is not the case the student must speak with an advisor in order to choose the proper preparatory courses.

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Student Learning Outcomes

Students will:

- demonstrate an understanding of the scientific method through their ability to integrate the observation, measurement, collection, reduction and evaluation of scientific data.

- demonstrate their broad base of knowledge in the liberal arts and sciences by evoking critical thinking skills in drawing reasonable conclusions from evaluated data.

- demonstrate a mastery of communication skills, both written and oral, especially as related to the analytic methods of natural science.

- perform mathematically at a level commensurate with their chosen field of study.

- plan, organize and implement laboratory experiments and demonstrate the requisite technical/laboratory skills.

- transfer to a four-year institution to earn a baccalaureate degree in either mathematics or the natural/physical sciences.

Career Opportunities

- professional degrees or working in private sector firms in the various fields
- R&D or laboratory opportunities in private and public sector
- positions in education on primary or secondary level
- excellent background for other fields requiring mathematics/science proficiency, including:
  - biology
    - pre-professional training for medicine, dentistry, veterinary science, pharmacy, etc.
    - environmental sciences
    - Teaching or research
  - chemistry
  - geology
  - mathematics
  - physics/astronomy

Transfer Opportunities

SUNY Orange has special relationships with upper-level colleges and universities for transfer. Students regularly transfer with junior status to colleges and universities in the State University of New York System as well as to private and state colleges and universities across the country.

Contact Information

Biology Department Chair
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Mathematics Department Chair
(845) 341-4566
Science, Engineering and
Architecture Department Chair
(845) 341-4571
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845) 341-4030