

# Liberal Arts: Mathematics and Natural Science (Chemistry)



◆ TRANSFER DEGREE    M MIDDLETOWN CAMPUS    N NEWBURGH CAMPUS    DL DISTANCE LEARNING

## Program Description

The chemistry track at SUNY Orange will provide students with the skills and knowledge to begin a career in the field of chemistry or for transfer to upper division universities. There, students will be prepared to study chemistry and related fields required for professional schools, including medical, dental, law and business programs.

For more information, visit the [SUNY Transfer Path](#) website.

*This degree has been approved by SUNY and NYS Education Department for online distance learning delivery. This does not mean that SUNY Orange offers every course in the program online; however, many are offered in this format. Please check the current credit course schedule for online DL virtual course listings offered each semester.*

## Program Outcomes

Students will:

- demonstrate essential and foundational knowledge in the natural sciences and liberal arts.
- demonstrate understanding of the methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis
- perform mathematically with proper notation and vocabulary commensurate with chosen field of study
- demonstrate ability to apply systematic reasoning and critical thinking skills
- demonstrate effective communication both oral and written
- transfer to, and succeed at, an upper-level institution

## Admissio Criteria

Admission to this program requires that students be high school graduates or have high school equivalency diplomas (HSEs). 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 admissions.

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 MAT 102 (Intermediate Algebra) 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.

## Transfer Options

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.

## Your Career Coach

Career opportunities exist in the following areas:

- 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
- chemistry
- geology
- mathematics
- physics/astronomy
- 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

[Explore careers with Career Coach](#)

## Chemistry Track Gateway Courses:

- Gateway courses: MAT 102 or 121 (MAT 121 recommended), CHM 101, PHY 105
- Key courses: CHM 101, CHM 102, CHM 201, CHM 202, PHY 105, PHY 106, MAT 102, MAT 121, MAT 122, MAT 205, MAT 206

# SUNY Orange

- Electives: BIO 101, GLG 101

*Courses above have been recommended by the department to help introduce you to the program (Gateway courses) and guide you in selecting courses that will provide you with the best academic experience (Key courses and suggested Electives).*

## First Semester

Course #	Course Name	P, C, P/C	Cr
ENG 101	Freshman English 1	P	3
CHM 101	General Chemistry 1 w/Lab	P	4
BIO 101	General Biology w/Lab		4
MAT 205	Calculus 1	P	4
	Total Semester Credits		15

## Milestones

**During this semester, students should:**

- Meet with your departmental advisor
- Join the Chemistry Club
- Complete gateway courses

## Second Semester

Course #	Course Name	P, C, P/C	Cr
ENG 102	Freshman English 2	P	3
CHM 102	General Chemistry 2 w/Lab	P	4
PHY 105	General Physics 1 with Calculus w/Lab	P	4
MAT 206	Calculus 2	P	4
	Total Semester Credits		15

## Milestones

**During this semester, students should:**

- Visit Transfer Fair
- Seek scholarship opportunities
- Meet with your departmental advisor

## Third Semester

Course #	Course Name	P, C, P/C	Cr
COM 101	Foundations of Communication		3
CHM 201	Organic Chemistry 1 w/Lab	P	4
_____	SUNY Elective (GE 4, 5 or 6)		3
_____	SUNY Elective (GE 8 or 9)		3
PHY 106	General Physics 2 with Calculus w/Lab	P, P/C	4
	Total Semester Credits		17

## Milestones

**During this semester, students should:**

- Apply to/visit transfer schools and get letters of recommendation (or apply/interview for jobs)
- Meet with your departmental advisor
- Seek leadership opportunities in Chemistry Club or Student Senate

## Fourth Semester

Course #	Course Name	P, C, P/C	Cr
CHM 202	Organic Chemistry 2 w/Lab	P	4
_____	SUNY Elective (GE 3)		3
MAT 120	Introduction to Statistics	P	3
_____	Elective		3
_____	Elective		3
	Total Semester Credits		16

## Milestones

**During this semester, students should:**

- Reply to acceptance letter from your transfer school (or apply/interview for jobs)
- Seek scholarship opportunities
- Apply for graduation
- Prepare for transfer

**TOTAL DEGREE CREDITS: 63**