

CHEMISTRY, ASSOCIATE OF SCIENCE

The Associate of Science Degree in Chemistry prepares students for transfer to a four-year school as juniors in either chemistry or biochemistry majors. The curriculum provides fundamental knowledge of the major fields of chemistry, covering a full year of both general and organic chemistry. Students will gain laboratory experience in organic synthesis, analytical methods, and spectroscopy. Chemistry is called the central science and as such, it serves as a foundation for careers in many fields, such as medicine, environmental science, and materials science.

This degree is designed to transfer to Southern Oregon University's Bachelor of Science in Chemistry program. Other transfer options may be available. Consult your advisor for details.

GRADUATION REQUIREMENTS

Students must complete a minimum of 95 credit hours with a cumulative Grade Point Average (GPA) of 2.0 or better. All courses must be completed with a grade of 'C' or better. Twenty-four (24) credits must be completed at Southwestern before the degree is awarded.

Courses that are developmental in nature (designed to prepare students for college transfer courses) are not applicable to this degree.

Students must complete the graduation application process one term prior to the term of completion (e.g., spring term graduates must apply during winter term).

PROGRAM STUDENT LEARNING OUTCOMES

Upon successful completion of this program, the student will be able to:

- Demonstrate knowledge of chemical structure to predict and explain the physical properties of chemical materials.
- Demonstrate knowledge of chemical reactivity to predict and explain the outcomes of reactions.
- Demonstrate knowledge of chemical quantitation to predict and explain chemical phenomena.
- Critical Thinking: Collect and analyze data using classical methods and modern instrumentation and evaluate experimental results using the principles of the scientific method.
- Information Literacy: Locate, summarize, and critique scientific articles, as well as synthesize scientific information from various sources to communicate the results of their own experiments.
- Global Learning: Demonstrate personal and social responsibility, environmental stewardship, and global self-awareness.

Math and writing placement are unique to each student and are determined during the admissions and intake advising process. Additional math or writing courses may be required prior to taking the math or writing program requirements in this degree.

PROGRAM GUIDE

Course	Title	Credits
First Year		
Fall		
BI221Z	Principles of Biology: Cells	5
CHEM221Z	General Chemistry I	4
CHEM227Z	General Chemistry I Laboratory	1
MTH251Z	Differential Calculus	4
WR121Z	Composition I	4
Credits		18
Winter		
BI222Z	Principles of Biology: Organisms	5
CHEM222Z	General Chemistry II	4
CHEM228Z	General Chemistry II Laboratory	1
MTH252Z	Integral Calculus	4
WR227Z	Technical Writing	4
Credits		18
Spring		
BI223Z	Principles of Biology: Ecolo/Evolut	5
CHEM223Z	General Chemistry III	4
CHEM229Z	General Chemistry III Laboratory	1
COMM111Z	Public Speaking	4
Western Culture ¹		3
Credits		17
Second Year		
Fall		
CHEM245	Organic Chemistry I	4
MTH254	Vector Calculus I	4
PH211	General Physics with Calculus I	5
Difference, Power, and Discrimination ²		3
Credits		16
Winter		
CHEM246	Organic Chemistry II	4
PH212	General Physics with Calculus II	5
Social Processes and Institutions ³		3
Cultural Diversity ⁴		3
Credits		15
Spring		
CHEM247	Organic Chemistry III	4
PH213	General Physics with Calculus III	5
PE231	Wellness for Life	3
Literature and the Arts ⁵		3
Credits		15
Total Credits		99

¹ Western Culture - options: ART204, ART205, ART206, ENG107, ENG108, ENG109, ENG201, ENG204, ENG205, ENG206, HST101, HST102, HST103, HST201, HST202, HST203, MUS201, MUS202, MUS203, PHL101, PHL102.

² Difference, Power, and Discrimination - options: HST201, HST202, HST203, SOC206Z, SOC213

- ³ Social Processes and Institutions - options: ANTH221 , ANTH222 , ANTH223 , ECON201Z, ECON202Z, HST101, HST102, HST103, PS201, PS205, PSY201Z , PSY202Z , SOC204Z, or SOC205Z.
- ⁴ Cultural Diversity - options: ANTH224, ANTH230, ANTH231, ANTH232, HST104, HUM204, HUM205, HUM206
- ⁵ Literature and the Arts - options: ART204, ART205, ART206, ENG104Z, ENG105Z, ENG106Z, ENG107, ENG108, ENG109, ENG201, ENG204, ENG205, ENG206, ENG262, MUS201, MUS202, MUS203.
- ⁶ At least two courses must be chosen from the Arts and Letters section from the AS course list to meet the above requirements.