

# ASSOCIATE OF SCIENCE - CHEMISTRY EMPHASIS

This is a two-year transferable program leading to an Associate of Science with an emphasis in chemistry. The curriculum includes a core of courses in the physical sciences and mathematics which are advised by the American Chemical Society (ACS) for transfer to any ACS accredited chemistry program. All courses recommended will partially satisfy the bachelor of science in chemistry at the University of Nevada, Reno.

## Emphasis Outcomes

Students completing the emphasis will:

- Demonstrate a basic knowledge of General Chemistry in topics such as stoichiometry, nomenclature, acids and bases, gas laws, equilibrium, kinetics, thermochemistry, and electrochemistry.
- Demonstrate a basic knowledge of Organic Chemistry in topics such as stoichiometry, organic nomenclature, acids and bases, organic synthesis, reaction mechanisms, and spectroscopy.
- Demonstrate knowledge of scientific methods and the relationship of theory, experiment, and data analysis.

AA/AS degrees are designed for students who plan to transfer to a four-year college or university.

To earn an AA/AS degree, students must:

1. Maintain a minimum cumulative GPA of 2.0 (see requirements for graduation.)
2. Complete a minimum of 15 units within the college.
3. Satisfy General Education requirements for the AA/AS (<http://catalog.tmcc.edu/degrees-certificates/general-education/aa-as>).
4. Have no financial or library obligation to the college.

### General Education Requirements

<i>English</i>	3-6	
Including ENG 102 or ENG 114 <sup>1</sup>		
<i>Fine Arts</i>	3	
<i>Humanities</i>	3	
<i>Mathematics</i>	[3]	
Required:		
MATH 181	Calculus I	4
<i>Science</i>	[6]	
Lab required		
Required:		
CHEM 121 & CHEM 122	General Chemistry I and General Chemistry II	8
<i>Social Science</i>	3	
Recommended:		
CH 203	American Experiences and Constitutional Change	
PSC 101	Introduction to American Politics	

### Additional College Requirements

<i>Diversity</i> <sup>2</sup>	[3]
<i>Science courses</i> (2 units satisfied through required CHEM 121 & CHEM 122) <sup>2</sup>	[6]
<i>U.S. and Nevada Constitutions</i> <sup>2</sup>	[3]

### Emphasis Requirements

CHEM 241 & 241L	Organic Chemistry I and Organic Chemistry for Life Sciences Lab I	4
CHEM 242 & 242L	Organic Chemistry II and Organic Chemistry for Life Sciences Lab II	4
Mathematics: Additional 1 unit from Math 181 in Gen. Ed.		
MATH 182	Calculus II	4
PHYS 180 & 180L	Physics for Scientists and Engineers I and Physics for Scientists/Engineers Lab I	4
PHYS 181 & 181L	Physics for Scientists and Engineers II and Physics for Scientists/Engineers Lab II	4
<b>Elective Requirements</b>		
Select 13 units from transferable electives		13
Recommended:		
MATH 283	Calculus III	
MATH 285	Differential Equations	
Total Units		60

<sup>1</sup> If you place into ENG 102 or ENG 114 the additional 3 required units will become elective units.

<sup>2</sup> Course may also count toward degree requirements. Please consult with Academic Advisement.

Course	Title	Units
<b>1st semester</b>		
CHEM 121	General Chemistry I	4
English <sup>3</sup>		3
Fine Arts <sup>3</sup>		3
MATH 181	Calculus I (Mathematics) <sup>4</sup>	4
Elective <sup>4</sup>		3
Semester Total		17
<b>2nd semester</b>		
Diversity/Humanities <sup>3</sup>		3
CHEM 122	General Chemistry II	4
English <sup>4</sup>		3
MATH 182	Calculus II	4
Semester Total		14
<b>3rd semester</b>		
Elective <sup>4</sup>		4-7
CHEM 241 & 241L	Organic Chemistry I and Organic Chemistry for Life Sciences Lab I	4
PHYS 180	Physics for Scientists and Engineers I	3
Social Science/U.S. and Nevada Constitution <sup>4</sup>		3
Semester Total		15
<b>4th semester</b>		
Elective <sup>4</sup>		6
CHEM 242 & 242L	Organic Chemistry II and Organic Chemistry for Life Sciences Lab II	4
PHYS 181 & 181L	Physics for Scientists and Engineers II and Physics for Scientists/Engineers Lab II	4
Semester Total		14
Total Units		60

<sup>3</sup> See approved General Education list for the AA/AS Degree. (<http://catalog.tmcc.edu/degrees-certificates/general-education/aa-as>)

<sup>4</sup> See program recommendations or requirements.