

Program: Chemistry

Program Coordinator: Darrell Iler

Associated Faculty (indicate Full Time or Adjunct): Daryl Cox

Program Mission Statement:

The Department of Chemistry is committed to excellence in chemical science education. It assumes that through the study of chemistry one can understand unique aspects concerning the nature of God and His creation. The following quote from Johannes Kepler exemplifies the department's position and teaching philosophy concerning the motivation for the pursuit of scientific knowledge: *"Scientists are the priests of the highest God in regard to the book of nature. It befits us to be thoughtful not for ourselves but for the glory of God."* Consequently, Chemistry becomes a part of the College's concept of Christian education.

Program/Major Objectives: *Qualities and competencies expected in graduates from this program/major*

At the close of their degree students should be able to:

1. demonstrate an understanding of major concepts, theoretical principles and experimental findings in chemistry.
2. demonstrate a knowledge and understanding of the proper procedures and regulations for safe handling and use of chemicals .
3. understand how to properly carry out experiments, and appropriately record and analyze the results.
4. demonstrate an ability to solve problems in chemistry using the tools, techniques, and data available.
5. demonstrate effective writing and oral communication of concepts and experimental results.
6. discuss development of major scientific ideas and relate chemistry to and integrate chemistry with other areas of knowledge including issues of public concern.

Student Learning Outcomes	Program Objective Number	Course Number	Course Objective Number	Assignment in Course	Assessment Method	Level of Mastery
1. Seek Truth Through Critical Inquiry and Research						
1.1 Practice critical self-awareness						
1.2 Understand our world and comprehend quantitative and conceptual relationships	1,3	107	2	Final Exam	≥70%	I
		111	2	Final Exam	≥66%	I
		112	2	ACS Final Exam	≥50%ile	D
		201	2	Quizzes	≥70%	D
		305	3	Laboratory Project	≥70%	M
		314	3	Enzyme Kinetic Lab	≥70%	M
		321	1	ACS Exam	≥50%ile	M
322	1	ACS Exam	≥50%ile	M		
1.3 Think integratively to solve problems	1,4	112	3	NMR & IR Lab 1	≥80%	I
		305	5	ACS Exam	≥50%ile	D
		314	3	Enzyme Exam	≥70%	D
		321	2	Lab Reports	≥70%	M
		322	2	Lab Reports	≥70%	M
		342	2	Lab project	≥70%	M
1.4 Apply skills and systematic reasoning	1,2,4	201	4	Lab Exam	≥70%	I
		301	4	Lab reports	≥70%	D
		315	1	Buffer Lab	≥70%	D
		342	4	Lab project	≥70%	M
2. Collaborate and Communicate						
2.1 Communicate and Cooperate	3,5,6	112	3	NMR & IR Lab 3	≥70%	I
		314	2	Bioinformatics lab	≥70%	D
		342	4	Final Lab Project	≥70%	M
		409	2	Presentation	≥70%	M
2.2 Value others						
3. Engage Culture and Be Creative						
3.1 Demonstrate cultural awareness	6	111	2	Lead Analysis Lab	≥70%	I
		305	4	AA lab	≥70%	D
		342	3	Heavy metal lab	≥70%	M

3.2 Demonstrate creativity and appreciation for arts, beauty, and ideas						
4. Demonstrate Faith and Learning in Action						
4.1 Recognize worldviews						
4.2 Apply Christian values						
4.3 Respond to God						
4.4 Maintain healthy self-regard and a growth-focused lifestyle						