

## Mission Statement

*To provide excellent teaching to our students and to conduct top quality research, the department will:*

1. Educate students in the chemistry discipline at the undergraduate, and master's levels, to prepare them for professional careers.
2. Support faculty and students in performing research at the vanguard of new directions and opportunities.
3. Encourage new thinking about areas of special strength, which can be cross-disciplinary.
4. Maintain a scholastically excellent faculty who will be able to educate our diverse student body.

## Learning Outcomes

*Students with a B.A. in Chemistry will*

1. Demonstrate an understanding of the fundamental principles of chemistry, including atomic and molecular structure, quantum chemistry, chemical bonding, stoichiometry, kinetics and mechanism, equilibrium, thermochemistry and thermodynamics, molecular structure and function, electrochemistry, and the periodic chemical properties of the elements.
2. Apply the fundamental principles of chemistry to life sciences, the environment, materials, engineering, and emerging technological fields of chemistry, as well as to everyday situations.
3. Conduct experiments and learn fundamental laboratory skills.
4. Analyze and interpret data.
5. Apply mathematical concepts to chemical problems.
6. Work as part of a problem-solving team.
7. Convey facts, theories and results about chemistry in written form.
8. Present orally to convey facts, theories and results about chemistry.
9. Access and utilize chemical information technology.
10. Design and execute scientific research.
11. Apply ethical responsibilities and professional conduct.

# Learning Outcome Grid

(Outcomes are numbered from 1 to 11 as listed above)

Courses	Learning Outcomes										
	1	2	3	4	5	6	7	8	9	10	11
Non-Science Majors; Engineering; Undergraduate & Master's level course											
<b>100.00:</b> Chemistry and Society (non-majors)	X	X									
<b>103.01:</b> General Chemistry I	X		X	X	X	X		X			
<b>104.01:</b> General Chemistry II	X		X	X	X	X		X			
<b>210.00:</b> Applied Chemistry For Biomedical Eng. - (Engineering Majors)	X	X									
<b>243.00:</b> Quantitative Analysis	X	X	X	X	X		X				
<b>261.00:</b> Organic Lecture I	X										
<b>262.00:</b> Organic Lab I (non-majors)	X	X	X	X			X				
<b>263.00:</b> Organic Lecture II	X	X									
<b>272.00:</b> Organic Lab I	X		X	X			X				
<b>311.14 (459):</b> Biochemistry Lecture	X	X									
<b>311.15 (459):</b> Biochemistry Lab	X		X	X	X		X				X
<b>330.00:</b> Phys. Chem I Lecture	X	X			X						
<b>331.00:</b> Phys. Chem. Lab I	X		X	X	X		X		X		X
<b>332.00:</b> Phys. Chem Lecture II	X	X			X						
<b>335.00 :</b> Physical Biochemistry	X				X		X		X		X
<b>374.00:</b> Organic Lab II	X	X	X	X			X		X		X

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(Outcomes are numbered from 1 to 11 as listed above)

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	1	2	3	4	5	6	7	8	9	10	11
<b>434.00:</b> Physical Chem. Lab II	X	X	X	X	X		X		X		X
<b>310.01-310.04:</b> Independent Study			X	X	X		X		X		X
<b>30100-303.00:</b> Honors Research		X	X	X	X		X	X	X	X	X
<b>A1100:</b> Environmental Chemistry	X	X									
<b>A1101:</b> Environmental Chemistry Lab	X		X	X			X				
<b>A1200:</b> Environmental Organic Chem.	X	X									
<b>A-8005:</b> Biochemistry II	X										
<b>C-0200:</b> Inorganic Chemistry	X	X			X						
<b>B5000:</b> Organic Mechanism	X										