College of Arts and Sciences
Department of Chemistry

John Carroll UNIVERSITY

Learning Goals for the Chemistry Program

Students will

1. Demonstrate a working knowledge in the sub-disciplines of chemistry where they have completed coursework (at least four of analytical, biochemistry, inorganic, organic and physical);
2. Apply their integrative knowledge of chemistry to solve problems;
3. Demonstrate competency in the laboratory skills necessary to acquire, analyze and interpret experimental results; and
4. Effectively communicate scientific information in a variety of forms (written, oral, mathematical).

Alignment with Academic Learning Goals

Graduates will	1	2	3	4
Demonstrate an integrative knowledge of the human and natural worlds;	X			
Develop habits of critical analysis and aesthetic appreciation;		X	X	
Apply creative and innovative thinking;		X	X	
Communicate skillfully in multiple forms of expression;				X
Act competently in a global and diverse world;				
Understand and promote social justice;				
Apply a framework for examining ethical dilemmas;				
Employ leadership and collaborative skills;				
Understand the religious dimensions of human experience.				

Alignment with Assessment Measures

Measure	1	2	3	4
ACS Standardized Exams (CH222 Organic, CH263 Analytical, CH361 Physical, CH366 Physical, CH481 Inorganic)	Direct			
Biochemistry Final Exams (CH 431, CH435, CH436)	Direct			
Final Exam (CH443)		Direct		
Case Study Exam Questions (CH435, CH436)		Direct		
Assignments from lab courses (CH367, CH368, CH 399, CH437, CH443, CH482)			Direct	
Lab Reports (CH367 and CH399)				Direct
Honors Theses				Direct
Presentations (CH367, CH443, CH482, CH439)				Direct
Research Poster Presentations				Direct

A note about this department's definition of program:
Because the department offers an ACS-approved chemistry program, they follow the guidelines of the Committee on Professional Training of the American Chemical Society. CPT views all majors, minors, and concentrations as part of a single *program*. The Chemistry department strongly feels that these four learning goals are common to all varieties of chemistry students. The different concentrations within the one Chemistry major are differentiated by different emphases within their coursework in achieving these outcomes and by which sub-disciplines that are expected to know.

Included are Chemistry: Biochemistry, Chemistry: Comprehensive Chemistry, Chemistry: General Chemistry; Chemistry (minor)