

PLO's and the courses they are formally (OFFICIALLY) assessed in and level being assessed.

PLO's/Course Formally Assessed In	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
Chem 106	K1		K1			
Chem 206	K2		K2	K1	K1	K1
Chem 301	K2		K2	K1	K1	
Chem 450	K3		K3	K2	K2	K2
Graduate Survey	K3	K3	K3			

K1 = Entry level Knowledge of the PLO

K2 = Mid-Level Knowledge of the PLO

K3 = Advanced Level Knowledge of the PLO

CHEM – Bachelor of Science in Chemistry Full Curriculum Matrix (Both Tracks) Shows (UNOFFICIAL) places of assessment. (See above table for OFFICIAL assessment.)

PLO's/ Course Formally Assessed In	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
Chem 105	X		X			
Chem 106	X		X			
Chem 107	X	X			X	
Chem 108	X	X			X	
Chem 202	X		X	X		
Chem 205	X					
Chem 206	X					
Chem 207	X	X		X	X	
Chem 208	X	X	X	X	X	X
Chem 211	X	X				
Chem 301	X		X	X	X	
Chem 302	X					
Chem 303	X	X				
Chem 304	X	X				
Chem 305	X	X	X	X		
Chem 331	X			X		
Chem 333	X	X			X	
Chem 350	X		X	X	X	
Chem 356	X		X	X		
Chem 357	X		X	X	X	
Chem 411	X					
Chem 413	X	X				
Chem 416	X			X	X	
Chem 418	X	X				
Chem 425	x			X	X	
Chem 429	X			X		
Chem 450	X		X	X	X	
Chem 462	X	X	X		X	X



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Academic Affairs Assessment of Student Learning

Assessment Plan for Academic Years 2017 and 2018

INSTRUCTIONS:

- Please submit a copy of this assessment plan to the Coordinator of Academic Program Assessment (Aaron Settle – asettle1@wvstateu.edu)
- Please be sure to keep a copy of the assessment plan in your department office.

IDENTIFYING INFORMATION:

College: Natural Sciences and Mathematics

Department/Program: Chemistry

Assessment Coordinator's Name: Dr. Micheal Fultz

Assessment Coordinator's Email Address: mfultz@wvstateu.edu

Academic Year: 2017-2018

Program Learning Outcomes (Please list)

The Department of Chemistry has 6 Program Learning Outcomes that are assessed throughout the program.

1. Explain the fundamentals in organic, analytical, physical, inorganic, and biological chemistry
2. Perform practical, standard laboratory procedures and techniques with a high level of precision and safety.
3. Apply problem-solving strategies to scientific problems.
4. Obtain and utilize information from the chemical literature.
5. Demonstrate communication skills pertaining to chemistry
6. Conduct independent, systematic research.

Program Learning Outcomes, PLOs 1 and 3 were measured during the 2017-2018 academic year.

- PLO 1. Explain the fundamentals in organic, analytical, physical, inorganic, and biological chemistry.
- PLO 3. Apply problem-solving strategies to scientific problems

Curriculum Assessment Map (Please provide a curriculum assessment map identifying the course(s) that each PLO is assessed. Make a special note of assessments that the departmental assessment coordinator collects data from to analyze overall learning of the PLO's.

Outline which learning outcomes and where you expect to conduct measures over the next 2 academic years (falls and springs) Include rationale, e.g., trending data, planned/ongoing follow-up from previous assessments or program review cycle, etc.)

For the Fall 2017 and Fall 18 the following courses will be used to evaluate learning outcomes 1 and 3.

PLOs Assessed	Assessment point	Assessment tool (Direct or Indirect)
1 and 3	Chem. 106 General Chemistry II	ACS• 2nd semester General Chemistry Exam (Direct)
1 and 3	Chem. 206 Organic Chemistry II	ACS two semester Organic Chemistry Exam (Direct)
1 and 3	Chem. 301 Physical Chemistry I	ACS 1 st semester Physical Chemistry Exam (Direct)

*ACS: American Chemical Society

For the Spring 2018 and Spring 2019 semesters the following courses will be used to evaluate learning outcomes 1 and 3.

PLOs Assessed	Assessment point	Assessment tool (Direct or Indirect)
1 and 3	Chem. 106 General Chemistry II	ACS• 2nd semester General Chemistry Exam (Direct)
1 and 3	Chem. 206 Organic Chemistry II	ACS two semester Organic Chemistry Exam (Direct)
1 and 3	Chem. 450 Senior Seminar	ACS DUCK** Exam (Direct)
1 - 6	Chem. 450 Senior Seminar	Department Graduate Exit Survey (Indirect)

*ACS: American Chemical Society

**DUCK: Diagnostic of Undergraduate Chemistry Knowledge (DUCK test)

1. How are you planning to measure the learning outcomes (s)? (What object, i.e., test, project, presentation, etc., and with what tool, e.g., rubrics, item analysis, sampling, benchmarks, national norms, exams, juried review, etc.)

The American Chemical Society is the world's largest scientific professional society. It has a Committee on Education and a national test center that develops a test for numerous classes in the standard chemistry curriculum. The department decided to use this standardized test sequence due to its ability to place students in a national percentile so we can determine how our students stack up against other nationally. The 2017-2018 and 2018-2019 the ACS is working on getting national data to develop percentile scores for the

new examinations. Each of the tests can be further broken down to give use data on where our students are struggling in the sub disciplines of general, organic, physical, and chemistry overall (DUCK test).

2. Who will be responsible for the analysis and how will results be analyzed? When will results be available?

The Chair of the Department of Chemistry serves a duplicate role as the Assessment Coordinator. This individual collects the information from the faculty members teaching the assessment courses after that faculty member conducts a complete analysis of the class in question. This this year that responsibility falls to Dr. Micheal Fultz.