

Program Name Forensic Chemistry

Program Mission The mission of the Department of Chemistry contributes to the overall mission of the University. The Department has the goal of offering undergraduate and graduate programs commensurate with its role as the major chemical education resource in Northeastern Pennsylvania. The undergraduate chemistry program is approved by the American Chemical Society. The ACS promotes excellence in chemistry education. Consistent with the goals of the ACS, our mission is to offer a broad-based and rigorous chemistry education that gives students intellectual, experimental, and communication skills to become effective scientific professionals.

Referring to your annual assessment reports, please reflect on and report any changes or improvements you have made to your program as a result of evidence you have gathered

Numerous changes are detailed in assessment reports. Recent highlights include the introduction of recitation sections in General and Analytical Chemistry to improve students' quantitative skills. The department is in the process of modifying its curriculum to reflect recent changes in The American Chemical Society Committee on Professional Training. We took that opportunity to make changes in responses to internal assessment, as well. For example, the analytical chemistry course will now be 3 cr, rather than 2. More significantly, the analytical chemistry lab will now have the lecture as a prerequisite, rather than a co-requisite, providing students with a more solid background before they use the instrumentation.

Curriculum

The curriculum provides more than one opportunity for students to meet the Program Learning Objectives

Which key courses and assignments does the program use to ensure that students are meeting these program learning outcomes?

see curriculum map

Program Learning Outcomes to be Assessed

Program Forensic Chemistry

Program Learning Outcome

1). Demonstrate comprehensive knowledge of the major disciplines in the chemical sciences: analytical, biochemistry, inorganic, organic, and physical chemistry.

How will you collect and analyze the evidence that students are meeting the PLO (e.g. Review aggregate scores on embedded questions; review scores on standardized tests; use a rubric to score samples of student writing).

Where in the program does the evidence reside? Evidence can reside in a particular course, sections of a particular course, or outside of courses (e.g. survey of graduates)

Is the evidence direct or indirect Direct evidence is actual student outputs, which can be analyzed or aggregated using quantitative or qualitative methods. Indirect is secondary information, such as perceptions, attitudes, or self-ratings.

What tools are necessary to collect evidence? (Rubrics, Portfolio, Embedded Exam Questions etc.)

Are there benchmarks that you will use to interpret your results? Benchmarks are associated with quantitative evidence and can be determined based on disciplinary norms or previous results on the same assignment, survey, etc.

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Program Learning Outcome

2).Apply critical thinking to solving chemical problems and to designing experiments.

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Program Learning Outcome

3).Proficiently record, analyze, and disseminate data utilizing chemical instrumentation and software.

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Program Learning Outcome

4).Utilize chemical information resources in oral and written presentations of chemistry-related information.

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Program Forensic Chemistry**Program Learning Outcome**

5).Adhere to the highest standards of ethical behavior in the practice of science and in protecting the environment.

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Program Learning Outcome

6).Demonstrate the safe practice of chemistry.

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Program Forensic Chemistry

Program Learning Outcome

7.)Prepare to succeed in employment and higher education in chemistry and related fields.

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