



Student Enrollment and Success Plan: 2014-2017

Department: Chemistry and Physics

Department Chair: Eric Glendening

Department Mission: The Department of Chemistry and Physics provides comprehensive, student-centered education leading to Bachelor's degrees in chemistry and physics. Students gain knowledge and problem-solving skills through rigorous lecture and laboratory course work as well as through challenging independent research experiences. We are committed to preparing students to pursue careers as scientists, engineers, teachers, and health professionals. We contribute to the scientific literacy of students in other disciplines through our general education courses. Faculty advance knowledge through their own research and provide service to the University and scientific communities, as well as to the public.

Department Enrollment Goal(s):

1. Increase the number of students who enter ISU as declared chemistry or physics majors or as pre-engineering students by 2% each year.
2. Increase the number of students who choose to declare chemistry or physics as a major during the freshman or sophomore year.

Action Steps (with dates & person(s) responsible):

- A. Write letters to prospective and accepted students. May 1, 2015; Academic advisors and Eric Glendening.
- B. Meet with prospective students on campus visits. May 1, 2015; Academic advisors and Eric Glendening
- C. Select prospective and admitted freshmen for targeted scholarships in chemistry and physics. Funding source, funding level, and amount of individual scholarships will be determined. May 1, 2015; academic advisors and Eric Glendening
- D. Provide information regarding careers in chemistry, physics, and engineering in appropriate 100-level courses in each program. A short PowerPoint slideshow will be developed for use in lecture courses or for an independent presentation. May 1, 2015; Academic advisors and Eric Glendening

<i>Total Enrollment Benchmarks</i>	Fall 2013 Baseline: 103	Fall 2014: 105	Fall 2015: 107
	Fall 2016: 109	Fall 2017: 111	

Other Enrollment Related Benchmarksⁱ

None

Department Retention Goal(s):

1. Ensure that students are adequately supported in their chemistry and physics courses and engaged with peers and faculty in the discipline so that they continue to pursue their desired career paths.
2. Increase the retention rate of CH/PH majors to 60% by Fall 2017.

Action Steps (with dates & person(s) responsible):

- A. Analyze enrollment data to determine why most freshmen who have declared the chemistry or physics major leave the discipline by the start of their sophomore year. May 1, 2015; Rob Noll
- B. Begin offering a preparatory course in chemistry (CHEM 101) for students who need to complete the science majors' level general chemistry but lack the appropriate background in chemistry to succeed. May 1, 2015; Amila Jeewandara
- C. Lead workshops in general chemistry (CHEM 105/106) and physics (PHYS 115/116) to strengthen students' problem-solving skills and to foster strong peer-peer relationships that should enhance the likelihood that students will be successful in advanced chemistry and physics courses. May 1, 2016; Eric Glendening
- D. Fund and organize the Chemistry and Physics Help Center, a free, drop-in tutoring service for students in 100-level chemistry and physics courses. May 1, 2015; Michelle Baltz-Knorr
- E. Provide space for student-run organizations in the Department, including the American Chemical Society Student Members and Society of Physics Students. May 1, 2015; Steve Wolf (ACS-SM) and Joe West (SPS)
- F. Provide student employment opportunities in the Department, including positions as teaching assistants, laboratory assistants, and stockroom assistants. May 1, 2015; Steve Wolf and Michelle Baltz-Knorr

<i>Retention Benchmarks</i>	Fall 2013 Baseline:	Fall 2014:	Fall 2015:
	56%	57%	58%
	Fall 2016:	Fall 2017:	
	59%	60%	

Other Retention Related Benchmarks

None

Department Completion Goal(s):

- 1. Increase the number of students completing the chemistry or physics major by 3% each year through Fall 2017
- 2. Ensure that 80% of chemistry and physics majors complete the undergraduate degree within four years.
- 3. Ensure that 75% of chemistry and physics majors have an undergraduate research experience and that at least half of these students have the opportunity to present their research at a professional meeting.

Action Steps (with dates & person(s) responsible):

- A. Provide opportunities for 15-20 students to participate in chemistry and physics research in the Summer Undergraduate Research Experiences (SURE) program. May 1, 2014; Steve Wolf
- B. Ensure that at least half of students participating in the SURE program complete sufficient work to present the results of their research at a regional or national meeting. The Department, Dean's Office, Center for Student Research and Creativity, and the local section of the American Chemical Society will provide travel support. May 1, 2015; Eric Glendening
- C. Provide a schedule of chemistry and physics classes that meets demand for coursework in the physical sciences and facilitates degree completion for all students. The schedule will ensure that chemistry majors have the option of completing the degree within three years. May 1, 2015; Eric Glendening
- D. Support faculty development by sponsoring travel to attend chemistry and physics teaching conferences, including the Biennial Conference on Chemistry Education (BCCE) and meetings of the American Association of Physics Teachers (AAPT). May 1, 2017; Eric Glendening.

<i>Completion Benchmarks</i>	Fall 2013 Baseline:	Fall 2014:	Fall 2015:
	60%	63%	66%
	Fall 2016:	Fall 2017:	
	69%	72%	

Other Completion Related Benchmarks

None

Post-College Achievement Goal(s) (e.g., employment & graduate school):

Increase the percentage of graduates with confirmed full-time employment or graduate or professional admission within one year of graduation by 2% annually over baseline data.

Action Steps (with dates & person(s) responsible):

- A. Work with the Career Center to develop tracking data and post-graduate contact information and graduation plans for all graduating students as part of a graduation exit questionnaire. May 1, 2015; Steve Wolf
- B. Solicit information and maintain an up-to-date database of contact information and current employment of department alumni as part of an annual newsletter questionnaire. May 1, 2016; Jennifer Inlow
- C. Provide graduate examination preparation experience for students. Audit and assess student outcomes with respect to student performance at peer institutions. May 1, 2016; Steve Wolf and Joe West
- D. Hold two seminars annually in which invited speakers discuss career opportunities in academia or industry. May 1, 2016; Rick Fitch

*Employment & Graduate
School Benchmarks*

Fall 2013 Baseline:
N/A

Fall 2014:
Baseline Set

Fall 2015:
+2%/+2%

Fall 2016:
+2%/+2%

Fall 2017:
+2%/+2%

Other Goal(s) and Action Stepsⁱⁱ:

None

ⁱ *Note on Other Enrollment, Retention, and Completion Benchmarks:* Departments are encouraged to develop other benchmarks as may be relevant to measuring progress toward goal achievement.

ⁱⁱ Departments may have other goals that do not fit into the four areas previously indicated or adequately subsumable as an action step within one of the four goal areas. They may be placed here.