Program: Chemistry & Geology

Section I: Trend Data

1. Program Trend Data

The department is largely a service entity providing support to associates degree programs within and to service a large contingent of university parallel transfer students. Enrollment trends vs. prior year are stated in the table below:

**FTE**

|  |  |  |  |
| --- | --- | --- | --- |
| Dept | FTE 2008-2009 | FTE 2009-2010 | FTE 2010-2011 |
| CHE | 671.93 | 754.33 | 744.27 |
| GLG | 223.47 | 258.40 | 254.13 |

**Success Rates**

|  |  |  |  |
| --- | --- | --- | --- |
| Dept | FTE 2008-2009 | FTE 2009-2010 | FTE 2010-2011 |
| CHE | 64.53% | 62.26% | 57.20% |
| GLG | 75.14% | 80.98% | 78.80% |

**Degree Completion**

|  |  |  |  |
| --- | --- | --- | --- |
| Dept | AC 2008-2009 | AC 2009-2010 | AC 2010-2011 |
| CHE | 4 | 4 | 7 |
| GLG | 1 | 0 | 0 |

1. Interpretation and Analysis of Data  *Suggestions of questions that might be addressed in this section: What trends do you see in the above data? Are there internal or external factors that account for these trends? What are the implications for the program or department? What actions have the department taken that have influenced these trends? What strategies will the department implement as a result of this data?*

After an enrollment spike, it seems enrollment has reached a plateau of late. I believe the department could have possibly fared better had it known of an enrollment trend away from the preparatory courses used to support allied health programs and toward the university parallel courses. Schedule offerings are usually prepared well in advance and some inefficiency in this regard may be the root cause of this lack of growth (i.e. some courses filling more quickly and others never filling, etc.).

Chemistry success rates seem to be trending downward and this is cause for concern and further investigation.

Chemistry degree completion does seem to be rising and given the above enrollment trends, this should continue.

Section II: Progress Since the Most Recent Review

1. What was the fiscal year of the most recent Program Review for this program?  
     
    2007

Briefly summarize the goals that were listed in Section IV part E of the most recent Program Review Self-Study (this section of the Self-Study asks “What are the department’s/program’s goals and rationale for expanding and improving student learning, including new courses, programs, delivery formats and locations”)?  
  
 The department was charged with greater managing the heavier load of adjunct faculty and documenting learning outcomes. I believe we have made progress on that front.

1. Have these goals changed since your last Program Review Self-Study? If so, please describe the changes.  
     
    Not substantially. This continues to be a challenge for this department given the ratio of FT/PT faculty near 50%.

One additional goal which has become a great item of emphasis is safety. This is largely a concern in the chemistry area.

1. What progress has been made toward meeting any of the goals listed above in the past year?  
     
    One item you to be mentioned later is the newfound ability for the CHE department to administer the American Chemical Society National General and Organic Chemistry exams, which are semester-based.

What recommendations for Action were made by the review team to the most recent Program Review? What progress has been made towards meeting these recommendations in the past year?

The department was specifically charged with proving the assertion that success rates were lower with adjunct faculty than full-time faculty. After a great deal of data mining, this was discussed in two annual updates ago and no further communication has been made to the department regarding the findings, which is somewhat demoralizing, especially right about now.

Section III: Assessment of Outcomes

The Program Outcomes for this program are listed below. At least one-third of your program outcomes must be assessed as part of this Annual Update, and across the next three years of these program outcomes must be assessed at least once.

| Chemistry & Geology Program Outcomes | In which courses are these program outcomes addressed? | Which of these program outcomes were addressed during the last fiscal year? | Assessment Methods Used |
| --- | --- | --- | --- |
| **1) Critical Thinking / Problem Solving** | All courses |  | Written exams and laboratory reports. |

1. For the assessment methods listed in the table above, what were the results? What changes are planned as a result of the data? How will you determine whether those changes had an impact?  
     
   Since this particular outcome encompasses virtually all of the departments focus, we look forward to implementing the national ACS exams. As is discussed in the last section of this update.
2. What other changes have been made in past years as a result of assessment of program outcomes? What evidence is there that these changes have had an impact?  
     
   Administration of ACS General Chemistry and Organic national exams.
3. Describe general education changes/improvements in your program/department during this past academic year (10-11).

1) Administration of ACS General Chemistry and Organic national exams scheduled for Fall semester 2012.

2) Emphasis of “safety across the curriculum” in lab sections.

Section IV: Improvement Efforts for the Fiscal Year

1. **FY 10-11:** What other improvement efforts did the department make in FY 10‑11? How successful were these efforts? What further efforts need to be made? If your department didn’t make improvement efforts during the fiscal year, discuss the strengths and weaknesses of the department over the last year and how the department plans to address them in the coming year  
     
   The CHE department rolled out an internally authored manual for CHE-126 (Lab for Introduction to Chemistry). This will lower costs for students but also, matches the learning style of the prototypical SCC student, given that the audience for which it is written specifically matches the course. Commercially produced manuals tend to ring more of a university tone and address concepts at too high of a level for student comprehension. The manual also addresses safety more rigorously.

Both CHE and GLG departments made safety an item of emphasis. The chair along with the college safety officer co-authored an employee safety manual to be read and agreed to by all new hires.

1. **FY 11-12:** What improvement efforts does the department have planned for FY 11‑12? How will you know whether you have been successful?  
     
   As mentioned prior, the CHE department will administer the ACS National exams as a final exam in General Chemistry and soon Organic Chemistry. This will allow for comparison to national norms on a total and per question basis which will be a huge improvement toward gauging our success.