CHEM 160: Introduction to Scientific Computing for Chemists

Course Title: Introduction to Scientific Computing for Chemists
Abbreviated Course Title: Scientific Computing for Chem
Course Subject: CHEM
Course Number: 160
School Submitting Request: Natural Sciences
Division: Upper Division
Effective Term: Fall 2015
Discontinuance Term: ----
Lower Unit Limit: 3
Upper Unit Limit: 3
Prerequisites: Math 22 or Math 32 or permission of instructor.

Prerequisites with a Concurrent Option
Corequisites
Major Restrictions: Junior and senior class.
Class Level Restrictions: Junior and senior class.

Course Description
Teaches the tools and principles of scientific computing, covering the Linux operating system, shell scripting, data analysis using R, and scientific programming with an emphasis on data analysis and simulations relevant to chemistry. Course involves interactive lecture/laboratory sessions where students gain experience doing scientific computing on local and remote computers.

TIE Code: T: Laboratory-Skills/Techniques

Reasons for Request: New Course
Chem 160 is being added as a conjoined course with Chem 260 which was first offered in fall 2013. A number of chemistry undergraduate students heard about Chem 260 and asked if an undergraduate component could be added to the course.

Lecture: 0 contact, 0 non-contact
Lab: 4 contact, 5 non-contact
Seminar: 0 contact, 0 non-contact
Discussion: 0 contact, 0 non-contact
Tutorial: 0 contact, 0 non-contact
Field: 0 contact, 0 non-contact
Studio: 0 contact, 0 non-contact

Total Hours Per Week: 9
Grading Options: Letter Grade Only
In Progress Grading
Maximum Enrollment: 30
Maximum Enrollment Reason: ----
Cross-listing: 1/2
<table>
<thead>
<tr>
<th><strong>Conjoined</strong></th>
<th>Chem 260</th>
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<tbody>
<tr>
<td><strong>Cross-listed Schools</strong></td>
<td>Natural Sciences</td>
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<tr>
<td><strong>Can this course be repeated?</strong></td>
<td>No</td>
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<tr>
<td><strong>How many times?</strong></td>
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**Resource Requirements**

- Requires access to a Linux teaching lab (SE 100 or SE 138).

**Does this satisfy a General Education Requirement?**

- No

**Course Outline and/or Additional Documentation**

- CHEM 260 and 160 CRF merged 03-20-15.pdf (2293Kb)