Course number, title and credits; total time allocation

<table>
<thead>
<tr>
<th>Course Letter/Number</th>
<th>CEM 242</th>
<th>Credits</th>
<th>4</th>
<th>Title</th>
<th>Organic Chemistry II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture/Discussion</td>
<td>4.0</td>
<td>Lab</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hrs/semester</td>
<td></td>
<td>hrs/semester</td>
<td>Clinical</td>
<td></td>
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</tbody>
</table>

Catalog Description and Pre- and Co-requisites (Same as taxonomy and catalog)

COURSE DESCRIPTION  CEM 242 is a continuation of CEM 241. It is a comprehensive study of the major classes of organic compounds, their structures and reactions. The stereochemical properties and spectra of molecules and the mechanisms of reactions are stressed. The laboratory experiments demonstrate techniques used in organic reactions, synthesis illustrating types of reactions, analysis of major classes of compounds and kinetic studies.

Prerequisite:  CEM 241

Knowledge, Skills and Abilities Students Acquire from this Course (Educational Objectives)

Students will develop knowledge, attitudes, and skills in the study of organic chemistry. They will understand how some of the more advanced structural theories of matter explain the physical and chemical properties in organic, and to some extent biological chemistry.

Associate Degree Outcomes Addressed in this Course (These must appear in course syllabus.)

Chemistry 241 supports the following Associates Degree Outcomes:

#4 Students will demonstrate scientific reasoning.
#7 Students will demonstrate critical thinking

Units/topics of Instruction

Reactions of Arenes
Spectroscopy
Organometallic Compounds
Alcohols, Diols, and Thiols
Ethers, Epoxides, and Sulfides
Aldehydes and Ketones
Carboxylic Acids
Carboxylic Acid Derivatives:
Nucleophilic Acyl Substitution
Enols and Enolates
Amines
Phenols

Instructional Techniques and Procedures

Interactive lecture and face-to-face laboratory activities are the instructional techniques of this course.

Instructional Use of Computer or Other Technology

Students will use computer interface instruments in the laboratory and will use a spreadsheet for calculations and graphing applications.

Instructional Materials and Costs to Students

CALCULATOR: A Scientific Calculator is Required
PERIODIC TABLE:  SARGENT WELCH
Skills and abilities students should bring to the course

<table>
<thead>
<tr>
<th>Able to read</th>
<th>a limited amount of material</th>
<th>Able to compute</th>
<th>basic, pre-algebraic problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>an average amount of material</td>
<td></td>
<td>simple algebraic problems</td>
</tr>
<tr>
<td>x</td>
<td>an above average amount of material</td>
<td></td>
<td>higher order mathematical problems</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Able to read</th>
<th>relatively easy material</th>
<th>Able to write</th>
<th>short compositions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>moderately difficult material</td>
<td></td>
<td>medium length compositions</td>
</tr>
<tr>
<td>x</td>
<td>technical or sophisticated material</td>
<td></td>
<td>lengthy compositions</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Able to use technology</th>
<th>keyboard skills/familiar with computer</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>computer application</td>
</tr>
<tr>
<td>x</td>
<td>web navigation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other necessary abilities</th>
</tr>
</thead>
</table>

The course is usually scheduled

Day:  
- [ ] Fall  
- [x] Winter  
- [ ] Spring

Evening:  
- [ ] Fall  
- [ ] Winter  
- [ ] Spring

Prepared by _________________________________________________________  Date  __________________________________

Approved by Dept. _________________________________________________ Date  __________________________________

Approved by Dean _________________________________________________ Date  __________________________________

Approved by Curr. Comm. _____________________________________________ Date  __________________________________

(Last names, please)  Form Revised 12/4/00