2014

104-01 Chemistry: Life and Health

Roy Cohen

Follow this and additional works at: http://www.exhibit.xavier.edu/chemistry_syllabi_fall_2014

Recommended Citation
http://www.exhibit.xavier.edu/chemistry_syllabi_fall_2014/13

This Restricted-Access Syllabus is brought to you for free and open access by the Chemistry Syllabi 2014 at Exhibit. It has been accepted for inclusion in Chemistry Syllabi Fall 2014 by an authorized administrator of Exhibit. For more information, please contact exhibit@xavier.edu.
Course Objectives: This course is intended to provide the student with a general overview of the basic concepts of Chemistry, with emphasis on how chemistry and associated concepts relate to everyday life especially in the areas of life and health. Only the most basic mathematical operations will be used in this course. Students will be encouraged to bring articles to class that relate to the topics being discussed. Special topics that require short written papers may be assigned as well.

<table>
<thead>
<tr>
<th>Date (week of, Wednesday’s)</th>
<th>Chapter, topic</th>
<th>Assessments, notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/27</td>
<td>Chapter 1 – Overview of Chemistry; research, risk-benefit</td>
<td></td>
</tr>
<tr>
<td>09/03</td>
<td>Chapter 9: Acids and Bases</td>
<td></td>
</tr>
<tr>
<td>09/10</td>
<td>chapter 11: Water</td>
<td>NO CLASS 9/12!!</td>
</tr>
<tr>
<td>09/17</td>
<td>Chapter 14, Organic Chemistry and Polymers</td>
<td></td>
</tr>
<tr>
<td>09/24</td>
<td>Conclude chapter 14 Tuesday; Thursday- exam</td>
<td>Exam, Friday 9/26 Chapters 1,9,11,part 14</td>
</tr>
<tr>
<td>10/01</td>
<td>begin Chapter 15- the Chemistry of Life</td>
<td></td>
</tr>
<tr>
<td>10/08</td>
<td>Thursday- Conclude chapter 15</td>
<td>NO class 10/10</td>
</tr>
<tr>
<td>10/15</td>
<td>Begin Chapter 16</td>
<td></td>
</tr>
<tr>
<td>10/22</td>
<td>Chapter 16 continued</td>
<td></td>
</tr>
<tr>
<td>10/29</td>
<td>Conclude chapter 16 Tuesday; Thursday- exam</td>
<td>Exam, Friday- 10/31 Chapters 14,15, part of 16</td>
</tr>
<tr>
<td>11/05</td>
<td>Toxins and poisons (extra-textual material)</td>
<td></td>
</tr>
<tr>
<td>11/12</td>
<td>Begin Chapter 17 ;Chemistry and Medicine</td>
<td></td>
</tr>
<tr>
<td>11/19</td>
<td>Tuesday- Chapter 17 continued</td>
<td></td>
</tr>
<tr>
<td>11/26</td>
<td>No class this week</td>
<td>NO CLASS 11/26 and 11/28</td>
</tr>
<tr>
<td>12/03</td>
<td>Chapter 17; conclusion; OTC drug use guidelines</td>
<td></td>
</tr>
<tr>
<td>12/10</td>
<td>Tuesday, exam; Thursday - cancer extra textual material</td>
<td>Exam, Wednesday 12/10 - Chapters part of 16,17, poisons/toxins</td>
</tr>
<tr>
<td>12/19</td>
<td>Final exam: 12/19,</td>
<td>Final exam: (cumulative)</td>
</tr>
</tbody>
</table>
**Attendance policy:** Attendance is mandatory for all class meetings. Only documented illness and family/personal emergencies will be considered excused absences. 5 points will be deducted at the end of the term for each unexcused absence. Missed exams cannot be made up except in the case of a signed physician’s statement. Then, a make-up exam will be administered within one week.

**Grading Policy:** 3 class Exams, 100 points each; Final Exam = 200 points. HW: 10 points each assignment. Total points from exams = 500 points. Student who bring timely articles to class and give a 3-5 minute report on the article can earn 5 extra points per article up to a maximum of 15 extra points.

**Grading Scale:**
- A = 93-100%
- A- = 90 - 92%
- B+ = 87-89%
- B = 83-86%
- B- = 80-82%
- C+ = 77-79%
- C = 73-76%
- C- = 70-72%
- D+ = 67-69%
- D = 63-66%
- D- = 60-62%
- F = <60%

It should be noted that according to the Xavier University Catalog, a grade of “A” is earned for EXCEPTIONAL performance. This is the grading policy of the faculty of the Chemistry Department as well. Refer to the Chemistry Department web site for more information: www.xavier.edu/chemistry/dept_policies_grading.cfm

**Academic Misconduct Policy:** A grade of zero will be given to any student violating the University Academic Honesty Policy. The student may appeal according to normal university procedures as stated in the University Catalog.

**Special Accommodations:** It is the responsibility of the student to inform the instructor of any individual medical or other conditions that may require special attention or accommodations at the beginning of the semester. Reasonable consideration will be given for these conditions. Please visit the LAC for assistance and further information.

**NOTICE:** Please turn off ALL portable electronic devices before class begins. The use of these devices (with the exception of simple calculators) is not permitted in this class for any reason at any time.

**SLO’s for University Core Courses as they apply to Chem 104:**

**GOAL 1:** Students will be effective communicators in writing and orally

1. Students will organize and express their ideas in writing and orally

2. Students will formulate clear and arguable theses, supported by evidence drawn from appropriate sources

3. Students will utilize an effective writing process guided by audience, purpose, cultural context, and disciplinary standards

**GOAL 2:** Students will be critical thinkers

1. Students will analyze and interpret texts, images, objects, artifacts, and quantitative and qualitative data

2. Students will evaluate the use of science and mathematics in society and everyday life in an informed manner

**GOAL 4:** Students will be able to understand and appreciate the arts, humanities and science disciplines, and reflect on connections among these studies
1. Students will explain the scientific method, including the difference between hypotheses, theories and laws, valid hypothesis and/or models

2. Students will apply social science methodology to relevant social issues

GOAL 5: Students will be integrated individuals who articulate a coherent, ethical perspective on the world and their place in it

1. Students will recognize the societal, ethical and moral dimensions of discourse, art, information, science and technology

2. Students will relate their knowledge and skills in a reflective and constructive way to their life experiences and the challenges confronting today’s world

3. Students will use information and resources responsibly in their communication and research

4. Students will utilize intellectual, moral, and spiritual tools and sensibilities to engage faithfully and responsibly in the world for the promotion of peace, social justice, and ecological sustainability

GOAL 6: Students will be aware global citizens

1. Students will consider perspectives of diverse groups when making decisions

2. Students will interact with sensitivity as members of society and as professionals with people who have ideas, beliefs, attitudes, and behaviors that are different from their own

GOAL 7 (E/RS): Students will be intellectually, morally and spiritually educated individuals capable of critical reflection on ethical and/or religious questions of social significance from the perspective of multiple disciplines with unique methods

1. Students will analyze rationally competing claims about individual and political justice within foundational philosophical texts

2. Students will engage in critical, theological reflection on ethical and/or religious questions of social significance, using human experience and religious traditions as resources to address these questions

3. Students will reflect critically on ethical and/or religious questions of social significance through the method of another discipline or through a second course in philosophy, theology or literature

---

Chem 104 – Homework Problems
Due dates will be announced in class

Homework assignments, Chemistry in Everyday Life

Chapter 1: 1,2,4,5,8,10

Chapter 11: 1, 3, 4,5, 8, 10, 11, 12, 13, 15, 16, 19, 20, 21, 23, 25 – 28, 30, 31 – 36, 41, 44, 48

Chapter 14: 1, 3, 6, 7, 9, 10, 11, 13, 15, 16, 19 – 26, 31 – 34, 36, 37, 41, 42, 45, 51, 52

Chapter 15: 1, 2, 3, 7, 9, 10 – 19, 24, 25, 26, 30, 34, 36, 41, 42, 43, 51, 52, 54, 55, 68

Chapter 16: 1 – 13, 15, 19, 21, 23, 26, 28, 29, 31, 33, 34, 35, 37, 38, 40, 42, 49, 50, 52
Chapter 17: 1 – 8, 10, 11, 12, 14, 15, 17 – 21, 23, 24, 28, 32, 33, 25, 37, 39

Chapter 18: 1 – 6, 8, 10, 11, 14, 18, 21, 22, 28