Tentative Lecture Schedule:

Power Point® outlines of the class material will be available via eCompanion. These are incomplete; students are expected to participate in class!

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday’s Date</th>
<th>Relevant Chapters</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feb. 15 (Feb. 15–Holiday – No class meeting)</td>
<td>1</td>
<td>Introduction to Biochemistry</td>
</tr>
<tr>
<td>2</td>
<td>Feb. 22</td>
<td>2</td>
<td>Aqueous Solutions and Buffers</td>
</tr>
<tr>
<td>3</td>
<td>February 29</td>
<td>3 - 5</td>
<td>Amino Acids and Proteins</td>
</tr>
<tr>
<td>4</td>
<td>March 7</td>
<td></td>
<td>Proteins</td>
</tr>
<tr>
<td>5</td>
<td>March 14</td>
<td></td>
<td>Wednesday, March 16, Exam I</td>
</tr>
<tr>
<td>6</td>
<td>March 21</td>
<td>7</td>
<td>Carbohydrates</td>
</tr>
<tr>
<td>7</td>
<td>March 28</td>
<td></td>
<td>Carbohydrates continued</td>
</tr>
<tr>
<td>8</td>
<td>April 4</td>
<td>Parts of: 10, 11 and 12</td>
<td>Lipids and Membranes</td>
</tr>
</tbody>
</table>

Prerequisites

- 2 semesters General Chemistry
- 1 semester Organic Chemistry
- A biology course is helpful, but not required.

Text

- The solutions manual for the text is very helpful.
- Lab Text – provided by instructor via eCompanion

You will need:

- a scientific calculator – non-graphing
- lab goggles
- lab coat – flame resistant
- "locker receipt" – from bookstore for locker usage fee

Office Hours

- MW 10:20 – 11:30 am
- by appointment
- M – Th by email

Instructor

Deborah Schwyter Ph.D.  SCI 282
telephone: 1.310.434.4066
e-mail: schwyter_deborah@smc.edu
http://homepage.smc.edu/schwyter_deborah

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April 11-17 - Spring Break- No Classes in Session

<table>
<thead>
<tr>
<th>Week</th>
<th>Th Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>April 18</td>
<td>Enzymes – General, Kinetics, Mechanisms, and</td>
</tr>
<tr>
<td>10</td>
<td>April 25</td>
<td>Enzymes continued</td>
</tr>
<tr>
<td>11</td>
<td>May 2</td>
<td><strong>Wednesday, May 4, Exam II</strong></td>
</tr>
<tr>
<td>12</td>
<td>May 9</td>
<td>13 Introduction to Metabolism and Metabolic Pathways</td>
</tr>
<tr>
<td>13</td>
<td>May 16</td>
<td>Parts of: 14, 15, 16, 19 and 23</td>
</tr>
<tr>
<td>14</td>
<td>May 23</td>
<td>Metabolic Pathways</td>
</tr>
<tr>
<td>15</td>
<td>May 30 (May 30 - Holiday)</td>
<td><strong>Wednesday, June 1, Exam III</strong></td>
</tr>
<tr>
<td>16</td>
<td>June 6</td>
<td>Whatever is left over …</td>
</tr>
</tbody>
</table>

**FINAL EXAM DATE:** Wednesday, June 8, 2016
8:00 am – 11:00 am
SCI 157
Cumulative Lab and Lecture!

**Tentative Lab Schedule:**
Each chapter of the lab manual outlines the theory, procedures, and report requirements for each lab exercise and will be provided as needed on [eCompanion](https://www.eCompanion).
<table>
<thead>
<tr>
<th></th>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>March 31</td>
<td>Lab 4 Spectrophotometry in Biochemistry</td>
</tr>
<tr>
<td>8</td>
<td>April 7</td>
<td>Spectrophotometry continued</td>
</tr>
<tr>
<td></td>
<td>April 14</td>
<td>Spring Break – No Lab Meeting</td>
</tr>
<tr>
<td>9</td>
<td>April 21</td>
<td>Lab 5 Column Chromatography in Biochemistry</td>
</tr>
<tr>
<td>10</td>
<td>April 28</td>
<td>Lab 6 Gel Electrophoresis</td>
</tr>
<tr>
<td>11</td>
<td>May 5</td>
<td>Lab 7 Enzyme Kinetics - Part I</td>
</tr>
<tr>
<td>12</td>
<td>May 12</td>
<td>Enzyme Kinetics - Data Evaluation Workshop I</td>
</tr>
<tr>
<td>13</td>
<td>May 19</td>
<td>Enzyme Kinetics – Part II</td>
</tr>
<tr>
<td>14</td>
<td>May 26</td>
<td>Lab 8 Bioinformatics and Lab Check-Out</td>
</tr>
<tr>
<td>15</td>
<td>June 2</td>
<td>No lab meeting</td>
</tr>
</tbody>
</table>

**General Policies:**

**Summary of Graded Work:**

- 3 Midterm Exams, 200 pts. each, *drop lowest*
- 7 Lab Reports, 10 pts. each + 1 at 20 pts.
- Final Exam, 210 pts.

*There will be no accommodations for “make-up” exams.

Participating in the laboratory exercises is mandatory for passing the class.

Taking the Final Exam is mandatory for passing the class.

**Itemized Point Totals:**

- Midterm Exams 400 pts.
- Lab Reports 90 pts.
- Final Exam 210 pts.

Semester Total: 700 pts.

**Final Letter Grade Breakdown:**

- A = 90 -100% (> 630 pts)
- B = 78-89.9%. (546 – 629 pts.)
- C = 66 – 77.9% (462 -545 pts.)
- D = 52 – 65.9 % (364 – 461 pts.)
- F < 52% (≤ 363 pts.)
Statement of Student Learning Objectives for Chem 31: Biochemistry:

- The student will follow a logical process based on well-established scientific principles and demonstrate the ability to use the appropriate problem-solving techniques to solve a scientific problem such as determining the structure and/or function of a protein or explain how the energy of glycolysis and the citric acid cycle is harnessed to fuel biosynthesis.

- When conducting a laboratory experiment, the student will follow written procedures commonly used in biochemistry including spectrophotometry, measuring and expressing enzyme activity, and various types of chromatography. When completing a lab report, the student will apply the scientific method correctly by being able to state a hypothesis, take careful measurements, estimate uncertainties and draw appropriate conclusions based on gathered data and scientific principles.

- The student will explain observable phenomena using appropriate scientific theories, such as explaining the consequences of genetic variations in hemoglobin or writing a reaction mechanism for an enzyme catalyzed reaction.

For Success!

- **Take an active interest in the subject of biochemistry.** The most challenging aspect of this course is the volume of material! Conquer the amount of study by being actively engaged in the class, by taking clear and complete notes, by supplementing class notes with text material and by working through the recommended exercises in the back of each chapter of the text as well as those provided by the instructor. Explore the Course Outline Links for helpful websites.

- **Be considerate of everyone in the campus community.** Turn off all forms of electronic communication in all classrooms & labs. Note that eating, drinking, gum chewing, and smoking are not permitted in any classroom or lab in the Science Building! *(Unfortunately, this includes drinking water!)* Violating this policy constitutes breaking the student code of conduct. Students who fail to adhere to the student code of conduct will be reported to and handled by the Campus Disciplinarian.

- **Work on all aspects of this course with integrity.** The academic code of conduct outlines behavior that is considered academically deceptive or fraudulent. All incidents of academic dishonesty will be reported to and handled by the Campus Disciplinarian.

- **Please Note Section 78907 of the Education Code:** "The use by any person, including a student, of any electronic listening or recording device in any classroom without the prior consent of the instructor is prohibited, except as necessary to provide reasonable auxiliary aids and academic adjustments to disabled students. Any person, other than a student, who willfully violates this section, shall be guilty of a misdemeanor. Any student violating this section shall be subject to appropriate disciplinary action."
The recording of sounds or images is expressly prohibited without official advisement from the SMC Office of Disabled Students or explicit permission from the instructor.

- **Students are responsible for withdrawing from the class.**

  **Withdrawal Deadlines:**

  * Last Day to Withdraw to Receive a Refund: February 28, 2016
  * Last Day to Withdraw to Avoid a "W": February 28, 2016
  * Last Day to Withdraw to Guarantee a "W": May 15, 2016

  **After Sunday, Sunday, May 15, 2016 and before the final exam is administered** – Late withdrawals are handled by Admissions and Records and require documentation of extenuating circumstances.
Student Profile - Spring 2016

Name (please print):

For Pre-Baccalaureate Students:

What is your major area of study?

When and where did you study General Chemistry?

When and where did you study Organic Chemistry?

Do you intend to transfer to a 4-year college?

What are your ultimate career goals?

For Post-Baccalaureate Students:

In what field/s and from what institution/s do you hold degrees?

When and where did you study General Chemistry?

When and where did you study Organic Chemistry?

Do you intend to transfer to a professional program? What kind?

What are your ultimate career goals?

For All Students:

Please sign below to indicate that you have read and understood the policies of the class as stated in the “Syllabus and Schedule.”