CHEM 370 – Spring 2017 Syllabus

Instructor Information:
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The Graduate School | Adams Hall 211 | gbaker@niu.edu
Associate Professor
Department of Chemistry and Biochemistry | LaTourette hall 426 | gbaker@niu.edu

Classroom Location | Office Hours:
Faraday Hall 144 | After class, MWF, 9:00 to 10:00 a.m., or by appointment (limited).

Course Materials:
- Sapling Learning (Recommended):
- Textbook (Required):
  Essentials of General, Organic and Biochemistry, 2nd Ed., by Denise Guinn.
  Chapters 10 to 15 (the Biochemistry section). E-book available through Sapling Learning or NIU bookstore. The GOB textbook also provides convenient access to pre-requisite content, if needed.

Tentative Schedule:

<table>
<thead>
<tr>
<th>Chapter and Topic</th>
<th>Week beginning:</th>
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<tbody>
<tr>
<td>Chapter 10: Organic Group Reactions</td>
<td>Week 1 1/16: No class Monday, 1/16.</td>
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<td>Chapter 10</td>
<td>Week 2 1/23: No class Friday, 1/27.</td>
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<tr>
<td>Chapter 10</td>
<td>Week 3 1/30</td>
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<tr>
<td>Chapter 11 Carbohydrates</td>
<td>Week 4 2/6</td>
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<td>Chapter 11</td>
<td>Week 5 2/13</td>
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<tr>
<td>Chapter 12: Lipids</td>
<td>Week 6 2/20</td>
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<tr>
<td>Chapter 12</td>
<td>Week 7 2/27</td>
</tr>
<tr>
<td>Chapter 13: Proteins</td>
<td>Week 8 3/6</td>
</tr>
<tr>
<td>Spring break</td>
<td>Week 9 3/13 – Spring break, no classes.</td>
</tr>
<tr>
<td>Chapter 13</td>
<td>Week 10 3/20</td>
</tr>
<tr>
<td>Chapter 13</td>
<td>Week 11 3/27</td>
</tr>
<tr>
<td>Chapter 14: Nucleic Acids, 14.1</td>
<td>Week 12 4/3</td>
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<tr>
<td>Chapter 14: 14.2, 14.3</td>
<td>Week 13 4/10</td>
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<tr>
<td>Chapter 15: Metabolism</td>
<td>Week 14 4/17</td>
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<td>Chapter 15</td>
<td>Week 15 4/24</td>
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<td>Chapter 15</td>
<td>Week 16 5/1: No class Friday, 5/5.</td>
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<td></td>
<td>Week 17 5/9: Final exams week, no classes.</td>
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<tr>
<td></td>
<td>Exam 4: Monday, 5/8, 8:00 – 9:50 a.m.</td>
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<tr>
<td></td>
<td>Not comprehensive.</td>
</tr>
</tbody>
</table>
**Student Learning Outcomes:**

**SLO1:**
Know and apply the structures, names, and properties of organic groups that occur in practical biochemical compounds. (Properties include reactivity, isomerism, acid-base, shape, and solubility).

**SLO2:**
Explain/illustrate how the structures of carbohydrates, lipids, proteins, and nucleic acids translate into different functions and how mutation can affect these functions.

**SLO3:**
Describe/illustrate the logic of molecular steps in major metabolic pathways, and explain how these pathways are regulated and why they are essential to living systems.

**SLO4:**
Know and apply the principles of energy flow in metabolism.

**More about course format:**

- **Sapling Learning (Optional):**
  Each chapter, 10 through 15, has graded homework problems. The problems provide interactive feedback and explanatory text. Each set of chapter problems must be completed before a specified deadline. You will not be able to complete the online problems after the deadline.

- **Textbook (Required):**
  Each chapter includes worked problems and practice problems that illustrate the type and format of problems that will be on exams. Success in this course requires that you read the textbook chapters and understand how to do the problems. Most class time will be spent working through chapter problems. I may occasionally include material outside the textbook that students will be responsible for.

- **Blackboard:**
  Announcements, the syllabus, and any supplemental material will be posted in the Content section on Blackboard.

- **Online Databases:**
  I will occasionally use these in class. They are publicly accessed using a web browser and may include the [Protein Data Bank](#) (PDB), [Enzyme Structures Database](#) (EC-PDB), [PubChem](#), and others.

**Course Assessment:**

- Exam questions will follow the format of problems in the textbook. Attend class, take good notes, understand how to do the problems and you should do very well. However, don’t rely exclusively on memorization. Apply reflective strategies by asking how or why, and try to connect information across chapters.

- Each exam is 100 points. Letter grade cutoffs:
  
  - A: 380 and above
  - A-: 360 to 379
  - B+: 344 to 359
  - B: 328 to 343
  - B-: 313 to 327
  - C+: 288 to 312
  - C: 260 to 287
  - D: 220 to 259
  - F: 219 and below

- The Sapling Learning homework is optional but will be graded if you choose to do it. Each chapter assignment is 100 points. Your average score for chapters 10 through 15 will replace your worst exam
1, 2, or 3 score (assuming you Sapling score is greater than your worst exam score). This means you can miss exam 1, 2, or 3 for any reason without penalty unless you chose not to do the Sapling Learning homework. In this case, a missed exam will score a zero. Your exam 4 score may not be replaced by your Sapling Learning score. All students must therefore take exam 4. Note that that each incorrect attempt per question on the Sapling Learning homework reduces your score on that question by 5%. Questions are generated based on your login ID.

**An example of how to determine your final letter grade:**

Suppose you obtain the following scores:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>82</td>
</tr>
<tr>
<td>Exam 2</td>
<td>61</td>
</tr>
<tr>
<td>Exam 3</td>
<td>88</td>
</tr>
<tr>
<td>Exam 4</td>
<td>51</td>
</tr>
<tr>
<td>Sapling Learning (average score for 6 chapters)</td>
<td>93 (replaces exam 2 in this example)</td>
</tr>
</tbody>
</table>

Total point calculation:

\[(82 + 93 + 88 + 51) = 314\]

Grade for course = B-

If you choose not to do the Sapling Learning homework, then your total points would be \((82 + 61 + 88 + 51) = 282\). You would receive a C for the course.

**Policies set by the instructor:**

This syllabus is a guide and every attempt is made to provide an accurate overview of the course and its requirements. However, certain circumstances may make it necessary for the instructor to modify the syllabus during the semester for the benefit of students. Changes may depend, in part, on course progress and student needs. The instructor may adjust the tentative schedule on page 1 (at appropriate times during the semester), or may lower the letter grade cutoffs on page 2 (only at the end of the semester when all assessment data for the whole class is available).

- **Attendance:** Will be recorded using an attendance sheet. Attendance data will not impact your grade but it will be used to see if it correlates with your course performance.

- **Makeup Exams and Quizzes:** There are no make-up exams for any reason. A missed exam will score a zero. If you missed exam 1, 2, or 3 and did the Sapling Learning homework then the zero will be replaced by your Sapling Learning score. There are no extra credit options but one or more exams may include questions that can earn a small number of extra credit points.

- **Electronic Devices and Internet Access:** I do not have a problem with tablets, notebooks, or laptops in class if used only to access course materials (i.e. the e-book, Blackboard, or perhaps to research a class question). Any other uses of these devices during class is not acceptable. It’s rare, but students have reported to me unacceptable uses of these devices in past semesters. First offense leads to a warning; second offense may disallow any use of these devices in class. Phone devices are disallowed during class. No device, except a simple non-networked calculator, be used during an exam. If caught, you will receive a zero for that exam.
**Policies set by the University:**

- **Academic Integrity Statement:**
  From the undergraduate catalog under [Academic Regulations](#):
  “Good academic work must be based on honesty. The attempt of any student to present as his or her
  own work that which he or she has not produced is regarded by the faculty and administration as a
  serious offense. Students are considered to have cheated if they copy the work of another during an
  examination, turn in a paper or an assignment written or generated, in whole or in part, by someone
  else. Students are guilty of plagiarism, intentional or not, if they copy material from books, magazines,
  or other sources without identifying and acknowledging those sources or if they paraphrase ideas from
  such sources without acknowledging them. Students guilty of, or assisting others in, either cheating or
  plagiarism on an assignment, quiz, or examination may receive a grade of F for the course involved and
  may be suspended or dismissed from the university.”

- **Accessibility Statement:**
  Northern Illinois University is committed to providing an accessible educational environment in
  collaboration with the Disability Resource Center (DRC). Any student requiring an academic
  accommodation due to a disability should let his or her faculty member know as soon as possible.
  Students who need academic accommodations based on the impact of a disability will be encouraged
  to contact the DRC if they have not done so already. The DRC is located on the 4th floor of the Health
  Services Building, and can be reached at 815-753-1303 (V) or drc@niu.edu.

- **Preferred Gender Pronoun Statement:**
  This course affirms people of all gender expressions and gender identities. If you prefer to be called a
  different name than what is on the class roster, then let me know. Please also inform me and feel free
  to correct me and your classmates on your preferred gender pronouns. If you have any questions or
  concerns, please do not hesitate to speak with me in person or to email me. The [Gender and Sexuality
  Resource Center](#) also has a webpage designed to help support people of all genders as they navigate
  NIU’s system.

- **Multilingual Student Statement:**
  I am committed to making course content accessible to all students. If English is not your first
  language and this causes you concern about the course, please speak with me.

- **Student Sexual Misconduct Policy:**
  Title IX protects against sexual discrimination and sexual misconduct, including harassment, domestic
  and dating violence, sexual assault, and stalking. Confidential support and advocacy is available at the
  [NIU Counseling & Consultation Service](#), Campus Life Building 200, or at 815 753-1206. Alleged
  violations can also be reported online using the [Title IX Complain Form](#). Additional assistance is [here](#).
  For more information on Title IX awareness and education, consult [this resource](#). As an instructor, one
  of my responsibilities is to help create a safe learning environment on our campus. Please be aware
  that as part of Title IX’s “responsible person” policy, I am required to share any information a student
  may have shared with me on sexual harassment or misconduct with NIU’s Title IX coordinator.