

CHEM 370

Syllabus for spring 2014 semester

Instructor Information: Gary M. Baker, Associate Professor and Director of Graduate Studies
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Class Location: LaT 200

Office Hours: MW, immediately after class. Tu, 11:00 a.m.

Course Materials:

- Textbook: *General, Organic and Biochemistry*, 8th Ed., by Denniston et al.
- Sapling Learning: Students are required to set up a Sapling learning account.

Students Instructions:

- 1 Go to <http://saplinglearning.com> and click "US Higher Ed" at the right.
- 2a If you already have a Sapling Learning account, log in then skip to step 3.
- 2b If you have Facebook account, you can use it to quickly create a Sapling Learning account. Click the blue button with the Facebook symbol on it (just to the left of the username field). The form will auto-fill with information from your Facebook account (you may need to log into Facebook in the popup window first). Choose a password and time zone, accept the site policy agreement, and click "Create my new account". You can then skip step 2c and go to step 3.
- 2c Otherwise, click "create account". Supply the requested information and click "Create my new account". Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email.
- 3 Find your course in the list and click on the link. (You may need to expand the subject and term categories).
- 4 Select a payment option and follow the remaining instructions.

Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments. During sign up - and throughout the term - if you have any technical problems or grading issues, first review the [Student FAQ Help page](#), and then send an email to support@saplinglearning.com explaining the issue. The Sapling support team is almost always more able (and faster) to resolve issues than your instructor.

To optimize your Sapling Learning experience, please keep your internet browser and Flash player up to date and minimize the use of RAM-intensive programs/websites while using Sapling Learning.

Verify your [Flash version](#).

Planned Schedule:**Week beginning:**

Chapter 16: Carbohydrates	Week 1	1/13
Chapter 16	Week 2	1/20 Martin Luther King, Jr. Birthday on 1/20 – University is closed.
Chapter 17: Lipids and their functions	Week 3	1/27
Chapter 17	Week 4	2/3 Exam 1: Friday, 2/7
Chapter 18: Protein structure and function	Week 5	2/10
Chapter 18	Week 6	2/17
Chapter 19: Enzymes	Week 7	2/24
Chapter 19	Week 8	3/3 Exam 2: Friday, 3/7
Spring break	Week 9	3/10 – No class this week. Enjoy!
Chapter 20: Introduction to molecular genetics	Week 10	3/17
Chapter 20	Week 11	3/24
Chapter 21: Carbohydrate metabolism	Week 12	3/31
Chapter 21	Week 13	4/7 Exam 3: Friday, 4/11
Chapter 22: Aerobic respiration and energy production	Week 14	4/14
Chapter 22	Week 15	4/21
Chapter 23: Fatty acid metabolism	Week 16	4/28
	Week 17	5/5 Exam 4: Friday, 5/5 8:00 – 9:50 a.m.

Assigned Textbook Reading:

- Chapter 16: “Carbohydrates” – 16.1 through 16.6 (all sections).
- Chapter 17: “Lipids and their functions in biochemical systems” – 17.1 through 17.6 (all sections).
- Chapter 18: “Protein structure and function” – 18.1 through 18.11 (all sections).
- Chapter 19: “Enzymes” – 19.1 through 19.12 (all sections).
- Chapter 20: “Introduction to molecular genetics” – 20.1 through 20.10 (all sections; experimental details in 20.8, 20.9, and 20.10 will not be emphasized).
- Chapter 21: “Carbohydrate metabolism” – 21.1 through 21.7 (all sections).
- Chapter 22: “Aerobic respiration and energy production” – 22.1 through 22.9 (all sections).
- Chapter 23: “Fatty acid metabolism” – 23.1 through 23.3.

Assigned Textbook Questions and Problems (aligned with assigned reading):

- Chapter 16: 13, 14, 17, 19 through 34, 37, 39 through 57, 59 through 61, 63 through 86.
- Chapter 17: 17, 18, 20 through 24, 27 through 31, 33, 35, 37, 39, 43 through 53, 55, 57 through 62, 65, 67 through 76, 87 through 104.
- Chapter 18: 13 through 42, 45 through 63, 67 through 77, 81, 82, 84 through 88, 91 through 96, 100.
- Chapter 19: 21, 22, 23, 25 through 58, 61 through 80, 82 through 87, 91, 92, 94, 95, 97 through 104.
- Chapter 20: 13 through 20, 22 through 65, 67 through 79, 81, 82, 85, 87 through 91.
- Chapter 21: 19 through 100.
- Chapter 22: 17 through 65, 67 through 102.
- Chapter 23: 12 through 60.

Student Learning Outcomes:

In addition to the learning goals that are listed in the textbook, I also expect students to master the following goal: “*Apply dimensional analysis and elementary concepts of stoichiometry and solution chemistry to solve real world unit conversion problems*”. This is intended to reinforce several important general chemistry concepts, primarily in the area of solution chemistry. These concepts include the mole, concentration, dilution, rate, and stoichiometry. Students will be assessed regularly on their ability to do these types of problems. Students must also be able to “*Recognize by name and draw condensed, line, or structural formulas for the different organic groups and functions that occur in practical organic compounds, and be able to describe their properties*”.

More about course format:

- Sapling Learning:
Every assigned chapter has homework problems that each student should do. They do potentially factor into your grade (see the Grading section). The Sapling Learning problems provide interactive feedback and explanatory text. It should prove to be a useful study tool.
- Textbook:
Do the assigned readings and Questions and Problems. Again, they do not directly factor into your grade, but not doing them will likely adversely affect your exam performance.
- Blackboard:
Course materials, such as the syllabus, will be posted in the Content section on Blackboard.
- Online Databases:
I will occasionally use these in class. They are accessed using a web browser and may include the Protein Data Bank (PDB), Enzyme Structures Database (EC-PDB), PubChem, and others.

Exams

- Exams will be primarily objective based (multiple choice; short answer response; true or false, correct if false), but will also include calculations (where you must show work) and chemical structure drawing. The calculations will primarily involve unit conversion problems in the dietetics and medical sciences areas. Keep pace with the assigned readings and problems, do the Sapling learning homework, attend class regularly and you should do very well. Take good class notes, adopt reflective strategies in your learning (ask “why” or “how”, and try to make connections); don’t just memorize.

Grading:

- Each of the four exams is 100 points for a total of 400 points. Letter grade cutoffs:

A: 380 and above	C+: 288 to 312
A-: 360 to 379	C: 260 to 287
B+: 344 to 359	D: 220 to 259
B: 328 to 343	F: 219 and below
B-: 313 to 327	
- The Sapling Learning homework is graded. Each chapter assignment is 100 points for a cumulative total of 800 points. This score will be divided by 8 and used to replace your worst exam 1, 2, or 3 score. The exam 4 score will not be replaced by the Sapling Learning score. (All students must take exam 4). Be aware that each incorrect question attempt reduces your score on that question by 5%. Questions are generated based on your login ID.
- Each exam will include 10 points of applied unit conversion problems. The remaining 90 points will be from assigned textbook questions and problems, Sapling Learning homework, and class notes. In addition, a unit conversion quiz will be given during the second and third week of each exam cycle for a total of 8 quizzes, each worth 5 points for a total of 40 points. Your total quiz points at the end of the semester will be divided by 5 and the result will be added to your total point pool. Thus, the total number of points possible are 408, which will make it easier for students to reach a desired target grade.
All quizzes will be administered during the first 10 minutes of class time and will be promptly collected.

Example:

Suppose a student obtains the following scores:

Exam 1	82
Exam 2	61
Exam 3	88
Exam 4	51
Quizzes (Cumulative)	30 (divided by 5 = 6)
Sapling Learning (Cumulative)	712 (divided by 8 = 89)

Total point calculation:
 $(82 + 89 + 88 + 51) + 6 = 316$
 Grade for course = B-

Course Policies and Recommendations:

- **Attendance:** Not recorded, but all students are strongly encouraged to regularly attend class.
- **Makeup Exams and Quizzes:** There are no make-up exams or quizzes. A missed exam (except for exam 4) will score a zero, but will be replaced by your Sapling Learning score, unless you chose not to do the Sapling Learning homework. A missed quiz will not be given a makeup since their role is to generate extra credit points.
- **Electronic Devices and Internet Access:**

Use of Electronic Devices in the Classroom:

A student using **any** electronic device in class for an activity not related to the learning experience (i.e. texting during class), or without instructor authorization will receive a verbal warning for the first offense. If a second offense occurs, the student will be asked to leave class. He/she will receive a written warning. A copy of this warning will be placed in the student's academic file. A third offense results in the removal of the student from the course and an automatic F. Students are encouraged to inform the instructor if they observe another student engaged in non-compliant behavior.

Unauthorized use of the Internet in the classroom:

A student using the internet during class for personal communication, private exploration, or any other purpose outside of the instructional activities prescribed by the professor will result in a verbal warning. Subsequent misuse of the Internet may result in loss of z-ID student access to Internet resources. Students are encouraged to inform the instructor if they observe another student engaged in non-compliant behavior.

Use of Electronic Devices during an Examination:

A **simple, dedicated calculator** is the only electronic device allowed during an examination. Use of any other electronic device (phone, tablet, etc.) will be considered an act of academic dishonesty. The student will be expelled from the exam session and will receive a grade of F. Re-examination will not be permitted. The student may also face institutional penalties for academic dishonesty.

Use of the Internet during an Examination:

A student using the Internet or a cellular network for any purpose during an examination will be considered to have committed an act of academic dishonesty. The student will be expelled from the exam session and receive a grade of F. Re-examination will not be permitted. The student may also face institutional penalties for academic dishonesty.

- **Behavior:** In addition to being compliant with the electronic devices and Internet policies, please communicate and act respectfully. Examples: Do not read newspapers during class; remember to silence your phones and to put them away; avoid whispering or talking, unless engaged in an instructor led group activity or class discussion.
- **Work Ethic:** There is a lot of material in this course. Pacing your study habits and online activities is important so that you have time to review all materials thoroughly. Waiting until the week of an exam before starting your preparation will likely force you to "cherry-pick" your way through the material. This will likely translate into a poor exam score.

Other:

- [Americans with Disabilities Statement.](#)

Please read and comply with this statement if you require any type of accommodation due to a disability.

- Academic Integrity Statement:
All students are required to comply with all relevant NIU Academic Integrity (AI) standards. Relevant links can be found [here](#). All students are advised to take the NIU student tutorial on AI if they haven't already.