

CHEM 118: General, Organic, and Biological Chemistry Lecture:

309 Madeleva Hall

Section 1: MWF 9:00-9:50 and T 9:30-10:20 AM

Lab Section: _____

Section 2: MWF 10:00-10:50 and T 10:30-11:20 AM

INSTRUCTORS

LECTURE AND LABORATORY INSTRUCTOR: Dr. Kathryn L. Haas (158 Science Hall, khaas@saintmarys.edu)

LABORATORY INSTRUCTOR: Mrs. Amy Houser (154 Science Hall, ahouser@saintmarys.edu)

TEXTS, SUPPLIES

(1) Required: **General, Organic, and Biological Chemistry: An Integrated Approach**, Laura Frost, Todd Deal, and Karen C. Timberlake, **Second Edition**, Hardcover, ISBN-13: 9780321803030

(2) Required: **Sapling Learning Account** (See below for details)

(3) Required: Printed Copies of **Daily Activities**. (Available on Bb)

(4) Recommended: Pens with multiple colored inks

OBJECTIVES & INTRODUCTION

We will be learning about some basic chemistry, but you're learning the basics of chemistry so that you will be able to understand important stuff like biological chemistry, medicine and metabolism in your next courses. You will also be learning some nursing survival skills, and this class will help you avoid DPS (dead patient syndrome). In lab you will learn many practical skills, including how to record a lab notebook so that later, you can create accurate medical records. You will learn the basic math required to give your patients the correct doses of medicine. You will learn how to read chemical symbols and units found on medical labels, and you will learn the basics about how the human body works on a molecular level so that later, you may understand how medicines act in the body and causes side effects or drug interactions.

We have a lot to cover, and I expect you to spend at least **1-3 hours per day** (for real) on the assigned material outside of class. Remember, your job is to be a student. Study like it's your job!

Suggested steps for keeping up each day and succeeding are as follows:

- (1) **Attend class**, and stay on task! (Make sure you've gotten enough sleep, are prepared to think, and don't be afraid to **ask questions** when you don't understand. **DO NOT** waste your time in class!)
- (2) **Finish the daily activity, READ the textbook assignment, and WORK the odd numbered QUESTIONS in each section** as soon as you can right after each class!
- (3) **Complete Sapling Homework Assignments** each day **AFTER** step (2) is complete!
- (4) **Repeat steps 1-3 until exam.**

This should take you about 1-3 hours per day for each class period. Form study groups! Schedule a time each day to work on assignments together or alone. (At least an hour each day brings an "A" your way!)

LEARNING OUTCOMES

Students in this course will explore atomic structure, simple chemical bonding models, chemical properties, chemical reactivity, structure and function of biological molecules, and basic metabolic pathways. Students will apply chemical principles to explain cellular structure, DNA transcription, protein production, and cellular and systemic metabolism and homeostasis. This course will also contribute to a student's Saint Mary's College Liberal Arts Education by fulfilling the Sofia L03 outcomes Global Learning B, Intercultural Competence A, and Social Responsibility A through 2 laboratory activities & assignments and 2 lecture activities & assignments. Periods that fulfill L03 Outcomes are highlighted on the schedule provided below using green shading.

EMAIL POLICY

Prior to sending an email to me, please take a moment to review this syllabus or consult your classmates (if appropriate) as the answers to most administrative questions can usually be found with a short search. It is often difficult to answer questions regarding problem solving via email, so if you are able, please come to see me with such questions. That being said, I am happy to engage with students about course content, grades, or personal issues and do not wish to discourage open and frequent discussion via email. Please allow 24 hours while awaiting a reply.

EXAMS/ HOMEWORK /GRADING

Your grade will come from **Exams, Homework, and Lab**. The laboratory is approximately 20% of your final grade for this course, but you must pass both the laboratory section and the lecture section independently to pass Chem 118. There will be no make up exams or dropped scores. Please note exam dates prior to making travel plans, etc.

Final Exam:	40%
In-Class Exams:	20%
Sapling Homework:	20%
Lab Grade	20%

Lecture Exams, 60% of Grade - All exams (including the final) are cumulative. They will, however, focus on the material covered since the previous exam. You must retain a good working knowledge of the material from throughout the course in order to perform well on each of the exams.

- In the event of an absence from an exam, you must get an official excuse from the Academic Affairs Office. If the absence is excused, a normalized final exam will be used for the missed exam. For long-term illnesses, injuries, disabilities or special personal circumstances (bereavement, etc.) that preclude normal sitting of a scheduled examination, students are required to obtain an Approved Excuse. It is your responsibility to notify me BEFORE you miss a test, even for an approved activity for which you will eventually receive an official excuse.

Sapling Homework, 20% of Grade –There will be **Daily Homework Assignments** that consist of:

- (1) Skill development questions at the end of each guided inquiry activity (GIA),
- (2) Odd numbered problems from each assigned reading section (answers to odd numbered questions are at the back of each chapter!),
- (3) Sapling Learning Assignment (Online and GRADED).

- (1) **Skill Development Questions:** These are questions that follow each day's in-class activity and **must be completed before the next class period**. Completion of the Skill Development questions is the first step toward learning the material and practicing problem-solving skills.
- (2) **Textbook Problems:** All odd numbered questions in each reading assignment are assigned. **The odd numbered questions are assigned so that you can check your work with the answers provided in the back of each chapter**. This is your second step toward learning the material and practicing problem-solving skills. It is for your own good that you check your work and ensure your understanding PRIOR to attempting the Sapling homework assignment. Textbook homework assignments will not be collected, but is an important part of studying for this class.
- (3) **Sapling Learning Online Problems (<https://www.saplinglearning.com/>):** This course will use Sapling Learning's Online Homework and Testing system. On our Course's Sapling Website, you will find daily homework problem sets that will help you practice relevant problems and will hold you accountable for doing your homework on time so that you do not fall behind. (This is meant to help you stay on top of your work!) Your work on Sapling will account for 20% of your grade in this course. There is a Sapling Homework **Assignment that is due after each class**. The Sapling assignment is due at 6 AM before the next class (it is meant to be done before you go to bed!) ****You will be granted up to 3 extensions for any reason. If you forgot to do the assignment or were not able to for some reason, simply e-mail your professor and in the title of the e-mail, write "Please grant extension for _____ assignment".** The fourth or more assignments that are not finished before the due date will receive a score of zero.

To create a Sapling Account:

1. Go to <http://saplinglearning.com> and click "US Higher Ed" at the top right.
2. If you already have a Sapling Learning account, log in then skip to step 5.
3. 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 timezone, accept the site policy agreement, and click "Create my new account". You can then skip to step 5.
4. Otherwise, click the link "Create an Account". Supply the requested information and click "Create My Account". Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email.
5. Find your course in the list:
 - Expand the subject, "General, Organic, and Biochemistry."
 - Expand the term (i.e Semester 1, Quarter 1). "Semester 1"
 - Click on the link that reads your course title. "Saint Mary's College - CHEM 118 - Spring15 - HAAS"
6. Your course requires payment, 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, 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.

****Sapling is the last checkpoint to determine whether you understand the material and are using problem solving. These questions should be solved ON YOUR OWN without the use of the text or help from friends.** If you get 100% on each question, you are doing well. If you are not getting correct answers on the first try, it is a clear sign that you need to go back to your textbook, re-read, solve more problems, and seek help immediately if the material is not completely clear!

Group Work – There is mounting evidence that demonstrates students who do group activities in class spend less time studying and are more successful than students in traditional lecture-style classrooms. You will never have to sit through a 50 minute lecture in this course. Instead, during class time, groups of 4 or 5 will work together to complete an activity. You should put effort into solving the problems together! Although group work can be helpful, it is important to participate in group thinking. Do not let your group do all the work for you, and at the same time please help others participate in problem solving too.

Each day's activity will be started in class (see schedule below). If the activity is not finished in the class period, then it must be completed as a group outside of class. It is critical that each activity is completed as a group before the next day's class. The answer key to each activity will be posted at 5 pm each evening. You should check your work against the key, but it is a REALLY BAD IDEA to use the key to finish the activity. You need to learn to solve problems so that you can do well on exams, and using the key to complete activities will not help you develop problem solving skills.

Laboratory, 20% of Grade – A laboratory session will accompany the course and will count for 20% of your overall grade. You must pass the laboratory portion of this course and pass the lecture portion of this course independently in order to pass CHEM 118. Students are required to follow the prescribed laboratory safety rules contained in the laboratory portion of this syllabus. Further information regarding meeting times, course structure, and requirements are stated below.

BLACKBOARD

This course will use Blackboard (Bb) for posting relevant course information and announcements. If you are enrolled in the course you are automatically enrolled in the Blackboard site. General course information (this syllabus, for example), tutorials, recommended homework problems sets, downloadable electronic copies of the lab procedures are all available on Blackboard. In addition, grades for quizzes, tests, and lab work are posted to Blackboard. Check the site often. ** Please note that the lab and lecture portions of this course have separate Bb sites.

ATTENDANCE, ETIQUETTE AND ACADEMIC INTEGRITY

Attendance and your participation in Group Work is important for your learning and your development of problem solving skills. Without regular attendance, you will probably do poorly in this course, and so **attendance each day is highly encouraged**. I will not take attendance each day and it is up to your own discipline to show up. **Please remember that I want you to do well and I am here to help you learn, but I can only help those who help themselves, so please come to class!**

Each day, you should arrive prepared and awake with your Guided Inquiry Activities Workbook and a writing utensil. You should be awake and prepared to ask any questions about the previous day's activity starting at exactly 9:00 AM (S 01) or 10:00 AM (S 02).

Working well in groups is an important skill that you will need in your future career. In real life, you will not usually get to choose your co-workers or your patients! This class may be an unexpected challenge in learning to work with others who you do not get along with. It is the job of every one of you to make your group work well. Do what you can, and please come see me if you would like advice or support. If there is a particular problem in your group that is damaging the productive learning environment, please let me know as soon as possible and we can address the situation.

Please turn all cell phones, mp3 players, and other electronic equipment off (not *vibrate*) before class begins each day. If you miss a class, you should seek out a classmate to provide you with notes or announcements from that class.

The course will be conducted according to the Saint Mary's Policy on Academic Honesty. All students must familiarize themselves with the Policy on the College's website (<http://www3.saintmarys.edu/first-year-policies>) and pledge to observe its tenets in all written work, including exams and laboratory work. Academic Dishonesty is not tolerated on any level in this class. As a professor at Saint Mary's College, it is my duty to ensure that all students are evaluated on an equal playing field, and I take this duty very seriously. All cases of *suspected* academic dishonesty will be reported to the academic affairs office. The *minimum* consequence for academic dishonesty in this class will be receipt of a zero score on a given assignment or test. Cases of dishonesty may result in a failing grade for the course and may also result in a termination of your status as a student at Saint Mary's College.

Exam Re-grade Policy – Mistakes may be made in the grading of your exams. After an exam, the Key will be posted on Bb and your graded exam will be returned to you asap. As soon as you receive your exam, it is to your advantage to review the exam, compare it to the posted Key, and to ensure points have been added to give you the correct score. **DO NOT MAKE CORRECTIONS ON YOUR EXAM** until you have ensured that it has been graded and scored correctly. If there is a mistake in the grading, immediately fill out the Regrade Submission form (in the same Blackboard folder as the Key) and give it to me within 1 week of receiving the original graded copy. It is important that you do not alter your exam answers before returning it for a regrade to avoid the appearance of academic misconduct. Changing a graded answer and then asking for a regrade is academic dishonesty (see above).

OFFICE HOURS AND PROBLEM SESSION

Office Hours by Google Calendar. I will hold office hours in 158 Science Hall according to my Google Calendar that is available through the "Contact Kathryn Haas" link on Blackboard. In general, I will be **by appointment (24 h advanced notice required/ see Google appointment calendar)**. Office hour times are subject to change if an appointment is not made 24 hours in advance. Each appointment time slot is 15 minutes. If you think you will need more than 30 minutes, please book accordingly. I will honor all appointments to the best of my ability.

Problem/Lecture Reviews. I will have **group problem sessions on Sunday from 5-7 pm in SH basement**. Please come at 5 pm, and stay as long as you'd like. Students will bring questions and work problems on the board. Attendance is optional, but encouraged. I will be HAPPY to meet more often if there is demand for it. Please organize a group and ask me to attend if you would like more problem session-style meetings.

Exam Review Sessions. We will either spend the latter part of each lecture preceding an exam reviewing material if there is time or I will hold an evening review session the night before the exam. If extra review sessions are called for, the times and locations will be announced.

DROPPING THIS COURSE

You may drop this course with a "W" on or before the Monday after Spring Break (This Monday is after the 2nd exam and after you have received mid-term deficiencies). Students may withdraw from the course after this period, but will receive a grade that represents the amount of work completed at the time of withdraw. In other words, if you have a "C" average when you withdraw after the deadline, you will receive a "C" on your transcript. If you are doing poorly in the course and plan to withdraw to avoid a bad mark on your transcript, do it on or before the Monday after Spring Break! (see schedule below)

CLASS CANCELEATION POLICY

If class is canceled for any reason, you will be notified as soon as possible by e-mail. The e-mail will contain detailed instruction as to the plan for adjusting the schedule if necessary. In the case that class is canceled but material can be delivered via electronic avenues (usually in the case of a snow day), you may receive a video that

replaces the "regular" class lecture time. If class material is to be delivered by video, you will receive the video before the scheduled class time.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Any student who, because of a disability, is eligible for accommodations to complete the requirements and expectations of this course is invited to contact Iris Giamo, in the Disability Resource Office located in Madeleva Hall Room 103C (x4262) or e-mail igiamo@saintmarys.edu for an appointment to review documentation and arrange for appropriate and legal accommodations. Students who suspect they may have a disability are also encouraged to contact the Disabilities Resource Office.

Students who require a private space to take exams must make arrangements for a private exam room at least one week prior to each exam. You have two options in the case that you need a private room: 1) you may take your exam the evening before the scheduled exam day from 5-7 pm if you make arrangements with Dr. Haas or 2) Iris Giamo will proctor your exam at her convenience before the scheduled exam time. All exams must be completed before the end of the scheduled exam time so that exams can be graded in a timely manner.

A PERSONAL NOTE

Welcome to Chemistry! This class has a reputation for being hard and may seem at first to be one of the most intimidating classes you have to take in your career. But I hope that you find in the weeks to come that it is rewarding and fun experience. I encourage you to feel relaxed and comfortable in my classroom. Please ask questions and feel free to speak up if you think you can offer insight that may help other students understand the material. At the same time, it is important to me that while in class you stay on task. Please have courtesy not to carry on conversations unrelated to class, use your telephone, or arrive to class late. I will do my best to always end class on time so that you do not have to disturb the class by leaving early to get to your next appointment. I want you to do well and I encourage you to come see me or to consult your other classmates immediately if you feel lost at any point. The most important thing for you to do this semester is to keep up with the pack. Please help your classmates and encourage each other to stay on top of assignments. Follow the advice above and study for this course **by doing problems, and asking questions, not by reading the text over and over.** Now, lets get started! ☺

SOME DO'S AND DON'TS

Do: Schedule a time to study AT LEAST 1 hour every day, Don't: Procrastinate and let days go by without working on Chemistry,

Do: Spend lots of time doing problems, Don't: Spend too much time reading and memorizing the text,

Do: Check the Key to make sure you're solving problems correctly, Don't: Use the answer Key to answer your problems BEFORE you solve them yourself,

Do: Come to class awake, Don't: Come to class sleepy and miss the opportunity to learn during class time,

Do: Get help immediately if you're confused! Come see Dr. Haas in problem sessions or schedule office hours often.

Don't: Wait till right before the Exam to get help.

LABORATORY-SPECIFIC INFORMATION

Through experimentation, students gain hands-on experience to reinforce and amplify some of the major physiological chemistry principles studied in lecture. Chem118 laboratory is an integral part of the course as a whole. The laboratory helps to fulfill one of the Science for the Citizen Sophia requirements.

LAB PROTOCOL/TEXT MATERIALS:

Lab directions and protocols will be available as downloads from your Chem 118 Lab Blackboard site each week by the Monday evening prior to lab. It is the responsibility of all students to log onto this site, download, print-out, and prepare each week for lab. Please read the material before coming to lab as it wastes time and can be extremely dangerous to perform labs with harmful chemicals without reading the protocol before coming. It will be necessary to print out two copies of data sheets, one for work in the lab, the other as good copy for turn-in.

LABORATORY EXPECTATION:

Students are expected to attend all scheduled labs. Since the laboratory is an integral part of the Chem118 course, students are responsible for knowing laboratory material just as they are responsible for knowing lecture material. In addition, students are expected to conduct themselves in an academic manner when in lab at all times.

ABSENCES FROM LAB:

Students in Chem118L are not absent from lab unless an emergency arises. Students are unable to make up a missed lab. In general, missing one lab may or may not count against your grade depending on the type of material missed. Missing or failing to turn in more than two labs will mean a student has not acquired a significant portion of the lab material, and as such will be asked to leave the course. Student athletes may not sign into a lab section in which their athletic schedule demands their absence from the lab. These students must sign into an alternate lab.

LABORATORY WORK:

Each laboratory will be preceded by a very short lecture by the instructor followed by lab work in Rm 117. The lecture may contain the theory of the experiment, but more often it will contain experimental helps and hints, and safety precautions. Take good lab lecture notes within the appropriate pages of your lab protocol. In lab, students usually work with a lab partner. Lab partners share equally the work of performing the experiment in a cooperative manner. Lab partners are free to discuss the hows and whys of an experiment together. However, each partner must individually take her own data on her own lab and complete a formal lab report on her own. This is a matter of academic honesty: Please see the following:

<http://www.saintmarys.edu/~regoff/Academic%20Regs.html#anchor210070>

Failures in academic honesty include the falsification of data, the failure to do ones part during the experiment, and/or failing to complete your own lab report individually.

PREPARING FOR EACH LABORATORY:

For each laboratory, you will have prepared beforehand by printing out the laboratory, answering any pre-lab questions, reading through the procedure thoroughly and noting any safety precautions that apply. In addition, each week there will be a pre-lab quiz on Blackboard. You are expected to take it before coming to lab. If it is not completed, you will not be allowed to do the experiment. If you have any technical issues, please contact Mrs. Houser right away.

It is always obvious to the lab instructor which students are well-prepared for lab and which students are not prepared for lab. Students observed to be poorly prepared for lab will automatically lose 5 points at the discretion of the lab instructor or teaching assistant.

LABORATORY REPORTS/ASSIGNMENTS:

For each laboratory experiment, you will complete a lab report. A lab report is made up of the formal, good data sheet copy that you download and print off Blackboard. You will have one copy of the data sheet to record data during your laboratory period. When you turn in your material for lab, please transfer your data to a clean, chemical free copy. You will also have additional questions with each lab. If there is not room on the data sheet to complete extra questions and/or problems, please type your answers or put problems/organic reactions and structures on a clean sheet of printer paper. Please do not hand-in paper torn from spiral notebooks.

LAB REPORT DUE DATES:

The lab report must be completed and turned in at the beginning of the next laboratory period. There is no such thing as a late lab. Late labs will not be accepted and will count as a lab miss.

LABORATORY SAFETY RULE SUMMARY:

- Pay close attention to safety rules regarding all chemicals and solvents! and...
- Do not chew, eat, drink, smoke in any lab.
- Wear safety glasses and a plastic apron.
- Wear closed toe shoes, No sandals or flip-flops!
- Wear a longer skirt or long pants, No shorts!
- Wear shirts with sleeves, No high crops, halter or tank tops!
- Tie back long hair
- Always be mindful of your own actions and how those actions affect others

WHAT YOU NEED TO BRING WITH YOU TO THE LABORATORY:

- Your lab protocol with its data sheets to work on in lab
- Some kind of folder in which to keep all of your paperwork
- A fine-pointed "Sharpie," in black or blue for labeling tape and glassware
- A pen
- A simple scientific calculator that you already know how to use.

EVALUATION:

--Each lab report is worth 20 points. The lowest lab report grade will be dropped. Your lab reports will be added up and will count as 1/3 of your lab grade. The other 2/3's of your lab grade will be comprised of your lab mid-term and final. Your final percent will be your lab grade. Laboratory is worth 20% of your Chem118 course grade.

--Any questions with regard to grades must be made within a week of the returned report or exam, after which time the grade will stand as is.

--Chem118 laboratory is an integral part of the whole Chem118 course. Failing the lab at any time requires a student to drop the Chem118 course.

The following situations constitute lab failure:

1. Failure in attendance: Missing more than two (2) labs for ANY reason.
2. Failure to hand-in more than two lab reports.
3. Failure to satisfactorily complete more than two (2) lab reports.

TOPICS

A tentative schedule of topics is shown below. More specific pre-reading sections will be assigned at the end of each lecture. The instructor reserves the right to make changes to the syllabus and course schedule as the term proceeds.

Week	Lab	Date	#	GI Activity	Name of Activity	Homework: Read do ODD # problems	Additional Practice (do ODD first)
1	Intro & Safety	M 1/12	1	Introduction		❖ Read Syllabus Carefully	
		T 1/13	2	Activity 1	Introduction to Matter and the Periodic Table	❖ Sections 1.1-1.2, 1.6 Problems 1.1-1.10, 1.51-1.52	1.57-1.66, 1.113
		W 1/14	3	Activity 2	Taking Measurements and Reporting Significant Figures	❖ Section 1.3 Problems 1.11-1.26	1.67-1.80
		F 1/16	4	Activity 3	Unit Conversion and Dosage Calculations	❖ Section 1.5 Problems 1.43-1.50	1.98-1.100, 1.110
2	How will I Use Math and Measurement in My Career?	M 1/19	5	Activity 4 & Activity 5	Properties of Matter, Balancing Chemical Equations	❖ Section 1.4, 1.6 Problems 1.27-1.42, 1.53-1.56	1.81-1.97, 1.101-1.108, 1.109, 1.111, 1.112
		T 1/20	6	Activity 6	Isotopes and Atomic Mass	❖ Sections 2.1-2.3 Problems 2.1-2.20	2.37-2.44
		W 1/21	7	Activity 8	Radioactivity	❖ Section 2.4-2.6 Problems 2.21-2.36	2.45-2.67
		F 1/23	8	Activity 9 & Activity 10	Valence and the Periodic Table, Ionic Compounds	❖ Sections 3.1-3.3 Problems 3.1-3.26	3.47-3.62
3	Why is Measurement Important in Chemistry?	M 1/26	9	Activities 11 & Activity 12	Binary Covalent Compounds and Lewis Structures	❖ Section 3.4 Problems 3.27-3.34	3.63-3.85, 3.99-3.100
		T 1/27	10	Activity 7	Moles and Avogadro's Number	❖ Section 3.5 Problems 3.35-3.42	3.86-3.90, 3.101
		W 1/28	11	Activity 13 & 14	Molecular Shape	❖ Section 3.6	3.91-3.94
		F 1/30	12	Activity 14	Bond Polarity (No Class) **Out of class VIDEO, Dr. Haas will be out of town from 1/29-2/1. Review Session will be moved from Sun to Mon from 7-8 pm.	❖ Section 3.7 Problems 3.45-3.46	3.95-3.96, 3.102-3.103
4	Molecular Models, Isomers, and the Shape of Molecules	M 2/2	13	Activity 15 & 16	Representing Molecules on Paper, Functional Groups	❖ Sections 4.1-4.2 Problems 4.1-4.12	4.31-4.48
		T 2/3	14	Activity 17 & 18	Hydrocarbons and Fatty Acids Alkane Nomenclature and Isomers	❖ Section 4.3-4.4 Problems 4.13-4.22	4.49-4.55, 4.78
		W 2/4	15	Activity 19	Stereoisomers and Chiral Centers	❖ Section 4.5 Problems 4.23-4.30	4.56-4.76, 4.77
		F 2/6	16	Review	Chapter 1-4 Material (Science Hall)		
5	Energy in a nutshell	M 2/9	17	EXAM 1	Chapters 1-4	Alternate exam time Sunday 2/8 from 7-9 pm.	
		T 2/10	18	Activity 20 & 21	Reaction Energy Diagrams & Chemical Reactions	❖ Section 5.1-5.4 Problems 5.1-5.26	5.33-5.46, 5.58-5.60
		W 2/11	19	Activity 22	Monosaccharides	❖ Section 6.1-6.3 Problems 6.1-6.14	6.37-6.48
		F 2/13	20		Monosaccharides & Condensation/ Hydrolysis	❖ Sections 5.5-5.6 & 6.4 Problems 5.27-5.32, 6.15-6.18 Read Materials on Global Origins of Aspirin for Lab	5.47-5.57, 5.61 6.49-6.56, 6.67, 6.72

6	Synthesis of Aspirin L03 Global Learning B	M 2/16	21	Activity 23 & Activity 24	Glycosidic Bonds & Reducing Sugars	❖ Section 6.5-6.7 Problems 6.23-6.36	6.57-6.66, 6.68-6.69
		T 2/17	22	Activity 25, Parts I & II	The Attractive Forces, Solids & Liquids	❖ Sections 7.1-7.2 Problems 7.1-7.20	7.39-7.44, 7.51-7.56, 7.57
		W 2/18	23	Activity 25, Part III	The Attractive Forces, Solubility	❖ Sections 7.3 Problems 7.21-7.24	7.45-7.50, 7.57-7.58, 7.75
		F 2/20	24	Activity 26	Gas Laws	❖ Section 7.4 Problems 7.25-7.30	7.59-7.66, 7.76
7	Lab Exam	M 2/23	25	Activity 27, Parts I-III	Triglycerides and Dietary Fat	❖ Section 7.5 Problems 7.31-7.36	7.67-7.69
		T 2/24	26	Activity 27	Phospholipids and Cell Membranes	❖ Section 7.6	7.70-7.74
		W 2/25	27	Activities 28 and 29	Solutions, Colloids, & Suspensions/ Electrolytes and Nonelectrolytes	❖ Sections 8.1-8.3 Problems 8.1-8.20	8.51-8.58, 8.89
		F 2/27	28	Activity 30	Concentration Units & Unit Conversion	❖ Section 8.4 Problems 8.21-8.36 <i>Read Materials on Counterfeit Medications for Lab</i>	8.59-8.74, 8.90
8	Functional Group Testing using PADs L03 Social Responsibility A	M 3/2	29	Activity 31	The Dilution Equation & Unit Conversion	❖ Section 8.5 Problems 8.37-8.42	8.75-8.80
		T 3/3	30	Activity 32	Osmosis and Membrane Transport	❖ Section 8.6-8.7 Problems 8.43-8.50	8.81-8.88, 8.91, 8.92
		W 3/4	31	Practice Exam	Chapter 5-8 Material		
		F 3/6	32	Exam 2	Chapters 5-8	Alternate Exam time Thursday 3/5 from 7-9 pm.	
Spring Break! No Class/ No Lab							
9	Hydrolysis of Triglycerides	M 3/16	33		Make-up/ Go over Exam <i>Last day to withdraw with "W"</i>		
		T 3/17	34	Activity 33	Identifying Strong Acids and Bases	❖ Sections 9.1-9.2 Problems 9.1-9.12	9.49-9.51
		W 3/18	35	Activity 34	Chemical Equilibrium, LeChatelier's Principle, and Weak Acids	❖ Sections 9.3-9.4 Problems 9.13-9.34	9.52-9.60, 9.70, 9.71, 9.73
		F 3/20	36	Activity 35	The pH Scale and pKa	❖ Sections 9.5-9.6 Problems 9.35-9.44	9.61-9.64
10	Carboxylic Acids Lab	M 3/23	37	Activity 36	Buffers and the Bicarbonate Buffer	❖ Section 9.8 Problems 9.47-9.48	9.65-9.68
		T 3/24	38	Activity 37	Characteristics of Amino Acids	❖ Section 9.7 Problems 9.45-9.46	9.69-9.72
		W 3/25	39	Review Ch 9	Review Ch 9 Material	Do end-of-chapter 9 problems to prepare for Exam 3!!	
		F 3/27	40	Activity 38 & 39	Peptide Condensation & Hydrolysis, Levels of Protein Structure	❖ Sections 10.1-10.3 Problems 10.1-10.28	10.45-10.61, 10.95

11	Where is lactose digested?	M 3/30	41	Activity 40 & 41	Structure-Function Relationships, Protein Denaturation	❖ Sections 10.4-10.5 Problems 10.29-10.34	10.62-10.69, 10.96-10.98	
		T 3/31	42	Activity 42 & 43	Introduction to Enzymes and Factors that Effect Enzyme Activity	❖ Sections 10.6-10.7 Problems 10.35-10.44	10.70-10.94, 10.99-10.1000	
		W 4/1	43	Review	Review Ch 9 -10	Do end-of-chapter 10 problems to prepare for Exam 3!!		
		F 4/3	Easter Break					
		M 4/6	Easter Break					
12	How big is DNA?	T 4/7	44	Activity 44	Components of Nucleotides	❖ Sections 11.1 Problems 11.1-11.8	11.47-11.52	
		W 4/8	45	Activity 45	Nucleic Acid Formation	❖ Sections 11.2-11.3 Problems 11.9-11.18	11.53-11.55, 11.76, 11.77	
		F 4/10	46	Activity 46	The Central Dogma & Protein Synthesis	❖ Sections 11.4-11.6 Problems 11.19-11.36	11.56-11.67, 11.74, 11.75	
13	Analysis of Physiological Fluids	M 4/13	47	Activity 47 & Ebola Case Study	Viral Replication and Evolution, Vaccines & Anti-viral strategies. L03 Global Learning B, Intercultural Competence A, Social Responsibility A	❖ Sections 11.7-11.8 Problems 11.37-11.42 Read Materials on 2014 Ebola epidemic.	11.68-11.73	
		T 4/14	48	Review & discussion of Ebola Case Study	Review Material From Ch 9-11 Discuss Response to Ebola Case Study. L03 Global Learning B, Intercultural Competence A, Social Responsibility A	Do end-of-chapter 11 problems to prepare for Exam 3!!		
		W 4/15		Practice Exam	Chapter 9-11 Material			
		F 4/17	49	Exam 3	Chapters 9-11	Alternate Exam time Thursday 4/16 from 7-9 pm.		
14	Lab Exam	M 4/20	50	Antimicrobial Resistance	Factors in the Evolution of Antimicrobial Resistance L03 Intercultural Competence A, Social Responsibility A	Read materials on Counterfeit Drugs & Antimicrobial Resistance		
		T 4/21	51	Activity 48 & 52	Reaction Pathways and Metabolic Overview	❖ Sections 12.1-12.2 Problems 12.1-12.12	12.55-12.60	
		W 4/22	52	Activity 49	Carbohydrate Metabolism	❖ Sections 12.4-12.5 Problems 12.13-12.36	12.61-12.64	
		F 4/24	53	Activity 50	ATP Production	❖ Sections 12.6-12.7 Problems 12.37-12.44	12.65-12.72	
15	No Lab	M 4/27	54	Activity 51	Lipid Production	❖ Section 12.8 Problems 12.45-12.54	12.73-12.82	
		T 4/28	55	Activity 52	Metabolic Overview	Do end-of-chapter 12 problems to prepare for Final Exam!!	12.83-12.87	
		W 4/29			Conclusion, hand out study materials for Final Exam.	Review Material! Good luck on your Final Exam! (Review Session time TBA)		
FINAL	M 5/4	Cumulative Final Exam					Monday, May 4 at 10:30 – 12:30 AM (location TBA)	