

**CHM 3217 – Organic Chemistry/Biochemistry 1 (Section 1199 – 4 credit hours)**  
**Spring 2017: TR 2-3 (8:30-10:25am) in Turlington 2354**

**Instructor:** Dr. Tammy A. Davidson  
**Office Hours:** T and R 10:40-11:30am, W 9:35-10:25am  
(or other times by appointment)

**Office:** Sisler 429B  
**Phone:** 392-9134  
**email:** [davidson@chem.ufl.edu](mailto:davidson@chem.ufl.edu)

**Course Description and Prerequisites:** This is a rigorous, one-semester overview of the structure, properties, and reactions of organic compounds. This is the first half of a two-semester sequence in organic/biochemistry. The prerequisites for this course are CHM 2046 or CHM2047 or CHM2051 and CHM 2046L, or the equivalent.

**Text:** *Organic Chemistry with Biological Applications*, by John McMurry, 3<sup>rd</sup> Edition," Cengage (2015)

*Recommended:* Molecular model kit (Kit #1 suggested): <http://www.darlingmodels.com>

**Canvas Site:** <http://elearning.ufl.edu>. Login with Gatorlink ID and password. This site will be updated periodically with announcements, lecture notes, practice materials, exam scores, and other information.

**Attendance and Lecture Etiquette:** This is a fast paced, 4-credit course. You should plan to arrive at class on time and attend all lectures – you'll find it is easier to keep up if you are attending lecture regularly. You'll also find that you will do better if you are actively engaged in the classroom. Please no personal electronics or texting during the lecture. We will have a short break after the first hour for you to reconnect.

**Quizzes and Progress Exams:** Five quizzes and two progress exams will be given in class on the following dates during the semester:

**Quizzes:** January 19, February 2, February 16, March 23, and April 6

**Progress Exams:** March 2 and April 18

Quizzes and Progress Exams will be given only at the scheduled times. There will be no makeup quizzes given in this course. Students who miss an exam due to extreme, unusual circumstances (serious illness requiring doctor's attention, death in the family, etc.) need to contact the instructor **within 24 hours of missing the exam to discuss their options, and also need to provide proper documentation (doctor's excuse, funeral program, etc.) for the absence.** Please note that inadequate preparation because of other academic or extracurricular obligations is not considered to be a viable excuse for special consideration.

**Chemistry Class Advantage (CCA):** We will be class-testing a new product from the American Chemical Society that will help connect the ideas you are learning in lecture with real world applications of organic chemistry using scientific literature. Completion of all of the assignments will be worth 15 points towards your final grade, and concepts from these assignments may be evaluated on quizzes or progress exams. More details will be presented in class.

**Grading Information:** Grades will be calculated using your best 4 quiz scores (at 25 points each), your two progress exam scores (at 100 points each), and completion of CCA assignments (25 points) for a total of 325 points available in this course. Final grades in the course will be assigned using the following grading scale: A ≥ 90.0%, A- = 87.0-89.9%, B+ = 84.0-86.9%, B = 77.0-83.9%, B- = 73.0-76.9%, C+ = 70.0-72.9%, C = 63.0-69.9%, C- = 60.0-62.9%, D+ = 57.0-59.9%, D = 50.0-56.9%, E < 50.0%. There will not be a curve beyond that already included within the grading scale. UF policies for assigning grade points can be found on the Registrar's webpage.

**Re-Grades:** To ensure academic honesty and accuracy in grading, all quizzes and exams will be photocopied after grading and prior to being returned to students. All re-grade requests must be submitted in writing to Dr. Davidson in Sisler 429 and must have a cover sheet (available on the Canvas site) that details your concerns. **Note:** The entire quiz

or exam will be re-graded to ensure accuracy, and your score may go up or down with the re-grade. All re-grade requests must be made within three days from the date that the quiz/exam is returned in class.

**Course Schedule:** The course will cover chapters 1 through 18, with roughly 1.5 lecture days per chapter. The following schedule will be followed as closely as possible.

Dates	Reading/Activity	Topics
January 5	Ch. 1	Ch. 1: Structure and Bonding
January 10	Ch. 1, 2	Ch. 2: Polar Covalent Bonds: Acids and Bases
January 12	Ch. 2	
January 17	Ch. 3	Ch. 3: Organic Compounds: Alkanes and Their Stereochemistry
January 19	<b>Quiz 1</b> , Ch. 3, 4	Ch. 4: Organic Compounds: Cycloalkanes and Their Stereochemistry
January 24	Ch. 4	
January 26	Ch. 5	Ch. 5: Stereochemistry at Tetrahedral Centers
January 31	Ch. 5	
February 2	<b>Quiz 2</b> , Ch. 6	Ch. 6: An Overview of Organic Reactions
February 7	Ch. 6, 7	Ch. 7: Alkenes and Alkynes
February 9	Ch. 7, 8	Ch. 8: Reactions of Alkenes and Alkynes
February 14	Ch. 8	
February 16	<b>Quiz 3</b> , Ch. 9	Ch. 9: Aromatic Compounds
February 21	Ch. 9	
February 23	Ch. 10	Ch. 10: Structure Determination: Mass Spectrometry and Infrared Spectroscopy
February 28	Ch. 11	Ch. 11: Structure Determination: Nuclear Magnetic Resonance Spectroscopy
March 2	<b>Progress Exam 1</b>	<b>Chapters 1-11</b>
March 7 and 9	<b>Spring Break – no classes</b>	
March 14	Ch. 12	Ch. 12: Organohalides: Nucleophilic Substitutions and Eliminations
March 16	Ch. 12, 13	Ch. 13: Alcohols, Phenols, and Thiols: Ethers and Sulfides
March 21	Ch. 13	
March 23	<b>Quiz 4</b> , Ch. 14	Ch. 14: Aldehydes and Ketones: Nucleophilic Addition Reactions
March 28	Ch. 14	
March 30	Ch. 15	Ch. 15: Carboxylic Acids and Nitriles
April 4	Ch. 16	Ch. 16: Carboxylic Acid Derivatives: Nucleophilic Acyl Substitution Reactions
April 6	<b>Quiz 5</b> , Ch. 16, 17	Ch. 17: Carbonyl Alpha-Substitution and Condensation Reactions
April 11	Ch. 17	
April 13	Ch. 18	Ch. 18: Amines and Heterocycles
April 18	<b>Progress Exam 2</b>	<b>Chapters 1-18</b>

**Plan for Success, or Who's "Brilliant" Idea Was It for Me to Take Organic Chemistry, Anyway?** Good question! What is the problem with organic chemistry that causes students to view the course with so much anxiety? Maybe you've heard comments from students who have recently finished the course. Something like: "You have to memorize five gazillion reactions, and then they don't even ask you the ones you've had in class on the exams!" Everybody has heard the horror stories of memorizing, and to be honest, there is some truth to it. You *will* have to memorize some things, but you shouldn't try to memorize everything - what a waste of time! Instead, you will need to learn some basic properties of

atoms and molecules, principles that describe how and why reactions take place, and a number of reaction types that can later be generalized to include the various reactions of organic compounds that you will encounter throughout the course. You'll be expected to learn about and *really understand* the ground rules so that you can apply them in a logical way to completely new kinds of situations, and come up with sensible answers. **Note:** This course is cumulative by nature – the ideas and concepts you learn in Chapter 1 will still be important when we get to Chapter 18, and as you advance into Biochemistry. Do your best to really understand the fundamentals and it will make your experience with organic chemistry better, and maybe even fun.

So what is the secret? Actually, there is nothing secret about it. You'll need to be ready to work hard and develop a good study plan. Cramming the day before the exam does not work for this course. At the very least, do something for this class every day (OK, maybe you can skip one day a week), maybe even an hour or two each day. Ideally, you should read ahead before class, you should go over your notes as soon as possible after class to fill in missing information, and every day you should work problems. Lots and lots of problems. In chapter problems, end of chapter problems, problems you make up for each other. Do as many as you can – really do them – and come ask for help when you are confused. This book has great practice problems and you should use them to your advantage. I will provide a list of suggested problems for each chapter as the semester goes along. Additional help with the problems can be obtained during office hours and in the CLC in Flint Hall.

**TA Office Hours:** In addition to my own office hours, teaching assistants will be available in the Organic Chemistry Learning Center in Flint 258, Monday through Friday. The daily schedule will be posted on the Canvas site. Please take advantage of these office hours – we're here to help you learn as much as you can.

**Honor Code:** The following statements taken from the University of Florida Honor Code apply to all work in this course.

*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*

On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

*On my honor, I have neither given nor received unauthorized aid in doing this assignment.*

**Special Needs:** Any student with a special need for an accommodation in test-taking or note-taking should register with the Disability Resource Center through the Dean of Students Office. The DRC will provide the student with documentation for presentation to the instructor. Anyone anticipating the need for special accommodation should speak with the instructor early in the semester.

**Good luck, work hard, and don't be afraid to ask for help when you need it!!**