Instructor: F.J. Heldrich  
Room: SSMB 320 office, SSMB 343 lab  
Phone: 953-5515  
Email: heldrichr@cofc.edu

Office Hours: Available by email, by appointment or during designated period, as indicated below

FJH Schedule:  
MTWRF, 8 – 9:45 am, CHEM 231 Lecture, Room 245 SSMB  
TWR, 10:00 – 1:00 pm, CHEM 231 Laboratory, Room 109 SSMB

Office Hours: MF, 10:00 am – 12:15 pm; TWR 1:45 – 3:45 pm  
If not in lecture or lab, I’ll be generally available between 10 am and 4:30 pm. If I am not in my office (Room 320), please check my lab (Room 343). I am also available by email. No chemistry related questions will be answered after 5 pm the day before a test or exam.

Final Exam: Saturday, July 2nd, 8:30 am

Required Text: Smith, 4e, Organic Chemistry, McGraw Hill. The link to the publisher’s e-access for this course is provided below:  
http://connect.mheducation.com/class/r-heldrich-summer-231-2016-3

Student Learning Outcomes: The goal of this course is to help you learn fundamental principles of organic chemistry to serve as the basis for further study in Chemistry 232/232L. The topical coverage will include materials and concepts as described in Chapters 1-13, and 15 of the required text and materials and concepts from the CHEM 111-112 sequence.

(As revised in May of 2016) The successful student is expected to:

- Demonstrate basic communication skills within organic chemistry for example structure, nomenclature, mechanisms, reaction schemes
- Define and use fundamental concepts associated with physical organic chemistry
- Use foundational skills of organic reactions to predict organic reaction outcomes

Co-Pre-requisite Policy: Both Chemistry 112 and 112L are pre-requisites of this course, but the knowledge from Chemistry 111/111L is equally or even perhaps more essential. Chemistry 231L is a co- or prerequisite of this course. If you choose to withdraw from either Chemistry 231 or 231L, you must withdraw from both courses. If you are repeating the lecture and have previously passed the laboratory course, you do not need to retake the laboratory.

Attendance Policy: Attendance is required.
**Grade Scale:**  100-93, A; 92-90, A\(^{-}\); 89-87, B\(^{+}\); 86-83, B; 82-80, B\(^{-}\); 79-77, C\(^{+}\); 76-73, C; 72-70, C; 69-67, D\(^{+}\). 66-63, D; 62-60, D\(^{-}\); <60, F

**Grade Scheme:** There will be four in class tests covering new material and all previously covered material, *i.e.*, all tests are cumulative. The final exam will be the nationally standardized ACS examination for the first semester of the year-long introductory organic chemistry lecture/lab sequence. Tentative test dates, which are subject to change, are listed in the schedule. Each test will count 20% and the final exam 20% of the course grade. No late or make-up test will be given. In the event of an absence from a test, you will receive a grade of 0 for that missed test. Your exam grade will replace your lowest test grade for one test if doing so will improve your average. It is strongly recommended that you immediately acquire the ACS study guide if you are interested in using it to prepare for the final examination. http://chemexams.chem.iastate.edu

**Testing Policy:** The tests will be timed and lack of time may be a factor on the test performance for some individuals. Students who qualify for extra time through the SNAP office must follow the SNAP office procedures. The tests may include multiple choice, short answer, matching, transformation, mechanism and synthesis type questions. No electronic devices will be allowed when taking the tests. **Please use a PENCIL when taking the tests.**

**Honor Code:** The standards of the College of Charleston Student Honor Code and Code of Conduct apply to this course. The Departmental Policy on Scientific Integrity, which each student is required to sign in the CHEM 231L course, also applies to this course.

For the Student Code of Conduct:
http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php

For the Departmental Policy on Scientific Integrity:
http://www.cofc.edu/~chem (see link on departmental website)

**Tips for Success:** Success in introductory organic chemistry requires you to work problems, lots of problems. You should study the text for two purposes: to prepare for class and to figure out how to work problems. Hopefully, you get a better idea about how to work problems by attending the lectures. But do not confuse studying the text or attending the class with the real work and challenge of the course, working problems.

**On Working Problems:** The first goal of working problems is to learn, which is different from getting the correct answer. The second goal of working problems is to gain confidence in your ability, and for this purpose getting the correct answer is important. The third goal of working problems is to prepare for tests, which are designed to assess your understanding of the material and your ability to do problems. When working problems you need to develop an ability to identify facts or principles you need to know; to learn what you do not know; and then, to use that new knowledge to correctly solve the problem.
On Note-taking: The pace of lecture will almost always be too fast if you are trying to write down everything that is said. You do not need to catch every word. Your purpose in taking notes in class should be to help yourself to:

1. pay attention
2. clarify understanding of material identified as an area of concern based on your prior study of the text
3. learn problem solving skills to help you solve problems on your own after class
4. focus your work after class on areas where further study is needed

Electronic Devices: The use of electronic devices (iPads, laptops, cell phones, calculators, pages, etc.) is not allowed during tests or the final exam. Please put your electronic devices on silent/vibrate during lecture; turn them OFF during tests and the final exam.

OAKS: The syllabus, supplemental study guides, review material, answer keys, assignments, old tests, lecture handouts and other material for this course are all posted on OAKS. You can post or respond to questions on the course OAKS discussion page, and send email questions to the instructor or other students in the class through OAKS. Suggestions for OAKS content are always welcome.

Tentative Schedule (Subject to Change as Announced in Class):

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General Education Learning Objectives (approved Sept 16, 2006 by the Faculty Senate):*

Statement of Purpose for the Common Requirements of the College of Charleston’s Undergraduate Curriculum

Graduates of the College of Charleston complete a challenging course of study that will prepare them to function intelligently, responsibly, creatively, and compassionately in a multifaceted, interconnected world. While their work in the major of their choice will give students specialized knowledge and skills in that discipline or profession, the College’s core curriculum will equip each student, regardless of major, with crucial intellectual skills in analysis, research, and communication. Their coursework in the liberal arts and sciences will offer students a broad perspective on the natural world and the human condition, and will encourage them to examine their own lives and make useful contributions to their own time and place. Over the course of their undergraduate careers, all College of Charleston students will develop the following intellectual skills, areas of knowledge, and dispositions:

I. Research and Communication in Multiple Media and Languages, including proficiency in:
   - Gathering and using information (achieved by student use of library and web resources to supplement lecture and text)
   - Effective writing and critical reading; (very limited critical writing, substantial critical reading of text is required in this course)
   - Oral and visual communication (very visual course, students use, learn and communicate knowledge in a visual manual, active listening required, proper oral communication of questions or issued required)
   - Foreign language (not in the traditional sense, but learning organic is very much like learning a foreign language based on use of symbols, new words and new ways of thinking about the world around you)

II. Analytical and Critical Reasoning, including
   - Mathematical and scientific reasoning and analysis (students must exhibit proficiency with percentages, numbers with constrained values, substantial amounts of scientific reasoning and analysis)
   - Social and cultural analysis (not normally an aspect of this course)
   - Interdisciplinary analysis and creative problem-solving (relationship of core facts and principles to other sciences, most notably the structure and function of biologically relevant compounds in biology and fundamental application of quantum properties and vector force analysis from physics)

III. Historical, Cultural, and Intellectual Perspectives, including knowledge of
   - Human history and the natural world (much of the course is a historical survey of man’s growth in understanding of structure, bonding and the limits of the physical world we live in)
   - Artistic, cultural, and intellectual achievements (applications of organic to cultural advances, most notably in the area of color and art)
• Human behavior and social interaction (students are asked to think about chemical reactions anthropomorphically)
• Perspectives and contributions of academic disciplines (students should develop an appreciation for socioeconomic and cultural impact of organic chemistry on society)

IV. International and Intercultural Perspectives, gained by
• Knowledge of international and global contexts (learn about and appreciate the global development of organic)
• Experiencing, understanding, and using multiple cultural perspectives (not normally an aspect of this course)

V. Personal and Ethical Perspectives, including experiences that promote
• Self-understanding, curiosity and creativity (students are expected to derive creative solutions to problems with multiple possible solutions by application of learned material, students appreciation for limits of their ability are examined)
• Personal, academic, and professional integrity (students must learn to accept the challenge of the course, not to give in to temptations)
• Moral and ethical responsibility; community and global citizenship (students required to abide by departmental policy on Scientific Integrity)

VI. Advanced Knowledge and Skills in Major Area of Study, consisting of Skills and knowledge of the discipline
• Sequence of coursework that fosters intellectual growth (second in a sequence of courses required in Chemistry or Biochemistry, demands intellectual growth in study habits, enhances student appreciation of science)
• Coursework that extends and builds upon knowledge and skills gained from the core curriculum (builds on principals learned in required Chem. 111-112 sequence, and Math courses)
• The ability to transfer the skills and knowledge of the major into another setting (as related to understanding biology and application of principals of physics, critical thinking skills acquired in this course are applicable to all disciplines)

*core component of this course, secondary focus of this course, tangential benefit of this course, not a normal aspect of this course.