Instructor: F.J. Heldrich (FJH)  
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:  
M-F, 8 – 9:45 am, CHEM 232 Lecture, Room 129 SSMB  
TWR, 10:00 am – 1:00 pm, CHEM 232 Lab, Room 105 SSMB  
Office Hours: If not in lecture or lab, I’ll be available between 10 am and 3:45 pm M-F. If I am not in my office (Room 320), please check my lab (Room 343). I am also available by email.

Final Exam: Thursday, August 4th, 8:00 am – 10:30 am, using Nationally Standardized American Chemical Society exam.

Required Text: Smith, 4e, Organic Chemistry, McGraw Hill. The link to the publisher’s e-access for this course is provided below:  

Instructional Objectives: The goal of this course is to help you learn fundamental principles of organic chemistry to serve as the basis for further study in Biochemistry 351 or other organic courses. The topical coverage will include materials and concepts as described in Chapters 14 and 16-25 of the required text and it is assumed you will enhance and build on your existing knowledge of materials and concepts from your CHEM 231 lecture/laboratory course. Specific content objectives related to this course are listed below. More general objectives, related to the General Education of students at the College of Charleston, are listed at the end of this syllabus.

The successful student is expected to:

- Demonstrate intermediate communication skills within organic chemistry for example structure, nomenclature, mechanisms, reaction schemes
- Draw and interpret mechanisms for organic reactions of increased sophistication
- Integrate knowledge and principles of organic reactions and reactivities to make reasonable predictions about likely outcomes when presented with related chemistry or retrosynthetic schemes

Co- Pre-requisite Policy: Chemistry 231 and 231L are pre-requisites of this course. Chemistry 232L is a co- or pre-requisite of this course. If you choose to withdraw from either Chemistry 232 or 232L, 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 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 receive a grade of 0 for that missed test. Your exam grade will replace your lowest test grade if doing so will improve your overall course grade. It is recommended that you immediately acquire the ACS study guide if you are interested in using it to prepare for the final examination. ([http://www.examsinstitute.com/](http://www.examsinstitute.com/))

**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 also applies to this course.

For the Student Code of Conduct:

[http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php](http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php)

For the Departmental Policy on Scientific Integrity:

[http://www.cofc.edu/~chem](http://www.cofc.edu/~chem) (see link on resources page of departmental website)

**Tips for Success:** Introductory Organic Chemistry is a challenging course. Your success in this course will ultimately depend upon your efficiency and effectiveness in how you study. Even if you have exceptional study skills, you should expect to spend about 4-6 hours each day M-F and about 6 hours on Saturday and again on Sunday studying for this course. You should not expect to understand everything simply by reading the book and paying attention during lecture. Even if a topic sounds easy when you read it or hear it, you must test your understanding by working problems. Many of the ideas, concepts and problem solving skills associated with this course require repeated application and re-evaluation to attain a useful level of understanding. A general rule of thumb is that you should use an idea or concept at least seven times in order to master it. This is why working problems is the best method of study for this course. Reading the text in this course is essentially the same as completing the Learn Smart assignments. After that, you should re-read sections of the text only as needed in
order to figure out how to solve problems. Most students should expect to spend about 4-5 hours a day working problems, and only about 1-2 hours of reading.

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 may or may not contain similar types of problems, but which will hopefully reflect your ability to solve problems that might be of a different type but are trying to assess your understanding of related principles and facts. If your initial answer is incorrect you have a learning opportunity. When working problems you need to develop the discipline and ability to identify what you did not know, what you need to know in order to correctly solve the problem, and what you misunderstood that led you to the initial incorrect response.

On Note-taking: The pace of lecture will almost always be too fast for you to write down everything that is said. You do not need to catch every word. Many students are confused into thinking that taking great notes = writing down everything that happened in class. Taking notes during class does count as part of the effort expectation for success in this course. But your purpose in taking notes in class should be to help you to pay attention and to focus on what is being said or discussed, it should not be your goal to create a textbook based on what is said or discussed in class. If by taking notes you find you miss what is being said then stop taking notes, or at least rethink how and why you are taking notes. By reading the text before each class you can become aware of what the text contains which should greatly reduce the sense of urgency you feel to take notes during lecture. Handouts that you may elect to fill in during lecture are provided on OAKS.

How to Gauge Your Work: Do not gauge your success based on the amount of time you spend studying. It does not matter how much effort you put into the course or how hard you are willing or able to work. It does not matter how much effort you put in relative to the effort put in your peers. It does not matter how your grades compare to those of your peers. It does matter how well you do on the tests and the final examination. Take advantage of office hours, bring your work or problems in to discuss. Stay engaged during the lecture by trying to anticipate what is coming next. When preparing for lecture by reading the text, take note of things in the text that are confusing and then pay special attention when those items are presented in class. After class get clarification on any items that you still find troubling. Do not work in isolation and do not wait until the weekend to find out how difficult it will be to demonstrate that you have learned what you need to know to pass the test.

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. Please turn them OFF during exams.

OAKS: The syllabus, supplemental study guides, review material, answer keys, assignments, old tests (warning: tests are based on the use of a different text), 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):

### Summer II

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<td>Chapter 25</td>
<td>Test IV</td>
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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.