University of South Florida Sarasota Manatee  
CHM2211L; Sect: 522; 2 cr.  
Organic Chemistry II Laboratory

Spring 2017                          Room SMM2204

Instructor: Dr. Edie J. Banner  
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Phone: 941-359-4682

Office Hours: Scheduled office hours are T/R 8:30-9:15 (SMC-B327). If the scheduled times are not convenient, e-mail me with times that you are free so that we can set up an appointment. Open Door Policy: If the door is open, come on in!

Course meetings: Sect 522: Monday 5:30 p.m.-9:15 p.m. USFSM Science Labs at Mote Marine, Room 2004.

Course Description: Lab 2 cr., PR: CHM 2210L; CR CHM 2211. Laboratory portion of Organic Chemistry II. Continuation of organic chemistry laboratory. Emphasis in the laboratory portion is placed upon illustrating the physical properties involved with chemical reactivity and the isolation and characterization of organic compounds.

Student Learning Outcomes Applying the concepts learned from the lecture component of this course the student, by the end of the laboratory component, will be able to...

- Apply the IUPAC rules of nomenclature to determine names and/or structures for molecules
- Observe the effects of molecular structure on reactivity.
- Relate the role of acidity and basicity of organic compounds in mechanisms.
- Correlate the effects of electronic, steric, and orbital interactions to the behavior and properties of molecules.
- Perform stereochemical and conformational analyses of organic compounds and predict the effects of these properties on reactivity and reaction outcomes.
- Write reactions that show the preparation of molecules containing the functional groups: aromatics, alcohols and ethers, aldehydes, ketones, amines, carboxylic acids and carboxylic acid derivatives.
- Understand chemical reactivity through thermodynamic and kinetic evaluation.
- Mechanistically illustrate reductions, oxidations, electrophilic and nucleophilic aromatic substitution, nucleophilic addition and substitution, and alpha carbon reactions.

By the end of this laboratory course, the student will have the ability to...

- Plan and carryout reactions utilizing the appropriate laboratory glassware and supplies.
- Safely work in a laboratory environment through awareness of the potential hazards.
- Utilize separation techniques to isolate and purify compounds.
- Interpret spectral data (GC, MS, IR, NMR) to characterize organic compounds.
- Maintain a detailed laboratory notebook and communicate their laboratory investigation through meaningful laboratory reports.

Additionally, students will be able to demonstrate...

- Problem solving skills in laboratory experiments
- Laboratory safety skills during collaborative laboratory experiments.
- Effective oral and written communication skills as evidenced through peer instruction, group meetings and laboratory reporting.
- Teamwork and interpersonal skills as displayed in laboratory experiments.
- Ethical responsibility and an awareness of the role of chemistry in contemporary societal and global issues.
Course Text/Materials: Required for successful completion of this course:
- Bound laboratory notebook (Stitched notebook style)
- Basic scientific calculator

Canvas Use: The class syllabus is posted in Canvas, an online course management system. In this class Canvas will be used as a repository for documents and powerpoint slides pertinent to the course. Information on how to use Canvas is available at: http://usfsm.edu/e-learning-services/student-resources/

Evaluation: The course grade will be based upon a series of lab assignments, laboratory methods, laboratory reports and a lab final. Grades will be based upon the following point system:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Methods</td>
<td>100 pts</td>
</tr>
<tr>
<td>Laboratory Reports/Assignments</td>
<td>600 pts</td>
</tr>
<tr>
<td>Laboratory Exam</td>
<td>200 pts</td>
</tr>
<tr>
<td>Total</td>
<td>900 pts</td>
</tr>
</tbody>
</table>

Final letter grades for the course will be based upon the percentage of possible points earned as follows: 
- A+=97-100%; A=93-96%; A-=90-92%; B+=87-89%; B=83-86%; B-=80-83%; C+=77-79%; C=71-76%; C-=70-70.9%; D+=67-69%; D=63-66%; D-=60-62%; F=59% or below.

Laboratory Methods: Throughout the laboratory sessions you will be observed on how you follow proper laboratory procedures in setting up and performing the labs in an efficient and safe manner. Collaboration is an integral part of the laboratory experience and will be developed throughout the semester. Included in this portion of your grade is the maintenance of a proper laboratory notebook.

Assignments: Laboratory assignments will be given for certain concept or skill building labs. They are to be completed individually although students are encouraged to collaborate on their understanding of the concept or skill.

Laboratory Reports: For specified labs a lab report will be prepared individually based upon your experimental record - your laboratory notebook. Various styles of reporting scientific findings will be utilized that include journal style written reports, video reports, powerpoint presentations and poster presentations.

Laboratory Exam: At the last lab meeting a laboratory final examination (a.k.a. Celebration of Your Knowledge) will be given that covers the concepts and techniques learned throughout the laboratory course.

Attendance: Attendance is expected for all scheduled laboratory sessions. Due to logistical and safety concerns labs cannot be made up. When absences are unavoidable the student will consult with the instructor about an alternative assignment and will be responsible for all material covered in the missed lab.
Laboratory Content: Laboratory experiences will be conducted utilizing a research style format with pre-lab group meetings to be held at the beginning of the lab period to discuss the topic/technique to be explored and results from the previous lab. You will gain hands-on experience in techniques and reactions encountered in organic chemistry research that will provide an understanding of the underlying concepts and principles of organic chemistry.

Dates: Sec. 2/Sec. 1                Topic:                                                                                           


Jan. 16, 2017  Martin Luther King Holiday, No Lab  

Jan. 23  Lab 2: Pericyclic Reactions: Diels-Alder reaction in Water

Feb. 30  Lab 3: Rearrangement Reaction of Benzopinacol

Feb. 6  Lab 4: Electrophilic Aromatic Substitution: Iodination of Vanillin

Feb. 13  Lab 5: Prep a Dibromide via Alkene Addition (for Lab 6)

Feb. 20  Lab 6: Solvent Effects on Decarboxylative Elimination

Feb. 27  Lab 7: Solventless Wittig Reaction

Mar. 61  Lab 8: Synthesis of Benzocaine and/or Aspirin: Fisher Esterification

Mar. 13-17, 2017  Spring Break – No Labs

Mar. 20  Lab 9: Natural Products Lab

Mar. 25, 2017  Last day to drop with a “W”

Mar. 27  Lab 10: Isomerization of Carvone (Mechanistic Study)

Apr. 3  Lab 11: Aldol Condensation

Apr. 10  Lab 12: Polymers: Molecular Bonding Study

Apr. 17  Lab 13: Lab Presentations-Topic: The Chemistry of Climate Change

Apr. 24  Lab 14: Final Lab Celebration! And check-out.
            The lab final covers all material covered in the course.
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USFSM AND USF SYSTEM POLICIES

Policies are available in the USFSM Catalog and at regulationspolicies.usf.edu

A. Academic Dishonesty: The University considers any form of plagiarism or cheating on exams, projects, or papers to be unacceptable behavior. Please review the USF System Regulation USF3.027 Academic Integrity of Students and the USF System Regulation USF6.0021 Student Code of Conduct.

B. Academic Disruption: The University does not tolerate behavior that disrupts the learning process. Please review USF System Regulation USF3.025 Disruption of Academic Policy.

C. Contingency Plans: In the event of an emergency, it may be necessary for USFSM to suspend normal operations. During this time, USFSM may opt to continue delivery of instruction through methods that include but are not limited to: Canvas, online conferencing/collaboration tools, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor Canvas for each of their classes for course specific communication, as well as the USFSM website, their student email account, and MoBull messages for important general information. The USF hotline at 1 (800) 992-4231 is updated with pre-recorded information during an emergency. See the Campus Police Website for further information.

D. Disabilities Accommodation: Students are responsible for registering with the Office of Students with Disabilities Services (SDS) in order to receive academic accommodations. Reasonable notice must be given to the SDS office (typically 5 working days) for accommodations to be arranged. It is the responsibility of the student to provide each instructor with a copy of the official Memo of Accommodation. Contact Information: Disability Coordinator, 941-359-4714, disabilityservices@sar.usf.edu, http://usfsm.edu/disability-services/

E. Fire Alarm Instructions: At the beginning of each semester please note the emergency exit maps posted in each classroom. These signs are marked with the primary evacuation route (red) and secondary evacuation route (orange) in case the building needs to be evacuated. See Emergency Evacuation Procedures.

F. Religious Observances: USFSM recognizes the right of students and faculty to observe major religious holidays. Students who anticipate the necessity of being absent from class for a major religious observance must provide notice of the date(s) to the instructor, in writing, by the second week of classes. Instructors canceling class for a religious observance should have this stated in the syllabus with an appropriate alternative assignment.

G. Protection of Students Against Discrimination and Harassment:

1. Sexual Misconduct/Sexual Harassment Reporting: USFSM is committed to providing an environment free from sex discrimination, including sexual harassment and sexual violence (USF System Policy 0-004).

2. Other Types of Discrimination and Harassment: USFSM also is committed to providing an environment free from discrimination and harassment based on race, color, marital status, sex, religion, national origin, disability, age, genetic information, sexual orientation, gender identity and expression, or veteran status (USF System Policy 0-007).
The Counseling and Wellness Center is a **confidential** resource where you can talk about incidents of discrimination and harassment, including sexual harassment, gender-based crimes, sexual assault, stalking, and domestic/relationship violence. This confidential resource can help you without having to report your situation to either the Office of Student Rights and Responsibilities (OSSR) or the Office of Diversity, Inclusion, and Equal Opportunity (DIEO), unless you request that they make a report.

Please be aware that in compliance with Title IX and under the USF System Policy, educators **must** report incidents of discrimination and harassment, including sexual harassment, gender-based crimes, sexual assault, stalking, and domestic/relationship violence. If a student discloses any of these situations in class, in papers, or to a faculty member personally, he or she is required to report it to OSSR or DIEO for investigation. Students who are victims or who have knowledge of such discrimination or harassment are encouraged to report it to either OSSR or DIEO. The Deputy Coordinator for USFSM is Allison Dinsmore, Coordinator of Disability Services & Student Advocacy, 941-359-4714 or adinsmore1@sar.usf.edu.

Campus Resources:
Counseling Center and Wellness Center 941-487-4254
Victim Advocate (24/7) 941-504-8599

List of off-campus resources:
HOPE Family Services: 941-755-6805
Safe Place & Rape Crisis Center (SPARCC) – Sarasota: 941-365-1976
First Call for Help- Manatee: 941-708-6488
  Sarasota & North Port 941-366-5025
Centerstone: 941-782-4800; 24-hr Hotline 941-708-6059

**H. Web Portal Information:** Every newly enrolled USF student receives an official USF e-mail account. Students receive official USF correspondence and Canvas course information via that address. The web portal is accessed at http://my.usf.edu.