• **Prerequisite:** CHEM 201 (with a grade of C or higher); **Co-requisite:** CHEM 202L must be taken in the same semester as CHEM 202.

• **Class times:** MTWTh 10:00 – 11:50 a.m., LSF L302

• **Office:** LSF L303E; **Office Hours:** MTWTh 9:00 – 10:00 a.m., 12:00 – 1:00 p.m.

• **Office Telephone:** 661-1457; **E-mail:** dclabo@fmarion.edu; **Web page:** http://swampfox.fmarion.edu/web/chem/aclabo

• **Required Materials**
  ◦ *Student Lab Notebook*, Hayden-McNeil
  ◦ *Splash-resistant chemical safety goggles*

• **Attendance** is expected at every class meeting and is governed by the FMU policy on attendance. I will check attendance periodically, and I will use attendance at my discretion in the calculation of the course grade. You are responsible for the course material, whether covered in class or assigned in the text, and for any notes, problems, outside reading, or other information, whether or not you attend class. Because the lab is an integral part of the course, any combination of absences from lab and/or lab reports not turned in that totals 3 or more will result in a grade of F for the course.

• **Writing:** In the lab you will demonstrate correct use of a laboratory notebook and write lab reports that model accepted professional standards. In addition, there will be a literature project assigned in lab, and you will present oral and written reports as a part of that project. Lecture exams and quizzes will include questions that require critical thinking and written answers.

• **Exams**
  ◦ 3 In-class exams (15% each) = 45% (Tentative dates: 7/20, 7/27, 8/3)
  ◦ Quizzes = 15%
  ◦ Final Exam = 15% (Thursday, 8/10, 10:00 – 11:50 a.m.)
  ◦ Laboratory Grade = 25%
  ◦ There will be no make-up exams or quizzes. If a student misses more than one exam, it is the student’s responsibility to drop the course.
• **Grading Policy:** 90 – 100% = A; 80 – 89% = B; 70 – 79% = C; 60 – 69% = D; 59% or less = F. You will receive no less than the grade you earn according to this scale.

• **Course objectives**
  ◦ describing the products and mechanisms of reactions of molecules containing, organometallic, aromatic, aldehyde, ketone, carboxylic acid, acyl halide, ester, amide, anhydride, amine, and other functional groups
  ◦ applying systematic nomenclature to molecules containing any of the above functional groups
  ◦ describing and predicting the results of regiospecific reactions
  ◦ predicting intermediate and final products in a multi-step organic synthesis
  ◦ planning a viable synthesis of a molecule by retrosynthetic analysis
  ◦ describing and predicting the effects of resonance and conjugation on reactivities of functional groups
  ◦ utilizing infrared, \(^1\)H and \(^{13}\)C nuclear magnetic resonance, and other spectroscopic methods to identify organic molecules
  ◦ describing the structures and reactions of carbohydrates and amino acids
  ◦ understanding the application of organic structure and reaction mechanisms to biochemical reaction pathways
  ◦ developing critical thinking as applied to both lecture and laboratory topics; demonstrating problem-solving skills by way of various assignments, quizzes, and exams

• **Course content**

<table>
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<th>Chapter</th>
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<td>Aldehydes, ketones</td>
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<td>Exam 3</td>
<td>8/3</td>
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(13: NMR spectroscopy; 22: Carbohydrates – lab)
(21: Amines; 26: Lipids, terpenes, steroids – as time permits)