Prerequisite: Enrollment in CHMY 221 of completion of CHMY 221 or equivalent course.

Objectives:
This course will serve to introduce you to laboratory concepts, techniques, and analytical methods used by practicing organic chemists through the performance of classic organic chemistry reactions. The student is expected to learn proper laboratory notebook skills and organic laboratory safety practices and be able to synthesize, isolate, purify and characterize simple organic molecules.

Text/assignments:
There is no assigned text for this course and all lab experiments, handouts, reading material and other information will be distributed through the ERes page dedicated to this course. The library’s ERes web page can be accessed at the following address: http://eres.lib.umt.edu/
The password for access is ochem.

Laboratory
Given that we are only allotted two hours per lab period it is important that this time is utilized efficiently and it is the responsibility of the student to come to the lab prepared for the days activities. Prior to coming to lab you are required to prepare a typed, one-sheet, pre-lab exercise that will detail the following:
-Title of the experiment
-Introduction and purpose
-Table of chemicals/reagents used including: name, structure, molecular weight, physical properties and any relevant safety information (toxic, flammable, corrosive etc.).
-Flow chart or briefly summarized procedure.

THIS INFORMATION SHOULD ALSO BE RECORDED NEATLY IN YOUR LABORATORY NOTEBOOK

This pre-lab exercise will make up the first portion of your final, written lab report and completion of this component ensures that the student has looked at and prepared for the upcoming lab. Ten points will be deducted from the final lab report grade if the pre-lab component is not completed prior to class. The TAs will be checking prior to the start of the experiments to see that this has been completed.

AN EXAMPLE OF AN APPROPRIATE COMPLETED PRE-LAB CAN BE FOUND ON ERES.

Laboratory Notebook
Students need to purchase a laboratory notebook with a permanent, stitched binding. All details of the experiments, will be recorded accurately and neatly in the notebook and the final written
Reports will be a reflection of what was recorded during the experiment. Printouts from instruments or other necessary loose pages should be taped into the notebook and labeled appropriately.

MORE DETAILED INSTRUCTIONS REGARDING THE LABORATORY NOTEBOOK ARE ON ERES.

**Lab Reports**
The format of the reports for each of the labs will vary depending on the nature of the experiments being performed and more specific details will be provided for each individual lab. All labs will have a value of 100 points and will be divided up accordingly.

- **10 Points** Pre-lab. See above under Laboratory
- **20 Points** Technique (safety, cleanliness
- **70 Points** Written (typed) report

Typed lab reports will be due to your TAs one week following the completion of the lab. If analytical data was collected in the experiment (IR spectrum, for example) a photocopy should be included in the final report.

AN EXAMPLE OF A COMPLETED LAB REPORT CAN BE FOUND ON ERES.

**Safety**
To ensure the safety of yourself and others it is important that safe laboratory practices be adhered to at all times and the following items will be especially enforced:

- **Safety goggles** (full coverage) must be worn at all times in the laboratory. If you are seen not wearing your goggles, points will be deducted from the Technique portion of your lab report.
- **Closed toed shoes** must be worn at all times in the laboratory. If you come to lab with sandals, flip-flops or other similar open shoe, you will be asked to leave to get the appropriate footware before you can return to the lab to continue work. We recommend dedicating an old pair of shoes as ‘lab footwear’ so that you will always be prepared for lab. In the past, some students have stored these shoes carefully in their drawers.
- **Cell phones** should be silenced and not used at all in the lab since they can be a distraction to those who might be working with a potentially hazardous material.
- **Long pants** though not required, are strongly encouraged for additional safety in the lab.

Student lab coats can be purchased in the UC, and will help to protect your clothing from spills and potential damage.

Additional safety procedures will be discussed in lab and be provided on a handout.

**Grading:**
The overall course grade will be determined from the total points accumulated from completion of the eight (subject to change) laboratory exercises and their written reports. Letter grades will be assigned on the basis of percentage total points. The plus/minus system will be used. The divisions below represent the maximum cut-off for the designated letter grade.

<table>
<thead>
<tr>
<th>Points</th>
<th>Grade</th>
<th>Points</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90</td>
<td>A</td>
<td>87</td>
<td>A-</td>
</tr>
<tr>
<td>80</td>
<td>B</td>
<td>77</td>
<td>B-</td>
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<td>70</td>
<td>C</td>
<td>67</td>
<td>C-</td>
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<tr>
<td>60</td>
<td>D</td>
<td>57</td>
<td>D-</td>
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F 57 and below
**Notable dates:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Sep 6</td>
<td>Labor Day. No Classes</td>
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<tr>
<td>Sep 20</td>
<td>Last day to add/drop classes via Cyberbear</td>
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<tr>
<td>Nov 2</td>
<td>Election Day. No Classes</td>
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<tr>
<td>Nov 11</td>
<td>Veterans Day. No Classes</td>
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<tr>
<td>Nov 24-26</td>
<td>Thanksgiving Vacation</td>
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<tr>
<td>Dec 14-18</td>
<td>Final Exams</td>
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**Academic misconduct/Cheating:**

Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. Definitions of academic misconduct, the associated penalties and disciplinary procedures are outlined in the student code of conduct. The student code of conduct can be viewed at the following address: http://life.umt.edu/SA/documents/fromWeb/StudentConductCode1.pdf

In class changes to this syllabus, supersede the information provided here.