Organic Chemistry Lab II (Chemistry 322L, 1 credit) Syllabus

Organic Lab Coordinator: Dr. Andrea Drew Gounev
Teaching Professor, Department of Chemistry
Office: Flarsheim Hall 510D,
Contact: drewa@umkc.edu (preferred) or 816-235-2257
Office Hours W 12:00pm-1:00pm, and by appointment through UMKC Connect in Blackboard
Course Instructional Mode: P (classroom (lab) based)

Course Website: http://d.web.umkc.edu/drewa/Chem322L/index322L.html

<table>
<thead>
<tr>
<th>Meets</th>
<th>Day</th>
<th>Time</th>
<th>Teaching Assistants (Office Hours on Blackboard)</th>
<th>Instructors in charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCB 212</td>
<td>M</td>
<td>2:00 - 4:50 PM (V01 11908)</td>
<td>Hannah Straley (<a href="mailto:hks44f@mail.umkc.edu">hks44f@mail.umkc.edu</a>) Kyung-Shin Suh (<a href="mailto:ksmq2@mail.umkc.edu">ksmq2@mail.umkc.edu</a>)</td>
<td>Dr. Drew Gounev</td>
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<tr>
<td>SCB 214</td>
<td>T</td>
<td>8:00 - 10:50 AM (V02 11909)</td>
<td>Fei Wu (<a href="mailto:fww77@mail.umkc.edu">fww77@mail.umkc.edu</a>) Dattatray Sawant (<a href="mailto:dks6gc@mail.umkc.edu">dks6gc@mail.umkc.edu</a>)</td>
<td>Dr. Drew Gounev</td>
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<tr>
<td>SCB 212</td>
<td>T</td>
<td>11:00AM - 1:50 PM (V09 13919)</td>
<td>Dattatray Sawant (<a href="mailto:dks6gc@mail.umkc.edu">dks6gc@mail.umkc.edu</a>)</td>
<td>Dr. Drew Gounev</td>
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<td>Fei Wu (<a href="mailto:fww77@mail.umkc.edu">fww77@mail.umkc.edu</a>) Dattatray Sawant (<a href="mailto:dks6gc@mail.umkc.edu">dks6gc@mail.umkc.edu</a>)</td>
<td>Dr. Drew Gounev</td>
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<td>SCB 214</td>
<td>R</td>
<td>8:00 - 10:50 AM (V05 11912)</td>
<td>Reid Brenner (<a href="mailto:reb4h8@mail.umkc.edu">reb4h8@mail.umkc.edu</a>)</td>
<td>Dr. Drew Gounev</td>
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<td>Reid Brenner (<a href="mailto:reb4h8@mail.umkc.edu">reb4h8@mail.umkc.edu</a>) Kyung-Shin Suh (<a href="mailto:ksmq2@mail.umkc.edu">ksmq2@mail.umkc.edu</a>)</td>
<td>Dr. Drew Gounev</td>
</tr>
<tr>
<td>SCB 212</td>
<td>F</td>
<td>2:00 - 4:50 PM (V07 12847)</td>
<td>Hannah Straley (<a href="mailto:hks44f@mail.umkc.edu">hks44f@mail.umkc.edu</a>)</td>
<td>Dr. Drew Gounev</td>
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</tbody>
</table>

COURSE INSTRUCTIONAL MODE and FORMAT:
This 1-credit hour LAB course consists of a 30 minute prelab lecture (which will occur in the room listed in the table above) followed by a laboratory session in SCB 217 or 220 (P (classroom based)).

CATALOG DESCRIPTION and RESTRICTIONS
CHEM 322L is an extension of CHEM 321L. CHEM 322L builds from the basic techniques, procedures, and writing to more advanced organic operations. Prerequisite: CHEM 321 and CHEM 321L or equivalent (each with a C-or better) Corequisite CHEM 322R; Restrictions/Exclusions: None; Offered: Each Term.
STUDENT LEARNING OUTCOMES
Upon completion of Chemistry 322L, students should be able to:

• Apply knowledge obtained in Chem. 322 lecture to problem solving and critical thinking in the laboratory.

• Utilize mathematical knowledge gained from general chemistry to perform common calculations, including mass balance, limiting reagent, and percent yield.

• Engage in safe laboratory practices by handling laboratory glassware, equipment, and chemical reagents appropriately, using general guidelines and basic knowledge about the common hazards associated with them in an organic chemistry laboratory.

• Maintain an appropriate scientific notebook using notational and descriptive content containing MSDS information on relevant chemical reagents, experimental procedure followed, data collected, and observations made during the experimental process.

• Assemble glassware and perform the following techniques as a part of synthetic procedures: aqueous workup, distillation, reflux, separation, isolation, and crystallization.

• Predict the outcome of several common organic reaction types through a basic understanding of starting materials, functional groups, mechanism, and typical reaction conditions.

• Characterize prepared substances by physical and spectroscopic means.

• Develop the skill set necessary to continue on to upper level chemistry labs.

• Communicate with other scientists though the writing of a formal scientific paper.

GENERAL

Pre-requisites and Co-requisite
A grade of “C-” or better in General Chemistry I and II with lab (CHEM 211/211L and 212R /212LR) and Organic Chemistry I with lab (CHEM 321/321L), or the equivalent courses, is required for enrollment in this course. There is also a co-requisite of CHEM 322 Lecture.

Course objectives
The objective of this course is to provide students with advanced organic laboratory experiences, i.e., performing multi-step organic syntheses and writing scientific reports.

Pre-lab lectures and announcements
All classes will convene in room C212 or C214 in the Spencer Chemistry Building before entering the lab for class announcements, pre-lab lectures, and submission of lab reports. Attendance will be taken in pre-lab.

Required materials
• A lab notebook capable of making carbon copies (100 pages is a good size). The copies are submitted to your GTA as you leave the lab each session and become part of your report; you retain the originals.
• Padlock, safety glasses, black felt-tip pen with permanent ink (Sharpie).
• Non-graphing calculator (as the one you used in General Chemistry I and II).
• Appropriate clothing (i.e., no shorts, open-toed shoes, etc.).
GRADING  During the pre-lab lecture, the GTAs will tell you what you need to hand in for your report on that lab. You will turn in eight regular lab reports, each worth 20 points. Your lowest lab report score will be dropped (if you have an “excused” lab, it will your dropped lab), for a total of 140 points for your reports. The ninth and tenth labs, Diels-Alder Reaction: Hexaphenylbenzene, Dimethyl tetraphenyl phthalate, 1,2,3,4-Tetraphenylnaphthalene and Diels-Alder Reaction: Triptycene (lab numbers 3 and 4 on the syllabus) have an extended lab write-up and cannot be dropped.

Laboratory Performance and Technique: Part of the grade for each lab report will include a score for laboratory performance and technique. You are expected to be prepared for lab, maintain your drawer, space and wastes appropriately, wear safety goggles/glasses at all times while in the lab, and follow all check-in and check-out procedures. You will have points deducted for tardiness, lack of preparation, non-completion of lab or other infractions of safety and good lab practice.

Extended Laboratory Write-Ups:
The first extended laboratory write-up will be over the Experimental Part of the Diels-Alder experiments and is worth 20 points.

The second extended laboratory write-up will also be over the same Diels-Alder experiments, but will be a full write-up including an Introduction, revised Experimental Part, Results and Discussion, Conclusion and Bibliography. The second laboratory write-up is worth 50 points. A Tegrity lecture that explains the kinds of information you need to include in both of these labs and some additional information can also be found on the course website. You will be submitting a hard copy of the extended lab report to your lab TA, as well as submitting it to TurnItIn through Blackboard.

Diels-Alder Full Paper: You will submit a hard copy to your TA during your lab time. You will ALSO submit your full paper (not just the experimental write-up) through Blackboard to TurnItIn.com. This is how the entire process will work:

1. You will turn in a hard copy of your complete paper to your TA on your lab date (see lab schedule for dates). The entire paper will be typed (double-spaced, 12 point font, 1-inch margins, fully justified). You will hand draw in pen the complete mechanisms throughout your paper (so leave plenty of space). In your experimental section, you should make all corrections that you missed points for on the original Experimental Section.

2. To the BACK of the hard copy of your paper, you will attach (staple) your original, GRADED Experimental Section.

3. Any time on your lab day during the week the paper is due, you will also login to Blackboard and submit your paper as an attachment but WITHOUT YOUR MECHANISMS AND YOUR REFERENCES. You can still leave in your internal citations, but cut off the reference page. You can simply leave a blank space where the figure (mechanism) was, but leave any figure captions.

4. Here are the directions for uploading your paper:
   a. In Blackboard, click on “Assignments” on the left-hand margin.
   b. You need to click “I Agree—Continue” to TurnItIn’s usage agreement.
   c. Look in the middle and see “Diels-Alder Paper” and to the right of it click on “Submit”.
   d. Enter your First name.
e. Enter your Last name.
f. Enter your Submission Title (the title of your paper).
g. Click on BROWSE to find your paper on your computer (make sure you have removed the Reference page) and attach it.
h. After you have attached it, click “Submit”.

5. If you do not turn in a hard copy of your paper to your TA AND submit it to TurnItIn.com (Blackboard) you will receive a “0” for this assignment.

**Friday Evening Laboratory Exam:**
There is one cumulative laboratory exam (covers all 10 experiments), **worth 100 points**, which will be held on Friday evenings. Please mark it in your calendar and bring a calculator.

**LAB EXAM: APRIL 28 (Friday) from 6:00pm-7:00pm in Royall Hall 111.**

There are no alternate exam times, so please plan accordingly.

**Grading Detail:**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Experiments (20 points each)</td>
<td>140</td>
</tr>
<tr>
<td>First Extended Lab Report</td>
<td>20</td>
</tr>
<tr>
<td>Second Extended Lab Report</td>
<td>50</td>
</tr>
<tr>
<td>Lab Exam</td>
<td>100</td>
</tr>
<tr>
<td><strong>TOTAL POINTS POSSIBLE</strong></td>
<td><strong>310</strong></td>
</tr>
</tbody>
</table>

The total amount of points for this class will be **290** points. Grades will be assigned as follows:

- 90% and above = A;
- 80 – 89.9% = B;
- 70 – 79.9% = C;
- 60 – 69.9% = D;
- below 60% = F.

Note: You will lose 1 point on anything that you hand in as a lab report for the first occurrence of the following: a spelling error, grammatical error, and partial sentence. Spell-check and proof-read your typed work.

Your lab grades may be checked via Blackboard at [Blackboard.umkc.edu](http://Blackboard.umkc.edu). Your Blackboard User ID and Password are the same as your UMKC Exchange/SSO user ID (the alias from your Alias@umkc.edu e-mail address). If you don’t know your Exchange/SSO User ID, you can obtain it at [www.umkc.edu/exchange-faq](http://www.umkc.edu/exchange-faq). Lab handouts may also be found on the Blackboard site or at the Chemistry 322L course website, which is [http://d.web.umkc.edu/drewa/Chem322L/index322L.html](http://d.web.umkc.edu/drewa/Chem322L/index322L.html).

**POLICIES Enrollment and Attendance**

You must be enrolled in the section you are attending. If you are not enrolled by the end of the second week of classes (January 27th), you will be asked to leave the lab.

Attendance is required and will be taken by GTAs at all laboratory classes. The class starts on time and finishes on time. Please observe the following:

- Students must attend their assigned laboratory section.
- Only substantial and unavoidable reasons (e.g., serious illness, unavoidable out-of-town professional travel, death in the family, or religious observance) should cause students to miss a regularly scheduled lab. You should not miss a lab simply because your lowest score will be dropped!
- **There will be no make-up labs!** All of the organic lab sections are completely full. Even if you have an excused absence, you will be unable to make-up the lab you missed. This will be your dropped lab.
Safety and Honesty
During the first week of classes, safety regulations will be reviewed. You are expected to follow them. When in doubt, ask your GTA or lab instructor. Do not, under any circumstances, use fabricated data or data from another student (past or present). Fabrication of data is academic misconduct, as is plagiarism, cheating and sabotage: you will receive a grade of zero on the tainted work and will be reported to the Chief Academic Officer of your academic unit. Serious and/or repeat offenders will receive an “F” grade for the course and face disciplinary action from the University. It is your responsibility to know and uphold the UMKC rules of academic conduct (http://www.umkc.edu/catalog/Academic_Honesty.html).

The Board of Curators of the University of Missouri recognizes that academic honesty is essential for the intellectual life of the University. Faculty members have a special obligation to expect high standards of academic honesty in all student work. Students have a special obligation to adhere to such standards. Academic dishonesty, including cheating, plagiarism or sabotage, is adjudicated through the University of Missouri Student Conduct Code and Rules of Procedures in Student Conduct Matters. It is your responsibility to know and uphold the UMKC rules (and those of your academic unit) of academic conduct.

During the check-in week of the lab, you will be asked to sign a statement that you understand the safety regulations and academic honesty policy, and agree to adhere to them. A copy of these regulations is provided.

Laboratory
You must provide a padlock for your glassware drawer. You are responsible for maintaining the glassware clean and in good condition and for keeping your equipment drawer clean. Even though you are expected to take appropriate care with equipment and glassware, it is reasonable to expect a small amount of breakage. Notify the GTA as soon as possible if something is broken; you will be issued a replacement. No student will receive a grade for the course until he/she has checked out at the end of the semester.

Lab Reports
The due dates for lab reports are listed in the class schedule accompanying the syllabus. Lab reports must be turned in at the beginning of the pre-lab lecture prior to entering the laboratory. **Late lab reports will never be accepted**. No exceptions will be made. However, **IF** you miss a lab and a report was due that day (from the lab you did the week before), you have extra 2 days to bring that lab directly to **MY OFFICE**.

Regrade and Grievance Policy
Regrade requests for the lab reports should be submitted to the GTA as soon as possible, and **no later than within one week of receiving the graded lab report**. The GTA may decide to pass certain regrade requests to the instructor. Any other grievances about the class should be first taken up with the instructor. After contact with the instructor, further comments and complaints may be addressed to the Chemistry Department Chair.
LAB NOTEBOOKS

- Reread pages 32-40 in Mohrig et al.
- Each experiment should begin on a new page.
- *Put your name, your section, your TA’s name on top of every page in every experiment.*
- Make every entry in your notebook in ink, never in pencil. Do not erase or black out entries. Instead, draw a line through the error and add the new information.
- Record all laboratory observations and data directly in the lab notebook at the time they are observed. Do not use scratch paper. Do not expect to transcribe any information into your notebook at a later time. Carbon copies of your notebook entries should be stapled and handed in at the end of every laboratory session. Your typed reports must draw on data and observations recorded in your lab notebook.
- Organize your lab notebook using headings such as *Title, Purpose, Procedure, Observations, Apparatus or Glassware set-up, Balanced reaction or Mechanism, and Purification.*
- Do not, under any circumstances, use fabricated data or data from another student.

LAB REPORTS

For each experiment you will hand in (1) the carbon copies of pre-lab and data and observations pages from your lab notebook before leaving the lab and (2) a completed post-lab report from the previous week’s lab, on the scheduled due date, before leaving the pre-lab. Your report will consist of these two submissions.

Your pre-lab assignment and lab notes/observations will be *handwritten in pen*; your post-lab report should be *typewritten*, with the exception of structures and mechanisms, which should be hand-drawn in pen. Anything in pencil will not be graded.

The individual lab handouts will be available for download at the course website and you can type directly on them. They will be up the Monday before the week of that lab. Please make sure that all calculations in your post-lab report show all your work!

Also please note that in post-lab reports, numbers should never begin with a decimal and units must be given (even if they are implied)! Additionally, melting points that are measured are given as a range, not as a single temperature, and are reported in °C. An example is:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial weight of salicylic acid</td>
<td>0.198 g</td>
</tr>
<tr>
<td>Volume of water used to recrystallize salicylic acid</td>
<td>2.50 mL</td>
</tr>
<tr>
<td>Melting point of compound above (°C)</td>
<td>158-160 °C</td>
</tr>
</tbody>
</table>

Pre-Lab Videos

*Before* each lab period, you are expected to watch two videos pertaining to each experiment. These videos were created by one of our graduate students, Christopher Knudtson, in an effort to better prepare you for organic lab and to enhance your learning experience there. The videos can be found at [http://caknudtson.weebly.com/org-chem-lab.html](http://caknudtson.weebly.com/org-chem-lab.html). The first video associated with each lab is an instructional video that details the theory behind each experiment, and the second is a prelab video that demonstrates each experiment you will be performing in the lab and the techniques associated with it. When you enter the lab, it is expected that you have already watched both videos!
Pre-lab Assignment
You will need to write in the procedure fully in your lab notebook because the handouts will not be allowed in the lab. You should be thorough enough so that you can perform the experiment from what you have written. Any changes to the lab will be announced in the pre-lab lecture and need to be noted in your lab book. When you arrive in lab, your GTA will sign your notebook pages ensuring that you have completed the required pre-lab. If not, you will not be allowed to start the experiment. You will have to leave the lab, complete the pre-lab, and then return to the lab but all labs will stop by the end of the lab section. No time extensions are allowed.

The pre-lab in your notebook at a minimum should contain the following

- **Title**: Begin each experiment on a new page with a title, your name, the date, your TA’s name and your lab section.
- **Purpose**: A brief statement of the experimental objectives
- **Net equation**: Include for all important reactions (found in handout).
- **Table of quantities and physical constants**: Collect in tabular form the name, structure, formula, molecular weight, and density of any substance whose mass or volume you must measure (make sure you include units where appropriate!). Some of this information can be found in the handouts. That which is not in the handouts can be looked up in The Aldrich Chemical Company Catalog, The Merck Index, The CRC Handbook of Chemistry and Physics, and on-line at http://www.sigmaaldrich.com/united-states.html or http://chemfinder.camsoft.com or http://webbook.nist.gov/chemistry.
- **Procedure**: Provide an outline of the experimental procedure to be carried out. Do not simply copy what is written in the handouts; use your own words and diagrams. It is often useful to construct a flow chart of the procedure. This is what you will use to complete your experiment, so make sure you can follow it!

During lab ➔ **Data and observations (hand-written in your lab notebook)**
Maintaining good experimental records is an essential part of the laboratory work. For all experiments, record what was done, including amounts (in g or mL, and in mol or mmol) of the compounds used, and your observations (i.e., changes in appearance, color, temperature, precipitation, evolution of gas). Also, where applicable, include work-up, isolation, and purification techniques used, isolated yields (in g or mL and in percents), and appearance of the final product (physical state, color, texture, smell). Carbon copies of these pages will be stapled together and submitted before leaving the lab. Failure to turn in those pages counts as an absence. If an absence for a lab is recorded, a grade of “0” is unavoidable.

After lab ➔ **Summary of results and lab report (typed; CANNOT be hand-written)**
You will receive a list of what is required for that lab during your pre-lab lecture. You will need to type all of the information required. All calculations must be explicitly included and type-written. If your handout includes post-lab questions, type the answers to them in the appropriate space in “Post-lab Report”. Figures, structures and mechanisms are to be hand-drawn in ink (not in pencil). Your typed reports will be cross-checked against your lab notes. Spell-check and proof-read your typed work (see GRADING). Your post-lab reports will be collected on the date they are due, in the pre-lab room. Do NOT submit your lab reports to Chemistry Office!
Example of how to setup your lab notebook

Before the Experiment Begins. See http://d.web.umkc.edu/drewa/Chem321L/index321L.html and look under “lab notebook example” to see what your lab notebook should contain.

Experiment Title:
Date:
Name:
Course: Chemistry 322L
Section:
TA Name:

**Purpose:** (Purpose of the experiment; write a brief (1-3 sentences) statement of purpose for the synthesis or analysis, or state the question you are addressing)

**Balanced Chemical Reaction:** (Write balanced chemical equations that show the overall process, not a mechanism)

**Table of Physical Quantities:** (Include all reagents and solvents: name of reagent or solvent, molecular formula, molecular structure, molecular weight, melting point (solids) or boiling point (liquids), density, hazards). Water must ALWAYS be included!

<table>
<thead>
<tr>
<th>Name (Other names)</th>
<th>Molecular formula</th>
<th>Molecular structure</th>
<th>Molecular Weight (g/mol)</th>
<th>Melting or Boiling Point (°C)</th>
<th>Density (g/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium</td>
<td>Mg</td>
<td></td>
<td>24.31</td>
<td>mp 648</td>
<td>1.74</td>
</tr>
<tr>
<td>Anhydrous Ether (Diethyl)</td>
<td>C₂H₅OC₂H₅</td>
<td></td>
<td>74.12</td>
<td>bp 34.6</td>
<td>0.706</td>
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<tr>
<td>Bromobenzene</td>
<td></td>
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<tr>
<td>Benzophenone</td>
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<td>HCl</td>
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<tr>
<td>Sodium Sulfate</td>
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<tr>
<td>Petroleum Ether</td>
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<tr>
<td>Ethanol</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Hazards (According to MSDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anhydrous Ether (Diethyl)</td>
<td>Extremely flammable; May form explosive peroxides; Harmful; Repeated exposure may cause skin dryness or cracking; Vapors may cause drowsiness and dizziness.</td>
</tr>
</tbody>
</table>
Yield Calculations: Outline the formulas to be used in your experiment. Calculate the theoretical yield.

Procedure: (This is a procedural outline of what you are doing in the experiment. Remember, you will not be allowed to bring your lab report to class so it is important that you have the details of the experiment here. Leave space between lines here for any corrections that the GTA gives you to the procedures.)

During the Laboratory Session.

Observations: Record all observations that take place while you are performing your experiment. This includes:
- Actual quantities of all reagents used.
- Amounts of crude and purified products obtained
- Mention measurements you took (temperature, time, melting point, and so on)
- Smells
- Color changes

SOME IMPORTANT DATES FOR SPRING SEMESTER 2017:

- **February 13** Last day to file for May graduation.
- **March 10** Last day to withdraw without assessment.
- **April 14** Last day for undergraduates to withdraw with assessment.
**Note: I only assign “W” grades (not “WF”) unless there is an issue of academic dishonesty.**

Resources & Policy Statements

**Academic Calendar:** Students are encouraged to review important add, drop or withdraw dates: http://www.umkc.edu/registrar/acal.asp

**Academic Honesty:** The Board of Curators of the University of Missouri recognizes that academic honesty is essential for the intellectual life of the University. Faculty members have a special obligation to expect high standards of academic honesty in all student work. Students have a special obligation to adhere to such standards. Academic dishonesty, including cheating, plagiarism or sabotage, is adjudicated through the University of Missouri Student Conduct Code and Rules of Procedures in Student Conduct Matters.

(Academic units may have additional student codes of behavior to be referenced, i.e. Honor Codes.)

**Academic Inquiry, Course Discussion and Privacy:**
**Faculty not allowing recording** - University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in Section 200.015 of the Collected Rules and Regulations. In this class, students may not make any audio or video recordings of course activity (including those recordings prepared by an instructor), except students permitted to record as an accommodation under Section 240.040 of the Collected Rules. All other students who record and/or distribute audio or video recordings of class activity are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.
Those students who have written permission from the course instructor to record are not permitted to redistribute any audio or video recordings of statements or comments from the course to individuals who are not students in the course without the express permission of the faculty member and of any students who are recorded, including those recordings prepared by an instructor. Students found to have violated this policy are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

**Attendance Policy:** Students are expected to attend and participate in classes. Advance notice of attendance policies of academic units and individual instructors should be given, and such notice should be in writing. Students should notify instructors of excused absences in advance, where possible. Students who have an excused absence are expected to make arrangements with instructors for alternative or make-up work. Such arrangements should be made in advance of the absence, where possible. Instructors should accommodate excused absences to the extent that an accommodation can be made that does not unreasonably interfere with the learning objectives of the course or unduly burden the instructor. Attendance policies shall be applied in a non-discriminatory manner.

**Campus Safety:** Inclement weather, mass notification, and emergency response guide: [http://www.umkc.edu/umkcalert/](http://www.umkc.edu/umkcalert/)

**Counseling and Health Services Available at UMKC:** UMKC students may experience many challenges in their lives while attending college – stress, depression, suicidality, trauma, relationship issues, health concerns, etc. As your professor I care about your success and well-being, and want to make you aware of some helpful resources on campus. The UMKC Counseling Center ([www.umkc.edu/counselingcenter](http://www.umkc.edu/counselingcenter)), located at 4825 Troost in Room 206, offers a wide range of supportive services to students. Appointments can be made by calling 816.235.1635. UMKC Student Health and Wellness ([http://info.umkc.edu/studenthealth/](http://info.umkc.edu/studenthealth/)), located at 4825 Troost in Room 115, offers a full range of health care and promotion services. Appointments can be scheduled online or by calling 816.235.6133. The MindBody Connection ([www.umkc.edu/mindbody](http://www.umkc.edu/mindbody)) is located in the Atterbury Student Success Center in Room 112 and offers a variety of stress-reduction services.

**Disability Support Services:** To obtain disability related accommodations and/or auxiliary aids, students with disabilities must contact the Office of Services for Students with Disabilities (OSSD) as soon as possible. To contact OSSD, call (816) 235-5696. Once verified, OSSD will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. For more information go to: [http://www.umkc.edu/disability/](http://www.umkc.edu/disability/)

**English Proficiency Statement:** Students who encounter difficulty in their courses because of the English proficiency of their instructors should speak directly with their instructors. If additional assistance is needed, students may contact the UMKC Help Line at 816-235-2222 for assistance.

**Grade Appeal Policy:** Students are responsible for meeting the standards of academic performance established for each course in which they are enrolled. The establishment of the criteria for grades and the evaluation of student academic performance are the responsibilities of the instructor. The [University grade appeal procedure](http://www.umkc.edu/disability/) is available only for the review of allegedly capricious grading and not for review of the instructor's evaluation of the student's academic performance. Capricious grading, as that term is used here, comprises any of the following:

- The assignment of a grade to a particular student on some basis other than the performance in the course;
- The assignment of a grade to a particular student according to more exacting or demanding standards than were applied to other students in the course; (Note: Additional or different grading criteria may be applied to graduate students enrolled for graduate credit in 300- and 400-level courses.)
- The assignment of a grade by a substantial departure from the instructor's previously announced standards.

**Discrimination Grievance Procedures for Students:** Discrimination Grievance Procedures for Students can be found here: [http://www.umsystem.edu/ums/rules/collected_rules/grievance/ch390/grievance_390.010](http://www.umsystem.edu/ums/rules/collected_rules/grievance/ch390/grievance_390.010)

**Statement of Human Rights:** The Board of Curators and UMKC are committed to the policy of equal opportunity, regardless of race, color, religion, sex, sexual orientation, national origin, age, disability and status as a Vietnam era
Commitment to the policy is mentored by the Division of Diversity, Access & Equity, but it is the responsibility of the entire university community to provide equal opportunity through relevant practices, initiatives and programs.

**Title IX:** Under the University of Missouri’s Title IX policy, discrimination, violence and harassment based on sex, gender, and gender identity are subject to the same kinds of accountability and support applied to offenses based on other protected characteristics such as race, color, ethnic or national origin, sexual orientation, religion, age, ancestry, disability, military status, and veteran status. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting UMKC’s Title IX Office webpage (http://info.umkc.edu/title9/) or contacting UMKC’s Title IX Coordinator, Mikah K. Thompson (816.235.6910 or thompsonmikah@umkc.edu). Additionally, you can file a complaint using UMKC’s online discrimination complaint form, which is located at http://info.umkc.edu/title9/reporting/report-online/.

While most UMKC employees are required to report any known or suspected violation of Title IX, students may seek confidential guidance from the following campus locations:

<table>
<thead>
<tr>
<th>UMKC Counseling Service</th>
<th>UMKC Counseling Service</th>
<th>Student Health and Wellness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volker Campus</strong></td>
<td><strong>Health Sciences Campus</strong></td>
<td></td>
</tr>
<tr>
<td>4825 Troost Ave, Suite 206</td>
<td>Health Sciences Building 1418</td>
<td>4825 Troost Ave., Suite 115</td>
</tr>
<tr>
<td>Kansas City, MO 64110</td>
<td>2464 Charlotte</td>
<td>Kansas City, MO 64110</td>
</tr>
<tr>
<td>Phone – (816) 235-1635</td>
<td>Kansas City, MO 64108</td>
<td>Phone - (816) 235-6133</td>
</tr>
<tr>
<td></td>
<td>Phone – (816) 235-1635</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(open Tuesdays, 1-5pm)</td>
<td></td>
</tr>
</tbody>
</table>

**UMKC Connect:** Important information is available to undergraduate students in UMKC Connect accessed through Blackboard. Throughout the term, students may receive emails regarding course grades or academic performance. Students are expected to address information posted in a timely fashion. This information may be shared with the student’s Success Network made up his or her academic advisor(s) and other campus resources so that UMKC may fully support the student’s success.

**College of Arts & Sciences Course Policies & Resources**
Please refer to the following web page and the linked resources for critical information regarding course policies and resources. You are expected to abide by all the rules and regulations regarding student conduct referenced in these pages. http://cas.umkc.edu/CPR/
<table>
<thead>
<tr>
<th>Week</th>
<th>Lab</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 16-20</td>
<td>Check-in</td>
<td></td>
</tr>
<tr>
<td>January 23-27</td>
<td>1. X₂ Addition to Alkenes: Bromination of trans-stilbene</td>
<td>January 30-February 3</td>
</tr>
<tr>
<td>January 30-February 3</td>
<td>2. Epoxidation of Cholesterol</td>
<td>February 6-10</td>
</tr>
<tr>
<td>February 6-10</td>
<td>3. Diels-Alder Reaction: Hexaphenylbenzene, Dimethyl tetraphenyl phthalate, 1,2,3,4-Tetraphenylnaphthalene</td>
<td>1. Extended write-up of all 4 experimental sections (including Triptycene is due February 27 - March 3. 2. Diels-Alder (full) paper with corrected experimental section is due March 20-24.</td>
</tr>
<tr>
<td>February 13-17</td>
<td>4. Diels-Alder Reaction: Triptycene</td>
<td></td>
</tr>
<tr>
<td>February 20-24</td>
<td>4. Diels-Alder Reaction: Triptycene</td>
<td></td>
</tr>
<tr>
<td>February 27-March 3</td>
<td>5. Acylation of Ferrocene</td>
<td>March 6-10</td>
</tr>
<tr>
<td>March 6-10</td>
<td>6. Alkylation of Biphenyl and Para-Dimethoxybenzene</td>
<td>March 13-17</td>
</tr>
<tr>
<td>March 13-17</td>
<td>7. Nitration of Methyl Benzoate</td>
<td>March 20-24</td>
</tr>
<tr>
<td>March 20-24</td>
<td>8. Wittig Reaction</td>
<td>April 3-7</td>
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<tr>
<td>March 27-31</td>
<td>No LABS! (Spring Break)</td>
<td></td>
</tr>
<tr>
<td>April 3-7</td>
<td>9. Aldol Condensation</td>
<td>April 10-14</td>
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<tr>
<td>April 10-14</td>
<td>10. Synthesis of Banana Oil</td>
<td>April 17-21</td>
</tr>
<tr>
<td>April 17-21</td>
<td>Check-out/Turn in Postlab 10</td>
<td></td>
</tr>
<tr>
<td>April 24-28</td>
<td>Come to lab to pick up Postlab 10</td>
<td></td>
</tr>
<tr>
<td><strong>April 28 (Friday)</strong></td>
<td><strong>CUMULATIVE LAB EXAM (LABS 1-10)</strong> <em>(6:00pm-7:00pm in Royall Hall 111)</em></td>
<td></td>
</tr>
</tbody>
</table>
CHEM 322L Laboratory Safety Regulations: Initial the items and sign the bottom.

Semester  _Spring 2017_ Section  _VO_ Room # ________________

TA Name ______________________   Station # ________________

1. I will prepare for lab by studying the experiment before class (including watching the prelab and instructional video that corresponds to each experiment) and by trying to anticipate potential hazards from the chemicals or procedures to be used.

2. I will wear approved safety goggles AT ALL TIMES in the laboratory unless the instructor gives specific approval to remove them.

3. I will not work in the lab unless an instructor or teaching assistant is present.

4. I will not perform any unauthorized experiments.

5. I will notify the instructor of any allergies or other health conditions (pregnancy, epilepsy, etc) that may affect my ability to work in a chemistry lab.

6. I will not eat, drink, chew gum, or smoke in the lab.

7. I will not use cellular phones, radios, headphones, or other electronic devices in the lab.

8. I will minimize my contact with chemicals by taking care to note odors, never tasting chemicals, using suction bulbs to fill pipettes, and washing any spilled chemicals off my person as soon as possible. I will wash my hands before leaving the lab.

9. I will not wear shorts, sandals (or open-toed shoes), tank tops, or other clothing in the lab that allows unnecessary exposure to spilled chemicals. I am also aware that certain chemicals can ruin clothing and that wearing a lab coat or apron adds some degree of protection.

10. I will secure long hair to keep it away from open flames and chemicals while I am working in the lab.

11. I will immediately report all cuts, burns, personal injuries, fires, chemical spills, or other accidents to the instructor or teaching assistant.

12. I will keep my work area and the common areas of the lab clean.

13. I will NOT return unused chemicals to their original bottles.

14. I will consult with the instructor or teaching assistant about the proper disposal of all waste chemicals.

15. I know the location, operation, and appropriate uses of the eye-wash stations, safety showers, fire extinguishers, fire alarms, and fume hoods; and I know the locations of all lab exits.

16. I agree to follow any specific or additional safety instructions that may be given for any experiments.

17. I will conduct myself in a professional and respectful manner. I will leave the lab after I complete my work.

I understand all of these statements and agree to observe them at all times in the lab. I also understand that if I fail to observe them, I will be expelled from the laboratory.

CHEM 322L Academic Honesty Statement

I will perform the work by myself and will answer any postlab questions independently; I will only report data values that I have measured myself during lab; and I will adhere to the UMKC Academic Conduct Standards for Students (http://www.umkc.edu/catalog/default/Page56715.html) and http://cas.umkc.edu/cpr/#honesty). It is my responsibility to understand the facets of academic honesty and to uphold them. If I am not sure, I will consult with the instructor.

Sign: ______________________   Date:  ______________________