CEM 162 Syllabus – Spring 2020

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Course Overview

This cooperative, project-based chemistry laboratory course provides opportunities for students to gain further experience with basic chemistry laboratory techniques, engage in scientific practices, learn important laboratory safety practices, and work as part of a team to accomplish a common goal building on experiences from CEM 161. Experimental techniques covered may include carrying out chemical reactions, performing titrations, and making measurements.

Students work in teams to plan and carry out their own multi-week experimental investigations in order to answer scientific questions, solve problems, and/or design solutions associated with project scenarios. Students analyze and interpret data and then engage in argumentation using experimental evidence to support their claims. Finally, students communicate their results in a variety of common scientific report formats (lab report, poster, oral presentation, etc.).

Catalog Description

Continuation of CEM 161 with additional emphasis on kinetics, thermochemistry, titration, and synthesis. (Credits: 1; Lab Hours: 3)

Prerequisites: CEM 161 or CEM185H or LB 171L

Projects

1. Artificial Kidney Stones
2. Hot and Cold: Investigating Energy Changes in Chemical Systems
3. Synthesis and Investigation of Soaps
4. Investigation of a Clock Reaction (Kinetics)

Course Learning Outcomes

Students will gain experience with the following activities that are central to the work of science, providing a foundation for future experimental work and scientific investigation:
1. Design, execution, and troubleshooting of an experimental procedure to investigate a scientific question, solve a problem, and/or design a solution.
2. Collection and analysis of experimental data.
3. Construction of explanations and/or arguments supported by data.
4. Communication of findings to peers through formal reports, posters, and/or oral presentations.
5. Collaboration with other students to reach a common goal.

Alignment with MSU’s Undergraduate Learning Goals

CEM 162 will support students’ development in four of the five areas that comprise MSU’s Undergraduate Learning Goals: Analytical Thinking, Effective Citizenship, Effective Communication, and Integrated Reasoning.

Instructional Staff & Office Hours

Course Coordinators

Prof. Rémi Beaulac (he, him, his)
Email: beaulac@msu.edu; office: 401 Chemistry; phone: 517-353-1070
Office Hours: Tu/Th, 3-4PM, or by appointment (send email to schedule an appointment)

Dr. Chris Minter (he, him, his)
Email: minterc1@chemistry.msu.edu; office: 185 Chemistry; phone: 517-353-1204
Office Hours: M/W, 3-4PM, or by appointment (send email to schedule an appointment)

(Note: When sending email, please use your MSU email account and include “CEM 162” in the subject line.)

Teaching Assistants

The team of teaching assistants (TAs) will serve as the laboratory instructors for this course. The names and contact information for your teaching assistant will be provided on D2L. You should write down your TA’s name and email address in your laboratory notebook on the first day of lab so that you know who to contact if you have questions outside of the laboratory period. Your TA’s role is not to tell you exactly what to do, but instead, they will be providing guidance and feedback as you and your team plan and carry out your experimental work. Sometimes they will even ask you questions in response to your questions.
In addition to the assistance provided by your instructor during your laboratory period or by Prof. Beaulac or Dr. Minter, you can arrange to meet with any of the teaching assistants for help outside of your scheduled laboratory period. The teaching assistants hold help hours in the Chemistry Help Room (81/83 Chemistry). The help room schedule will be posted on D2L.

Support Staff

Ms. Brianna Davis, General Chemistry Laboratory Manager
Email: davis@chemistry.msu.edu; office: 185 Chemistry; phone: 517-353-1136
Ms. Davis is responsible for laboratory operations. You will see her around the lab replenishing supplies, assisting with equipment, replacing full waste containers, and monitoring safety. Just like the teaching assistants, Ms. Davis has the authority to enforce safety rules. Failure to comply with her directions will result in you being asked to leave the lab.

Mr. Todd Burkhart, General Chemistry Program Coordinator
Email: burkha59@msu.edu; office: 185 Chemistry; phone: 517-353-1135
Mr. Burkhart can assist with enrollment-related issues.

CEM 162 Course Materials

Required
You must bring the following items to every laboratory meeting, including the first day:

- **Splash-Proof Safety Goggles** meeting the OSHA-ANSI Z87.1-2010 standard or later, which can be purchased at the local bookstores serving MSU.
  - Students may wear contact lenses in this course, provided they are also wearing proper splash-proof safety goggles.
  - Students who wear glasses should be sure to purchase goggles that fit over their glasses.
  - Splash-proof safety goggles with **indirect** venting are recommended to reduce fogging.
- **Notebook Computer** (Windows, MacOS, or Chromebook). You will use sensors and instruments from Vernier Software & Technology to collect data. This equipment will connect to your computer via a USB port and will be controlled by Vernier’s free Logger Pro® data acquisition and analysis software. During the first
laboratory period, we will help you download and install the Logger Pro®
software. (If your computer only has USB-C ports, you will need an adapter that
goes from USB-A to USB-C.)

- **Appropriate Attire**: Clothing that fully covers your shoulders, torso, legs, and
feet with no gaps. Complete information on what is permitted and what is not is
provided in the safety policies for CEM 162.

**Recommended**

- Scientific calculator
- Lab coat

**Instructor-Provided Course Materials**

- Project information, resources, and assignments will be provided on D2L
  ([https://d2l.msu.edu](https://d2l.msu.edu)). Assistance with D2L is available 24/7 through MSU
  Distance Learning Services (a.k.a. the Help Desk) at (517) 432-6200 or (844)
  678-6200.

**Distribution and Commercialization of Course Materials**

As members of a learning community, students are expected to respect the intellectual
property of course instructors. All course materials provided to students are the
copyrighted property of the course instructor. MSU prohibits students from distributing
online or commercializing University-provided class materials without the written
consent of the instructor. The instructor and Michigan State University retain copyright
to all materials provided in this course unless otherwise indicated. Any student violating
the conditions described above may face academic disciplinary sanctions.

**Grading**

This course consists of four (4) cooperative projects that you will plan and conduct as
a team with 2 or 3 other students. All of these projects will take multiple sessions to
complete. All projects will include several graded assignments. For some of these
assignments your team will submit a single assignment as a group, and every member
of the team will receive the same grade, except when a member of the team was
absent and did not contribute to preparing the planning document or giving a
presentation (poster or oral). Other assignments require each member of the team to

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1 Adapted from suggested syllabus language in the final report of the Ad Hoc Committee on Social
Media, Pedagogy, Academic Rights and Responsibilities, January 10, 2014 found at “Syllabus FAQ,”
Office of Ombudsman ([https://ombud.msu.edu/classroom-policies/syllabus-faq.html#question5](https://ombud.msu.edu/classroom-policies/syllabus-faq.html#question5)).
submit individual work. The assignments and corresponding points are shown in the table below. (An asterisk [*] denotes an individual assignment.)

| Completion of CATME Team-Maker survey and safety sheet before first lab period* | 10 |
| Google Doc from first day team-building activity prepared as a group | 10 |

<table>
<thead>
<tr>
<th>Projects</th>
<th>Kidney Stones (2 periods)</th>
<th>Hot &amp; Cold (2 periods)</th>
<th>Soaps (3 periods)</th>
<th>Kinetics (2 periods)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Documents</td>
<td>20</td>
<td>20</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Notebook &amp; Citizenship*</td>
<td>30</td>
<td>30</td>
<td>45</td>
<td>30</td>
</tr>
<tr>
<td>Informal Project Report</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Formal Report Introduction*</td>
<td>-</td>
<td>10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Formal Report Experimental &amp; Results*</td>
<td>-</td>
<td>20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Formal Report Discussion &amp; Conclusion*</td>
<td>-</td>
<td>20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Final Formal Lab Report*</td>
<td>-</td>
<td>100</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Oral Presentation</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Poster Presentation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>25</td>
</tr>
<tr>
<td>Peer Evaluation*</td>
<td>10</td>
<td>10</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total Points Per Project:</strong></td>
<td><strong>70</strong></td>
<td><strong>210</strong></td>
<td><strong>120</strong></td>
<td><strong>85</strong></td>
</tr>
</tbody>
</table>

Throughout the semester, you will be able to view your grades in the D2L Gradebook as they are entered by your instructor. Select “Grades” on the Assessments drop-down menu to see your grades for each assignment and your current total score.

The maximum points possible for the course is 490, after dropping your one (1) lowest Notebook & Citizenship score; 73% of your grade is determined by individual work and 27% is determined by the work of your team. Final grades submitted to the Registrar will be based on the following scale:

<table>
<thead>
<tr>
<th>Total Points</th>
<th>294</th>
<th>318</th>
<th>343</th>
<th>367</th>
<th>392</th>
<th>416</th>
<th>441</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
</tr>
<tr>
<td>Grade</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
<td>2.5</td>
<td>3.0</td>
<td>3.5</td>
<td>4.0</td>
</tr>
</tbody>
</table>

In order to ensure equality of grading across the different course instructors, the grades for which your instructor is responsible will be normalized so that the mean for
Each instructor is the same. The normalization process is done at the very end of the semester and will be reflected in the final grade.

Course Policies

Safety

Although we make every effort to minimize risk in the lab, potential hazards still exist. It is important that everyone follows laboratory safety rules to protect themselves and those around them. Failure to adhere to safety policies and/or to comply with instructions from any member of the instructional staff, including teaching assistants, is grounds for being asked to leave the laboratory. Any student who is asked to leave the laboratory for a safety violation will receive a zero for all work during the laboratory period.

Students who come to lab impaired by alcohol, marijuana, or other drugs put themselves and those around them at risk. General Student Regulations\(^\text{2}\) state that no student shall: 2.01 cause or threaten physical harm to another or endanger the physical safety of another; 2.11 possess or use any drug prohibited by federal or state laws; or 2.13 possess or use any alcoholic beverages, except as permitted by state law, University policy, and University ordinance. A complaint will be filed with the Dean of Students if an incident occurs, and disciplinary action may result.

Pregnancy and Other Health Conditions Impacting Safe Participation

If you have a health condition that may affect your ability to safely participate in laboratory work, please let the course instructor know immediately. This includes, but is not limited to pregnancy and certain allergies or extreme sensitivities. It is especially important that you notify the instructor if you are pregnant or think that you may be pregnant so that arrangements can be made to safeguard your health and that of the fetus.

Proper Attire

Students are required to wear lab-appropriate attire to be permitted in the laboratory:

- **Tops: Shoulders, midriffs, and backs must be fully covered.** Prohibited items include, but are not limited to, muscle tanks or other sleeveless tops, crop tops, backless shirts, and tops with mesh or other holey fabrics.

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\(^2\)“General Student Regulations,” Spartan Life Student Handbook (http://splife.studentlife.msu.edu/regulations/general-student-regulations)
- **Bottoms: Legs, including ankles, must be fully covered.** If your pants are not quite long enough to cover your ankles, you must wear socks that are long enough to cover the exposed skin. Prohibited items include, but are not limited to, shorts, cropped pants (e.g., capris), jeans with holes, and sheer tights.

- **Shoes: Feet, including toes, must be fully covered.** If shoes do not completely cover the feet, socks must be worn. Prohibited items include, but are not limited to, sandals, flip-flops, and other shoes that are not well-secured to the foot.

**Goggles**

Students are required to protect their eyes with **splash-proof safety goggles (OSHA-ANSI Z87.1-2010 standard or later)** at all times in the laboratory, unless told otherwise by a laboratory instructor. “At all times” includes periods when you personally are not experimenting; others may be conducting experiments, which still presents a hazard to others in the room. If you need to take off your goggles to adjust them or because they have fogged up, you should step outside the laboratory room to do so.

**Gloves (Optional)**

Nitrile gloves are available in the laboratory in various sizes. You should wear the glove size that best fits your hands—too small, and the gloves are prone to tearing (leaving parts of your hand unprotected); too large, and you lose a great deal of dexterity (making it difficult to do fine tasks). If your size is not available, you can replenish the supply by taking the empty box to the stockroom. If there is no empty box corresponding to the size that you need, please alert your TA.

Wearing gloves at all times is not mandatory. However, for some experiments, such as those involving dyes or acids and bases, you are encouraged to wear them when working with these substances.

In order to avoid contaminating door handles or other surfaces, do not wear gloves outside the lab. If you must go into the hallway while handling something that requires a gloved hand, keep one hand ungloved, and use that hand to open doors.

**Lab Coat (Optional)**

MSU does not currently require students to wear lab coats in the teaching laboratories. However, if you wish to purchase one, here are some things to keep in mind:
From MIT’s Guidance on Lab Coat Selection, Use, and Care:

- Be sure that your lab coat fits properly. They come in multiple sizes.
- Snap-front closures are preferred for easy removal in the event of significant contamination.
- Gathered sleeve cuffs are recommended to minimize wrist exposure and sample contamination.
- Lab coats should only be worn inside the lab.

Emergencies

General\(^3\)

If an emergency arises in this laboratory, building or vicinity, your instructor will inform you of actions to follow to enhance your safety. As a student in this class, you are responsible for understanding the evacuation, “shelter-in-place,” and “secure-in-place” guidelines posted in each facility and to act in a safe manner. This includes knowing the location of the nearest emergency evacuation route or shelter. These directions appear on the maps posted on the walls throughout this building. If police or university officials order us to evacuate the classroom or building, follow the posted emergency route in an orderly manner and assist those who might need help in reaching a barrier-free exit or shelter. To receive emergency messages, set your cellular phones on silent mode when you enter this laboratory. If you observe or receive an emergency alert, immediately and calmly inform your instructor. (See also [www.alert.msu.edu](http://www.alert.msu.edu).)

Chemistry Building Fire Alarm

The most common emergency situation that may arise during your laboratory session is a Chemistry Building fire alarm. If the fire alarm sounds, stop whatever you are doing and make sure that you leave any experimental work in a safe condition (e.g., turn off hot plates and water). Follow the instructions provided by your laboratory instructor for a prompt and orderly evacuation of the building. Please help anyone who may need additional assistance to leave the building. After exiting the Chemistry Building, you must move away from the building and [gather with your laboratory instructor across the street on the north side of Shaw Lane](https://ombud.msu.edu/classroom-policies/syllabus-faq.html#question6). Wait for further instructions from your

\(^3\) Adapted from “Syllabus FAQ,” Office of Ombudsman ([https://ombud.msu.edu/classroom-policies/syllabus-faq.html#question6](https://ombud.msu.edu/classroom-policies/syllabus-faq.html#question6)) and “Handling Emergency Situations,” Captain Penny Fischer, MSU Department of Police and Public Safety ([https://acadgov.msu.edu/sites/default/files/content/Accessible/REVISEDHandlingEmergencySituationsFacultySyllabusInsertMaterialsMar2014.pdf](https://acadgov.msu.edu/sites/default/files/content/Accessible/REVISEDHandlingEmergencySituationsFacultySyllabusInsertMaterialsMar2014.pdf)).
laboratory instructor. **Do not leave the area.** You may return to the Chemistry Building only after the responders from the Fire Department indicate that it is safe to return.

**Absence and Late Policy**

**Attendance is required for every lab.** You will be working as a team with 2 or 3 of your fellow classmates. The other members of your team will depend on you attending and contributing to each and every lab. Arriving 5 - 15 minutes late will result in the loss of your lab citizenship points (5 points) for the day. **Being more than 15 minutes late will be considered an absence.** It will not be possible to make up missed labs because of the nature of laboratory work and the associated safety requirements. **Four (4) or more absences will automatically result in a grade of 0.0 for the semester.**

An absence, for any reason, will result in a score of zero (0) for that session’s Notebook & Citizenship grade. At the end of the semester, the one (1) lowest grade in the Notebook & Citizenship category will be dropped for all students. If you are absent two (2) or more times, the additional scores of zero (0) beyond the first will count toward your final grade. While your lowest score from the Notebook & Citizenship grade category will be dropped, you should not miss lab unless it is absolutely necessary. Emergencies and illnesses come up unexpectedly; you want to have the option of dropping your lowest Notebook & Citizenship score available for such situations.

Excessive absences, particularly consecutive absences, may also affect your grade on group assignments. **For example, if you are absent for a planning period for a project, you may receive a different score than the rest of your team on the Planning Documents because you did not contribute to this critical part of the project.** For two of the projects, you and the other members of your team will present the results of your experimental work and analysis to the rest of your class by giving a poster or oral presentation. The Poster Presentation and Oral Presentation assignments each consist of two equally important components, preparation and presentation. This is a team presentation in which each member will receive a team grade and an individual grade. **Failure to attend the laboratory period in which a poster or oral presentation is given will result in a grade corresponding to 50% of the score earned by your group and a 0 for your individual grade.**

**Athletes, Military Personnel, or Individuals Observing Religious Holidays**

If any of the scenarios listed below apply to you, you must contact Ms. Brianna Davis, the General Chemistry Laboratory Manager, (Office: Room 185 Chemistry; email:
davis@chemistry.msu.edu) before the end of the first week of lab in order to move to a lab section that minimizes scheduling conflicts, space permitting.

- You are a member of a university athletic team and will be traveling during one (1) or more lab periods.
- You will have military duty that conflicts with one (1) or more lab periods.
- You will observe religious holidays that conflict with one (1) or more lab periods.

Planned Absences

For planned absences (e.g., religious holiday, university-related trip), please inform your TA and team members as far in advance as possible. This will allow your team to write the Planning Document for the lab session knowing that they will be short one person when carrying out experiments. You and your team can also decide on your responsibilities for contributing to the Planning Document for the next session.

Grief Absences

MSU’s Policy on Grief Absence states, “The faculty and staff should be sensitive to and accommodate the bereavement process of a student who has lost a family member or who is experiencing emotional distress from a similar tragedy so that the student is not academically disadvantaged in their classes or other academic work.” The responsibilities of the student in requesting a grief absence before leaving campus and providing documentation can be found in the complete Grief Absence Policy statement at http://splife.studentlife.msu.edu/regulations/selected/grief-absence-policy. The Grief Absence Request Form is provided on the Registrar’s Office website (https://reg.msu.edu) and can be accessed from the Student Resources drop-down menu under Forms. It is the student’s responsibility to promptly contact the instructor directly to work out a plan for completing missed work.

Safety requirements will prevent students who take a grief absence from making up missed laboratory work and the associated assignments. An absence, for any reason, will result in a score of zero (0) for that session’s Notebook & Citizenship grade. At the end of the semester, the one (1) lowest grade in the Notebook & Citizenship category will be dropped for all students. If you are absent from a laboratory session due to a grief absence, it is your responsibility to coordinate with your team to contribute to the Planning Document(s) in your absence in order to receive credit. Please note that four (4) or more absences, which corresponds to roughly ¼ or more of the laboratory sessions, will automatically result in a grade of 0.0 for the semester.

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Absences and Missed Assignments

- **Group Assignments:**
  - It is your responsibility to collaborate with your team members on any group-related work that you miss, including planning. In your absence, it is likely that you have been assigned work for the next laboratory session in the Planning Document that you will need to be familiar with. You are responsible for being prepared to do this work during the next laboratory period.

- **Individual Assignments:**
  - In-lab components (Notebook & Citizenship) will receive a score of zero (0) if you miss lab. The lowest one (1) grade in the Notebook & Citizenship category will be dropped at the end of the semester before calculating the semester grade.
  - **You are still responsible for submitting all other individual work that is due on that date, such as Peer/Self Evaluations for a project.**
  - **Formal Lab Reports are also still due by the specified due date,** unless a separate extension has been granted by the course coordinator. However, extensions are rare because you have multiple weeks to work on the report while conducting the project.

**Late Work**

In general, there is no excuse for late work. Any late work will be penalized by 15% of the total possible score per day late (e.g., an assignment due on Tuesday that is submitted at 12:01 am on Wednesday counts as one day late). Late work that is not submitted before your next lab period will not be accepted. No work will be accepted after your final lab session of the semester.

All due dates are listed on the calendar provided with the syllabus. In-lab assignments (Planning Documents and Notebook pages containing data and notes) are due at the end of the class period. **You must have your TA review and conditionally approve your Planning Document before you may turn in your Notebook pages for credit.**

Conditional approval indicates that your team has received feedback on the Planning Document from your TA and that your team is generally on the right track in your planning, although revisions may be necessary. Conditionally approved Planning Documents may require further work in order to receive full credit.
Laboratory Etiquette

- Please arrive to lab on time and prepared to work. This includes bringing your laboratory notebook, having safety goggles, and being properly attired. The rest of your team is counting on you to contribute and complete your assigned experimental tasks.
- Set your cell phone to silent, and put it away during lab. Eliminate this distraction to completing your laboratory work carefully and efficiently. Research has shown that “multitasking” diminishes effectiveness on all tasks.
- Put away headphones and earbuds. They are not permitted in the laboratory.
- Please be courteous and respectful of the opinions and contributions of others. “MSU welcomes a full spectrum of experiences, viewpoints, and intellectual approaches because they enrich the conversation, even as they challenge us to think differently and grow. However, we believe that expressions and actions that demean individuals or groups compromise the environment for intellectual growth and undermine the social fabric on which the community is based.”[^5]
- Actively participate in discussions with your group. The rest of your group wants to hear what you have to say.
- Keep your work area neat throughout the laboratory period. Clean up any spills immediately to reduce the risks of accidental exposure to spilled chemicals for yourself and others and possible damage to computers and other equipment. For large spills or any other spill you are unsure how to handle, please consult with your TA.
- Return any equipment checked out from the stockroom when your team has finished using it.
- Put away all of your team’s glassware and equipment in your shared drawer before leaving lab. Remember that your team is responsible for this equipment and will be charged for anything that is missing at the end of the semester.
- Check your work area to make sure that it is clean before leaving lab for the day. You have not completed your laboratory work for the day and you will lose Citizenship points if you leave a mess.

Academic Integrity

By enrolling as a student at Michigan State University, you have joined an academic community built on trust and mutual respect. As stated in the Spartan Life Student Handbook, “The student shares with the faculty the responsibility for maintaining the

integrity of scholarship, grades, and professional standards.” As such, each time that you submit work for a grade you are attesting that this work is your work and that it has been prepared following the guidelines provided for the assignment. Further, if you observe an act of academic dishonesty, you are obligated to report it to the instructor. In any work that involves collaboration, you are expected to make a good-faith effort to contribute.

You are expected to develop original work for this course; therefore, you may not submit work completed for another course to satisfy the requirements for this course. You are not authorized to use the www.allmsu.com website (or any other similar website) to complete any work in this course. The Department of Chemistry adheres to MSU Policies, Regulations and Ordinances Regarding Academic Honesty and Integrity (https://www.msu.edu/~ombud/academic-integrity/index.html). In this course, any student who cheats by copying the work of others or using unauthorized materials will receive a penalty grade of 0. Contact your instructor if you are unsure about the appropriateness of your course work.

An Academic Dishonesty Report will be filed as required by MSU policy any time that a penalty grade is given. A student’s academic dean will receive this report, and it will be added to the student’s academic record. If a student feels that they have been unjustly accused of academic dishonesty, they should first meet with their instructor to resolve the dispute. If dissatisfied with the outcome of this meeting, the student can meet with the Chair of the Department of Chemistry. Finally, a student can contest an allegation of academic dishonesty and penalty grade by filing a grievance with the University Academic Integrity Hearing Board after meeting with their instructor and the Chemistry Department Chair.

In Spring 2016, the Associated Students of MSU (ASMSU) adopted The Spartan Code of Honor (http://splife.studentlife.msu.edu/spartan-code-of-honor-academic-pledge):

As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor in ownership is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.

The Spartan Code of Honor has been endorsed by Academic Governance, the Provost, President, and Board of Trustees. You are encouraged to take the pledge at http://splife.studentlife.msu.edu/spartan-code-of-honor-academic-pledge.

Plagiarism and Turnitin

What is plagiarism? Examples include, but may not be limited to, direct copying of someone else's work, published or unpublished, and representing it as your own; sentence-by-sentence paraphrasing of someone else's work; and/or changing words here and there in material from another source. If you use a reference or another source, you should cite it and convey the ideas that you are using from the reference in your own words. **In short, make sure that all ideas in your work for this course are expressed in your own words.** It is only when you are able to express scientific ideas using your own words that you truly understand what you are writing about. In addition, figures (diagrams, graphs, etc.) and tables submitted for an individual grade must **be your own work.** Make it clear which ideas are your own and which came from other sources. Whether accidental, blatant, or self plagiarism, the same standards and penalties apply. Additional information about plagiarism and MSU’s policies on plagiarism can be found on the website of the Office of the Ombudsman (https://ombud.msu.edu/academic-integrity/plagiarism-policy.html).

Anything submitted for an individual grade, even though such assignments will be based on your team’s experimental work, must be your own work and not copied from your fellow team members. Do not share your work on the Formal Report assignments with other students or ask other students to see their work on Formal Report assignments because both constitute academic misconduct for these assignments.

Turnitin

Consistent with MSU's efforts to enhance student learning, foster honesty, and maintain integrity in our academic processes, we have chosen to use a tool called Turnitin to compare your papers with multiple sources. The tool will compare each paper you submit to an extensive database of prior publications and papers, providing links to possible matches and a “similarity score.” The tool does not determine whether plagiarism has occurred or not. Instead, we will make a complete assessment and judge the originality of your work. All submissions to this course may be checked using this tool.

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7 Adapted from “Syllabus FAQ,” Office of Ombudsman (https://ombud.msu.edu/academic-integrity/faculty-faq.html#question4).
You should submit papers to Turnitin Dropboxes without identifying information included in the paper (e.g., name or student number). The D2L system will automatically show this information to us when we view the submission, but the information will not be retained by Turnitin. If you forget and submit your paper with your identifying information on it, your identifying information will be retained in the Turnitin repository. Your submissions will be retained in the Global Turnitin repository.

In choosing to use Turnitin in this class, we have agreed to follow five guidelines:

1. We will use Turnitin as part of a balanced approach to encourage academic integrity and foster student success.
2. We will openly disclose use of Turnitin in this course on the syllabus and at the time assignments are announced.
3. For a given assignment, we will use Turnitin for all papers.
4. We will make the final determination of originality and integrity.
5. To ensure privacy, we will ask students to remove identification (e.g., names and student numbers) from submissions.

If you have any questions about the use of Turnitin in this course, please bring them to our attention.

Changing Sections or Dropping the Class
If you change sections, you must check out of your original lab section and check in to your new section. Make sure to email Prof. Beaulac or Dr. Minter as soon as possible so that you can be assigned to a new team and your lab section can be updated in D2L.

If you drop or withdraw from the class and you are the last remaining student assigned to that drawer, you must check out of your drawer or you will be charged for the check out ($25 plus the cost of any lost or damaged equipment).

Accommodations for Students with Disabilities
Michigan State University is committed to providing equal opportunity for participation in all programs, services, and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities by phone at 517-884-RCPD or through the web at https://www.rcpd.msu.edu. Once eligibility for an accommodation has been determined,

8 Adapted from “Faculty and Departmental Resources: Model Statements for Disability Inclusion,” Resource Center for Persons with Disabilities (https://www.rcpd.msu.edu/awareness).
a verified individual services accommodation ("VISA") form will be issued. This form should be presented to Prof. Beaulac or Dr. Minter at the start of the semester and/or at least two weeks prior to the accommodation date (e.g., start of a project). Requests received after this date will be honored whenever possible. Prof. Beaulac and Dr. Minter may request that you schedule an appointment to discuss meeting your accommodations. Web-accessible course materials will be provided upon request.

Relationship Violence & Sexual Misconduct Policy and Mandatory Reporting

Michigan State University is committed to fostering a culture of caring and respect that is free of relationship violence and sexual misconduct, and to ensuring that all affected individuals have access to services. For information on reporting options, confidential advocacy and support resources, university policies and procedures, or how to make a difference on campus, visit the Title IX website at [titleix.msu.edu](http://titleix.msu.edu).

Limits to confidentiality. Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, may not be able to maintain confidentiality when it conflicts with their responsibility to report certain issues to protect the health and safety of MSU community members and others. As instructors, we must report the following information to other University offices (including the Department of Police and Public Safety) if you share it with us:

- Suspected child abuse/neglect, even if this maltreatment happened when you were a child;
- Allegations of sexual assault, relationship violence, stalking, or sexual harassment; and
- Credible threats of harm to oneself or to others.

These reports may trigger contact from a campus official who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like to talk about these events in a more confidential setting, you are encouraged to make an appointment with the MSU Counseling and Psychiatric Services ([https://caps.msu.edu](https://caps.msu.edu)).

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9 Syllabus statement from “Information for Mandatory Reporters,” Office of Institutional Equity ([https://oie.msu.edu/resources/mandatory-reporters.html](https://oie.msu.edu/resources/mandatory-reporters.html)).