

**MCB195C:**  
**Introduction to Research in Molecular and Cellular Biology**  
**Wednesdays 10:00-10:50 am, in LSS room 440**

**Description of Course**

This is a graded 1-unit course designed for freshman Molecular and Cellular Biology (MCB) majors to introduce students to MCB and prepare them for engaging in biological research.

**Course Prerequisites or Co-requisites**

N/A

**Instructor and Contact Information**

Dr. Pascale Charest, LSS431, 520-626-2916, pcharest@email.arizona.edu

Office Hours: By appointment

Course materials and grades will be accessible through the D2L course site, after logging in using your NetID.

**Course Format and Teaching Methods**

The course is a combination of lectures, videos, in-class exercises, group discussions and homework.

**Course Objectives**

This course is designed to introduce MCB majors to experimental biology in preparation for lab research. Through in-class exercises, the students are involved in the planning and results analysis of an ongoing research project, for which the experiments are actually performed by one graduate student in the Department. Small group discussion formats are used to increase student-student interactions and encourage scientific discussions. Students will practice searching the literature, analyzing data, formulating hypotheses, and writing concise and descriptive scientific prose as well as making a scientific poster.

**Expected Learning Outcomes**

Students will be able to search the literature through commonly used internet search engines, read scientific articles, formulate a research hypothesis, and analyze experimental data. Students will also gain experience in communicating their scientific ideas through discussions and in writing, in a scientific poster or research report.

**Absence and Class Participation Policy**

Participating in the course and attending lectures and other course events are vital to the learning process. As such, attendance is required at all lectures and discussion section meetings. Absences may affect a student's final course grade. If you anticipate being absent, are unexpectedly absent, or are unable to participate in class online activities, please contact the instructor as soon as possible.

All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean's designee) will be honored. ***Apart from those, attendance is required.*** One undocumented absence will be tolerated without penalty, every other undocumented absence will result in one point be taken off the participation grade (see "Grading Scales and Policies" section). If a student misses more than 4 classes, s/he will receive a grade of *incomplete*.

*To request a disability-related accommodation to this attendance policy, please contact the Disability Resource Center at (520) 621-3268 or [drc-info@email.arizona.edu](mailto:drc-info@email.arizona.edu).* If you are experiencing unexpected barriers to your success in your courses, the Dean of Students Office is a central support resource for all students and may be helpful. The Dean of Students Office is located in the Robert L. Nugent Building, room 100, or call 520-621-7057.

The UA's policy concerning Class Attendance, Participation, and Administrative Drops is available at: <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, <http://policy.arizona.edu/human-resources/religious-accommodation-policy>.

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: <https://deanofstudents.arizona.edu/absences>

## **Makeup Policy for Students Who Register Late**

If you register late, you can make up missed assignments according to a schedule that will be set with the instructor, and send them to the instructor by email since the box to submit the assignments on D2L may have closed.

## **Course Communications**

The instructor will communicate with you using through the D2L emailing system or using their official UA email address ([pcharest@email.arizona.edu](mailto:pcharest@email.arizona.edu)).

## **Required Texts or Readings**

Students will be required to read assigned scientific literature, which will be accessible online.

## **Required or Special Materials**

A small lab notebook, and laptop computer or tablet are required.

## **Required Extracurricular Activities**

N/A

## **Assignments and Examinations: Schedule/Due Dates**

There are a total of 8 small assignments during the semester (5 are simple tutorials), one evaluation of notebooks, and one final project. There are no exams. The dates of the assignments and evaluation can be found in the tentative schedule provided below.

Assignments turned in late will be subjected to point penalties, and will not be accepted later than 48h after the set deadline.

## Final Examination or Project

The final project consists of a research report, either in the form of a research poster or paper. The final project is due one week after the last class meeting, on Dec 18, at 5 pm on D2L.

## Grading Scale and Policies

One point will be given for each tutorial turned in time. Three homework assignments will be scored 1 to 3, with 3 signifying "excellent", 2 "good," 1 "acceptable". Assignment that is not turned in or turned in blank, or that is *copied directly from another student* will receive a score of 0. **Effort and participation is worth a lot more points than accuracy for this type of work.** Half points may be given if appropriate. Assignments are turned in on D2L by the indicated due date. The boxes will not close, but will keep track of assignments turned in late.

The end of semester project will consist of a research report, in the form of a poster or paper (students choose), and will be graded on a 1 to 10 scale according to a grading scheme that will be provided to the students ahead of time.

In addition, 3 points will be given for lab notebook keeping and, because student participation in class is an important aspect of this course, 4 points will also be given for attendance. Finally, a **bonus point** will be given to students that fill a course evaluation. Therefore, without the bonus point, the maximum total points is 32 and the final grade will be determined according to the following:

Grade	Total Points	Percentage
S	27-32	≥85
P	19-26	60-84
F	0-18	≤59
I	More than 4 unjustified absences	

**Requests for incomplete (I) or withdrawal (W)** must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

## Honors Credit

Students wishing to contract this course for Honors Credit should email me to set up an appointment to discuss the terms of the contract. Information on Honors Contracts can be found at <https://www.honors.arizona.edu/honors-contracts>.

## Scheduled Topics/Activities

Week	Date	Class Activity
1	Jan 15	Intro to course
2	Jan 22	Lab notebook and literature search I <b>In-class exercise &amp; assignment due Jan 23, 10 pm</b>
3	Jan 29	Literature search II <b>In-class exercise &amp; assignment due by 10 pm</b>

4	<i>Feb 5</i>	Background information <b>Assigned reading</b>
5	<i>Feb 12</i>	Formulating a hypothesis <b>Assignment due Feb 19, 10 am</b>
6	<i>Feb 19</i>	The research project
7	<i>Feb 26</i>	Experiment #1 <b>Assignment due Mar 4, 10 am</b>
8	<i>Mar 4</i>	Experiment #1 discussion <b>Notebook check</b>
9	<i>Mar 11</i>	<b>SPRING BREAK</b>
10	<i>Mar 18</i>	Experiment #2 <b>In-class discussion</b>
11	<i>Mar 25</i>	Experiment #3 <b>Assignment due Apr 1, 10 am</b>
12	<i>Apr 1</i>	Plagiarism <b>In-class discussion</b>
13	<i>Apr 8</i>	Citations and references <b>In-class exercise</b>
14	<i>Apr 15</i>	How to write a research report
15	<i>Apr 22</i>	How to make a scientific research poster
16	<i>Apr 29</i>	How to find and apply for research positions
17	<i>May 6</i>	<b>NO CLASS</b>
<b>FINALS WEEK</b>	<b>May 13</b>	<b>FINAL PROJECT DUE AT 5 PM ON D2L</b>

## Classroom Behavior Policy

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

Students are asked to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

## Threatening Behavior Policy

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See

<http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>.

## **Accessibility and Accommodations**

At the University of Arizona, we strive to make learning experiences as accessible as possible. If you anticipate or experience barriers based on disability or pregnancy, please contact the Disability Resource Center (520-621-3268, <https://drc.arizona.edu/>) to establish reasonable accommodations.

## **Code of Academic Integrity**

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: <http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

The University Libraries have some excellent tips for avoiding plagiarism, available at <http://new.library.arizona.edu/research/citing/plagiarism>.

*Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent.* Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

## **UA Nondiscrimination and Anti-harassment Policy**

The University is committed to creating and maintaining an environment free of discrimination; see <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

## **Additional Resources for Students**

UA Academic policies and procedures are available at <http://catalog.arizona.edu/policies>  
Student Assistance and Advocacy information is available at <http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

## **Confidentiality of Student Records**

<http://www.registrar.arizona.edu/personal-information/family-educational-rights-and-privacy-act-1974-ferpa?topic=ferpa>

## **Subject to Change Statement**

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.