Integrated Science 260: Entering Research

Course Description

This 1-credit course is designed for undergraduates who are concurrently engaged in a research experience on campus. Students must have a confirmed faculty research mentor. Although students do not need to have started their research experience at the beginning of this course, they should be actively engaged in research on campus during this course, where they will develop their skills in science communication, critical thinking, ability to design a research project, as well as their confidence and independence as a researcher.

Course objectives are designed to be met via assignments, in-class activities, and discussions.

As a result of taking this eight-week course, students will:

- Explore the roles, responsibilities, and relationships that make for a successful research experience
- Define an independent research project with your mentor
- Create a poster presentation to communicate research project findings
- Develop your science communication skills through reading, writing, and presenting research
- Engage in a community of undergraduate researchers at UW–Madison
- Discuss importance of equity and inclusion in research contexts

Course Structure and Expectations

We will meet in-person for two hours every Tuesday morning for eight weeks from June 18-August 6. It is expected that students will complete course assignments and activities in that time. Instructors will facilitate discussions during the class meetings and provide feedback on student work both in and outside of class meetings.

Attendance

Attendance is required at all class meetings. To be excused from class, you must contact us _BEFORE_ the missed class with an acceptable reason. This is subject to the instructors' discretion, but acceptable reasons include personal illnesses, religious holidays, emergencies, or personal matters that require your presence. Unexcused absences will affect your grade. In the case of excused absences, you will be responsible for completing course materials and turning them in on time.

Contact Us!

We will be using Canvas and email as the main modes of communication outside of class. To communicate with the instructors outside of class times, please email both of us with

any questions you have. We are also happy to set-up a meeting with you outside of class time.

We have also created a Question & Answer Discussion Board within Canvas. This discussion board is meant for posting general questions regarding the course or summer research experiences. The instructors will check this regularly and respond to any questions or concerns. Students can respond to each other's posts as well. This is meant to be a safe space for everyone, please be respectful and supportive when posting and responding!

Assignments and Grading

All course content and assignments are posted on Canvas. We recommend you access the course materials using a desktop computer, laptop computer, or tablet. Should you need to access Canvas with your phone, there is mobile app that you can download. If you are unable to access the materials, please let us know. All due dates are listed for assignments on Canvas. Assignments will be due at the end of the day (11:59pm CT) before the class session in which we will discuss it, and is often part of class discussion.

Grading

Grading scale: A = 90-100%, A/B= 87-89%, B= 80-86%, B/C=77-79%, C= 70-76%, D= 60-69%, F= >69%

Assignments 30% Readings & Reflections

Most weeks there will be readings, videos, reflections, discussions, and/or worksheets to complete for class. See the course schedule below and Canvas modules for more details.

40% Research Assignments

The goal of a poster presentation is to introduce a research topic, identify the knowledge gap(s), articulate a research question along with proposed experiments to address this gap, and relay the relevance and significance of the project to convince fellow researchers that your research is worth funding. In writing a mini-proposal, you will develop your written scientific communication skills and engage in the process of giving and receiving feedback.

30% Attendance & Class Participation

Participation grade will consist of attendance, contributions to class discussions and engagement in group work during synchronous online class sessions. The level of engagement in class, listening skills, behavior, and preparation will contribute to the participation grade. Refer to the rubric below for more details.

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We aim to create an environment where all students feel comfortable learning.

All are welcome, regardless of age, race, gender, background, political affiliation, sexual orientation, or any other identity. All students' ideas have value and should be received respectfully. If at any point you feel you are not being respected in Entering Research, please contact the instructors or program director, Jose Madera

(*jose.j.madera@wisc.edu*)

Student Resources

We care about you as a human first and acknowledge that we learn as a whole person. It can be challenging to do your best in class if you have trouble meeting basic needs life safe shelter, sleep, and nutrition. If you have trouble with any of these things, we urge you to contact the [Dean of Students Office](#). Furthermore, please notify the instructor if you are comfortable in doing so, we are here to help and make sure those needs are met. We have created a collection of resources to support your success and your well-being, including links to other university services such as University Health Services and Undergraduate Academic Advising and Career Services. We will continue to add resources to this collection throughout the semester, such as supplemental readings and podcasts related to course topics and tools and tips for academic success. We welcome everyone to reach out and suggest resources to add at any time.

Accessibility

The University of Wisconsin–Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW–Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform the instructors of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. We will work either directly with you or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA. (See: [McBurney Disability Resource Center)](#)

Diversity & Inclusion

[Diversity](#) is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals. The University of Wisconsin–Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.

Hate and Bias Incidents

We value each member of our community. Hate and bias incidents distract from our classroom community and negatively affect your and your classmates' ability to learn, feel welcome, and feel safe. Hate and bias incidents will not be tolerated in this classroom.

Please intervene in incidents of hate and bias when you can, and report incidents to us—if you feel comfortable—and/or to the UW-Madison hate and bias reporting system: students.wisc.edu/reporthate. We and the University are dedicated to addressing reports of hate and/or bias seriously, promptly, confidentially, and sensitively. Reports can include, but are not limited to, crimes such as vandalism or physical assault; non-academic misconduct such as online or verbal harassment or disruptive behavior; and/or microaggressions such as derogatory or demeaning speech from another student, TA, or faculty/staff member. A Hate and Bias Incident Team member will respond to your report and provide you with options meet your needs. You can also report anonymously. For more information, support, and resources regarding addressing hate and bias on campus, please visit https://osas.wisc.edu/report-an-issue/bias-or-hate-reporting/.

Students' Rights & Responsibilities

We must prioritize our collective health and safety to keep ourselves, our campus, and our community safe. As a university community, we must work together to promote the collective health and welfare of our campus and surrounding community. Please do not come to class if you are sick. Students are strongly encouraged to communicate with us concerning illnesses. The instructors will work with you to provide alternative ways to complete the course work.

Academic Integrity

By virtue of enrollment, each student agrees to uphold the high academic standards of the University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the integrity of the institution. Cheating, fabrication, plagiarism, use of Artificial Intelligence (ChatGPT, e.g.) unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary action include, but is not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.

Course Schedule

The course schedule is subject to change. The instructor will notify all students and upload the updated version to Canvas for access.

Date	Topic	Assignments Due
Week 1 **June 18**	Introduction to Entering Research Research Experience Expectations Talking with Your Mentor(s) Primary Literature Search	• LASER Biographies Google Slide • Summer Research Reflection (5 pts)

Date	Topic	Assignments Due
Week 2 **June 25**	Background Information Research Question Elevator Sentences Research Title	• Watch: Online Research – Tips for Effective Search Strategies • Watch: Creating an Effective Search Strategy • Primary literature article related to LASER project • Reflection on Research (5 pts)
Week 3 **July 2**	Communicating Results (Background & Methods) Storytelling in Science Dean Eric Wilcots visiting class at 11:30am	• Read: Scientific Writing Made Easy – A Step-by-Step Guide to Undergraduate Writing in Biological Sciences • Scientific Writing Made Easy (10 pts) • Reflection on Communication (5 pts)

Week 4 July 9	Fostering Your Own Self-Efficacy Develop Poster Presentation (Methods)	- Read Self-Efficacy – Why Believing in Yourself Matters - Read Fostering Your Own Research Self-Efficacy Handout - Reflection on Self-Efficacy (5 pts)
Week 5 July 16	Challenges Facing Diverse Teams Research Ethics	- Read Overview of Stereotype Threat, Implicit Bias, & Imposter Syndrome - Poster Draft #1: Background and Methods (10 pts) - Reflection on Identities (5 pts)
Week 6 July 23	Research Career Panel Communicating Results (Results)	- Prepare: Questions for Panelists - Poster Draft #2: Results & Discussion (10 pts) - Reflection on Teamwork (5 pts)
Week 7 July 30	Peer Review Feedback	- Poster Draft #3: Final for Printing (PDF format required) (15 pts) - Watch: YT Video – Giving an Effective Poster Presentation - Reflection on Research (5 pts)
Week 8 Aug 6	Last Day of Class	- Final Poster Presentation (15 pts) - Reflection on Goals (5 pts)

Fri. Aug 9: Final Poster Presentations