

**MCB 195D: Teaching and Learning in MCB Colloquium
Spring 2022
Room: LSS 340
1 unit**

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Course Description

In this course, we will investigate the process of learning, drawing from examples of learning topics in molecular and cellular biology. This introduction will provide you with tools you will need to succeed in university-level biology courses. In addition, we will explore career opportunities for teaching and communicating science that are available to people with degrees in molecular and cellular biology. This is a first-year colloquium course.

Required Course Materials

Brown, P., Roediger, H., McDaniel, M., & Stick, M. I. (2014). The science of successful learning. *Cambridge, MA*.

This book is available for purchase from Amazon (\$28.80 for hardback, \$16.96 for ebook rental).
https://www.amazon.com/Make-Stick-Science-Successful-Learning/dp/0674729013/ref=sr_1_1?crd=39KZAV7GMTNHM&keywords=make+it+stick&qid=1641326389&srefix=make+it+stick%2Caps%2C281&sr=8-1

If you typically purchase your books through the bookstore and this presents a financial hardship to you, please let me know after our first class meeting. I have two extra copies of the book, available for students to borrow.

Course Objectives and Expected Learning Outcomes:

By participating in the class, you will be able to:

- Apply evidence-based learning strategies to the study of biology.
- Recognize challenges in educational systems and teaching practices.
- Feel confident in applying to join a research laboratory as an undergraduate assistant.

Tentative Schedule of Topics and Activities (subject to change)

| Date | Topic | Reading/Homework |
|-------------|--------------------------------------|---|
| 1/13 | No class | |
| 1/20 | Introductions | |
| 1/27 | Learning is Misunderstood | Make It Stick, Chapter 1 |
| 2/3 | Retrieval Practice | Make It Stick, Chapter 2 |
| 2/10 | Mix Practice | Make It Stick, Chapter 3 |
| 2/17 | Embracing the Difficulty of Learning | Make It Stick, Chapter 4 |
| 2/24 | Thinking about Research – Part 1 | |
| 3/3 | Thinking about Research – Part 2 | HW1: Your letter to Professor X |
| 3/10 | Thinking about Research – Part 3 | HW2: Your notes on a Professor’s lab that interest you AND a letter applying to his/her lab |
| 3/17 | No Class -----Spring Break | |
| 3/24 | Avoiding the Illusion of Knowing | Make It Stick, Chapter 5 |
| 3/31 | Getting Beyond Learning Styles | Make It Stick, Chapter 6 |
| 4/7 | Strategies to “Make it Stick” | Make It Stick, Chapter 7 |
| 4/14 | Motivation and Mindset for Learning | HW: TBA |
| 4/21 | Motivation and Mindset for Learning | |
| 4/28 | STEM Persistence | HW: TBA |

Attendance and Class Participation Policies

MCB 195D is an active colloquium where students are expected to attend class ready to discuss the week’s reading and participate in the related activities. As such weekly attendance and participation are required. Exceptions will be made conflicts due to University-authorized commitments (pre-approved by the UA Dean of Students), or holidays observed by organized religion with which you are affiliated provided the instructor is contacted *before* the discussion is missed, proper documentation is provided, and a make-up assignment is completed within one week of the absence. At the instructor’s discretion, excused absences may be granted by the instructor for illness, accident, or family emergency.

Required Course Activities, Assignments/Exams

Homework Assignments (4): You will complete 4 assignments that ask you to respond in writing either to reflect on their own learning or gather information to help you learn about education.

In-Class Activities (14): You will participate in tasks and discussion of assigned readings during class.

Grading Scale and Grade Policies

| Assignment | Point value each | Total point value |
|--|-------------------------|--------------------------|
| Homework assignments (4) | 30 pts | 120 pts |
| Active participation in in-class activities and discussions (13) | 10 pts | 130 pts |
| TOTAL points | | 250 points |

Grades will be awarded as follows:

SUPERIOR (S) = At least 200/250 total class points AND No more than 3 unexcused absences.

PASS (P) = At least 150/250 total class points AND No more than 4 unexcused absences.

FAIL (E) = Fewer than 150/250 total class points OR greater than 4 unexcused absences (even if total points is greater than 150/250).

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.

Late Assignments Policy: Late Assignments will be accepted up to one week late with a penalty of 10% per day late (up to 50%).

Extra credit policy: There are no planned extra credit opportunities for this course.

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 discussion. 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 for Students with Disabilities

At the University of Arizona, we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, you are welcome to let me know so that we can discuss options. You are also encouraged to contact Disability Resources (520-621-3268) to explore reasonable accommodation.

If our class meets at a campus location: Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Academic Integrity Policies

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/codeofacademicintegrity>
<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.