

**BILD95 Title:** Undergraduate Workshop: Mindful Learning in Genetics: Winter Quarter 2021

**Instructor:** Prof. Emily Troemel

**Location:** Zoom video conferencing

**Date/Time:** Tuesdays, 1-1:50pm

**Course Website:** Canvas

**Course Summary:**

Thank you for being brave and signing up for this course! The overall goal of this course is to reduce stress and barriers to learning scientific concepts. We will be using Genetics as the scientific area to study, and will be practicing the art of attention as a tool to facilitate learning of any topic. The mindfulness component of this course is inspired by the Mindfulness-based Stress Reduction (MBSR) program, which is offered many places, including at the UCSD Center for Mindfulness. We will be learning a few key concepts from the MBSR 8-week course, in conjunction with a few key concepts from Genetics.

I look forward to our journey together! I ask that you show up with your full attention to the Zoom classes. Attendance at each class is mandatory as this will be a group learning experience with extensive opportunities and expectations for interaction. Working together as a group will better enable all of us to learn.

**Suggested Reading and Resources:**

- Essentials of Genetics, Klug
- Full Catastrophe Living, Jon Kabat-Zinn
- UC San Diego Center for Mindfulness:  
<https://medschool.ucsd.edu/som/fmph/research/mindfulness/programs/introductory/Pages/default.aspx>

**Office hours:** I will be available on Zoom a few minutes before class starts, and will stay after class on Zoom a few minutes afterward to answer questions you may have.

**Class time:** We will start class right at 1:00 pm. Most classes will have the following approximate structure:

- 5 minute quiz
- 10 minutes sharing from students about quiz and homework
- 10 minutes presentation by Prof. Troemel on genetics concept(s)
- 5 minute Q&A/sharing
- 10 minutes presentation by Prof. Troemel on mindfulness
- 5 minute Q&A/sharing

The first class will focus more on introductions and class logistics, and this structure may be modified as the quarter progresses. Given that this class will be small and interactive, I ask that you leave your Zoom video on during class-time. By having the video on, we will be able to communicate more effectively and can better form a supportive group.

**Homework:**

Required:

1) Various short practices of mindfulness at home – this will be explained in each lecture

For example, Week 1 involves 'mental noting' while listening to an audio (~10 min)

- marking when attention strays from the audio
  - mark the time, and whether the distraction was: 1) thinking, 2) feeling or 3) hearing
- fill out worksheet in Canvas Quiz

2) Short Genetics Assignments through Canvas (e.g. 5 simple multiple choice questions)

Optional: Listen to guided meditation and mindful movement on UCSD Center for Mindfulness website:

<https://medschool.ucsd.edu/som/fmph/research/mindfulness/mindfulness-resources/Pages/default.aspx>

- scroll to "Guided Audio and Video" link on the page above
- specific practices will be recommended in each class

**Quizzes:**

- Classes will often start with a short (~ 5 question) quiz based on the previous class topic, which will be given through Canvas

**Participation:**

- Participation points will be given for sharing comments/experiences and asking questions  
 - Full points per class require sharing at least once and asking at least one question about content (either Mindfulness or Genetics)

**Make-up policy**

- If you are unable to attend class, you may receive partial credit for taking the in-class quizzes on your own, and also receive partial credit for participation by writing additional quiz questions based on the topic of the class

**Grading:**

- 20% Homework
- 20% In-class quizzes/polls
- 60% In-class participation by sharing

Your grade will be determined by your active participation and engagement in the above activities, not on answering questions correctly. A major course goal is to practice attention and the habit of 'showing up' for life. 70% or higher will be a passing grade (P).

**EMAIL COMMUNICATION:** Use [etroemel@ucsd.edu](mailto:etroemel@ucsd.edu) for all correspondence. Please remember to include your first and last name in the body of the email and WRITE BILD95 IN E-MAIL SUBJECT. Please minimize use of emails and try to ask questions before or after class.

**Draft Schedule (Subject to change):**

<i>Date</i>	<i>Class #</i>	<i>Genetics Topic</i>	<i>Mindfulness topic</i>
1/5/21	1	Chromosomes, Genes and DNA	Mindfulness background
1/12/21	2	DNA/RNA/protein and mutations	Cultivating awareness
1/19/21	3	Chromosomes and meiosis	Mind-Body connection
1/26/21	4	Basic Mendelian Inheritance patterns	Perception and Creative Responding
2/2/21	5	Modifications of Mendelian Inheritance	Pleasure and power in being present
2/9/21	6	Modifications of Mendelian Inheritance cont.	Conditioning and perception change our experience
2/16/21	7	Recombinant DNA	Awareness of conditioned patterns
2/23/21	8	CRISPR/Cas9 editing of DNA	Resilience (stress hardiness)
3/2/21	9	To be determined	Non-judgmental awareness
3/9/20	10	Overview	Integrating mindfulness with daily life