

**GENETIC 302qc**  
**Teaching 101: Bringing Effective Teaching Practices to Your Classroom**  
**Quarter Course, Spring 2021**

**Course description**

This course will develop your practical skills for effective teaching. The primary focus of the course is hands-on experience with objective-oriented lesson planning and execution, with an emphasis on active learning techniques and how they can be applied in both large and small enrollment classes.

**Instructors**

**Saoirse “sursha” McSharry, PhD**

Curriculum Fellow, Cell Biology

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**Bradley Coleman, PhD**

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**Course goals**

A key goal for this course is for students to develop the skills required to create and deliver instructional content. Some of those skills include: (1) cultivating a student-centered and inclusive classroom environment, (2) creating assessments and instructional methods that align with course objectives, (3) facilitating discussions and other learning activities in small and large group contexts, and (4) giving, receiving, and applying constructive feedback.

**Course format**

This online course has both synchronous and asynchronous elements, meaning we will use a combination of live course meetings and independent solo work (pre-recorded videos, annotated readings, etc), which you will do outside of class time. The synchronous and asynchronous components of the course provide independent but related opportunities for learning and application. We want our course to have many opportunities for you to *practice* teaching; to do this, the live course meetings will include frequent chances to test out teaching strategies or observe them being demonstrated.

**Live class sessions:** Thursdays from 8:30am -10:30am EST between January 28-March 18, with an optional professional development session on March 25<sup>th</sup> (see Course Overview, below). All sessions will include a break.

**Office hours** Wednesdays 1-2pm

**Expected allocation of time in this course**

Class time each week will be split between attending the two-hour live session, learning from asynchronous reading and video materials, creating and revising assignments, and providing peer feedback. We estimate a total of 6 hours of work each week, though this may vary as projects are due or depending on your own work style.

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**Course overview**

<b>Live session (Thursdays)</b>	<b>Topics</b>	<b>Assignment(s) due up to 72 hours before live session (see Canvas for more info on due dates)</b>
1- January 28	<b>Learner-centered pedagogy</b> <ul style="list-style-type: none"> <li>• Impactful learning</li> <li>• Student motivation</li> <li>• Developing mastery</li> <li>• Instructor- vs learner-centered pedagogy</li> <li>• Benefits and challenges of each</li> </ul>	<b>Discussion board post:</b> Post a 5-min video with 2 minutes of introduction to yourself and a 3-minute teaching demo on <u>any</u> topic (we encourage you to do something not related to your science!). <i>Due at 12:00pm EST on Wednesday January 27 [This is <b>before</b> our first meeting!]</i>  <b>Response:</b> Say hello and leave comments on the intro videos of 2-3 peers. <i>Due at 12pm EST on Friday January 29</i>  <b>Pre-course survey:</b> <i>Due at 8:30am EST on Thursday January 28</i>
2- February 4	<b>Course climate</b> <ul style="list-style-type: none"> <li>• What is course climate, where does it come from, and why does it matter?</li> <li>• Defining key terms</li> <li>• Strategies for cultivating intercultural pedagogy in course design</li> </ul>	<b>Post-class reflection on week 1</b> <i>Due at 12pm EST on Monday February 1</i>  <b>Discussion board post:</b> <i>Due at 9am EST on Tuesday February 2</i>  <b>Feedback:</b> <i>Due at 12pm EST on Wednesday February 3</i>
3- February 11	<b>Principles of backward design</b> <ul style="list-style-type: none"> <li>• Conventional vs backward design</li> <li>• SMART learning objectives</li> <li>• Alignment</li> <li>• Bloom's vs. Fink's Taxonomies</li> </ul>	<b>Post-class reflection on week 2</b> <i>Due at 12pm EST on Monday February 8</i>  <b>Discussion board post:</b> <i>Due at 9am EST on Tuesday February 9</i>  <b>Feedback:</b> <i>Due at 12pm EST on Wednesday Feb 10</i>
4- February 18	<b>Teaching demos, I</b>	<b>Post-class reflection week 3</b> <i>Due at 12pm EST on Monday February 15</i>  <b>Prepare for teaching demo #1</b>  <b>Feedback</b> <i>Due by 12pm EST on Monday February 22.</i>
5- February 25	<b>Assessing student learning</b> <ul style="list-style-type: none"> <li>• Alignment</li> <li>• Formative &amp; summative assessments</li> <li>• Effective feedback</li> </ul>	<b>Self-reflection on your teaching demo.</b> <i>Due at 12pm EST on Monday February 22</i>  <b>Discussion board post:</b> <i>Due at 9:00am EST on Tuesday February 23</i>  <b>Feedback</b> <i>Due by 12pm EST on Wednesday February 24.</i>

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6- March 4	<b>Instructional techniques</b> <ul style="list-style-type: none"> <li>• Active learning</li> <li>• Best practices</li> <li>• Application in small vs. large teaching contexts</li> </ul>	<b>Post-class reflection week 5</b> <i>Due at 12pm EST on Monday March 1</i>  <b>Discussion board post:</b> <i>Due by 9am EST on Tuesday March 2</i>  <b>Feedback</b> <i>Due by 12pm EST on Wednesday March 3.</i>
7- March 11	<b>Evaluating our teaching</b> <ul style="list-style-type: none"> <li>• Self-evaluation</li> <li>• Peer evaluation</li> <li>• Student evaluations</li> </ul>	<b>Post-class reflection week 6</b> <i>Due by 12pm EST on Monday March 8</i>  <b>Discussion board post:</b> <i>Due by 9am EST on Tuesday March 9</i>  <b>Feedback</b> <i>Due by 12pm EST on Wednesday March 10</i>
8- March 18	<b>Teaching demos, II</b>	<b>Post-class reflection week 7</b> <i>Due by 9:00am EST on Monday March 15</i>  <b>Prepare for teaching demo #2</b>  <b>Feedback</b> <i>Due by 12pm EST on Friday March 19.</i>
March 25 (optional)	<b>Writing a Teaching Statement</b>	<b>Draft teaching statement</b>

**Assessments**

**Intro video** *due at 12:00pm EST on Wednesday January 27* **[Note this is before our first meeting]**

The first assignment for this class will be a pre-recorded 5-minute introduction video. In this video, you will tell us a about yourself for 1 minute and then give a 4-minute explanation of any process or idea you'd like to teach the class about. We don't want this to be time-consuming, so we ask that you don't use slides, and that you set a timer to limit your preparation to 15 minutes. We also encourage you to pick a topic that's *not* related to your work, but instead one of your hobbies or interests (board games, your favorite movie, horses, baking, etc)— don't be afraid to have fun with it! The key is simply that we've learned or understand something new after watching the video. Brad and Saoirse will post their own videos on the Week 1 discussion board on Canvas. You can refer to these as examples and feel free to leave comments! By 12pm EST on Friday January 29, you should leave some comments on two or three of your classmates.

**Post-class reflections** *due at 12pm EST on Mondays*

Each week, you'll spend about 30 minutes writing a reflection on (1) how you intend to apply that week's material to your own teaching, and (2) how you noticed that we (Brad and Saoirse) may have incorporated that material into our teaching that week or in previous weeks. Each submission will be due on Canvas 72 hours before the following session so that the instructors may leave any comments, ideas, or other feedback. These reflections are not at all assessed for accuracy, but rather are intended to (1) give you space and time to think about how you feel about the material you learned, (2) help you keep track of the ways you want to incorporate what you learned into your future teaching context, (3) provide an "anchor" for you to revisit as you're doing future lesson planning and/ or writing your teaching statement, and (4) give Brad and Saoirse a way to see your perspectives, which will inform their teaching.

**Discussion board posts** *due at 9am EST on Tuesdays*

In each session you'll be getting "hands-on" experience by either teaching (weeks 1, 4, and 7) or creating practical materials that will support the planning and execution of your teaching (learning objectives, sample assessment, lesson plan, evaluation, and optionally, a teaching statement). In this way, you'll be building a "teaching toolbox". You

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will iteratively generate and revise those materials through this course by posting them on the discussion boards, receiving feedback from peers and instructors, and making changes in response. We consider these materials (and the iterative method itself) to be “tools” because they will be useful in a variety of future professional contexts, including development of new courses, revision of existing courses, and applying to jobs that involve teaching.

**Feedback** *usually due at 12:00pm EST on Wednesdays*

Giving informative and helpful feedback is both a huge component of teaching, and a skill that improves with practice. You will therefore practice giving feedback to each other by leaving comments on your peers’ work in which you might discuss the elements of their submissions that felt strong and effective and make specific and achievable suggestions that could make their work even more successful. Keep in mind that, as with any skill, responding to feedback is also a skill that improves with practice and patience!

**Teaching demos** *Live in class on February 18 and March 18*

Another practical skill for teaching is, of course, instruction. This will occur in two separate live demos, with opportunities for peer and instructor feedback between them, in weeks 4 and 8. For your teaching demos, you will give a brief lesson that aligns with one of your learning objectives. You will also choose whether the “audience” of your teaching context is a small or large group of students. Based on your indication of preference, you will be assigned to a **working group** with about 2 other students who most likely chose a different context (small vs large class) from what you chose. The rationale for these heterogeneous groups is that while you can focus on preparing your own materials for one type of teaching, but still gain exposure to and practice thinking about the other.

**Course materials**

All readings and any other course materials will be posted on Canvas.

**Grading**

The course is graded on a pass/fail basis. In order to achieve a passing grade, it is expected that you will attend and participate in every class session. This includes completing all assigned readings, pre-assignments and post-assignments, and participating fully in classroom exercises and discussions. One of the in-class teaching assignments will be videotaped and each student will have a one-on-one meeting with the instructors to discuss their work. If an absence is unavoidable, you must email both course instructors in advance of the class that you will miss. The instructors will determine an appropriate substitute assignment to be completed within 48 hours of the missed class.

**Auditing**

If space is available, auditors are welcome to join the course. Auditors must participate in all aspects of the course, including participating in in-class discussions and activities and completing course assignments. Interested auditors should contact the course instructors by email.

**Learning Community Expectations and Resources**

**Community Standards**

Our goal is to foster a learning community that is open, collaborative, and inclusive. As instructors, we hope to facilitate a community of trust, in which you feel you can approach us if any elements of the course content, instruction, or course participants are barriers to your learning. Realistically, however, creating this kind of holistic community is something that can only be accomplished collaboratively, when *everyone* is involved in the effort: instructors, students, and even the authors of our materials.

As a member of this community, one is expected to:

- make an effort to introduce oneself to others,
- take pair and group work seriously,
- listen carefully to others,
- share responsibility for including all voices in the conversation,
- be open to grappling with challenging ideas and changing one’s perspectives based on what’s heard from others,
- understand with empathy that we are all bound to make mistakes,
- strive to see mistakes as valuable elements of the learning process,
- understand that we all come to discussions with knowledge and personal experiences that are different from, but not superior to, one another
- acknowledge that your words affect others and speak with care,

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- put forth every effort not to exclude, alienate, or otherwise hurt others, and
- listen carefully if something that you've said is experienced as disrespectful or marginalizing.

Adapted from the Guidelines for Classroom Interactions from the Center for Research on Teaching and Learning at The University of Michigan, which can be found at <https://crlt.umich.edu/examples-discussion-guidelines>

**Expectations about Zoom participation**

Zoom is an incredible online tool that is transforming how we think about virtual teaching but Zoom (and remote learning in general) also brings many challenges. Some of these can be relatively easily mitigated when everyone follows some guidelines:

- Help reduce background noise by muting yourself unless you're speaking
- Use the "Raise Hand" function (which can be found by clicking on "participants") to ask a question. This helps us ensure that everyone has a chance to speak up (unlike an in-person classroom, we might not be aware that you have something to say unless you use these functions)
- We very much appreciate when your cameras are on because we can more easily gauge your reactions to and engagement with what we're saying or doing, but we also recognize this isn't always possible.

**Academic Integrity**

All work in this course is governed by the academic integrity policies of GSAS (<https://gsas.harvard.edu/codes-conduct/academic-integrity>) and HMS (<https://mastersstudenthandbook.hms.harvard.edu/409-academic-dishonesty-and-plagiarism>). It is the students' responsibility to be aware of these policies and to ensure that their work adheres to them both in detail and in spirit. Unless otherwise specified by the instructor, the assumption is that all work submitted must reflect the student's own effort and understanding. Students are expected to clearly distinguish their own ideas and knowledge from information derived from other sources, including from collaboration with other people. If you have a question about how best to complete an assignment in light of these policies, ask the instructor for clarification.

**Reasonable Accommodations**

As an institution that values diversity and inclusion, our goal is to create learning environments that are usable, equitable, inclusive and welcoming. Harvard University complies with federal legislation for individuals with disabilities and offers reasonable accommodations to qualified students with documented disabilities and temporary impairments. To make a request for reasonable accommodations in a course, students must first connect with their local disability office. The primary point of contact for GSAS students is the Accessible Education Office ([www.aeo.fas.harvard.edu](http://www.aeo.fas.harvard.edu)). The HMS Director of Disability Services, Timothy Rogers ([timothy\\_rogers@hms.harvard.edu](mailto:timothy_rogers@hms.harvard.edu)) is another potential source of accommodation information for PhD students and is the primary contact for MD and master's students.

Accommodations are determined through an interactive process and are not retroactive. Therefore, students should contact their local disability office as soon as possible, preferably at least two weeks before accommodations are needed in a course. Students are strongly encouraged to discuss their access needs with their instructors; however, instructors cannot independently institute individual accommodations without prior approval from the disability office. Student privacy surrounding disability status is recognized under FERPA. Information about accommodations is shared on a need-to-know basis, and with only those individuals involved in instituting the accommodation.

**Academic and other Support Services**

We value your well-being and recognize that as a graduate student you are asked to balance a variety of responsibilities and potential stressors: in class, in lab, and in life. If you are struggling with experiences either in- or outside of class, there are resources available to help. Jackie Yun, the GSAS Director of Student Services (617-495-5005) is available to assist students navigating academic or personal difficulties and to connect students to university resources. HILS PhD students have access to free academic tutoring which can be arranged through the DMS office. A variety of academic support services are also available to GSAS students through the Bureau of Study Counsel (<https://bsc.harvard.edu/>) and the Center for Writing and Communicating Ideas (<https://gsas.harvard.edu/center-writing-and-communicating-ideas>).

All students have access to Counseling and Mental Health Services (CAMHS) available in Longwood, Cambridge or remotely via webcam or phone. The use of CAMHS is included in the student health fee, regardless of insurance, at no additional cost. More information is available at <https://camhs.huhs.harvard.edu> or by calling the main office at 617-495-2042. Urgent care can be reached 24/7 at 617-495-5711