

# STEM EDX 2020

## Faculty Development Workshop #2: Beginning with the End Goal – Learning Theories and Remote Instruction



# Introductions

## Workshop Coordinators



**Robin Côté**  
Dean  
College of Science  
and Mathematics  
UMass Boston

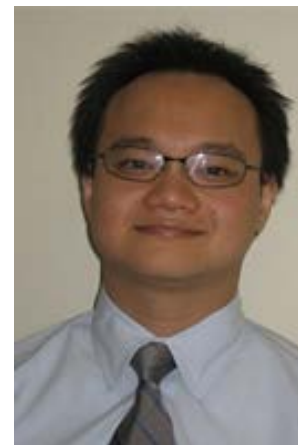


**Hannah Sevian**  
Professor  
Chemistry  
UMass Boston

## Workshop Facilitators



**Stacey Brydges**  
Teaching Professor  
Chemistry &  
Biochemistry  
UC San Diego



**Stanley Lo**  
Teaching Professor  
Cell & Developmental  
Biology  
UC San Diego

# Welcome!

## AGENDA

Friday, August 21, 2020

### ZOOM Link:

<https://ucsd.zoom.us/j/94475846300?pwd=TGlmTDQ0MmZISTFCcFN1YVBZK0pTZz09>

### Pre-Workshop Activity

E-mailed to registrants.

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**Dr. Stacey Brydges** is Teaching Professor of Chemistry and Biochemistry at UC San Diego.

**Dr. Stanley Lo** is Teaching Professor of Cell and Developmental Biology at UC San Diego.

**Dr. Hannah Sevia**n is Professor of Chemistry at University of Massachusetts Boston.

### 1:00 PM Welcome and Re-Introductions

*Hannah Sevia, Stacey Brydges, Stanley Lo  
Participants*

### 1:20 PM Our Course Design Challenge

*Facilitated by Stacey Brydges*

### 1:30 PM How People Learn: Cognition

*Facilitated by Stanley Lo*

### 2:20 PM BREAK

### 2:30 PM Learning: Identity and Power

*Facilitated by Stanley Lo*

### 3:10 PM Building Community Online

*Facilitated by Stacey Brydges*

### 3:50 PM Wrap-Up & Workshop 3 Prep

# General Zoom Etiquette

## Participants

- See all participants
- Rename yourself, add pronouns.
- Use the buttons such as raise hand, go slower or faster, yes or no, etc.

## Chat

- Enter responses to brainstorm activities
- Ask questions, make comments
- If your comment is only for one person, please chat that person only!

## Breakout Rooms

- We will be randomly assigned to breakout rooms for discussion
- Talk with the others in your room, share screens, etc.

# Community Norms

We hope that this workshop fosters open, respectful productive dialogue and maximum participation. To do so, we agree to:

- Participate to the fullest of our ability
- Share responsibility for including all voices in the conversation
- Speak from our own experience instead of generalizing, and differentiate between opinion and informed knowledge
- Listen actively
- Refer to others with their preferred pronouns
- Be willing to grapple with challenging ideas

**What would you like to change or add?**

# Break-Out Room: Introductions and Icebreaker

## Workshop Participants

### “Same and Different” Community Building Exercise



Discover what you have in common with each other (besides obvious things like you are faculty at UMB)!

You'll have 5-6 min.

# Break-Out Room: Introductions and Icebreaker

## Workshop Participants

### “Same and Different” Community Building Exercise

[https://www.polleverywhere.com/free\\_text\\_polls/mRCxztMcYn7cf6szcxXDI?preview=true&controls=none](https://www.polleverywhere.com/free_text_polls/mRCxztMcYn7cf6szcxXDI?preview=true&controls=none)

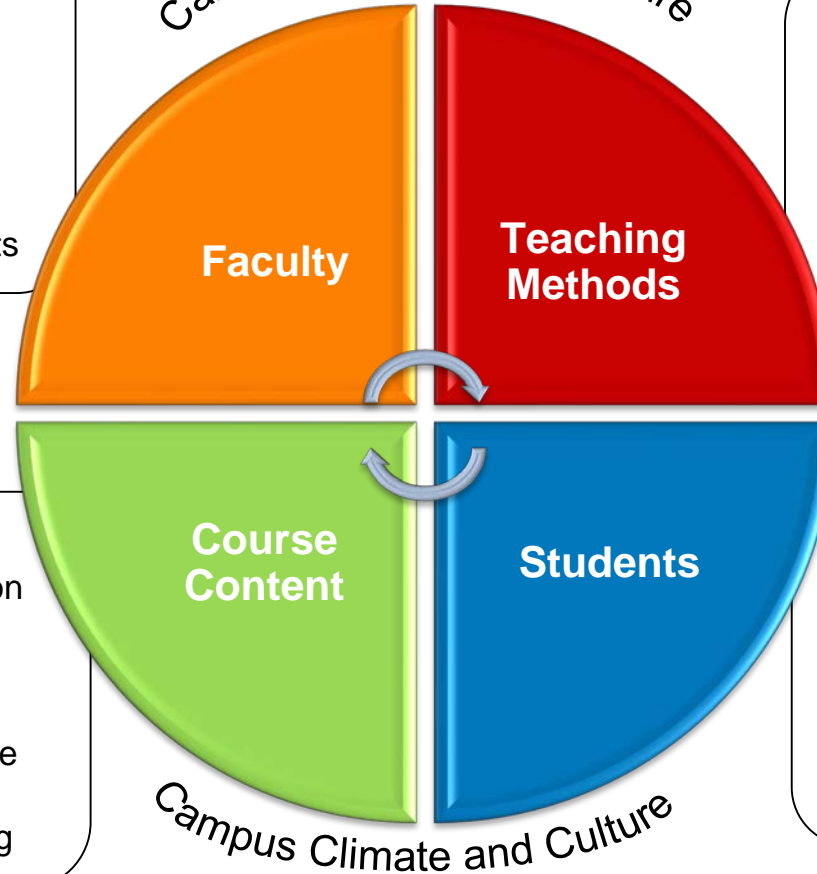
*Did anything surprise you?*

# Workshop 1 Recap: Dimensions of Equitable Teaching

## ***Know oneself***

- Examine identity and socialization
- Examine assumptions and stereotyped beliefs
- Examine impact on teaching and interactions with students

Campus Climate and Culture



## ***Implicit Messages***

- Establish classroom norms that emphasize respect, fairness, and equity
- Create a sense of belonging
- Broaden your repertoire of teaching methods to reach all students

## ***Explicit Messages***

- Use a curriculum of inclusion
- Represent diverse perspectives
- Draw examples and illustrations from diverse life experiences
- Create a sense of belonging

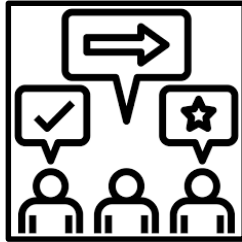
## ***Know your students***

- Examine identity and socialization
- Examine assumptions and stereotyped beliefs
- Attend to student interactions
- Identify readiness and assets

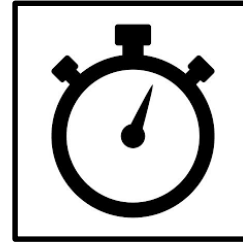
# Workshop 1 Recap: Engagement Activities



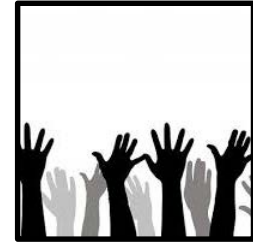
**Extended Name  
Tag (Avatar)**



**Community  
Norms**



**Timed Tasks  
with Reporters**



**Multiple Hands  
Multiple Voices**



**Polling:  
How do you feel?**



**Think-Pair-Share**



**Minute  
Paper**



**Google Docs**

# Outcomes for this Workshop

In this workshop, we will:

1. **Examine** different perspectives in learning theories
2. **Explore** how we can attend to sociocultural identities, power, and privilege in the classroom
3. **Consider** strategies to build community online



# Our Course Design Challenge

## Remote Course Design: A Starting Checklist

- ☐ What are the essential learning outcomes or topics?
- ☐ How will you assess student learning gains and provide regular feedback?
- ☐ How will students engage with content?
- ☐ What methods will you use for communicating with and promoting interactions between our students?
- ☐ What will be the role of learning (or teaching) assistants?

# Delivering and Managing Your Course Content

We can build a structured learning environment via a **common space** such as our **campus LMS**, which provides a single access point to content.

The screenshot displays the UMass Boston Learning Management System (LMS) interface. At the top, the UMass Boston logo is on the left, and navigation links for 'My UMass Boston for Faculty', 'My UMass Boston for Students', 'Content Collection', and 'System Admin' are on the right. A 'Help' button is also present. Below the header, the main content area is titled 'Start Here (Syllabus)'. On the left side of this area, there is a sidebar menu with options like 'Teaching and Learning Online 2020', 'Home', 'Start Here (Syllabus)', 'Lessons', 'Resources', 'My Grades', 'My Achievements', 'Announcements', 'Discussions', 'Web Conferencing', and 'Email (External)'. The main content area itself has a sub-header 'Start Here (Syllabus)' and a navigation bar with 'Build Content', 'Assessments', 'Tools', and 'Partner Content'. The content is organized into sections: '00. Orientation Badge' with a congratulatory message, 'Welcome to Teaching and Learning Online!' with a message from the support team, and 'Get Started' with a list of components to complete as part of introductory activities. The list includes: 'Read the Course Welcome message', 'Watch the Course Welcome video', 'Read the Communication Policy', 'Read the Course Syllabus', 'Introduce yourself in the Course Introductions discussion forum', and 'Complete Welcome Survey'. The interface is clean and professional, with a clear navigation structure.

# Communicating Your Expectations

We can set the tone for learning and engagement via our **course syllabus**.

## Syllabus [CODE#### – Title] – REMOTE version – 2020

### Welcome!

#### You are welcome here

In this course, all students are welcome, including all races, colours, cultures, ethnicities, genders, sexualities. This course is a space for respect for each other, including students, teaching assistants, staff, and professors. You can reach out at any time. Note: the periodic table was made by chemist Anne McNeil and artist John Megahan.



#### Professor

[name]

Office: Virtual

Email: \*Please put [CODE####] in the subject line\*. I do my best to respond within one business day.

#### Teaching assistants

[name]

Email: \*Please put [CODE####] in the subject line\*. TAs try to respond within one business day.

#### Staying well and even thriving during the pandemic

This edition of the course is being offered remotely. Essentially that means that we would ideally be having the course in person but because we are not able to do so, we are making a rapid conversion to an online/digital format. Normally, an online course is designed with a team of experts over a long period of time; this edition of the course was rapidly converted over a few months. I hope for your understanding if there are some bumps along the road and I welcome your suggestions any time. We are trying to make the most of a difficult situation.

I recognize that many people are struggling during the pandemic; others are thriving. I do want you to use this time to figure out how to be well (and even excel!) during this time. To that end:

- (i) \*Please fill out this form immediately to inform me (Professor [name]) of the tools you have available to you: [copy and link to new version of Drive form],
- (ii) Use the resources in Brightspace called: "Excelling in online learning"
- (iii) Please feel free to contact me by email.

### Course information

#### Course Description

[details]

## CHEM 202 HIGHLIGHTS

### Fundamentals of Organic Chemistry

#### ZOOM CLASSES

- MW/F 10:10 TO 11 AM
- Synchronous
- Recordings available
- Zoom details on Canvas

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#### INSTRUCTIONAL TEAM

##### INSTRUCTOR

DR. MASTERS

BEST WAY TO REACH ME

@

kmasters@psu.edu or ochemfun@psu.edu

Virtual help sessions info on Canvas

?

There are nearly 30 people on the instructional team! We all want to help you succeed in CHEM 202 - please see Canvas for the help session schedule.

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#### COURSE DESCRIPTION

The study of organic chemistry focuses on carbon-containing compounds - which are essential for life. We'll be digging into gaining a solid understanding of organic structure. With sound understanding, we can predict physical and chemical behavior of these fun molecules. We call this study SAR studies - structure-activity relationship studies.

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#### LEARNING OUTCOMES

01 Predict properties and reactivities of organic compounds

02 Identify type and draw complete reaction mechanisms of organic compounds

03 Recognize connections of organic chemistry to everyday life

04 Apply organic reactions to synthetic design of targets

### FA 20

#### COURSE MATERIALS

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#### KEY TOPICS

Structure Depictions

Functional Groups

Shapes & Isomers

Polar Basic Reactions

Radical Reactions

Bonding of atoms

Hybridization

Naming Families

Polar Acidic Reactions

Synthetic Design

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#### ACHIEVE SUCCESS!

Attend help sessions!

Do the extra practice!

Study with others!

Re-do the worksheets!

Explain the concepts in words!

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#### COURSE ASSESSMENTS

20% 30% 20% 30%

• DQs • CQs • CSs • FCS

DQs = Daily Questions  
CQs = Canvas Quizzes  
CSs = Case Studies  
FCS = Final Case Study

# Learning Theories: Science on How People Learn

students learning teaching knowledge information material make like reading power effective find Im typical part information teaching way experience learn course misconceptions curriculum classroom schools know work many use classroom schools know

## What about the reading resonated with us?

**Cognition:** I found the section on how students incorporate new knowledge into their existing views interesting (“Fish is Fish” example). I have certainly experienced students reverting back to their previous misconceptions even after the correct concepts were explained.

**Identity:** The discussion of how culture can influence how people approach learning was very interesting to me. Certainly, there are many cultures represented in my classes at UMB and they must see what I’m doing in class through a variety of lenses. My question is: how can I find out about these to make my teaching work better for more people when these cultural assumptions and norms are ‘like the water a fish swims in’ and students may not even be aware of them?

**Power:** I am particularly interested in the power dynamic mentioned in the third reading. I see so many power dynamics for students who are not white, males like their professor. And the professor gives grades, determines criteria for excellence. The power dynamic will always exist. How do we ensure that it does not compromise learning?

# Data: Conceptual frameworks for biology problems

Hypothesized Surface Features	Hypothesized Deep Features				
		Evolution by Natural Selection in Living Systems	Pathways and Transformation of Energy and Matter in Living Systems	Storage and Passage of Information about How to Build Living Systems	Relationships between Structure and Function in Living Systems
	Plant	K	D	J	I
	Insect	H	F	B	M
	Human	N	L	O	P
	Micro-organism	C	A	E	G

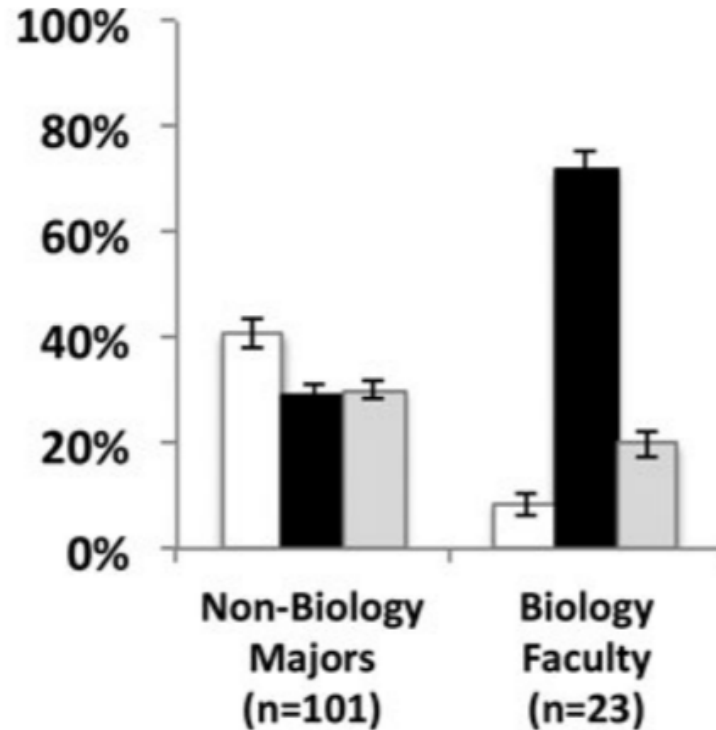
## Biology Faculty

Metabolic Energy Flow A, D, L, F	Cell & Organismal Reproduction B, E, J, O
Artificial/Natural Selection C, H, N, K	Morphological Properties P, M, G, I

## Non-Biology Major

1 Human Health - L O P N.
2 Insect - M H F B
3 Micro-organism - E G C A.
4 plant - D J I K

# Data: Conceptual frameworks for biology problems



White = Surface feature pairing

Black = Deep feature pairing

Grey = Unexpected pairing

# How are novices and experts different?

	Novices	Experts
Framework	Emphasize facts	Emphasize concepts
	Ideas are isolated	Ideas are integrated and easily transferrable

# How are novices and experts different?

	Novices	Experts
Framework	Emphasize facts Ideas are isolated	Emphasize concepts Ideas are integrated and easily transferrable
Beliefs	Only one way to solve a problem People are born good at things	Many possible solutions and approaches to a problem People become good at things through effort

## Summary

1. Students have an **existing understanding** about how the world works
2. Learning requires the development of **conceptual frameworks** to understand ideas

## Implications

- Acknowledge how students' pre-existing knowledge can contribute to learning
- Support students to develop strong conceptual frameworks and expert knowledge
- Identify pre-existing knowledge and novice conceptual frameworks in your discipline or course material



# 5E learning cycle

Operationalizes learning principles into a structure or model to think about how to design instructional activities



Which of the following activity was part of the explore step?

- a. Biology problem sorting
- b. Key take-away summary
- c. Pre-workshop assignment
- d. Superheroes sorting
- e. Word cloud

# 5E learning cycle

Operationalizes learning principles into a structure or model to think about how to design instructional activities



Engage	Assignment and word cloud
Explore	Superheroes sorting
Explain	Debriefs with learning principles and implications
Elaborate	Learning principles followed by 5E learning cycle
Evaluate	Interactive discussions and formative feedback throughout

# Data: 5E learning cycle improves student learning

**Table 4:** Adjusted Means Table

Teacher Group	#of Students	Adjusted Mean Post-test Score (% correct)	Standard Deviation	Fisher LSD (adjusted mean is significantly different from)
Low Level Fidelity	70	41	2.9	Medium and High Fidelity Group
Medium Level Fidelity	168	54	2.6	Low Fidelity Group
High Level Fidelity	88	51	2.0	Low Fidelity Group

].

# Remote laboratory course design with 5E learning cycle

- Introductory course-based undergraduate research experience on soil microbiomes
- Four modules of 2–3 weeks each on different topics



Engage	Short video
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Explore #1	Reading with pre-class assignment
------------	-----------------------------------

Explain #1	Interactive lecture on material
------------	---------------------------------

Elaborate #1	Simple data analysis in laboratory
--------------	------------------------------------

# Remote laboratory course design with 5E learning cycle

- Introductory course-based undergraduate research experience on soil microbiomes
- Four modules of 2–3 weeks each on different topics



Engage	Short video
--------	-------------

Explore #1	Reading with pre-class assignment
------------	-----------------------------------

Explain #1	Interactive lecture on material
------------	---------------------------------

Elaborate #1	Simple data analysis in laboratory
--------------	------------------------------------

Explore #2	Primary literature discussion board
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Explain #2	Interactive lecture on literature
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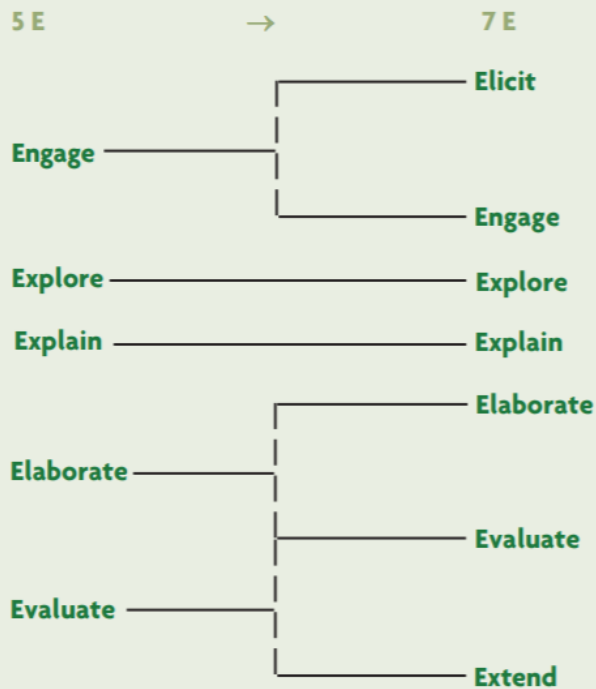
Elaborate #2	More data analysis in laboratory
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Evaluation	Scientific argument and quiz
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# 7E learning cycle and many others

FIGURE 1

## The proposed 7E learning cycle and instructional model.



## Differences

- Emphasizes eliciting prior knowledge
- Extends to transfer knowledge to new scenario

## Similarities

- Explanation comes after exploration
- Very much like the process of research

Over 100 learning cycles and course design models!

[http://bigbook.or.kr/bbs/data/file/bo02/1535291005\\_MQ8Nsgjn\\_Educational\\_28instructional29\\_design\\_models\\_Daniel\\_K.\\_Schneider.pdf](http://bigbook.or.kr/bbs/data/file/bo02/1535291005_MQ8Nsgjn_Educational_28instructional29_design_models_Daniel_K._Schneider.pdf)

Common feature: Creating situations for research-like deep learning

# Are research and learning different? The same?

	Disconnected	Accidental	Connected
Learning	Fundamentally different from research	Can be similar to research in some circumstances	The same as research in terms of activity
Teaching	No or minimal research used in teaching	Research problems are introduced to illustrate a point	Research process intentionally integrated
Research	Teaching does not inform research	Teaching can provide new ideas unintentionally	Teaching designed deliberately to raise new ideas



## KEY TAKEAWAY

1. Learning cycles operationalize some of the cognitive learning principles into models for course design
2. The vast number of learning cycles represents an example of how different experts contextualize the same knowledge



**During break, please consider how student identity and power and privilege can intersect with learning in the classroom**

# Brainstorm: Identity and power in the classroom

Navigate to your breakout room

The screenshot shows a Jamboard interface titled "Workshop 2 Brainstorm". The main content area contains the text "Breakout room 1" followed by the question prompt: "How might you consider identity and power in the classroom? What questions do you have?". A blue arrow points from the text "Navigate to your breakout room" to a thumbnail of the current slide in the top navigation bar. Another blue arrow points from the text "Question prompt for breakout room discussion (5-8 minutes)" to the question text. A third blue arrow points from the text "Tools for Jamboard: Pen, eraser, select, sticky note, add image, shapes, text, laser pointer" to the left-hand toolbar. The toolbar includes icons for a pen, eraser, select tool, sticky note, image, shapes, text, and a laser pointer. The top right corner features a "SHARE" button and a user profile icon. The bottom right corner has a link to "Open on a Jamboard".

Workshop 2 Brainstorm

1 / 10

Background Clear frame

Open on a Jamboard

Breakout room 1

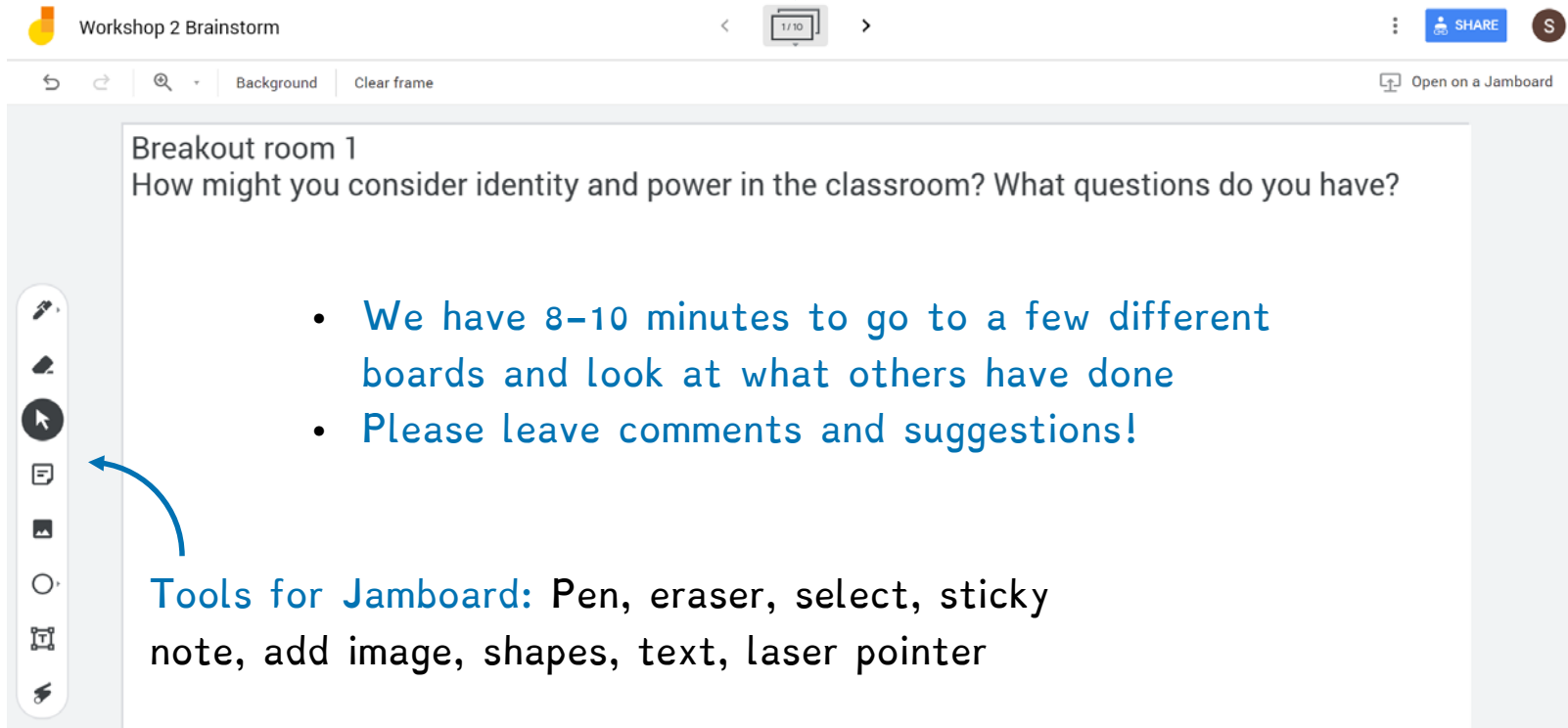
How might you consider identity and power in the classroom? What questions do you have?

Question prompt for breakout room discussion  
(5-8 minutes)

Tools for Jamboard: Pen, eraser, select, sticky  
note, add image, shapes, text, laser pointer

# Gallery walk: Identity and power in the classroom

Navigate to different rooms



The screenshot shows a Jamboard interface titled 'Workshop 2 Brainstorm'. At the top, there are navigation arrows, a thumbnail of the current board labeled '1 / 10', and a 'SHARE' button. Below the title bar, there are options for 'Background' and 'Clear frame', and a link to 'Open on a Jamboard'. The main content area contains a text box with the heading 'Breakout room 1' and the question 'How might you consider identity and power in the classroom? What questions do you have?'. Below this, there is a list of two bullet points. To the left of the main content area is a vertical toolbar with icons for various drawing and editing tools. A blue arrow points from the text 'Tools for Jamboard' to the toolbar.

Workshop 2 Brainstorm

1 / 10

SHARE

Background Clear frame

Open on a Jamboard

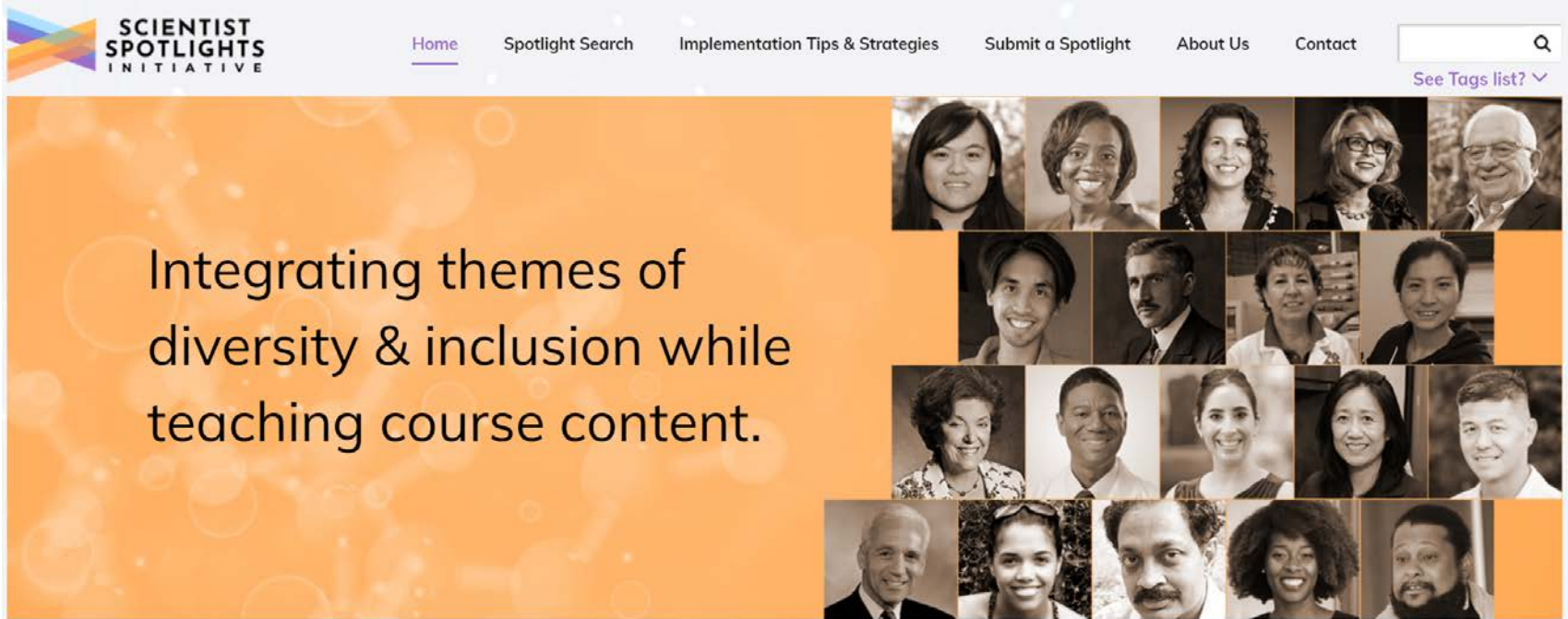
Breakout room 1

How might you consider identity and power in the classroom? What questions do you have?

- We have 8–10 minutes to go to a few different boards and look at what others have done
- Please leave comments and suggestions!

Tools for Jamboard: Pen, eraser, select, sticky note, add image, shapes, text, laser pointer

# Scientist spotlights



The screenshot shows the homepage of the Scientist Spotlights Initiative. The header features the organization's logo on the left, a navigation menu with links to Home, Spotlight Search, Implementation Tips & Strategies, Submit a Spotlight, About Us, and Contact, and a search bar on the right. Below the navigation bar, a large orange banner on the left contains the text "Integrating themes of diversity & inclusion while teaching course content." To the right of the banner is a grid of 20 portrait photographs of diverse scientists, arranged in four rows of five. The grid is partially obscured by the orange banner on the left.

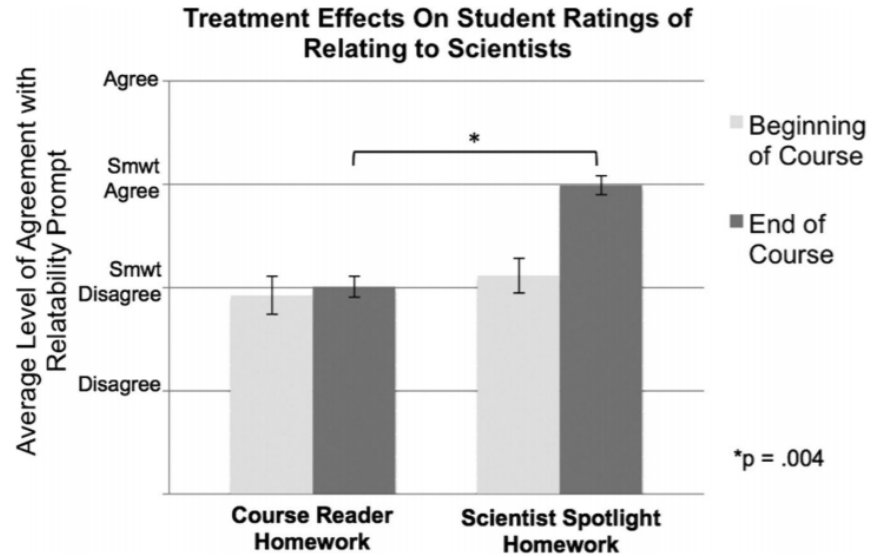
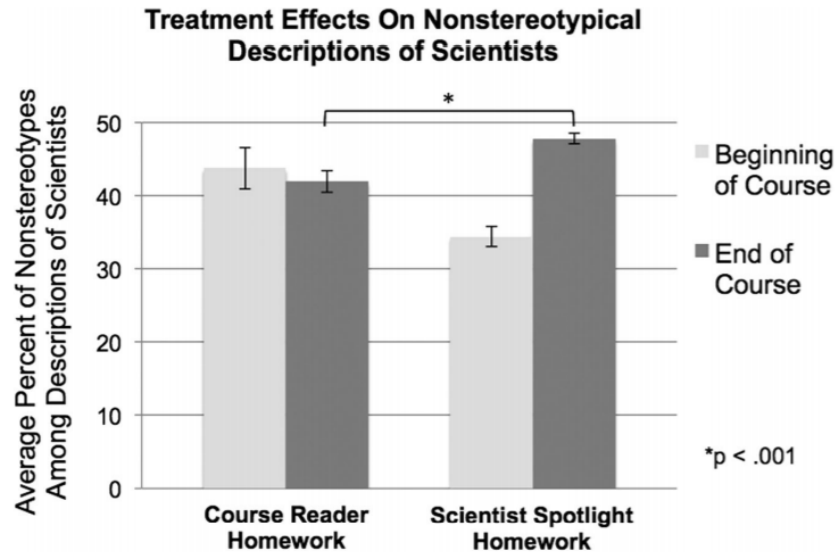
**SCIENTIST SPOTLIGHTS INITIATIVE**

[Home](#) [Spotlight Search](#) [Implementation Tips & Strategies](#) [Submit a Spotlight](#) [About Us](#) [Contact](#)

[See Tags list? ▾](#)

Integrating themes of diversity & inclusion while teaching course content.

# Data: Scientist spotlights



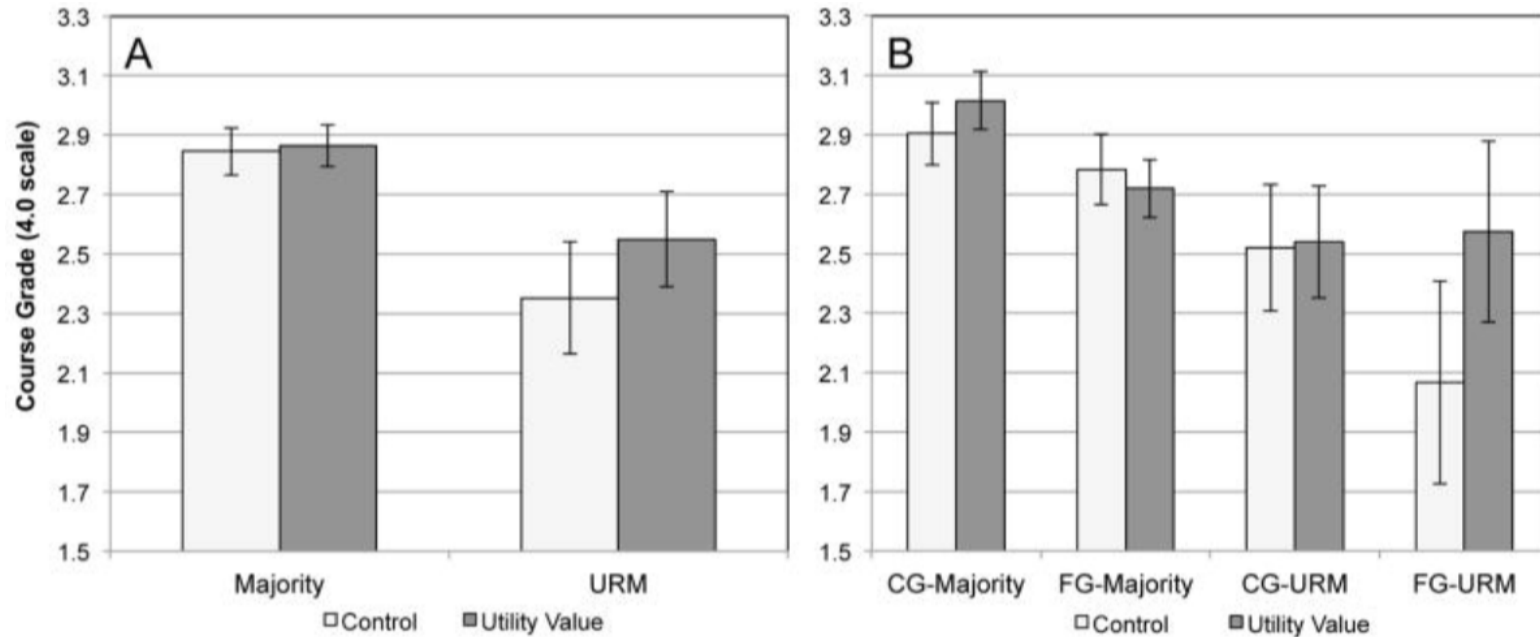
# Utility value intervention

Select a concept or issue that was covered in lecture and formulate a question. Select the relevant information from class notes and the textbook, and write a 1–2 page essay.

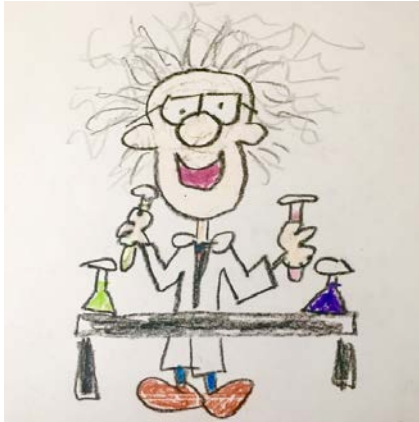
**Utility value assignment:** Write an essay addressing this question and discuss the relevance of the concept or issue to your own life. Be sure to include some concrete information that was covered in this unit, explaining why this specific information is relevant to your life or useful for you. Be sure to explain how the information applies to you personally and give examples.

**Control assignment:** Select the relevant information from class notes and the textbook, and write a one to two page response to your question. You should attempt to organize the material in a meaningful way, rather than simply listing the main facts or research findings. Remember to summarize the material in your own words.

# Data: Utility value intervention



# Power in the classroom and scientific research



## Scientist spotlight example

- Who can produce knowledge: Highlight different possible selves for scientist identities
- How it relates to individual students: Connects with meaning for families and communities



## Remote laboratory course example

- Who can contribute to science: Course-based undergraduate research experience
- Who can decide on grades: Scale different components based on individual performance

# Power and social justice in the curriculum

**Toward a more humane genetics education:  
Learning about the social and quantitative  
complexities of human genetic variation  
research could reduce racial bias in adolescent  
and adult populations**

Brian M. Donovan<sup>1</sup> | Rob Semmens<sup>2</sup> | Phillip Keck<sup>3</sup> |  
Elizabeth Brimhall<sup>4</sup> | K. C. Busch<sup>5</sup> | Monica Weindling<sup>1</sup> |  
Alex Duncan<sup>1</sup> | Molly Stuhlsatz<sup>1</sup> | Zoë Buck Bracey<sup>1</sup> |  
Mark Bloom<sup>1</sup> | Susan Kowalski<sup>1</sup> | Brae Salazar<sup>1</sup>

<sup>1</sup>Biological Sciences Curriculum Study (BSCS)  
Science Learning, Colorado Springs, Colorado

<sup>2</sup>Department of Systems Engineering, Naval  
Post Graduate School, Monterey, California

<sup>3</sup>The Live Oak School, San Francisco,  
California

<sup>4</sup>Palo Alto Unified School District, Palo Alto,  
California

<sup>5</sup>College of Education, North Carolina State  
University, Raleigh, North Carolina

## Correspondence

Brian M. Donovan, Biological Sciences  
Curriculum Study (BSCS) Science Learning,  
5415 Mark Dabbling Boulevard, Colorado  
Springs, CO 80918.  
Email: bdonovan@bscs.org

## Funding Information

National Science Foundation, Grant/Award  
Number: 1660985

## Abstract

When people are exposed to information that leads them to overestimate the actual amount of genetic difference between racial groups, it can augment their racial biases. However, there is apparently no research that explores if the reverse is possible. Does teaching adolescents scientifically accurate information about genetic variation within and between US census races reduce their racial biases? We randomized 8<sup>th</sup> and 9<sup>th</sup> grade students ( $n=166$ ) into separate classrooms to learn for an entire week either about the topics of (a) human genetic variation or (b) climate variation. In a cross-over randomized trial with clustering, we demonstrate that when students learn about genetic variation within and between racial groups it significantly changes their perceptions of human genetic variation, thereby causing a significant decrease in their scores on instruments assessing cognitive forms of prejudice. We then

← **Biology example**

## Engineering example

“I really thought about like, who cares if this class is about mechanics and materials? This is still about humans. And so, that’s why I did that assignment on diverse products. Because we’ve always used the standard male crash test dummy, women are more likely to be injured and die in car accidents because the cars have been designed to protect a standard male crash test dummy.”

# Key takeaway: Equity and social justice in higher education

## Inequality

Unequal access to opportunities



## Equality?

Evenly distributed tools and assistance



## Equity

Custom tools that identify and address inequality

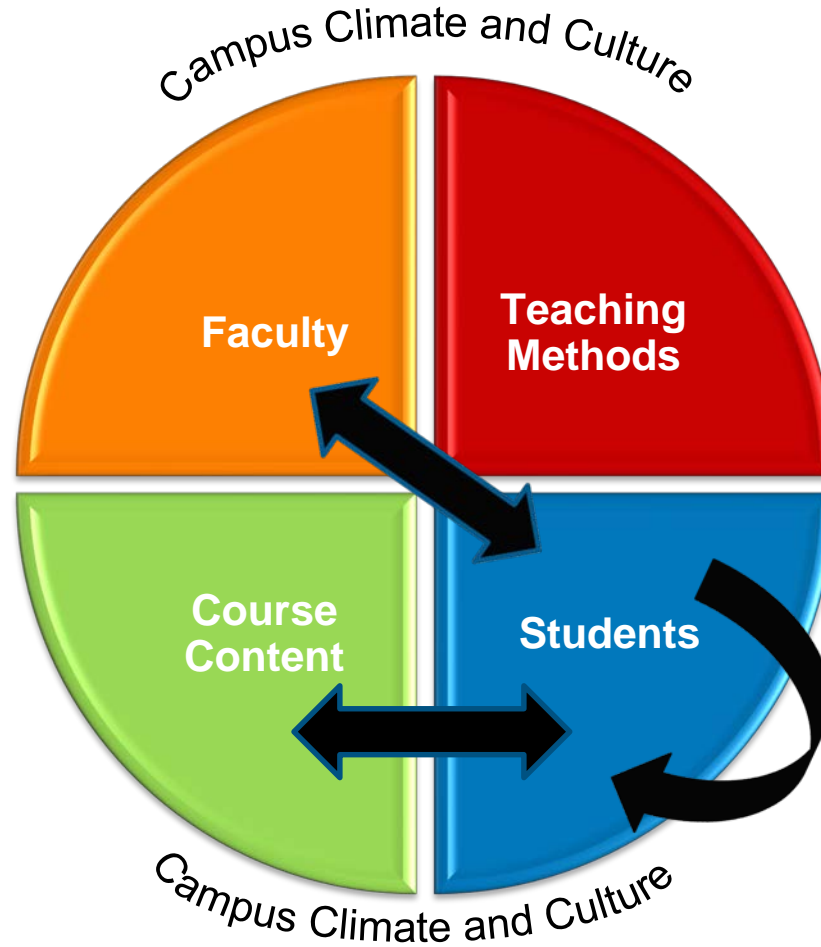


## Justice

Fixing the system to offer equal access to both tools and opportunities



# Interactions and Student Engagement



Active learning environments must be student-centered.









# Building Community Online

(student-student, student-instructor)

# What may be required of a 'remote' student?



# We can help our students self-organize and self-regulate

Plan for online learning and work	
Fill in. Post in a prominent place. Revisit regularly 😊	
 How I take care of my <b>physical</b> health	 How I take care of my <b>mental</b> health
 My <b>goals</b>	 My <b>schedule</b>
 My <b>work space</b> and how I <b>set boundaries</b>	 How I <b>minimize distractions</b>
 Where I <b>find resources</b> , and <b>people I can talk to</b>	 My <b>tasks</b>

• You can chose the timeline to use for each section, e.g., daily, weekly.  
• There are excellent, detailed resources online, such as: <https://students.carleton.ca/2020/03/top-ten-tips-to-study-online/>  
• Icons from Freepik, Kiranashstry, Nikita Golubev, Kiranashstry, Catsuro, and Eucalypt from Flaticon  
• Suggestions for this short guide are welcomed!

FRG  
FLYNN-RESEARCH-4000000

CC BY NC SA

\* Explanations and sample answers can be provided

## We can promote social experiences online



Students must have **access to requisite technology / tools**

**Insufficient if the following are not met ...**



Students must **form social relationships**, as this develops trust (i.e. that others will react respectfully and kindly to what one says and does)



Students must **discover the benefits** of virtual interactions

**Requires pedagogical design and intervention!**

## Example: Virtual “Fast Friendship” Procedure

Student dyads answer questions (3 sets of 12 questions) over the term. Example:

1. Given the choice of anyone in the world, whom would you want as a dinner guest?
4. What would constitute a perfect day for you?
8. Name 3 things you and your partner appear to have in common.
17. What is your most treasured memory?
23. How close and warm is your family? Do you feel your childhood was happier than most other peoples?
32. What, if anything, is too serious to be joked about?
34. Your house, containing everything you own, catches fire. After saving your loved one and pets, you have time to safely make a dash to save any one item. What would it be? Why?

Social connections between distance students foster social psychological processes that contribute to positive social and educational outcomes.

## Breakout Room

Consider the course(s) you are re-designing for remote delivery.

List the ways you might promote (and even require) **meaningful student interactions**. (These can include communications and collaborations).

List the ways you will create **your own social presence** and interact with your students.

Will these take place synchronously or asynchronously? What tools might you use? What challenges did you anticipate given class level, size, *etc*?

**Take 10 min. to discuss with your colleagues.**



## KEY TAKEAWAY

To create effective student engagement in online / remote courses, we must “incorporate meaningful and multiple ways of interacting with students and encouraging/requiring students to interact with each other.” – (Dixson, 2010)

# A Peak Ahead: Workshop #3

Access  
without support  
is not  
opportunity

## 3. Developing a Plan Remote learning course design and remote assessment

Friday  
August 28  
1:00-4:00 pm

What are features of a  
student-centered  
syllabus that is  
effective for remote  
instruction?

What forms of  
remote (summative)  
assessment are effective  
in the complex  
circumstances of the  
COVID pandemic?

What formative  
assessment approaches  
can we use to engage  
STEM students during  
the complex  
circumstances of the  
COVID pandemic?

### Syllabus [CODE#### – Title] – REMOTE version – 2020

#### Welcome!

#### You are welcome here

In this course, all students are welcome, including all races, colours, cultures, ethnicities, genders, sexualities. This course is a space for respect for each other, including students, teaching assistants, staff, and professors. You can reach out at any time. Note: the periodic table was made by chemist Anne McNeil and artist John Megahan.

#### Professor

[name]  
Office: Virtual  
Email: \*Please put [CODE####] in the subject line\*. I do my best to respond within one business day.

#### Teaching assistants

[name]  
Email: \*Please put [CODE####] in the subject line\*. TAs try to respond within one business day.

#### Staying well and even thriving during the pandemic

This edition of the course is being offered remotely. Essentially that means that we would ideally be having the course in person but because we are not able to do so, we are making a rapid conversion to an online/digital format. Normally, an online course is designed with a team of experts over a long period of time; this edition of the course was rapidly converted over a few months. I hope for your understanding if there are some bumps along the road and I welcome your suggestions any time. We are trying to make the most of a difficult situation.

I recognize that many people are struggling during the pandemic; others are thriving. I do want you to use this time to figure out how to be well (and even excel!) during this time. To that end:

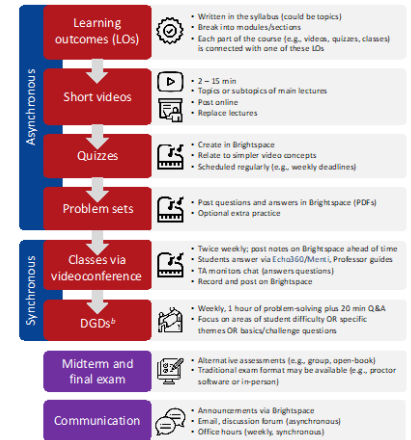
- \*Please fill out this form immediately to inform me (Professor [name]) of the tools you have available to you: [copy and link to new version of Drive form].
- Use the resources in Brightspace called: "Excelling in online learning"
- Please feel free to contact me by email.

#### Course information

Course Description  
(details)



### Suggested weekly course sequence



<sup>6</sup> \*Synchronous component at the same time, e.g., videoconference, synchronous student/discussion conference that over-see teaching, small, discussion rooms, one-on-one discussions. \*DGDs are asynchronous (though discussion can be synchronous).

<sup>7</sup> \*Whether you can't, don't, need to be specific? In them talking? But it can still be a good learning experience, given this need for remote teaching.

<sup>8</sup> \*The teaching and learning support services (TLLS) provide support for many of the tasks identified, especially Brightspace.

<sup>9</sup> \*Signatures will count!



## Summary Reflection

**On our shared Google doc, please write:**

1. A one-sentence summary of today's workshop.
2. One idea you might use.
3. One word that describes how you feel.

Thank You