Inclusive STEM Teaching Project Syllabus

Course description

Throughout this course, we ask participants to engage in reflection and discussions around topics of equity and inclusion in learning environments across a variety of institutional contexts. This course is designed around identity, power, positionality and privilege informed by core principles with the goal to improve participants' awareness, self-efficacy, and ability to create inclusive STEM learning environments for their students. We employ key activities that include embodied case studies, affinity spaces, and an inclusivity framework portfolio, collectively designed to nurture a transformative mindset, to help the participants reflect deeply on key identity-related aspects of each module as they go through the course, and to help them apply these aspects to their own teaching and learning contexts. Participants have the option to join a facilitated weekly synchronous (now virtual) learning community that extends the learning in the asynchronous online edX course.

Learning Objectives

As a result of participating in this course, participants will be able to:

- **Examine** diversity, equity and inclusion in higher education, especially around identity, power privilege, and positionality, in their departmental context (*e.g.,* classroom, laboratory, research group), as well as institutional and national contexts.

- **Reflect** on their own and their students' identities and experiences, the intersectionality of identities, and the impact those identities have on their teaching practice and on their students' sense of belonging and learning.

- **Question** their assumptions about all aspects of instruction (*e.g.,* course materials, learning objectives, teaching methods, learning spaces, assessments), as well as conceptions of diversity, equity and inclusion, and what those assumptions might mean for their practice and student learning.

- **Identify and implement** learner-centered structures and strategies that remove common barriers to learning in STEM courses and enhance learning for all students

- **Apply** principles of evidence-based inclusive teaching to their course design and learning environments in higher education.

- **Use** their student learning data and feedback to inform pedagogical and curricular choices in higher education

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Accessing the Online Course

This course is on edX, so to participate you will need a computer, phone or tablet with internet to access course materials, and speakers or headphones to listen to video content. Register for an edX account via edx.org or use your existing edX account. Register for the course here, or search for it in edX course offerings. Once you have registered for the course you will be able to access it through your edX dashboard.

This is a six-week course, starting Wednesday, October 13th and ending Wednesday, November 24th. Course content is released weekly so participants move through the course as a cohort, and weekly course engagements align with online discussions and with activities in the facilitated learning communities. Descriptions of each module can be found here. The course weeks run Monday to Sunday, but course materials are released usually the Thursday prior for those who want to work over the weekend.

Week #	Content module	Date of release	Dates of expected engagement
Intro	Introduction	Oct. 13	Oct. 13- Oct. 17
1	Module 1 - DEI in Higher Education	Oct. 13	Oct. 18 - Oct. 24
2	Module 2 - Instructor Identity	Oct. 21	Oct. 25 - Oct. 31
3	Module 3 - Student Identity	Oct. 28	Nov. 1 - Nov. 14
4	Module 4 - Course Design	Nov. 4	Nov. 8 - Nov. 14
5	Module 5 - Classroom Climate	Nov. 11	Nov. 15 - Nov. 21
	No new content		Course closes Nov. 24

Module descriptions are linked here

Teaching Methods/Activities

Online, asynchronous content and activities: All participants are expected to engage with the online, asynchronous content and activities. Every module (one week's worth of content) includes videos, written activities, and discussion boards. All participant interactions are expected to follow the set of discussion guidelines to promote respectful engagement.

Workload: There is approximately 2-3 hours of content weekly, which includes 45-60 minutes of video and 60-65 minutes of reading and writing in discussion boards, affinity spaces and self-reflection in your

inclusivity framework.

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Optional activities:

Local learning communities: Many participants choose to join a learning community in addition to engaging in the online, asynchronous content. Learning communities are facilitated conversations that engage more deeply in the content, support a community of learners, and encourage participants to apply strategies within their context.

- Learning communities meet weekly for 80-90 minutes.

- Facilitators are trained and use a facilitator workbook to help intentionally plan the sessions.

- Each local learning community will determine their own meeting schedule.

- If a learning community is available at your institution, please register using the method/platform advertised by the community's facilitators. Otherwise, you may indicate your interest in joining a learning community using the project's website [form](#).

Optional Synchronous Online Affinity Groups: We believe, and the literature supports[1], that there will be benefits to our participants to have spaces for conversations about their identity-based experiences with others who share similar identities. The synchronous online affinity groups are based around the following intersectional racial and gender identities[2]: Black, Indigenous, and other Person Of Color (BIPOC), White, Women/Womxn, and Men/Mxn. We recognize that there are more identities that would benefit from an affinity space and that any set of "labels" cannot fully capture the range of people and experiences present in this course. However, we have chosen these four identities as a starting point, with hopes to add more in the future as engagement increases. Here are some anticipated goals of this feature:

- Increase sense of community and shared vulnerability while learning course material

- Create an opportunity for individuals who are historically underrepresented and marginalized in STEM to connect with colleagues and potential mentors who share their experiences

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[1] Blitz, L. V., & Kohl Jr, B. G. (2012). Addressing racism in the organization: The role of white racial affinity groups in creating change. *Administration in Social Work*, *36*(5), 479-498. Michael, A., & Conger, M. C. (2009). Becoming an anti-racist white ally: How a white affinity group can help. *Perspectives on Urban Education*, *6*(1), 56-60. Pour-Khorshid, F. (2018). Cultivating sacred spaces: A racial affinity group approach to support critical educators of color. *Teaching Education*, *29*(4), 318-329.

[2] **Social identity** is "that part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups), together with the value and emotional significance attached to that membership".

See: Tajfel, H. (1978). *Differentiation between social groups: Studies in intergroup relations.* London, England: Academic Press. pg 63.

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- Offset the burden of minoritized participants to "teach" majority participants about their experiences

- Encourage well-informed majority participants to "teach" their majority colleagues by sharing their knowledge about the experiences of male and/or white advantage in teaching/learning spaces

- Reduce possible harm of minoritized participants, being faced with majority participants who share and grapple with uninformed opinions about the role of social identity in the classroom

Participation in these groups is optional but we do encourage you to sign up.

- Participants can find the schedule and sign up for these groups in the "Affinity Groups"section of the Introduction in the course.

- Sessions will be hosted on Zoom.

Assessments

Course assessments rely on reflective self-assessment. No other participant will see an individual's responses.

- **Critical self-reflection and self-assessment prompts:** These prompts help you reflect on key concepts, ideas and principles and to apply to your own practice and understanding.

- **'My inclusivity framework'** is designed for you to reflect deeply on key aspects of each module, and to apply these aspects in tangible ways to your own current and/or future teaching and learning contexts. 'My inclusivity framework' consists of two prompts at the completion of each module, one is a self-reflection prompt and the other is an application prompt. At the course completion, you will have created your own inclusivity framework. Responses will not be graded but will count towards the completion of the courses.

Grading and Course Completion

- Course completion is achieved by responding to 50% or more of the inclusivity framework questions, of which there are two at the end of each module and two at the end of the course, for a total of 14 questions. Two of the seven that you complete (or more) must be from Module four or later in the course. Course completers will receive a Certificate of Completion from edX if they participated in the verified track; and from the Inclusive STEM Teaching Project if they participated in the audit track.

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Code of Conduct

We, the course creators, are committed to creating and sustaining an equitable learning environment for all students in this course. We will work to ensure that all participants are valued learners. In turn, we expect that participants will engage in this course mindfully and with expectations of personal reflection and growth as you engage with the course material.. Furthermore, we acknowledge that we are all fallible and may say things to each other that offend or have unintended consequences. Please bring these situations to the course creators' attention using this form. We commit to listening carefully and changing our behavior, addressing other participant's behavior, and reconsidering course components.

Syllabus appendices:

Module Descriptions

Course Core Principles

Discussion Guidelines

Course Creation, Developers, and Funding

Module Descriptions

Specific learning objectives for each of these modules are available in EdX.

Introduction: In this introductory module, participants will be introduced to the concepts, ideas, and terms that relate to fostering inclusive classrooms and learning environments in higher education. Participants will be provided guidance on course flow, activities, and engagement. The concepts reviewed in this session will be reinforced in the content throughout the rest of the course.

Module 1: Diversity, Equity, and Inclusion (DEI) in Learning and Teaching in Higher Education: Participants will examine aspects of diversity, equity, and inclusion (DEI), especially around identity, power, privilege, and positionality, in both their local institutional context (e.g., classroom, laboratory, research group) as well as at regional and national levels. Participants will explore the importance and impact of inclusivity in learning, reflect on common challenges instructors report about incorporating inclusive practices into their teaching, and explore the research and evidence basis for inclusive teaching.

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Module 2: Instructor Identity and Authority in STEM Classrooms: This module will guide participants from a range of backgrounds to reflect upon their individual identities and the ways in which those identities influence their experience as instructors and impact their students' learning.

Module 3: Student Identities and Experiences in the STEM Classroom: In this module, participants will review social identity frameworks introduced in module 2 and explore how students' social identities impact teaching practices, student learning, and classroom experience. Using embodied case studies developed in collaboration with the CRLT Players from the University of Michigan, participants will explore key concepts related to student experiences including discrimination, historical trauma, microaggressions and imposter phenomenon.

Module 4: Creating an Inclusive STEM Course: In this module, participants will explore and apply strategies for designing an inclusive course. Participants will explore typical strategies to course design and instruction, and how these approaches eliminate or create barriers to student learning. Such approaches include backward design, active-learning strategies, universal design, and formative and summative assessments.

Module 5: Fostering an Inclusive Climate in the STEM Classroom: In this module, participants will become aware of, reflect on, and explore how to develop and implement inclusive and evidence-based teaching practices that create and sustain more inclusive classroom climates using embodied case studies developed in collaboration with the CRLT Players from the University of Michigan. Participants will also explore ways to measure their classroom climate to more clearly understand how students are experiencing their class.

Course Core Principles

Core principles are ideas and beliefs we hold as foundational to the way we have constructed the course. We ask that you accept the principles you recognize and align with, and that you sit with and reflect on those that may be new to you. We will not spend time and space in this course debating their veracity. If there are principles that you don't agree with, we ask you to set aside your disagreement for the moment, note your response, and ask yourself: Why does this cause me some resistance? How do my experiences differ from the ideas presented here? These types of questions may open a path of reflection , inquiry, and continued engagement.

Our general principles are that first, we do not yet live in a "just" society - racism, sexism, heterosexism, ableism, ageism, and classism etc. are real and present and these systems impact the institution of higher education and student learning. Second, we will not conflate the experiences of all marginalized groups. Experiences of racism are different than sexism or ableism and we will not avoid talking about race, even if it feels more difficult or makes us uncomfortable as our country processes the ongoing

incidents of discrimination and violence on black and other marginalized communities. Third, we strive for a social justice perspective to inclusive teaching, acknowledging that like many of you, we are continuing to learn from our mistakes and do better for the sake of improving society through equitable access to STEM education.

Centering instructor and student identity is core to inclusive teaching. We are not blank slates, neither are our students[3], and we all bring our identities and experiences into the learning space. We hold the core principle that it is the systems of oppression that are the problem, not the identities of students or instructors.

We ground our learning and teaching work in social constructivism in which students learn by making meaning for themselves through active engagement with ideas and social interaction with others, thereby upholding the principles of humanizing pedagogy. We believe that instructors have the responsibility to create an equitable environment in which all students can learn. And that all students have the right to find joy in their learning experiences and it is our job as instructors to create such an environment.

We acknowledge that we all have biases but some groups fall victim to other's biases more than other groups. As instructors in this course, we will not ask minoritized participants to share their insights to benefit the learning of majority-identified participants. Because of this, we are incorporating affinity groups to allow individuals from similar-identity groups to learn from each other (see description above). The social and cultural spaces we navigate are shared, the lives that we lead are at once individual and collective, and the shaping of our social environment happens in collaboration with others, whether such collaboration is voluntary or enforced.

Finally, being a reflective, culturally responsive, inclusive instructor is a lifelong process of discovery that requires continuous learning. We will continue to adapt our practice to the changing needs of the student communities with whom we work.

Discussion Guidelines:

As we engage in conversations with one another through our discussion boards and our affinity spaces, we want to do so in a way that maintains a respectful tone and honors the diverse perspectives and participants within our community. To that end, we have created a set of discussion guidelines. Guidelines are a central part of cultivating an inclusive and equitable teaching and learning environment, since they make intentional and transparent key principles of interactions and can be a place of reflection and accountability when tense situations arise.

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[3] Freire, P., *Pedagogy of the oppressed*. 2000, New York, NY: Continuum.

- **Feel free to pass on any discussion prompt:** Unlike our self-reflection prompts, which are your private spaces, feel free to pass on any discussion prompt if you feel that it might be triggering, harmful, or otherwise not productive for you. You do not need to reveal or share anything in a public way that you would prefer not to share. At the same time, discomfort can be productive and promote learning.

- **Strive for intellectual humility.** As you engage with the content, we ask that you strive for intellectual humility. When you humble yourself, it means that you're willing to be open to hearing and grappling with ideas that may challenge your own thoughts, experiences and perspectives.

- **Assume that people are speaking, writing, or sharing with the best intentions.** This guideline strives for giving people the benefit of the doubt when they are reflecting on their learning and trying to make meaning of the material. However, this assumption values the intention of the speaker over the impact of those words on the people who are hearing them and leaves space for an individual's unexamined opinion to hijack the conversation and potentially cause harm to others. And so, we offer this guideline to encourage us to think about the impact of our words before we speak them so that we can aspire to assume that people are speaking, writing, or sharing with the best intentions.

- **Respect confidentiality. Stories stay and lessons leave.** Respecting confidentiality means that the stories shared by participants stay in this course setting; however, please do take away the lessons, insights and learning to reflect on for yourself and others. At the same time, this course has specific code of conduct guidelines that we expect everyone to adhere to.

- **Recognize how your own social positionality** (e.g., race, class, gender, sexuality, ability) informs your perspectives and reactions to others in various roles such as, instructors, colleagues, advisors. If the idea of social positionality is new for you, resources will be provided in this course to help you explore the concept more deeply.

- **Differentiate between your opinions and informed knowledge**, which comes from lived experience, study, and practice. Be willing to engage with new research or ideas.

Discussion boards will be moderated by facilitators and trained moderators to support the learning of all participants, posing questions, responding to queries, resource sharing, etc. As part of that process, we will be intentional about reflecting on these guidelines and interrupting--privately or publicly-- behaviors that are not in alignment.

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Course Creation, Developers and Funding

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