

## **CDS DS 291: Spark! Exploring DEI in Tech**

**Instructor:** Chu Huang [chuhuang@bu.edu](mailto:chuhuang@bu.edu)  
**Student Leads:** Anissa Patel (CAS CS '25) [anissakp@bu.edu](mailto:anissakp@bu.edu)  
Maxim Slobodchikov (CAS CS '25) [maxims@bu.edu](mailto:maxims@bu.edu)

**Director of BU Spark!:** Ziba Parissa Cranmer [zcranmer@bu.edu](mailto:zcranmer@bu.edu)

**Course Dates:** Fridays from 9/08 until 12/08  
**Course Time & Location:** 10:10 am - 11:55 am CDS B64A

**Course Credits:** 2 credits  
**Hub Unit:** The Individual in Community

**Office Hours:** Chu (via [Zoom](#)): Monday (12 pm - 1 pm) and by [appointment](#)  
Anissa (via [Zoom](#)): Wednesday (2 pm - 3 pm) and by [appointment](#)  
Maxim (via [Zoom](#)): Tuesday (12 pm - 1 pm) and by [appointment](#)

### **Course Description:**

This course will explore topics related to diversity, equity, inclusion, and justice (DEIJ) in the technology sector. Students will start by gaining a foundational understanding of identity, intersectionality, and inclusive dialogue. They will then apply this framework to understand issues of DEIJ in the tech sector in Academia and business and the different technology domains from AI to hardware. The course includes a final project where students will use an intersectional lens to assess a tech sector issue they are passionate about and develop solutions they believe can have an impact at BU and beyond. Through this course, students will increase their DEIJ vocabulary, apply it to their personal and professional goals, and become effective facilitators around issues of identity and intersectionality in the tech sector.

### **Learning Outcomes:**

The primary learning outcome for this course will be to foster a deep understanding of the issues associated with DEIJ in the disciplines of technology, computing, and data sciences and equip students with the skills and tools to proactively engage as advocates and disruptors of the adverse effects of inequity throughout their academic and professional journeys. By the end of the semester, students will be able to:

1. Address biases, microaggressions, and other ethical dilemmas in the context of the computer science and software sector and identify why DEIJ is critical training for future STEM professionals in academia, the private sector, and the government.
2. Ideate and implement intervention and advocacy tactics to shift policies, practices, and cultures with transformational leadership, active allyship, radical reinvention, and more by employing an intersectional and holistic understanding of DEIJ in STEM.

## **Hub Learning Outcomes: The Individual in Community**

**Learning Outcome #1:** Students will analyze at least one of the dimensions of experience—historical, racial, socioeconomic, political, gender, linguistic, religious, or cultural—that inform their worldviews and beliefs as well as those of other individuals and societies.

- The ability to accept individual responsibility toward multiple communities, and to work as engaged members of diverse communities, is essential to all aspects of life in the 21st century.
- Students will achieve this hub requirement through the course's paradigm-centered curriculum, where course members will learn the intersectional biases within technology. By the end of the course, students will identify prejudice and discrimination in technology across race, ethnicity, and gender and how these inequities correlate to modern programming and technology spaces. In addition, students will leave the classroom with an understanding of their own roles and ability to be positive change agents in tech spaces.

**Learning Outcome #2:** Students will participate respectfully in different communities such as campus, citywide, national, and international groups and recognize and reflect on the issues relevant to those communities.

- A key component of this course focuses on providing students with the skills and practice to increase their DEIJ vocabulary, apply it to their personal and professional goals, and become effective facilitators around issues of identity and intersectionality in the tech sector. The second part of the course focuses on transformative leadership and action. It includes a final project where students will use an intersectional lens to assess an issue they are passionate about within the tech sector and develop solutions they believe can have an impact at BU and beyond.
- Students will be required to complete the milestones and deliverables outlined for the final project. The deliverables include: a) idea chart b) targeted audience interviews c) six-month timeline d) final proposal outline e) final presentation f) final proposal. This final project culminates the final project grade as each deliverable will be evaluated upon timely and successful completion.

## **Class and University Policies**

### **Weekly Assignment Completion & Late Work**

To ensure that students are consuming the learning materials provided (e.g., videos, podcasts, readings, etc.) and becoming familiar with key concepts and insights contained in the content, they will be asked to complete a brief weekly assignment on BlackBoard. Weekly Assignments are due at the start of each class; that is 10:10 am on Fridays.

10% will be deducted for each day an assignment is late unless you have received prior permission for an extension. We understand that emergencies arise and may grant extensions for extenuating circumstances, but they must be approved in advance. Please communicate with the instructors or student leads and request an extension as soon as possible to avoid a deduction of points.

### **Academic Conduct - Collaboration on Assignments and Final Project**

Unless explicitly stated, collaboration on weekly assignments and the final project is not allowed. It is permitted and encouraged to cite best practices for solutions and practices identified through publicly available information, but you must cite your sources appropriately. Students are expected to abide by the guidelines and rules of the [Academic Code of Conduct](#).

### **Religious Holidays & Mental Health**

We understand that our student community is diverse and affirm the University's [Policy on Religious Observance](#). Please communicate in advance with faculty if you have a religious obligation that may impact attendance or meeting deadlines. Additionally, we recognize that life is stressful and want to support your mental health. Students should feel supported by faculty to take the steps they need to manage their personal mental health.

**\*\*If you need prayer accommodations during our class time please let the instructors know at least 48 hours prior to class so they may find you suitable accommodations.**

### **Disability Accommodations**

We aim to create a class that is inclusive for all students, including those who are neurotypical, neurodivergent, and students with disabilities. Please speak with us regarding any needs you have to enhance your learning and optimize the learning environment for you and others. For Accommodations for Students with Documented Disabilities: If you are a student with a disability or believe you might have a disability that requires accommodations, please get in touch with the [Office for Disability Services](#) (ODS) at (617) 353-3658 or [access@bu.edu](mailto:access@bu.edu) to coordinate any reasonable accommodation requests. ODS is located at 25 Buick Street on the 3rd floor.

### **Instructional Format, Course Pedagogy, and Approach to Learning**

This course has been primarily designed by students and led by students with partnership and support from faculty instructors and advisors. The course pedagogy, therefore, is student-centered, collaborative, and participatory. While a wide variety of modalities will be utilized to engage and accommodate the diverse learners and learning styles in the class, a core pedagogical approach is a collective critical exploration through dialogue and discourse. All students will be expected to actively participate in our course discussions in class and online.

Approximately one-third of the course will include presentations from local and national guest speakers. During those sessions, we will reserve 30 minutes for discussion to “connect and reflect” on the content offered or to engage in group work and/or practice/preparation for the final projects.

### **Assignments and Grading**

| <b>%</b>   | <b>Category</b>              | <b>Grading Elements</b>  |
|------------|------------------------------|--|
| <b>30%</b> | Attendance and Participation | Attendance and participation in group discussions and activities                                       |
| <b>30%</b> | Assignments                  | Weekly homework assignments on BlackBoard  |
| <b>40%</b> | Final Project                | Final Project Idea Chart, Targeted Audience Interviews, Six-Month Timeline, Presentation, and Proposal |

### **Outline of Class Meetings and Assignments**

#### **Books and Materials**

All course materials will be posted on the course Blackboard site.

#### **Attendance, Participation, and Absences**

Due to the importance of dialogue and community building to this course experience, attendance and participation are required. Aside from class discussions, we also have opportunities for small group discussions. Missing more than 3 sessions without permission from the instructors will likely affect your final grade, as it accounts for 30% of it. We understand emergencies arise. If you must miss class, please email the instructor and student leads beforehand.

#### **Weekly Assignments**

To ensure that students are consuming the learning materials provided (e.g., videos, podcasts, readings, etc.) and becoming familiar with key concepts and insights contained in the content, they will be asked to complete a brief weekly assignment on BlackBoard due before each class. These assignments will cover topics needed for the corresponding week.

#### **Check-in Reflections**

Classes will have a round-robin session where each student will share reflections from their journal prompt on the weekly assignment and any relevant experiences where the content manifested in relation to the speaker.

#### **Extra Credit**

Throughout the semester, we offer extra-credit opportunities to encourage students to deepen their learning and understanding of a particular subject. When grading, extra credit will serve as its own category and not be added into a pre-existing one. The maximum extra credit available will be up to 10%.

## Weekly Lecture/Guest Speaker

Each class will include a lecture or a guest speaker who will provide an overview of that week's topic. Guest speakers might request that you complete a worksheet or go through an article before their scheduled presentation. These presentations will be followed by a socratic seminar-style discussion with few interventions from the instructors and student leads.

## Final Project

Students will select a domain of interest from the tech sector where they want to see change occur from a DEIJ perspective. They will research and present a strategy for action, including conducting a minimum of 3 interviews with targeted audiences who impact or are impacted by the issue they are seeking to address and a projected 6-month timeline. Interviews should be conducted both about the problem and their proposed solution. Their final proposal will cover their understanding of the problem, including targeted audience insights, their proposed solution, the barriers to achieving change, and how they would measure and track success. This will also include an accompanied presentation to be shared during the final class.

## Course Schedule

| Date            | Topic                                    | Class Discussion and Assignments   | Guest Speakers           |
|-----------------|--|--|--------------------------|
| 9/04            | Labor Day                                |  |                          |
| 9/05            | Classes Begin                            |  |                          |
| 9/08<br>Week 1  | Syllabus Review and Course Introductions | <ul style="list-style-type: none"><li>Facilitate Introductions &amp; Community Building</li><li>Establish Class Agreements</li><li>Review Syllabus</li><li>Introduce Final Project</li></ul>   | None                     |
| 9/15<br>Week 2  | Foundations of JEDI                      | <ul style="list-style-type: none"><li>Reflect on JEDI Module</li><li>Engage in Activity-based JEDI Workshop</li><li><u>Due:</u> <b>JEDI Module</b></li></ul>   | JD Kotula, BU Librarian  |
| 9/22<br>Week 3  | Foundations of JEDI and STEM             | <ul style="list-style-type: none"><li>Introduce Biases in Various Technological Sectors</li><li>Understand People's Impact on Technological Design</li><li>Decode Tech Language/Slang</li><li><u>Due:</u> <b>Journal 1</b></li></ul> | None                     |
| 9/29<br>Week 4  | Inclusive User Experience and Design     | <ul style="list-style-type: none"><li>Create Lenses for User Design</li><li>Learn Approaches for Constructing Inclusive Technology</li><li><u>Due:</u> <b>Journal 2, Work on Idea Chart</b></li></ul>                                | Augusta Meill, Agncy     |
| 10/06<br>Week 5 | Algorithms, AI, and Machine              | <ul style="list-style-type: none"><li>Assess Algorithmic Bias and Fairness</li></ul>   | Deepra Yusuf, Automating |

|                  |  |  |  |
|------------------|--|--|--|
|                  | Learning   | <ul style="list-style-type: none"> <li>• Apply Strategies to Eliminate AI and ML Biases</li> <li>• <u>Due:</u> <b>Journal 3</b></li> </ul>   | NYCU   |
| 10/09            | Indigenous People's Day  |  |  |
| 10/10            | Substitute Monday Schedule                                       |  |  |
| 10/13<br>Week 6  | Hardware, Software, and Computer Vision                          | <ul style="list-style-type: none"> <li>• Examine Biases within Hardware, Software, and Computer Vision</li> <li>• Highlight Importance of Diversity in Design Teams</li> <li>• <u>Due:</u> <b>Journal 4</b></li> </ul>   | Bertrand Saint-Preux, Snap Inc.                              |
| 10/20<br>Week 7  | Bias, Ethics, Fairness, and Responsibility in STEM               | <ul style="list-style-type: none"> <li>• Set Technological Boundaries</li> <li>• Navigate Biases in the Technological Realm</li> <li>• Unravel Ethical Dilemmas in Technology</li> <li>• Brainstorm Final Project Ideas</li> <li>• <u>Due:</u> <b>Journal 5, Idea Chart</b></li> </ul> | Seth Villegas, Postdoctoral Fellow, CHASS & Spark!           |
| 10/27<br>Week 8  | JEDI and The Workplace   | <ul style="list-style-type: none"> <li>• Introduce Biases and Perspectives in the Workplace</li> <li>• Explore Workplace Culture and Values</li> <li>• <u>Due:</u> <b>Journal 6, Targeted Audience Interviews (3 Total)</b></li> </ul>   |  |
| 11/03<br>Week 9  | STEM Pipeline: Access to Education, Training and Career Pathways | <ul style="list-style-type: none"> <li>• Examine Educational Leaky Pipeline to STEM</li> <li>• Explore K-12 Education Policies</li> <li>• Address Different Access to Career Pathway Resources</li> <li>• <u>Due:</u> <b>Journal 7, Six-Month Timeline</b></li> </ul>                  | Jasmine LeFlore, Greater Than Tech                           |
| 11/10<br>Week 10 | Assessing Representation, Bias, and Climate                      | <ul style="list-style-type: none"> <li>• Reveal DEI Challenges in Post-Secondary Education</li> <li>• <u>Due:</u> <b>Journal 8, Work on Final Proposal Outline</b></li> </ul>  | Sara Lubin, BU<br><br>Ashley Anyanwu, Spark! JEDI Ambassador |
| 11/17<br>Week 11 | STEM Personnel: Recruitment and Retention in Industry            | <ul style="list-style-type: none"> <li>• Understand Tech Industry Recruitment and Retention Challenges</li> <li>• Learn Intel's DEI Recruitment Strategy</li> <li>• <u>Due:</u> <b>Journal 9</b></li> </ul>  | Karla Mora, Intel  |
| 11/22 - 11/26    | Thanksgiving Recess  |  |  |
| 11/24            | No Class   |  |  |

|                  |                                |   |  |
|------------------|--------------------------------|---|--|
| 12/01<br>Week 12 | Final Project<br>Workshops     | <ul style="list-style-type: none"> <li>• Conduct Workshops on Proposal and Presentation Drafts</li> <li>• <u>Due:</u> Final Proposal Outline</li> </ul> |  |
| 12/08<br>Week 13 | Final Project<br>Presentations | <ul style="list-style-type: none"> <li>• Complete Presentations</li> <li>• <u>Due:</u> Final Proposal and Presentation</li> </ul>                       |  |

*Last Updated September 22nd*