

# Acknowledging Inequities in Tech through a Community-Engaged Learning Course

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## ABSTRACT

Community-Engaged Learning (CEL) provides students with an opportunity to engage with the community and develop academic skills as they reflect on social justice issues. We present the framework of a new CEL course that enables students to reflect on the inequities in tech through the process of teaching coding to youth from difficult circumstances such as those in the foster care and juvenile justice systems.

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## 1 INTRODUCTION

We present the details for a Community-Engaged Learning (CEL) [1] course that was developed in collaboration with community partners and the faculty from the Leo T. McCarthy Center for Public Service and the Common Good at the University of San Francisco. The goal of the course is two-fold - (i) To introduce coding to youth from difficult circumstances, and (ii) To help university students reflect on the challenges and inequities in tech that prevent *all* students from pursuing a career in tech.

**Course Logistics:** We identified two community partners (Breakthrough San Francisco and Community Tech Network) that serve middle school students in our city. One specifically works with youth who are transitioning out of the foster care system or have experience with the juvenile justice system. The other partner helps students with limited educational opportunities prepare for and attend college.

The CEL activities will take 25 hours to fulfill. The breakdown of hours will include: 10 hours of engagement with the youth onsite at the community partner organization to which the students are matched, 5 hours of teaching preparation for the workshop the students will conduct with the youth, and 10 hours of teaching or

support for workshops conducted at our university. The course material that our university students will teach the youth will include block-based coding (Blockly and Scratch), event-based programming in Scratch, coding simple games using Python to introduce variables, conditionals, and iterations, along with an overview of cybersafety, HTML, and data collection & analysis.

### Integrated Course Learning Outcomes

- Analyze the dynamics, strengths, and priorities of youth in our city and the programs that support them. **Assessment:** Reflection journal, in-class group discussion
- Examine inequities in tech access [2] for the youth, including root causes, impacts, intersections with other issues, and possible solutions to these inequities. **Assessment:** Reading reflection, Final Paper, In-class group discussion
- Analyze how your own and others' beliefs, values, identities, and worldviews shape an understanding of how technology and computer science education can serve the common good. **Assessment:** Developed teaching course material and related reflection, in-class group discussion

### Course Assessment

- Development and teaching of the course material for instruction : Students will develop slides, code, and handouts needed to teach a concept to the youth. They will obtain peer feedback on their lessons before they teach. The material will then be delivered to the youth at the site of the community partner.
- Reflection assignments : Reflect on their experience of teaching the material and the obstacles faced by certain groups to pursue a career in tech.
- In-class Participation: Lead a discussion in class about a topic related to inequities in access to computing.
- Community Partner Evaluation : The community partner supervisor will provide a written evaluation at the end of the semester. Students will complete a minimum of 25 hours of community service with their community partner.
- Final Reflection Paper - Students will respond to the following prompts: (i) How could the tech community be more inclusive? (ii) Identify and discuss the inequities in tech (iii) How could you play a part in this?

## REFERENCES

- [1] David M Donahue and Star Plaxton-Moore. 2018. *The student companion to community-engaged learning: What you need to know for transformative learning and real social change*. Stylus Publishing, LLC.
- [2] Mark Guzdial and Amy Bruckman. 2018. Providing equitable access to computing education. *Commun. ACM* 61, 8 (2018), 26–28.

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