

Why Community-Engaged Statistics and Data Science? Motivations, Obstacles, and Connections in the Age of AI

eCOTS Breakout: July 16, 2026

We will use this worksheet to start your process of designing a community-engaged course during the Electronic Conference on Teaching Statistics (ECOTS). Complete the “**Workshop reflection**” components on your own when prompted, then we will come together for a **MentiMeter** question before moving on to the next section.

1. COURSE VISION

Workshop reflection: Write an idea for a title for your community-engaged course:

(fill in)

MentiMeter (together): Use the slider to indicate how integrated your community partner would be in your course.

How often do you want to meet with your community partner?



Attend final presentations

Meeting every 1-2 weeks

Post workshop: Reflect deeper on the motivations of your student population (skills, experiences, etc) and your own motivations to pursue teaching this kind of course. What types of community partner projects would your students be excited to learn with? What makes this course exciting or meaningful to you?

(fill in)

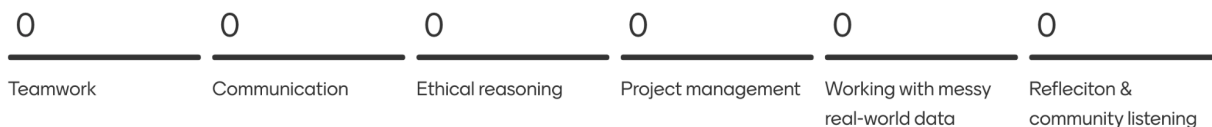
2. STUDENT COMMUNITY ENGAGEMENT SKILL DEVELOPMENT

Workshop reflection: Select the top three community engagement (CE) skills you want your students to develop in the class. Now, take your list of three and assess the level your students will be at at the start of the CE course (through potential prerequisites to the CE course) and where you hope they will be at the end of the course. Decide if you expect your student to be a novice, proficient, above average, or expert at each of those skills.

- Teamwork
- Communication
- Ethical reasoning
- Project management
- Working with messy real-world data
- Reflection and community listening

Skill	Expertise Before Course	Expertise After Course
Skill 1: <i>(copy from list above)</i>	novice, proficient, above average, or expert (bold one)	novice, proficient, above average, or expert (bold one)
Skill 2: <i>(copy from list above)</i>	novice, proficient, above average, or expert (bold one)	novice, proficient, above average, or expert (bold one)
Skill 3: <i>(copy from list above)</i>	novice, proficient, above average, or expert (bold one)	novice, proficient, above average, or expert (bold one)

MentiMeter (together): Select the three skills you chose for your community-engaged course:



Post workshop: What motivates you to emphasize these skills in your course? Reflect on whether your course vision can realistically bring students to the skill proficiencies you want. Is your expectation practical or possible? Will you need external resources or support (e.g. readings, guest speakers, design support from a community engagement campus office) to help your students accomplish these goals?

(fill in)

3. LEARNING OBJECTIVES

Workshop reflection: Read the learning goals below and **bold/underline** the parts that you'd like to build on for your course. Time allowing, start editing/changing these learning goals to fit your course context.

Critical/Ethical Analysis: Critically examine the implications of working with data from a community, including identifying ethical concerns such as power dynamics, representation issues, sources of bias, and model explainability; analyze the possible impacts of these concerns on community members; and suggest appropriate courses of action to address them.

Statistical Analysis with Community Context: Apply data science and statistical skills to co-create sustainable solutions to community-identified challenges with community members, with integration of local knowledge and community context.

Communication: Communicate effectively with community partners/stakeholders about methods, statistical results, and practical insights through active listening, culturally responsive questioning, and soliciting and integrating feedback throughout the analysis process.

Collaborative Competencies: Develop collaborative competencies within statistical teams by assessing personal growth areas, practicing effective communication and perspective-taking across differences, and utilizing effective project management skills and tools.

MentiMeter (together, if time allows): What learning goal are you most excited to investigate in more detail? Rank 1 (most excited) - 4 (least excited).

Critical/Ethical Analysis

Statistical Analysis with Community Context

Communication

Collaborative Competencies

Post workshop: For your specific CE course, write out a first draft of the full set of learning goals. These may include learning goals that are not related to community engagement. You could consider adapting the learning goals above or starting with your existing learning goals for a draft course or a different course.

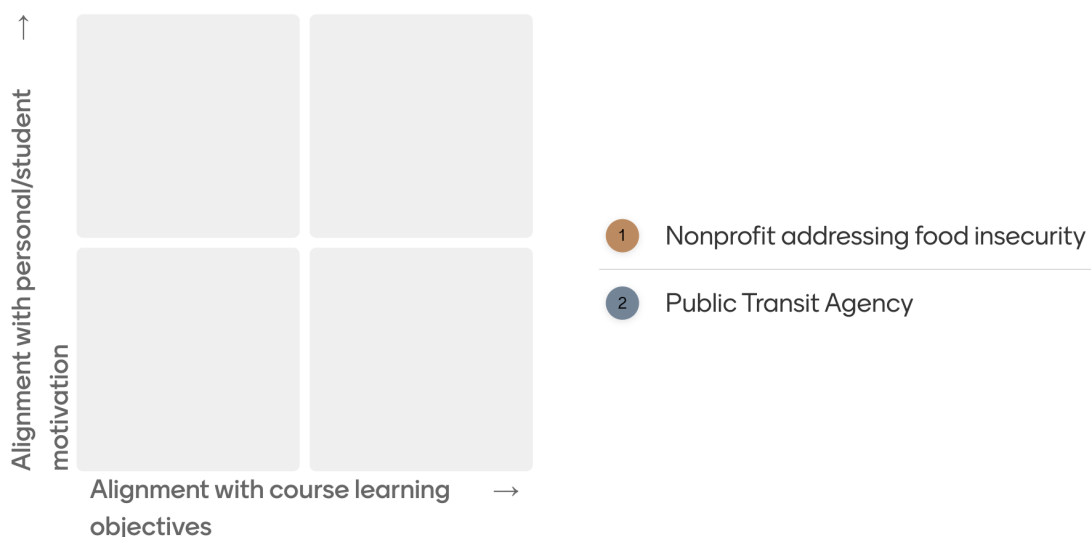
(fill in)

4. COMMUNITY PARTNER CASE STUDIES

Workshop reflection: Review the partner descriptions below. *Italicize* the parts of each partner description that excite/speak to you the most and underline the parts of each partner that challenge you or give you pause.

Partner	Nonprofit Addressing Food Insecurity	Public Transit Agency
Context	A small local nonprofit serves meals to those experiencing food insecurity at noon each day. The organization has over five years of meal counts handwritten on paper calendars.	The local public transit system has 15 years of ridership data, route information, and service schedules
Partner need	Determine whether meal demand has increased and explore associations with time of month, weather, and economic factors.	Identify routes that are most important for transit-dependent residents and evaluate how proposed service changes could affect access to jobs, schools, and healthcare.
Desired outcome	A sustainable dashboard or monitoring tool that can be used by a board with limited statistical background.	Statistical analysis and communication materials that can inform elected officials and community stakeholders.

MentiMeter (together): Place the community partners on the grid of Alignment with Course Learning Objectives and Alignment with Personal/Student Motivation.



Post workshop: Identify three potential community partners for your course. What is their mission statement? How does it relate to your course, student interest, and your interest?

1. Org Name: *(fill in)*
 - a. Mission Statement: *(fill in)*
 - b. Notes on relation to your course/student interest/your interest: *(fill in)*
2. Org Name: *(fill in)*
 - a. Mission Statement: *(fill in)*
 - b. Notes on relation to your course/student interest/your interest: *(fill in)*
3. Org Name: *(fill in)*
 - a. Mission Statement: *(fill in)*
 - b. Notes on relation to your course/student interest/your interest: *(fill in)*

5. CLOSING: (together)

Post-Workshop Planning: Additional Questions

Community Partner Planning

Potential community partner/organization:

(fill in)

Community issue or question students will engage with:

(fill in)

Why is this partnership a good fit?

(fill in)

Use the following guiding questions for an initial (ideally in-person) conversation with each of the potential community partners:

What is the core problem or research question they hope to address?
What are their goals and measures of success?
What data currently exist or could be identified? Can the partner deliver the required data with enough time to prepare?
How will the data be provided, how much cleaning will it require, and is the documentation sufficient to understand it?
Who are the relevant stakeholders?

Checklist after initial discussions:

- ☐ We have met and formed a [community partner agreement](#)
- ☐ We have discussed timelines
- ☐ We have access to the data
- ☐ We have discussed project expectations
- ☐ The project feels feasible for the course timeline
- ☐ Ethical/data considerations have been discussed with the community partner

Planning Final Product of CE Course

What will students create by the end of the course?

- ☐ Dashboard ☐ Report ☐ Data visualization ☐ Website ☐ GIS/story map
☐ Community presentation ☐ Automated report/tool ☐ Other: _____

Describe the final project:

(fill in)

Reflection & Sustainability

How will students reflect on ethics, collaboration, and community impact?

(fill in)

How will the work continue after the course ends (if applicable)?

- ☐ Documentation ☐ Reproducible repository ☐ Handoff materials
☐ Future student continuation ☐ Community-facing summary