

How Stakeholders Inform Collaborative Course Design: A Case Study of ENGR 110

Foundational Course Initiative and the College of Engineering, University of Michigan

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We would like to acknowledge the many important contributions to this work from the ENGR 110 CCD team, the College of Engineering, and CRLT.

Engineering (ENGR) 110-Foundational Course Initiative Partnership

ENGR 110 is an elective course designed to assist incoming freshmen in the initial development of a structured plan for their educational experience within Michigan Engineering.

ENGR 110 is currently engaged in a three-year partnership with the CRLT Foundational Course Initiative (FCI). Through this partnership, a collaborative course design (CCD) team is working toward transforming ENGR 110 into a course that provides students with multiple tailored opportunities to explore their academic interests and professional goals.



FCI Team

- Instructional Design
- Student Support
- Analytics & Assessment
- Technology

Department Team

- Undergraduate Education & Engagement
- Departmental Ambassadors
- Engineering Advising Center
- Faculty

Role of Stakeholder Engagement

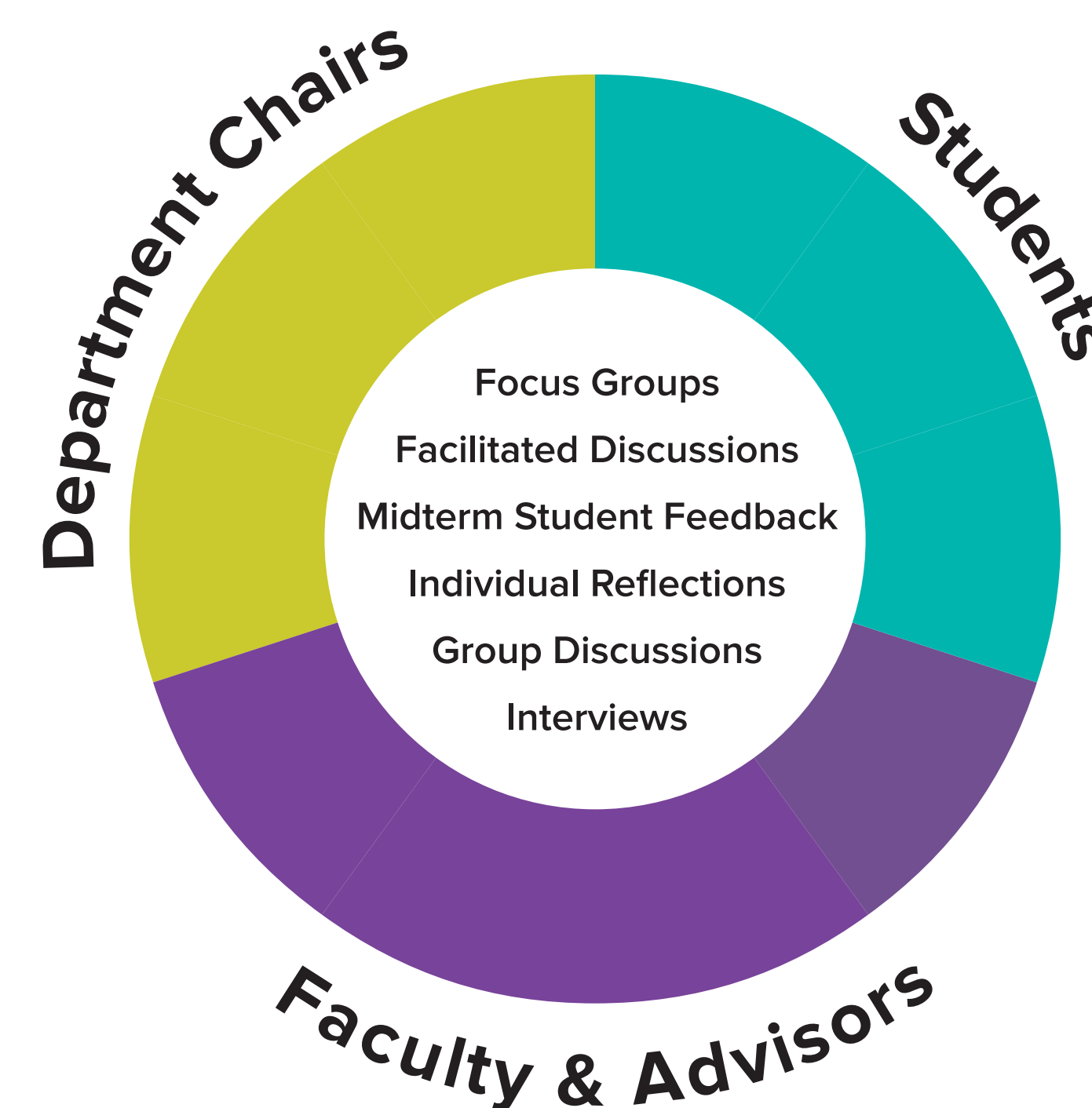
To inform the course redesign process, the CCD team sought feedback related to ENGR 110 from multiple stakeholders.

The goals of this engagement are to:

- Learn about course strengths and areas for improvement
- Gather insights from multiple perspectives
- Inform ongoing course design
- Build foundation for ongoing partnerships and collaborations

Collection of Stakeholder Feedback

As illustrated in the figure below, members of the CCD team contacted key stakeholders in Engr 110 to access their wide-ranging perspectives. Meeting facilitation was customized for each audience.



Valuable Insights Gained

Members of the CCD team analyzed the stakeholder input and identified central themes. These themes are summarized below and illustrated with quotations from stakeholders. Notably, chairs, advisors, former 110 students, and students who did not take 110 often expressed similar ideas about how 110 can help enhance the first-year experience.

Interest in hands-on exploration of departments

"We like that they have many different ways in the course to get exposed to the different disciplines." - **Midterm Student Feedback**

"Have employers or alumni who work in the specific engineering fields to come in and host workshops reflecting their field" - **Undergraduate Program Advisor**

"Opportunities for experiential learning, particularly in multidisciplinary areas i.e encourage exploration and real world work environments" - **Department Chair**

Value in near-peer mentorship

"It was really cool to see an example of an older student, especially coming in. We would ask her about what she was doing with her studies. She was telling us about her internship and about when she got a full-time offer." - **Student (focus group)**

"When we did our five-year plan thing my DA talked about also her last five years and leading up to college. I think she was a senior and talking about how you don't need to have all of your stuff together... when you're in college even though it may seem like everybody has it all planned out." - **Student (focus group)**

Engagement Creates Multiple Points of Access

In essence, this stakeholder engagement work provides additional points of access for faculty, advisors, and students to provide input into the course redesign process. Ongoing course design draws on the themes that emerged from these facilitated feedback sessions and thus incorporates a wide variety of relevant perspectives, even beyond those represented on the CCD team.

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The information we have obtained from the student focus groups will allow us to obtain better understanding of how the students view course themes, assignments and learning approaches, helping us to better organize this content in a way that will maximize their learning.

-Dr. Frank Marsik, Department of Climate and Space Sciences and Engineering, Co-Lead Instructor, ENGR 110

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Feedback Informs Course Design

Summaries of this feedback were shared with the CCD team. Beyond this initial report-out, this feedback informs ongoing course design through the following mechanisms:

Planning for course transformation

- Visioning and course goals
- Project proposals
- Timeline

Ongoing dialogue

- Follow-up conversations with department chairs
- Continuing feedback and engagement process

Working groups within the CCD team

- Homework review and redesign
- Gameful learning
- Lecture and discussion structure
- Orientation presence
- Design-thinking pedagogy
- Learning block development