

# Your Everyday Impact on Inclusivity

Increased student diversity, a major goal of the ECE department, starts with fostering an inclusive culture. As the primary links between students and the department, you as faculty have the power to shape its image and the student experience. Here are some ways to start thinking about your role in inclusivity.

## Everyday informal mentoring impacts student persistence

Effective mentoring plays an immense role in the persistence of underrepresented students, and is often discussed in the context of formal mentoring relationships like those with advisors or employers. However, other everyday mentoring opportunities also have high impact, and are often overlooked. **Informal mentoring** already occurs in your classrooms, office hours, and interactions with students outside of class. Take advantage of this opportunity to embed inclusive practices into what you already do every day.

## Inclusivity benefits everyone

Inclusivity means making sure every student can reach their full potential, not catering unfairly to certain groups. ECE students of *all* backgrounds report that the high-pressure environment makes their experience in the program one of “survival”. Inclusivity means approaching students with the intention of **helping them not only survive, but thrive, grow, and become empowered** through their time here. Although these practices are especially vital to the success of underrepresented students, who often enter with low confidence and low capital, all students will benefit, including those with differences you can't see.

“ When you tell people [you're going into ECE] they're like, oh you're crazy. [...] It's so hard to see yourself in a position of success when everyone is telling you how easy it is to fail. [...] I feel like more people should just be supportive, and let people know that there's resources out there to help them achieve their goals. [...] Like, if that's what you want to do, you can get there. [...] I didn't get that vibe when I first started.

- Purdue ECE undergraduate

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This student expresses the discouragement they felt upon deciding to switch from another major into ECE. This shows how everyday interactions with students can influence persistence.

This student expresses how pre-existing self-doubt of underrepresented students makes them especially vulnerable, and shows the power of the words of faculty. Inclusive teaching practices can combat harmful messages like this.

“ As a woman, it is extremely difficult to tell whether a lack of technical knowledge is due to fewer technical opportunities throughout our lives or, god forbid, a lack of interest in ECE in comparison to our peers. [...] This is exacerbated by your professor telling you that you must have “the knack” to be a successful engineer, and, if you don't have it, you will always have to work harder to be on a level playing field.

- Purdue ECE undergraduate

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Keep reading for simple inclusive practices to incorporate into your teaching.





# Inclusive Teaching Ideas for Faculty

Dr. Becky Packard identifies three factors crucial to the persistence of students in STEM. Organized by these factors, the following teaching ideas are compiled from Dr. Packard's book on STEM mentoring<sup>2</sup>, Engage Engineering<sup>1</sup>, and Purdue ECE student interviews:

## Interest

Students need to feel that course content is interesting and important to the world and their own futures. Underrepresented students may enter ECE with little exposure as to what engineers can really do in the field. Technical material should always **connect to the bigger picture**.

- \* **Incorporate active learning to keep students engaged:** Facilitate class discussions or debates on course material; Ask for (voluntary) participation to solve example problems in class
- \* **Connect course material to the real world and people:** Explain the real applications of practice problems; In lectures, talk about how the material fits into human life and the future
- \* **Showcase career paths which use your course material:** Invite guest speakers working in the area of your course to talk about their work, even if just via Skype; Talk to students about the variety of careers in ECE
- \* **Embed research experiences into courses:** Create assignments that emulate what researchers in the area of your course actually do; Talk about your own research in class

## Capacity

Students need to feel like they have the resources to succeed in engineering. Underrepresented students often underestimate their own abilities. It is vital that faculty express a **growth mindset**, the belief that ability is not fixed but can improve, to encourage students to keep trying.

- \* **Provide consistent feedback so that students can recognize their progress:** Return graded exams and assignments as soon as possible; Utilize peer feedback activities to limit extra grading load
- \* **Provide opportunities for students to build confidence:** Break up complex problems and projects into distinct steps; Structure project requirements to prevent more confident students taking over the technical work
- \* **Destigmatize students needing help:** Invite students to office hours and schedule them conveniently for students; Preemptively provide extra resources for historically tricky material
- \* **Embrace questions in class:** Respond with "Thanks for asking," or "That's a good question" to encourage asking more; Utilize HotSeat and Piazza to allow students to ask anonymously

## Belongingness

Students need to feel that people like them belong in the engineering community. Underrepresented students are at a disadvantage because they have so few relatable role models in ECE. You show students who belongs through **who you invest time into**.

- \* **Promote diversity in student leadership roles:** Consider diversity representation in your selections for assistants; Encourage underrepresented undergraduate students to apply for extra-curricular leadership positions
- \* **Include diverse students in class participation:** Arrange seating in clusters so that underrepresented students are not isolated; Ask for participation from students who haven't spoken so a diverse group is heard
- \* **Use diverse engineers as examples:** Showcase the accomplishments of diverse engineers when discussing real applications; Represent diversity in practice problems that involve people
- \* **Show interest in individual students:** When possible, learn and address students by name in class; Ask students how they're doing when you see them outside of class

## More Resources

1. **For more ideas** to incorporate into your teaching: [www.engageengineering.org](http://www.engageengineering.org)
2. **For further reading** on inclusive mentoring: Packard, Becky Wai-Ling. 2016. *Successful STEM Mentoring Initiatives for Underrepresented Students: A Research-Based Guide for Faculty and Administrators*. Stylus.