The ECE Department of the UH Cullen College of Engineering prides itself on connecting its students with research, scholarships, internships, fellowships and local industry as soon as they step foot inside of the building on the first day of college.

Through the ECE department’s First Year Experience, freshmen engage in hands-on, project-based activities while studying topics in electronics and computer engineering even in the very first semester. These courses foster a deeper learning and increased engagement among students. This not only gives our undergraduates an edge in deciding which career path is right for them—it guarantees that by the time they graduate with a bachelor’s degree they will have had hours of hands-on, real-world experience in electrical and computer engineering.

In the ECE Department, we don’t just want our undergraduates to learn engineering—we want them to learn engineering so that they can build and program a laser-shooting robot!

Project Descriptions

How exactly are our ECE students applying engineering theories and principles to everyday life in just their first year of college? Let us count the ways...

1. **Robotics!** ECE freshman learn how to build circuits and embedded systems in workshops accompanying many of their intro-level classes. This background of knowledge prepares ECE students to become active in many ongoing robotics projects within the department, including a very popular and successful robotics team.

2. **Satellites!** ECE freshman may become involved with small satellite research through the department's Small Satellite Research Laboratory, working side-by-side with faculty experts and researchers at NASA Johnson Space Center to improve upon current small satellite antenna and communication system
designs.

3. **Clinical Translational Research!** Some ECE freshman get involved early on with specific faculty members involved in clinical translational research, such as professor Jose Luis Contreras-Vidal, who utilizes a team of undergraduate researchers to help with developing and testing noninvasive brain-machine interface systems.

4. **Much, Much More!** In the ECE Department at the UH Cullen College of Engineering, we believe that if you can dream it, then you can achieve it. The possibilities for applying your freshman engineering principles to the real world are only as limited as your imagination. Our faculty, staff and researchers pride themselves on consistently supporting ECE freshman and undergraduates in their attempts to pursue research and other applied learning opportunities both within and outside of the department.

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**Photos, videos and news: First year Experience**

![Engineering Freshman Makes Major Strides in Tech World](image1)

![ECE Student Team Wins Design Challenge for "Star Trek" Fabric Communicator](image2)
Photos: Translational Research on Brain-Machine Interface Systems

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