

## Institutional Description

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The University of Texas at Austin (UT-Austin) is a tier-1, public research institution and serves as the flagship school of The University of Texas System. UT-Austin is home to more than 51,000 students and 3,000 teaching faculty.

The Electrical and Computer Engineering (ECE) Advising Office is a departmental office within the Cockrell School of Engineering (CSE). CSE is a top-10 ranked engineering school and has been classified as a global leader in technology advancement and engineering education for more than a century. The ECE department is the largest department within CSE and is made up of over 1600 undergraduate students.

## Program Development

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The ECE Undergraduate Advising Office has had continuous development throughout its existence. During the early 2000's, feedback from the ECE Advisory Board recognized students' concerns with advising services. Students voiced their apprehension towards the lack of effective and efficient services in

ECE. Suggestions of improvement in student services were taken seriously, and in turn, the ECE Chairman charged the office to improve the advising services and implement new programs.

By providing more one-on-one advising sessions and offering new initiatives such as the Move Forward Program for at-risk students and ECE tutoring services, the office soon flourished. In fact, during the next ABET accreditation visit, the department was highly recognized for these services and other on-campus student services offices used the ECE Advising Office as a blue print to model their own departments.

In 2010, the leadership structure changed with a new ECE Chairman and the office was once again, charged with improving advising services to students, including an increase in mentoring services through the First-

Year Interest Groups (FIG) and implementation of a newly-formed student advisory board. The newly constructed initiatives resulted in increased retention rates and degree attainment.

## Goals and Objectives: Mission Statement and Core Values

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The ECE Advising Office fully embraces their mission of providing advice, services, and resources for students to make informed decisions about their progress towards an ECE degree while providing continuous support and encouragement that assists students in surpassing their own academic expectations. In line with the University's mission, the ECE Department holds achievement of excellence in education, research, and public service a top priority and delivers services that create a robust environment that champions student success.

The objective and mission of the office is cemented in a variety of core values that promote student achievement, inclusivity, support, and leadership. The core values positively impact creativity and innovation, as evidenced by the development of programs and initiatives.

The following NACADA's and UT System 5E Framework for Advising core values lead us in the advancements of mission, goals, and objectives:

### NACADA

**Caring**                      **Integrity**  
**Committment**        **Professionalism**  
**Inclusivity**            **Respect**

### UT System 5E Framework

**Educate**            **Enhance**  
**Elevate**            **Evaluate**  
**Empower**

## Program Description

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Dedication to students' development has been and will continue to be at the forefront of services provided to our students. With continued commitment from our advisors, the ECE Advising Office continues to revitalize programs and initiatives that foster academic, personal, and professional growth.

The ECE Advising Office is staffed with a Director of Academics, three full time advisors, two graduate assistants, one administrative associate, seven student peer advisors, and four student ambassadors. Aside from salaries, the office runs on a yearly budget of \$77,000 for operations and programming. Each advisor provides top-notch services and tailors their advising styles to individually meet each student's needs. Different advising styles are used in the framework for each program and initiative. Below is a list of programs and initiatives that are housed and run by the ECE Advising Office.

### **ECE Tutoring**

ECE Department provides opportunities for students to receive one-on-one personalized tutoring for each required EE course. The tutoring program creates a collaborative environment that motivates each student to develop new study strategies that will better assist them with their EE coursework. This program has been instrumental to the 92% ECE freshman retention rate.



### **ECE First Year Interest Groups (FIG)**

FIGs are a university-wide established program intended to cluster 18-25 first-year students in a weekly seminar led by a peer mentor and staff facilitator. Some of the benefits first-year ECE students experience in their FIG seminar include developing community groups and establishing important points of contact with staff and faculty. The advising office has revamped this student success program to include informal mentoring by the advising staff. Students in these FIGs are introduced to university-wide and major-specific resources such as personalized and group academic advising. This proactive and developmental style of advising allows students in their first year to build confidence in their academic decisions. The facilitators take

it upon themselves to create an informal caseload of students for whom constant contact is provided even after the conclusion of their first semester.

“I found my FIG experience to be beneficial because it provided an opportunity to connect with other students taking the same classes as well as with mentors in the engineering department. Meeting with my FIG every week was also an easy way to learn about events happening at UT, form study groups, and prepare for important days like class registration and EXPO.”

*- Jared Cormier, ECE Student*



### **ECE Move Forward Program**

The ECE Department recognizes that many of our students are successful in designing a fabric of resources and supportive systems such as professors, advisors and fellow classmates, but there are some

who can truly benefit from additional assistance in excelling in our program. The Move Forward Program (MFP) was designed to provide individualized academic advising support to ECE students who are identified as at-risk as well as for students who are motivated to improve their academic performance. At the end of each semester, identified at-risk students are invited to participate in the MFP throughout the semester.

The goal is to assist all ECE students who seek to improve their overall academic performance in their classes and to raise their GPA. The following are several components to the program:

- **Academic Advising**

The MFP is designed to provide individualized academic advising support to ECE students who are motivated to improve their academic performance. Required monthly meetings with the program director allows the MFP participant to touch base and revisit semester goals and strategies for success.

- **Faculty Support**

MFP participants are required to schedule monthly meetings with all of their professors to review their academic performance, and to receive tips and suggestions on how to best learn the course material.

- **MFP Mentoring Initiative (MFP Mentoring)**

Former MFP students serve as mentors that focus on academic growth and identity development while cultivating an inclusive engineering community within the ECE Department.

### **ECE Retention Course-Enhancing Academic Success**

Enhancing Academic Success is a course derived from MFP. The purpose of this course is to examine many of the components necessary to enhance academic success in engineering. Topics covered include:

- Academic Self-regulation
- Time management, self-discipline
- Goal-setting, weekly planning, semester planning
- Mindset, Self-Motivation
- Management of academic emotions, anxiety, stress management, resiliency
- Learning and memory, learning strategies, retrieval practices
- Exam preparation, post-exam analysis

### **ECE Semester Course Demand Survey Project**

In order to reduce stress and anxiety in the registration process and to increase four-year graduation rates, the ECE Advising Office created a Course Demand Survey Project. This survey was created to identify, plan, and make the best efforts in ensuring that all ECE undergraduates have a seat in the appropriate ECE courses

for their degree. This project has helped students have a more accurate graduation time frame and has made early registration a smoother process.

“As an ECE student, the course demand survey provided a straightforward path for getting the classes I needed each semester. It assured my seats and greatly reduced my anxiety of registration”

*- Keyon Ahmadi, ECE Student*

### **ECE Advising Canvas Pages**

The ECE Advising Office created advising pages for all students categorized by classification. Each Canvas page is overseen by an academic advisor and an ECE peer advisor. The Canvas pages are used to answer students' questions as well as to disperse departmental information such as registration deadlines, course demand surveys, and events.

### **ECE Undergraduate Advisory Board**

The advising office created the ECE Undergraduate Advisory Board which is directed by an ECE undergraduate advisor. The purpose of the advisory board is to collect feedback from their peers on how the department can continue to improve services. Contributions from the Advisory Board have led to the creation of programs that address students' needs such as the Course Demand Survey Project, Fueling for Finals, and Canvas Advising pages.

The organization is comprised of diverse student representatives committed to promoting a social and academic environment that encourages students to engage within the department. It seeks to improve the undergraduate experience by facilitating faculty town hall discussions, connecting students through social events, and directing channels of feedback to faculty and administration.

## **Peer Ambassador Program**

The ECE Advising Office established a Peer Ambassadors Program to better serve our prospective students and families. Peer Ambassadors receive training to provide outreach and support to future UT-Austin students. In addition to hosting prospective students, the Peer Ambassadors serve as panelists, tour guides, and student liaisons to the department for recruitment events. Peer Ambassadors play an important role in student recruitment, and the position provides valuable leadership and public speaking experience.

## **Peer Advisor Program**

Peer Advisors are current ECE students who work under the direction of the Advising Office and are available to answer general questions. The Peer Advisors work closely with the academic advising team and assist in providing personalized advising and support to all ECE students. Peer Advisors also participate in all ECE programs and serve as student leaders for events which helps foster professional growth.

## **Outreach Programs**

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The ECE Department is active in bridging the community and the institution. Outreach services and programs are instrumental to the growth of our department. Within the past few years, the Advising Office has made it a priority to increase outreach services to a variety of constituents. The following are a few of the outreach program services we have provided over the past few years:

### **Gear UP Program**

Gear UP students are invited by the ECE Department to visit the university where we provide personalized university tours lead by ECE Student Ambassadors and Peer Advisors. In addition to showing off our campus,

we expose students to the life of an Electrical and Computer Engineer. Faculty set up projects in the labs for students to partake in so that they are privy to the high-life of pursuing an ECE degree.

“Thank you all so much for everything last week during our UT campus visit!

Our kids and chaperones really enjoyed the whole trip.”

– *Elyssa Castillo, GEAR UP Coordinator*

### **Upward Bound Program**

The ECE Advising Office has had the privilege to host the UT Rio Grande Valley (UT RGV) Upward Bound Program twice within the past few years. The students are provided a personalized tour of the campus by an ECE Ambassador, and provided an overview of the college and department. We continue to work on providing services to any and all Upward Bound Programs that seek exposure to the realm of engineering.

### **ECE Educator/Counselor Day**

The advising office kicked off a new outreach program tailored to High School STEM Educators and Counselors within the Austin area. The purpose is to establish a network group with educators and high school counselors, and to provide an understanding of “Myths vs Facts” in regards to the UT admissions process. The program also offers detailed information on how to best advise freshman high school students who show interest in pursuing engineering, and allow participants to see first-hand, the allotment of resources ECE and CSE have in place for student success. In addition, participants are educated on dispelling the myth that Computational Engineering, Computer Science, and ECE are all the same. Participants are given a holistic review of the ECE curriculum and courses high school students should take in order to prepare them for engineering introductory courses.

“Thank you so much for hosting us Friday. I learned so much that I can pass along to the other counselors at my school and the students and parents I work with. It was well worth my time. ”

– *Amy Woodul, Leander ISD Counselor*

## Edison Lecture Series



The Edison Lecture Series is an outreach event hosted by the ECE Department. The series is an interactive STEM learning experience that engages middle and high school students with the fun side of ECE. Edison attendees learn the fundamentals of an engineering topic

through a university-style lecture then see these concepts come to life through hands-on demos. The annual event hosts approximately 1,000 students every year.

## Procedures Used in Program Evaluation

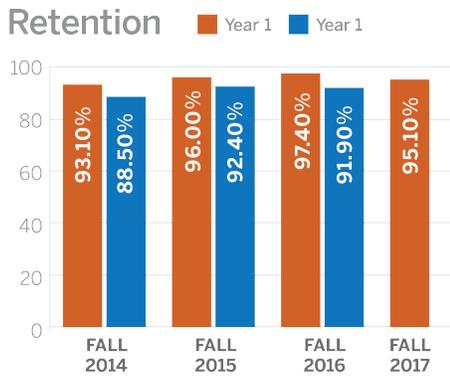
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As part of the ECE Advising Office's commitment to excellence, we recognize the need for appraisal and self-reflection. To this end, the office employs several approaches to receiving clear and accurate feedback from our most important stakeholders – our students. CSE routinely requests feedback from students regarding their advising appointments, especially during high-volume periods such as orientation and registration. First-year students are encouraged to provide evaluation data for our FIG initiative at the conclusion of their semester in an anonymous online survey.

Additionally, the ECE Advising Office measures the success of their programs by the following metrics:

- Four-year student retention rates
- Four-year student graduation rates
- Percent of students employed or enrolled in a graduate program immediately after graduation
- Applications rates of URM students to the ECE major
- Advisor awards/ FIG facilitator awards

## Results and Outcomes



Graph A

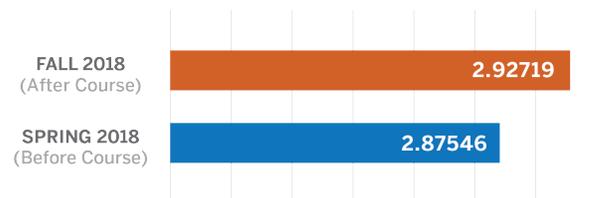
### First-Year Interest Groups

The effectiveness of the ECE FIGs is evident due to the high first-year retention rates. ECE has the highest first-year retention in CSE. We attribute the high rates to advising, first-year interest groups, and the course demand survey project.

### Enhancing Academic Success (EAS)

Enhancing Academic Success was piloted in Spring 2018 for students who want to improve their GPA. Graph B represents non-first year students participating in EAS in the Fall 2018. Students who participated had an average

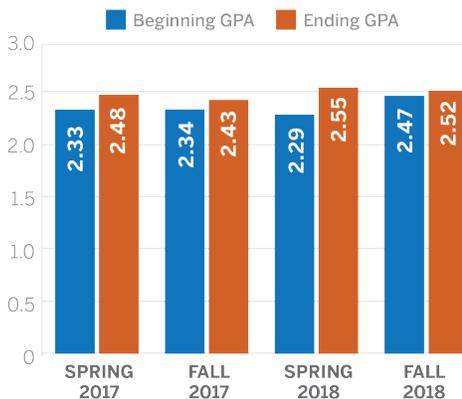
### Non-First Semester Students' GPA Change



Graph B

Spring 2018 semester GPA of 2.875. The results show that at the end of Fall 2018, students had increased their average semester GPA to 2.97.

### Move Forward Program



Graph C

### Move Forward Program

The Move Forward Program has shown to be instrumental in retention and attainment. Graph C provides a snapshot of the students who participated and their average GPA, before and after completing the program.

## Admissions, Graduation Rates, and Degree Attainment

ECE enrolls approximately 375 students each fall semester. The Cockrell School of Engineering set a goal of reaching 50% four-year graduation and 70% six-year graduation rates by the spring of 2018 and because of our services and programing, the department has met the desired graduation goal. Below is a chart that displays our recent degree attainment:

<b>Spring/Summer/Fall 2016</b>	<b>264</b>
<b>Spring/Summer/Fall 2017</b>	<b>302</b>
<b>Spring/Summer/Fall 2018</b>	<b>355</b>

## Advising Awards

The ECE Advising Office is proud to showcase the effectiveness of its advisors. In the past years, the advisors have won a variety of Academic Advising Awards, which testifies to their commitment, passion, and dedication to their profession. Our advisors have won awards such as Taking Initiative to Create Positive Change, Outstanding Advising Administrators, ECE Chairman's Staff Excellence, CSE Staff Excellence, Texas Exes James W. Vick Award in Academic Advising, and UT-Austin First-year Experience FIG Mentor of the Year. These awards speak to our advisors' enthusiasm for student success.

## Potential for adaption by other institutions:

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The ECE Department continues to create and implement programs that provide students institutional academic advising advancements. Our programs can easily be adapted by any advising unit. This year, three of our advisors will be presenting at a regional conference showcasing our programs and discussing the adaptability in detail.

ECE advisors are encouraged to attend conferences, classes, and network within the university as well as outside our institution in order to continue their professional growth and share the wealth of our programs.

Cultivating professional growth for advisors contributes to the development of new initiatives and it continues

to rejuvenate their passion for student success. The positive outcomes of our programs are evident with our retention, attainment, and graduation rates. The ECE advising initiatives were created to be sustainable with limited resources such as funding and staffing.