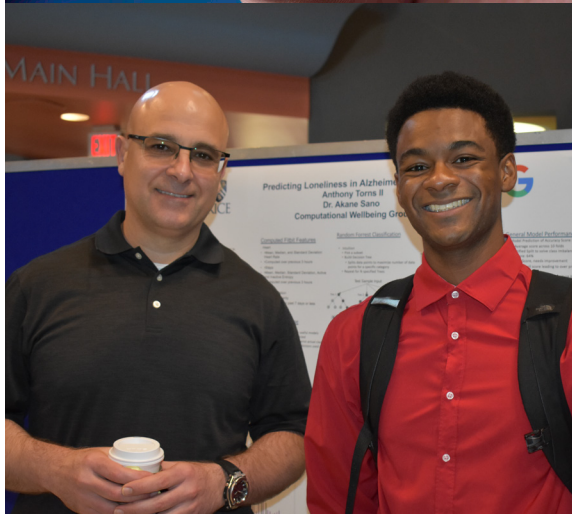


ECE.zip

A condensed guide to undergraduate life in
Electrical and Computer Engineering
at Rice University

2021 - 2022



LETTER FROM THE CHAIR



Welcome to the Electrical and Computer Engineering Department at Rice University!

Rice ECE is globally known for extensive reach across disciplines, including designing next-generation wireless networks; nanophotonics; terahertz laser spectroscopy; digital systems processing; neuroengineering; machine learning and data science; healthcare devices and analytics; and a plethora of other interests. Regardless of your areas of interest and goals, you will find others that share your passion.

Our students have the opportunity to participate in this world class research. Don't wait until junior or senior year to get involved, you can be a part of a team as early as the second semester of your freshman year! We encourage students to participate in our Vertically Integrated Projects (VIP) program where students of all levels work together on a long-term, large-scale project.

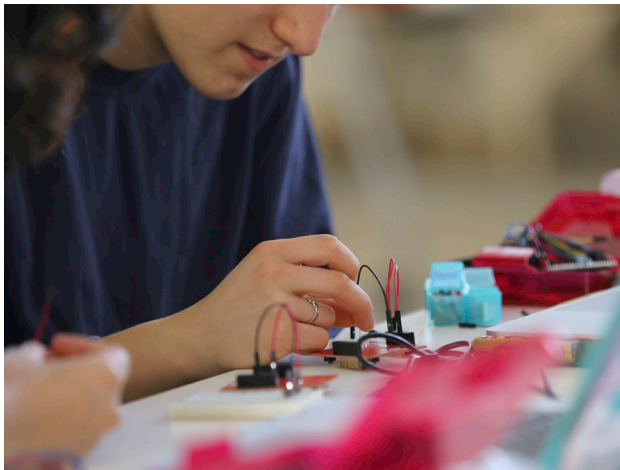
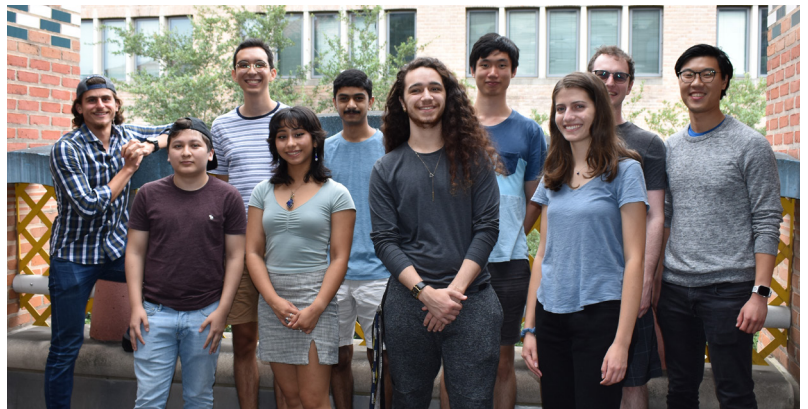
In addition, all of our undergraduates can utilize the Oshman Engineering Design Kitchen (OEDK), a state-of-the-art design laboratory for Rice science and engineering undergraduate students where you can get your hands dirty and actually build the project of your dreams. At Rice ECE, we challenge you to redefine your own limits. Should you choose ECE for your education, you will be taught to think creatively and will be part of our network of knowledge.

We invite you to learn more about the Department of Electrical and Computer Engineering by finding us on social media and checking our website frequently to stay in touch with the exciting and groundbreaking achievements that happen daily in our ECE community.

And once again, welcome to Rice!

Ashutosh Sabharwal

Chair, Electrical and Computer Engineering
Professor, Electrical and Computer Engineering



CONTENTS

Welcome, class of 2025! This book encompasses the Rice ECE undergraduate experience. Use it as a reference as you move forward in your academic career.

- 3** Who are ELECs?
What do ELECs do?
What is ECE at Rice?
- 4** What are my degree options in ECE?
Tell me about the BSEE
Tell me about the BA
What are specialization areas?
- 5** What do I need to get a degree?
Specialization areas
- 6** Degree Planning Sheet
- 7** How do I declare my major?
Who can help advise me?
- 8** How can I make an appointment?
- 9** How can I get the most out of my time?
- 10** Should I do an internship?
How do I find an internship?
- 11** Should I study abroad?
- 12** Should I do research as an undergraduate?
How can I find research opportunities?
- 13** About Rice IEEE



WHO ARE ELECS?

Electrical and Computer Engineers (ELECs) create, innovate and design technologies in machine learning, computing, communications, electronics and automation. ELECs use hardware and software to create better, faster, safer technologies for things like cars, computers, smartphones, and health devices.

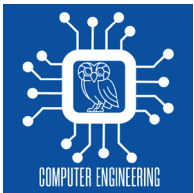
WHAT DO ELECS DO

ELECs are a diverse, smart, creative group of problem-solvers who make devices and programs that change the world. Smartphones, GPS, cars, and even things like healthcare and national security would not exist as they do today without them. ELECs go on to work in every industry imaginable, including:

**Automation • Healthcare • Renewable Energy • Gaming
Wireless • Wearables • Nanotechnology • Security • Telecommunications**

WHAT IS ECE AT RICE?

At Rice University we focus on the following areas of research and study:



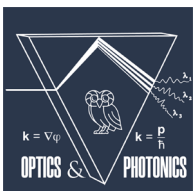
COMPUTER ENGINEERING (CE)

Computer Engineering is about designing, realizing and evaluating computing, communication and storage systems: making them fast, secure, reliable, and efficient. Our research covers the full stack of systems, from integrated circuits, VLSI, architecture to operating systems. We are particularly interested in emerging platforms and application domains.



DATA SCIENCE/SYSTEMS (DS/SYS)

Data Science is a growing field that integrates the tools and techniques involved in data acquisition, analytics and storage, to enable extraction of meaningful information from massive data sources.



NEUROENGINEERING (NEURO)

The brain is essentially a circuit. Neuroengineering is a discipline that exploits engineering techniques to understand, repair, and manipulate human neural systems and networks. Rice is uniquely positioned to lead this field thanks to the broad, interdisciplinary research performed in conjunction with the world's largest medical center (Texas Medical Center), steps away from the Rice University campus.

PHOTONICS, ELECTRONICS, AND NANODEVICES (PEN)

This field strives to improve understanding of the interaction of light and matter, along with the application of that knowledge to develop innovative devices and technologies. PEN has applications in energy and healthcare, among others.



WIRELESS SYSTEMS

In Wireless and Systems, signal processing is the analysis and transformation of signals (measurements taken over time and/or space) in order to understand, simplify or recast their structure. Image and video analysis and compression, computational neuroscience, and wireless networking systems are in this field.

HEALTH

At Rice many of our faculty have research that focuses on healthcare and wellness technologies including bio-behavioral sensing and bio-imaging.

QUANTUM ENGINEERING

Quantum simulation, quantum systems and quantum networks.

WHAT ARE MY DEGREE OPTIONS IN ECE?

ECE has two degree programs for undergraduates, the Bachelor of Science in Electrical Engineering (BSEE) and the Bachelor of Arts with a major in Electrical Engineering (BA).

TELL ME ABOUT THE BSEE

The BSEE is organized around a core of required courses and a selection of elective courses from four specialization areas: Computer Engineering; Data Science/Systems; Neuroengineering, and Photonics, Electronics and Nano-devices.

The BSEE is the usual degree taken by students planning a career in engineering practice and can reduce the time required to become a licensed professional engineer. Accreditation and professional licensure are important for some careers, and many states require licensure for those providing engineering services directly to the public, for example, as a consultant. The BSEE is accredited by the Engineering Accreditation Commission (EAC) of ABET. *

A BSEE program must have a total of at least 134 semester hours. A course can satisfy only one program requirement. Students who place out of required courses without transcript credit must substitute other approved courses in the same area.

TELL ME ABOUT THE BA

The BA degree provides a basic technical foundation in electrical and computer engineering through a subset of the core and specialization courses offered by the department. The program leading to the BA degree is not accredited by the EAC of ABET and is often pursued by students as a component of a double major or dual degree program.

A BA program must have a total of at least 120 semester hours. A course can satisfy only one program requirement. Students who place out of required courses without transcript credit must substitute other approved courses in the same area.

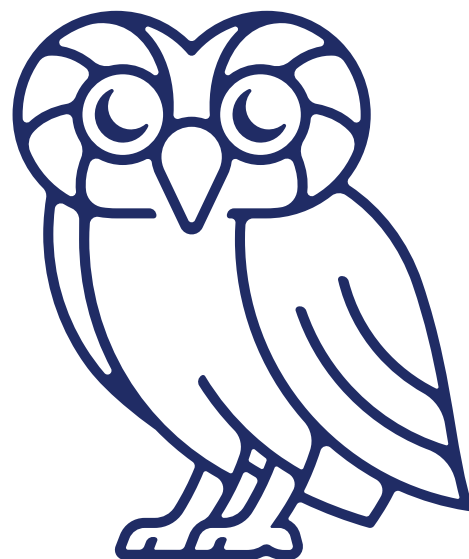
WHAT ARE SPECIALIZATION AREAS?

Each ECE degree program requires a minimum number of semester hours in: core areas; math and science; computation; and design. Each also requires a minimum number of specialization courses.

For the BSEE program, a minimum of 6 specialization area courses is required, including 3 or more in one area, and courses from at least 2 areas. For the BA program, a minimum of 4 specialization area courses is required, including 2 or more in one area, and courses from at least two areas.

For both programs, each course must be at least 3 semester hours. The department may add or delete courses, and graduate courses and equivalent courses from other departments may be used to satisfy area requirements with permission. Check with your Divisional Advisor (DA) or Major Advisor for more information.

**ABET, Inc., 415 North Charles Street, Baltimore, MD 21201
eac@abet.org*



WHAT DO I NEED TO GET A DEGREE?

You must meet the required hours for your program, and include the courses in this column as well as your specialization area courses and electives that are required. For specific requirements on each degree program, sample schedules and forms, please visit ga.rice.edu or ece.rice.edu

Math/Science Courses:

CHEM 121*	General Chemistry I with Lab (or CHEM 111)*
ELEC 261	Introduction to Physical Electronics I
ELEC 303	Random Signals
MATH 101	Single Variable Calculus I (or MATH 105)
MATH 102	Single Variable Calculus II (or MATH 106)
MATH 212	Multivariable Calculus (or MATH 221)
MATH 355	Linear Algebra (or MATH 354 CAAM 334 or 335 Matrix Analysis)
PHYS 101	Mechanics with Lab (or PHYS 111)
PHYS 102	Electricity and Magnetism with Lab (or PHYS 112)

Computation Courses:

COMP 140	Computational Thinking
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ECE Core Courses:

ELEC 220	Fundamentals of Computer Engineering
ELEC 240 & 241	Fundamentals of Electrical Engineering I
ELEC 242 & 244	Fundamentals of Electrical Engineering II
ELEC 301*	Introduction to Signals, Systems, and Learning
ELEC 305	Introduction to Physical Electronics II
ELEC 326	Digital Logic Design

Design Lab:

Choose one of the following:

DSCI 400	Data Science Capstone Lab
DSCI 435	Data Science Projects
ELEC 327	Implementation of Digital Systems
ELEC 332	Electronic Systems: Principles and Practices
ELEC 364	Photonic Measurements: Principles and Practices

Design:

ELEC 494*	Senior Design (2 Semesters)
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* Not required for the BA.

^Require completing Computer Science prerequisites beforehand.

Note: The sequence of COMP 140, COMP 182, and COMP 215 is recommended in addition for the Computer Engineering specialization as these courses are prerequisites for many of the Computer Science courses.

SPECIALIZATION AREAS

Computer Engineering:

COMP 321^	Introduction to Computer Systems
COMP 382^	Reasoning About Algorithms
COMP 430^	Introduction to Database Systems
ELEC 323	Principles of Parallel Programming
ELEC 410^	Secure and Cloud Computing
ELEC 411	Microwave Engineering
ELEC 414	Wireless Integrated Circuits and Systems
ELEC 421	Operating Systems and Concurrent Programming
ELEC 422	VLSI Systems Design
ELEC 423	Digital Integrated Circuits
ELEC 424	Mobile and Embedded System Design and Application
ELEC 425	Computer Systems Architecture
ELEC 426	Advanced Digital Integrated Circuits Design
ELEC 429	Introduction to Computer Networks
ELEC 434	Advanced High-Speed System Design
ELEC 437	Introduction to Communication Networks
ELEC 442	Introduction to Analog Integrated Circuits
ELEC 450^	Algorithmic Robotics

Data Science/Systems:

COMP 330^	Tools and Models for Data Science
DSCI 302	Data Science Tools and Models
DSCI 303	Machine Learning for Data Science
ELEC 410^	Secure and Cloud Computing
ELEC 430	Modern Communication Theory and Practice
ELEC 431	Digital Signal Processing
ELEC 432	Mobile Bio-Behavioral Sensing
ELEC 434	Advanced High-Speed System Design
ELEC 436	Fundamentals of Control Systems
ELEC 437	Introduction to Communication Networks
ELEC 438	Wireless Networking for Under-Resourced Urban Communities
ELEC 439	Data Science and Dynamical Systems
ELEC 440^	Artificial Intelligence
ELEC 441	Computational Imaging
ELEC 445	Introduction to Digital Image and Video Processing
ELEC 447	Introduction to Computer Vision
ELEC 475	Learning from Sensor Data
ELEC 478	Introduction to Machine Learning
ELEC 498	Introduction to Robotics
MECH 488	Design of Mechatronic Systems
STAT 413	Introduction to Statistical Machine Learning

Neuroengineering:

ELEC 380	Introduction to Neuroengineering
ELEC 382	Introduction to Computational Neuroscience
ELEC 483	Machine Learning and Signal Processing for Neuroengineering
ELEC 485	Fundamentals of Medical Imaging I
ELEC 486	Fundamentals of Medical Imaging II
ELEC 487	Imaging Optics
ELEC 488	Theoretical Neuroscience: From Cells to Learning Systems
ELEC 489	Neural Computation

Photonics, Electronics, and Nano-devices:

ELEC 262	Introduction to Waves and Photonics
ELEC 361	Quantum Mechanics for Engineers (or PHYS 311)
ELEC 365	Nanomaterials for Energy
ELEC 460	Physics of Sensor Materials and Nanosensor Technology
ELEC 461	Solid State Physics (or PHYS 412)
ELEC 462	Optoelectronic Devices
PHYS 302	Intermediate Electrodynamics
PHYS 416	Computational Physics

WHAT IS THE DEGREE PLANNING SHEET?

The degree planning sheet is an essential part of your ECE undergraduate experience. A sample of this sheet can be found below. The form's purpose is to make sure you are on track to graduate and are getting the most out of your academic experience. Review your academic goals frequently and use this sheet to help you. Please visit ece.rice.edu for forms and curriculum. When planning, consult Degree Works to track your progress towards completion of degree requirements.

Sample of the BSEE Degree Planning Sheet



Rice University
ECE Department

Bachelor of Science in Electrical Engineering (BSEE)
Degree Plan

Name: _____ Date: _____ Email: _____
(last, first)

Student ID #: _____ Matriculation Term: _____ Expected Graduation Term: _____
(semester you began at the university)

Name of Advisor: _____ Specialization Area: _____

Consult your Degree Works audit as you complete this degree plan.

(Six specialization courses are required from two or more areas.
At least three courses must be from one specialization area.)

MATH/ SCIENCE	Completed? (check if completed)	From AP credit or Rice?
CHEM 121 or 111		
ELEC 261		
ELEC 303		
MATH 101 or 105		
MATH 102 or 106		
MATH 212		
MATH 354 or 355 or CAAM 334 or 335		
PHYS 101		
PHYS 102		
MATH/SCIENCE Elective*		

ECE CORE	Completed? (check if completed)
ELEC 220	
ELEC 241	
ELEC 242	
ELEC 301	
ELEC 305	
ELEC 326	
COMP 140	

DESIGN LAB (choose and circle one)	Completed? (check if completed)
ELEC 327 or 332	
ELEC 364	
DSCI 400 or 435	
ELEC 494 (two semesters)	Completed? (check if completed)
Fall	
Spring	

Computer Engineering	Course #	Course Name	Completed?
CE - Specialization Course			
CE - Specialization Course			
CE - Specialization Course			
CE - Specialization Course			
CE - Specialization Course			
Data Science/Systems	Course #	Course Name	Completed?
DS/S - Specialization Course			
DS/S - Specialization Course			
DS/S - Specialization Course			
DS/S - Specialization Course			
DS/S - Specialization Course			
Neuroengineering	Course #	Course Name	Completed?
NEURO - Specialization Course			
NEURO - Specialization Course			
NEURO - Specialization Course			
NEURO - Specialization Course			
NEURO - Specialization Course			
Photonics, Electronics, and Nanodevices	Course #	Course Name	Completed?
PEN - Specialization Course			
PEN - Specialization Course			
PEN - Specialization Course			
PEN - Specialization Course			
PEN - Specialization Course			

Advisor:	Date:	Advising for: Semester/Year

*Typically approved courses include: BIOS 201, CAAM 336, CAAM 378, CHEM 122 with lab, MATH 211, and MATH 222.

HOW DO I DECLARE MY MAJOR?

The School of Engineering encourages students to declare their majors in the spring semester of their first year before registering for their sophomore year. To declare, you must make an appointment with a Major Advisor and bring:

- 1) A printed, filled-out copy of the ECE Degree Planning Sheet either for the BSEE or BA
- 2) A printed copy of your unofficial transcript,
- 3) A printed copy of your completed declaration form (located in Esther)

After your advisor has approved your paperwork, send an electronic copy of your documents to Norma Santamaría at ns37@rice.edu. Turn in your original declaration form to the Registrar's Office at registrar@rice.edu or submit in person at 116 Allen Center.

WHO CAN HELP ADVISE ME?

You have to meet with your Divisional Advisor (DA) at least once during O-week, but we suggest you also make it a habit to talk to them periodically regarding your academic plans. All DAs have been trained to answer exactly the types of questions you have.

If your DA is not from the ECE department and you would like more help, you don't need to wait until you've declared to meet with a Major Advisor. A list of Major Advisors is below. They know the latest on the curriculum and have guided many ELECs towards their Rice degree. The ECE Undergraduate Program Administrator, Norma Santamaría (ns37@rice.edu), can help with questions about course schedules, ELEC 490 and VIP (ELEC 491) registration, procedures for declaring a major, and applying to the Masters of Electrical and Computer Engineering (MECE) program.

Make sure you consult the School of Engineering Advising Booklet and the IEEE Handbook for more tips and information on advising - at least once per semester and especially before registering for ELEC 301, the design lab and senior design. Once you have declared, you should meet with your assigned Major Advisor once per semester. You must bring a **printed and filled-out copy** of the ECE Degree Planning Sheet.



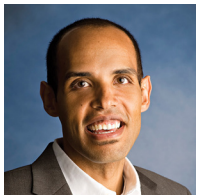
Joseph Cavallaro

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cavallar@rice.edu
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Ray Simar

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Caleb Kemere

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Peter Varman

Professor
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(713) 348.3990



Santiago Segarra

Assistant Professor
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Gary Woods

Distinguished Professor in the Practice
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(713) 348.3598



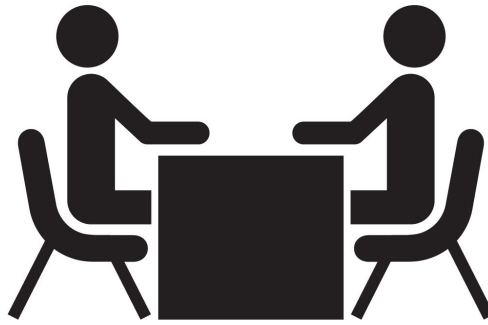
John Seymour

Associate Professor
BioScience Research Collaborative 867
johnseymour@rice.edu
(713) 500.5928



Norma Santamaría

Undergraduate Program Administrator
Duncan Hall, 2052
ns37@rice.edu
(713) 348.6722



HOW CAN I MAKE AN APPOINTMENT?

Contact a faculty member from the list on the previous page. This ensures the best advising experience possible. ECE majors should meet their advisor regularly to discuss their program and to check for any possible changes in courses and degree requirements.

I HAVEN'T DECLARED, BUT I'M INTERESTED

Students interested in ECE but who have not yet declared are encouraged to contact a faculty member in their area of interest or the Undergraduate Committee (UGC) Chair for information.

WHO ARE MY PEER ACADEMIC ADVISORS?

The ECE Peer Academic Advisors are upper-level students able to help their peers with academic issues related to Electrical and Computer Engineering. They are a resource that can provide advice on class scheduling, internships, resume preparation, etc. We encourage first and second-year students to consult the peer advisors at their residential college on matters concerning their academic careers. Keep in mind that some Peer Academic Advisors may not be on campus until after O-Week. More info can be found here: oaa.rice.edu/peer-academic-advisors

CAN I TRANSFER CREDITS?

Transfer credit for a particular course must be approved by the faculty member teaching that course in that department. Consult the course database on courses.rice.edu to determine the current instructor. For general questions on transfer credit consult with the UGC.

More information can be found here: oaa.rice.edu/transfer-credit-advisors

ASK. PLAN. SUCCEED!

HOW CAN I GET THE MOST OUT OF MY TIME?

ECE is a vibrant community with many ways to get involved! Non-ECE-related clubs can be found in Rice Clubs Central studentcenter.rice.edu/student-activities.



IEEE

The Rice chapter of IEEE is a student organization dedicated to informing ECE students of what is going on in the department, preparing the undergrad ECE majors for life “beyond the hedges,” encouraging first-year students and second-year students to major in Electrical Engineering, and creating a greater sense of community among the ECEs. Visit ieee.rice.edu for more information.

ShELECs

ShELECs: Undergraduate Women in Electrical Engineering is a student organization on campus which supports undergraduate women in electrical engineering. It empowers ECE women through community, networking, and mentorship. To join or contact us, please email Noemi Moreno (nm53@rice.edu) or shelecs@rice.edu.

WOMEN ExCEL

Women Excel is a network of women in the ECE Department at Rice that aims to provide community, mentoring, and cultural enrichment for ECE graduate students. We furnish a medium for networking and discussion of women-specific issues. Contact Sibbo Gao (sibo.gao@rice.edu) or visit <https://www.facebook.com/ricewikiwomen/> for more information.

ETA KAPPA NU (HKN)

Eta Kappa Nu (HKN) is the electrical and computer engineering honor society for students, alumni, and other engineering professionals. Recognizing excellence in electrical and computer engineering since 1904, it is now a part of the larger IEEE organization. The Theta Rho chapter of HKN at Rice University inducts new members each spring.

TAU BETA PI (TBP)

Tau Beta Pi is the oldest engineering honor society in the United States that recognizes students who have shown a history of academic achievement as well as a commitment to personal and professional integrity. TBP provides leadership development and soft skills training for engineering students and alumni members and promotes lifelong alumnus member involvement. For more information visit <https://tbp.rice.edu>.

SOCIETY OF WOMEN ENGINEERS (SWE)

SWE is a non-profit educational and service organization that is committed to organizing professional and social events to help Rice women engineers succeed and advance their careers. The SWE mission is to “empower women to achieve full potential in careers as engineers and leaders, expand the image of the engineering and technology professions as a positive force in improving the quality of life, and demonstrating the value of diversity and inclusion.” Visit swe.rice.edu for more information.

NATIONAL SOCIETY OF BLACK ENGINEERS (NSBE)

Rice University's NSBE chapter is dedicated to realization of a better tomorrow through the development of programs and community outreach events intended to increase the recruitment, retention, and successful graduation of minorities in engineering. Visit nsbe.rice.edu for more information.

SOCIETY OF HISPANIC PROFESSIONAL ENGINEERS (SHPE)

Rice University's SHPE chapter changes lives by empowering the Latinx/Hispanic community to realize its fullest potential and to impact the world through STEM awareness, access, support and development. SHPE Rice is committed to making its members as prepared as possible for life after graduation through professional development, community outreach, and leadership development. Visit shpe-rice.com for more information.

SHOULD I DO AN INTERNSHIP?

Picture it: you're a student at one of the best universities in the country. Your GPA is excellent and your professors have written strong recommendation letters, but how do you get real-world experience? This is where internships come in.

While most Rice ECE graduates have no problem finding a job after commencement, an internship can help you gain valuable on-the-job experience and real-world skills.

HOW DO I FIND AN INTERNSHIP?

Many students identify internship opportunities on their own; however, there are resources on campus to help.

RICELink ccd.rice.edu/students/jobs-internships

RICELink is CCD's job and internship database. Unlike other job search websites, employers who post in RICELink are specifically looking for Rice students and alumni. Use RICELink to apply for jobs and internships, apply to on-campus interviewing positions, schedule appointments with CCD counselors, and RSVP for events. You can also opt-in to make your profile searchable by employers.

SallyPortal alumni.rice.edu/sallyportal

SallyPortal is an online professional development hub dedicated exclusively to the Rice community. SallyPortal allows you to seek guidance from the Rice network, find a mentor, locate professional development opportunities, and engage with alumni and departments - all in the name of providing Rice students and recent graduates with the greatest possible edge.

HireOWL <https://www.hireowl.com>

Looking for a great way to make money and gain work experience on a schedule that works with your classes? Check out HireOwl. They can provide you with a wide variety of paid part-time job opportunities, short-term projects, and internships. Signing up is easy!

Remember you can always visit Rice ECE social media pages to learn about job opportunities from faculty and alumni.

ECE STUDENTS HAVE INTERNED AT:

Google
National Instruments
Texas Instruments
Microsoft
Boeing
Chevron
HP Enterprise
NASA
Airware
Proteus Digital Health
Sensorfield, LLC

HBK Capital Management
Subaru Telescope
Intuitive Machines
CenterPoint Energy
Alert Logic
Freescale Semiconductor
C&J Energy
Shell
Viasat
LyondellBasell
Amazon

FlightAware
Uber
Apple
Nokia Bell Labs
Samsung
Naval Research Lab
IBM
Facebook
MIT Lincoln Labs
CISCO
...and more!

SHOULD I STUDY ABROAD?

As an engineer, you will be called to solve problems and find solutions on a global scale; studying abroad is the ideal opportunity for you to gain the skills necessary to function in this global context. It shapes who you will become during your Rice career and beyond.

"Study abroad has helped me understand how to be a global thinker and to understand the impact of my decisions (engineering or otherwise). My time in Singapore made me realize in which aspects of education we, as a country, excel, and in which aspects we have something to learn from other cultures and institutions.

An abroad experience helps you to appreciate what you have at home in addition to what there is out there. I believe I'm better equipped to understand the problems we (the next generation of engineers) face at the global scale. I'm proud to say I now know how the strengths of Rice ECE fit into a larger puzzle of academia and research around the world."

—Latané Bullock

Meet with your Major Advisor(s) early, or by fall of sophomore year to discuss the possibility of studying abroad, and how it will integrate with the department's curriculum and course sequence.

"An important part of the education you receive at Rice should come from outside a classroom. It should include immersing yourself in a foreign culture and communicating with completely different people.

Studying abroad in Hong Kong has made me aware of a completely different reality I didn't even know about, and taught me things about myself I wouldn't have learned by just studying in the library. And studying abroad as an ELEC isn't as hard as most people think! Most universities have ELEC departments with plenty of courses available for transfer credit."

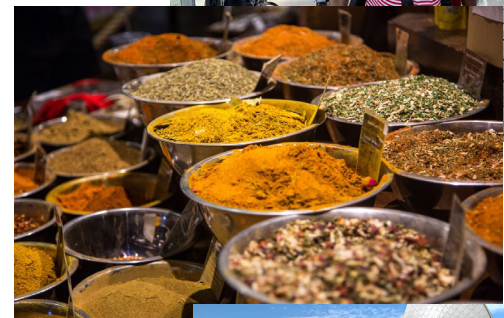
—Manuel Pacheco

Interested? Attend the Rice Study Abroad Fair this fall.

Questions: abroad@rice.edu

"I will always be grateful for my time abroad in Australia and the opportunities I got there. I got to experience a completely different way of teaching and living. It helped me become aware of my weaknesses and sharpen my strengths as a person. The experience encouraged me to expand my worldview and look beyond the hedges. I developed a different understanding of what unconventional wisdom means and hope to carry that with me forever."

—Fredy Martinez



SHOULD I DO RESEARCH AS AN UNDERGRAD?

Participation in research is a fundamental part of the Rice experience, and prepares students to make a distinctive impact on the world. If you are thinking of applying to graduate school, research experience as an undergraduate can set you apart from the competition and can also give you an edge when you begin your coursework - you will know about the research process and what to expect.

The prestigious Distinction in Research and Creative Work Award, is bestowed on select undergraduates at Commencement. The award is granted for projects that produce a concrete outcome -- e.g. an essay, invention, design, musical composition--and demonstrate commitment and/or achievement above and beyond the norm.

oui.rice.edu

HOW CAN I FIND RESEARCH OPPORTUNITIES?

Vertically Integrated Projects (VIP)

The Vertically Integrated Projects (VIP) Program at Rice unites undergraduate education and faculty research in a team-based context. Undergraduates earn academic credits, while faculty and graduate students benefit from the design/discovery efforts of their teams. VIP at Rice extends the academic design experience, through ELEC 491, beyond a single semester. It provides the time and context to learn and practice professional skills, to make substantial contributions, and experience different roles on large multidisciplinary design/discovery teams.

The long-term nature of VIP creates an environment of mentorship, with faculty and graduate students mentoring teams, experienced students mentoring new members, and students moving into leadership roles as others graduate. Rice VIP teams are comprised of students from first-year to graduate students, with a variety of majors and backgrounds. For more information, forms and application, visit ece.rice.edu.

Research Fairs

Make a point to attend the research fairs sponsored by the Office of Undergraduate Research and Inquiry (oui.rice.edu) in both the fall and spring semesters, typically in the second week of classes. The intention of the fairs is to connect undergraduate students with research opportunities at Rice University. It is an excellent way for students to learn how to pursue research opportunities that fit their goals and interests, and to discuss research with faculty and graduate students across disciplines.

Reach out to ECE Faculty

Many ECE faculty provide research opportunities to Rice undergraduates. Visit ece.rice.edu/people to learn about the faculty in the department, and feel free to reach out to them regarding a research position. Faculty have regular research group meetings that you may ask to attend. See the [ECE Research and Opportunities Guide](#).



People who compulsively pull their hair - suffering from an affliction known as trichotillomania - could find relief with a device created by Rice University students.

Seniors at Rice's Brown School of Engineering are developing a glove-based sensor that tracks hand motion and flexing, combined with a smartphone app that tracks behavior over time. The glove incorporates a flex and other sensors along with a gyroscope that sense when a hair-pull has happened. The glove sends data to the app, which keeps track of "no-pull" streaks.

"The reward for every week you don't pull your hair could be monetary or something as simple as a congratulations on the app," said Linda Liu.

ABOUT RICE IEEE

The Rice Chapter of IEEE is a student organization dedicated to connecting ECE students to exciting opportunities and resources at Rice and beyond. Rice IEEE encourages first and second-year students to major in Electrical Engineering and works to foster a strong community of students, faculty, and professionals. We expose students in ECE to important technical and career development topics in the field of electrical engineering by hosting weekly lunches with presentations given by industry professionals, alumni, professors, and graduate students. For more information visit the Rice IEEE website at ieee.rice.edu or seek out the Rice IEEE Handbook at ieee.rice.edu/resources/.

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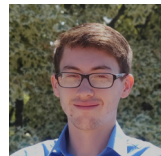


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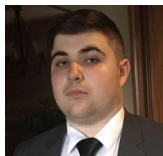


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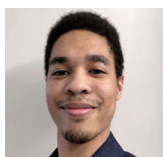


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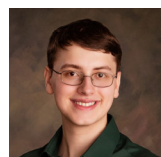
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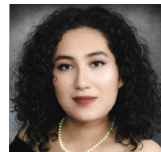


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