

Department of Electrical & Computer Engineering

STEVENS INSTITUTE *of* TECHNOLOGY

DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

# STRATEGIC PLAN

2021-2025

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[www.stevens.edu/ses/ece](http://www.stevens.edu/ses/ece)



# ABOUT THE DEPARTMENT

## VISION

To inspire and educate the next generation of technological leaders, and to discover and advance knowledge and technology.

## MISSION

The mission of the Department of Electrical and Computer Engineering (ECE) at Stevens is to:

- Educate and empower the next generation of electrical and computer engineers to emerge as technological leaders in their field, with strong fundamental knowledge, analytical skills, abstract thinking, problem solving and life-long learning skills.
- Discover and advance knowledge in ECE fields through innovative and high-impact research, and by promoting outside the box thinking and interdisciplinary approaches and collaboration.
- Make impactful contributions to society through leadership in professional organizations, and through facilitating technology transfer.
- Promote a collaborative, diverse and inclusive educational and research environment.

# EDUCATION AND TRAINING

## OF ECE STUDENTS .....

### GOALS

Ensure undergraduate and graduate students receive well-rounded, up to date, and comprehensive education.

Equip students with life-long learning and research skills to solve challenging problems of today and tomorrow, and to be the leader in their professions.

Prepare readiness of future ECE engineers for productive contributions to humanity, professionally and ethically.

### STRATEGIES AND INITIATIVES

Develop and strengthen internationally recognized premier academic programs in contemporary fields of ECE.

Develop curricula that respond to industrial and societal needs by combining fundamental course requirements with modern course offerings and practical experience through hands on projects and relevant industry experience.

Provide a comprehensive educational experience for graduate students that balance developing research skills in recognized areas and educating students to become critical thinkers to solve the problems of the future.

Promote research opportunities as part of required curriculum for Master of Science degree students, and as enrichment programs for top undergraduate and graduate students.

Provide extracurricular job preparation training to ensure career readiness and to prepare students to be technological leaders.



# EDUCATION AND TRAINING OF ECE STUDENTS (CONT.)

## STRATEGIC PRIORITIES

Strengthen online course offerings and provide rigorous online assessment tools and academic programs to accommodate fast-evolving needs of modern society and those of both traditional and non-traditional learners.

Deliver strong undergraduate and graduate summer research programs to supplement students' required learning.

Enhance mentoring for Ph.D. students with progress assessments and engagement workshops, to ensure students make adequate progress toward program completion and career success.



“ Our renowned faculty, dedicated staff, and motivated students together are the key to the success of the Strategic Plan, which will promote the department to the next level of excellence. ”

— Min Song, Chair

# RESEARCH, SCHOLARSHIP & ENTREPRENEURSHIP .....

## GOALS

Create and nurture research, scholarship and entrepreneurship and a culture that enables it to thrive.

Discover and advance knowledge that makes the world and humanity better through innovative research.

## STRATEGIES AND INITIATIVES

Build and sustain a critical mass of faculty clusters in ECE research thrusts through strategic hiring, valuing, and supporting scholarship and research success in all areas.

Invest in, and provide sustained support for, shared research facilities.

Promote innovative and entrepreneurial mindset in students and faculty.

Manage investigator teaching load to ensure funding success and research productivity.

Expose students to impactful interdisciplinary research that solves important problems of today and develops visions of tomorrow.

Incentivize research excellence and foster national and international visibility of students and faculty.

# RESEARCH, SCHOLARSHIP & ENTREPRENEURSHIP .....

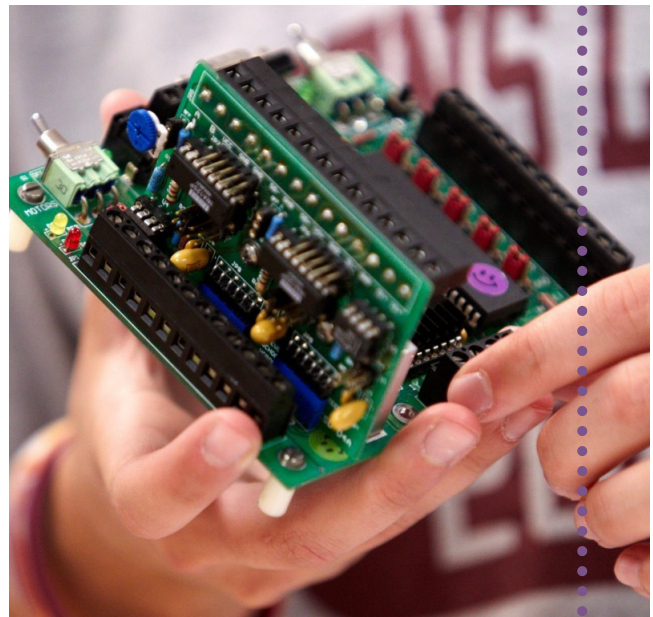
## STRATEGIC PRIORITIES

Invest in shared research facilities and computing networks with high-performance computing facilities.

Establish more research labs to facilitate systems research, development, and demonstration.

Promote collaborations and synergies within and between ECE research clusters and aim to build an engineering research center.

Strategic hiring on new faculty to strengthen the identified key research areas in integrated circuit and electronic system design for machine learning, cyber-physical systems, high-performance computing, smart and intelligent systems.



# FACULTY INVESTMENT & DEVELOPMENT .....

## GOALS

Recruit, develop, and retain an exceptional and diverse faculty to fulfill the ECE's missions of education, scholarship, and service.

## STRATEGIES AND INITIATIVES

Recruit outstanding faculty with expertise that will complement or enhance existing ECE strengths.

Develop and maintain mentoring programs for junior faculty to excel in their career.

Create a culture of recognizing faculty achievements and incentive programs to reward their successes.

Encourage faculty participation in internal and external professional development opportunities.

## STRATEGIC PRIORITIES

Recruit faculty who will promote interdisciplinary research and strengthen the Department's research profile, especially in the identified key research priority areas.

Promote hiring of teaching professors to teach core courses to avoid the use of temporary lecturers and adjunct faculty for core courses.

# CULTURE AND REPUTATION

## BUILDING .....

### GOALS

Shape an inclusive community through governance, communication, collaboration, and recognition to promote a culture of “excellence in all we do.”

### STRATEGIES AND INITIATIVES

Support interdisciplinary collaboration with different departments to broaden the spectrum of culture and innovative creativity.

Award outstanding faculty and student accomplishments to boost the ECE profile and build a desirable reputation for prospective students.

Assess and value feedback from the students to constantly strengthen communication between faculty and students.

Enhance the involvement of the alumni community through seminars and events.

### STRATEGIC PRIORITIES

Timely communicate achievements by ECE faculty, students, and alumni through ECE Newsletter and annual report and SES newsletters and Stevens press releases.

Be at the forefront of dispensing opportunities to students by regularly announcing ECE jobs and research opportunities offered through alumni and the Stevens Career Center.

Foster an inclusive community by promoting cultural diversity events and Women in STEM conferences.