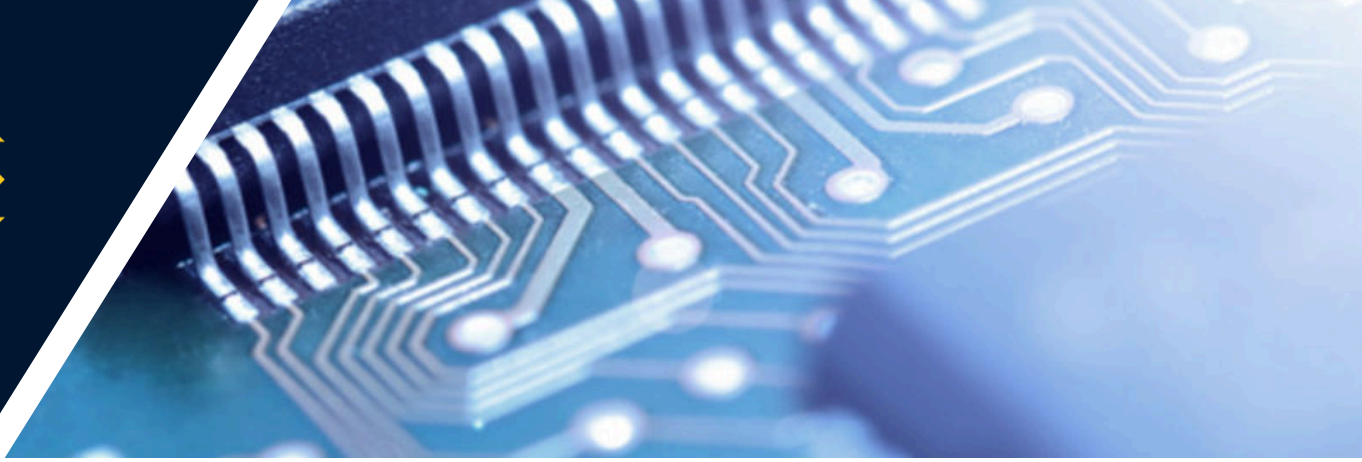




Etch

SEMICONDUCTOR **CAREER PATHWAYS**



PARTNERS

Etch is a state-led initiative that was set in motion by a partnership between Florida Semiconductor Institute. Backed and funded by the NSF Engine, Etch is helping local Floridians find long-term careers in a growing industry. Take hold of your future and jumpstart your career with Etch!

UF | Florida Semiconductor Institute
UNIVERSITY of FLORIDA



**FLORIDA
SEMICONDUCTOR
ENGINE**
SemiconductorEngine.org



ENGINEERING CAREER PATHWAYS

Semiconductor Industry

DESIGN ENGINEER

Develops and optimizes circuit and chip designs for semiconductor products. Requires strong expertise in electrical or computer engineering (typically B.S. or higher).

FIELD APPLICATION ENGINEER (FAE)

Acts as the technical liaison between engineering teams and customers, providing product support, demonstrations, and solutions. Often involves frequent travel and strong communication skills.

PRODUCT ENGINEER

Manages the production lifecycle of semiconductor products, coordinating manufacturing processes, testing, and product releases. Focuses on yield improvement and performance validation.

QUALITY & TEST ENGINEER

Designs and implements testing protocols to ensure chip functionality, reliability, and industry compliance. Works to prevent defects and maintain quality standards across production.

RESEARCH & DEVELOPMENT

Explores and develops new semiconductor materials, processes, and technologies. Often requires M.S. or Ph.D. in materials science, electrical engineering, or related fields.

SALES ENGINEER

Combines technical expertise with sales to deliver customized solutions to clients. Focuses on building relationships and explaining complex products to non-technical audiences.

Salary: \$70,000 – \$130,000+



Ready to Get Started While You are in High School?

Take STEM Subjects

- Physics
- Chemistry
- Engineering
- Robotics
- Coding
- Computer Science

Join Career & Technical Student Organizations

- Robotics Club
- STEM Competitions
- Skills USA

Look for Summer Programs!

- Internships
- Camps
- Bootcamp programs

WHERE TO STUDY

Semiconductor concepts span multiple disciplines, creating diverse opportunities for students with different interests and strengths. The good news is that in Florida, many institutions offer engineering programs that can lead to careers in the semiconductor industry. Below is a list of recommended majors to consider, along with the universities where these programs are offered.

Electrical & Computer Engineering

UF, UCF, USF, UM, UNF, UWF, FAMU-FSU, FAU, FIU, Florida Poly, Florida Tech, Emory Riddle Aeronautical University

Computer Science & Engineering

UF, UCF, USF, UM, UNF, UWF, FAMU-FSU, FAU, FIU, Florida Poly, Florida Tech, ERAU

Chemical Engineering

UF, USF, UM, FAMU-FSU, Florida Tech

Materials Science & Engineering

UF, UCF, UM, UNF, FIU, FAMU-FSU

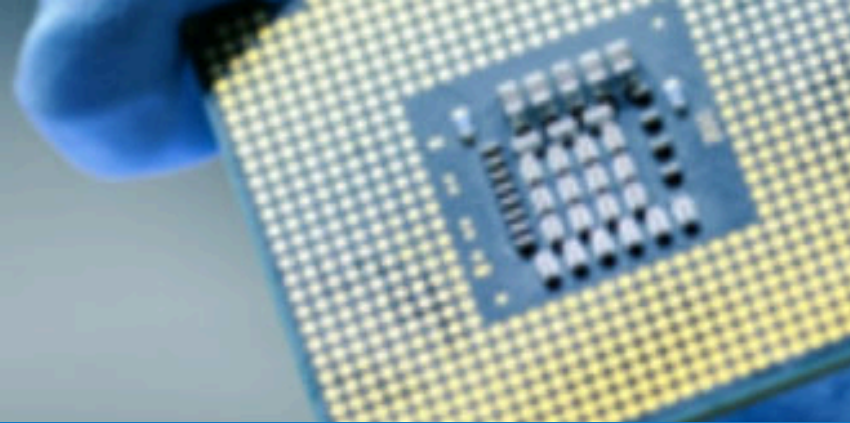
Mechanical Engineering

ERAU, FAMU-FSU, UF, UCF, UM, UNF, FAU, FIU, USF, Florida Poly, Florida Tech, UWF

Are you starting at a state college?

Florida state colleges have articulation agreements that allow you to complete your AA degree and transition to an engineering program as a junior.

Make sure to check with each institution for pre-requisite requirements!



TECHNICIAN CAREER PATHWAYS

Semiconductor Industry

CLEANROOM TECHNICIAN

Operates and maintains equipment in a cleanroom to ensure contamination-free production.

PROCESS TECHNICIAN

Assists engineers in monitoring and optimizing semiconductor manufacturing processes. Performs equipment setup, process adjustments, and collects data to ensure production quality and efficiency.

PACKAGING TECHNICIAN

Assembles and packages semiconductor components, ensuring they are sealed, labeled, and standards.

EQUIPMENT / TOOL TECHNICIAN

Installs, troubleshoots, repairs, and maintains semiconductor manufacturing equipment.

MAINTENANCE (FAB) TECHNICIAN

Maintains and repairs fab equipment and facility systems to minimize downtime, ensure continuous operation, and support production schedules.

FIELD SERVICE TECHNICIAN

Provides on-site installation, maintenance, and repair of semiconductor equipment at customer locations.

METROLOGY TECHNICIAN

Inspects semiconductor products using precision tools to verify quality and dimensions, and supports process improvements through data analysis.

TEST TECHNICIAN

Uses specialized equipment to test semiconductor devices, analyzes results, identifies failures, and collaborates with engineering to improve performance.

QUALITY ASSURANCE (QA) TECHNICIAN

Inspects and tests semiconductor products to ensure they meet standards and specifications, identifying defects and supporting corrective actions.

Salary: \$40,000 - \$80,000+



**Ready to
Get Started
While You are in
High School?**

Take CTE Programs

Electrical Technology
Robotics
Applied Engineering
Advanced
Manufacturing
HVAC
Plumbing

**Look for Summer
Programs!**

Internships
Camps
Bootcamp programs

WHERE TO STUDY

Semiconductor Engineering Technology

- A.S. Degree Offerings: Valencia College

Electronics Engineering Technology

- A. S. Specialization Offerings: Daytona State College, Hillsborough Community College, Indian River State College, Miami-Dade College, Palm Beach State College, Pensacola State College, Valencia College

Engineering Technology Advanced Manufacturing

- Unified Degree Offerings: College of Central Florida, Polk State College, Santa Fe College

Engineering Technology

- A.S. Degree Offerings: Broward College, Chipola College, College of Central Florida, Daytona State College, Eastern Florida State College, Florida State College at Jacksonville, Gulf Coast State College, Hillsborough Community College, Lake-Sumter State College, Northwest Florida State College, Palm Beach State College, Pasco Hernando State College, Pensacola State College, Polk State College, Seminole State College of Florida, South Florida State College, St. Johns River State College, St. Petersburg College, State College of Florida, Manatee-Sarasota, Tallahassee State College, the College of the Florida Keys, Valencia College

Advanced Manufacturing

- Specialization Offerings: Broward College, Daytona State College, Florida State College at Jacksonville, Indian River Technical, Lake Technical, Manatee Technical, Palm Beach State College, Polk State College, South Florida State College, Tallahassee Community College



STAY CONNECTED

Check out our website to stay informed about Etch, including events, internship openings, news and more.

**SCAN
ME**





Etch