

MICROELECTRONICS SYSTEMS TECHNOLOGY, CERTIFICATE

Program Code: CC.MICROSYSTECH

This program prepares students for entry into the microelectronics and semiconductor industries. Course work focuses on wafer manufacturing, integrated circuit fabrication, component manufacturing, microelectronic assembly and equipment maintenance. Specific skill areas include: silicon materials fabrication, silicon manufacturing, semiconductor processing, microcontamination and particle control, troubleshooting of equipment and systems, microlithography, ion implantation, etch and chemical vapor deposition.

For information contact the Industrial Technology Department, 503-594-3318.

Outcomes

Related Instruction Outcomes

Computation

- 1 course - MTH-095 Algebra III
- Use appropriate mathematics to solve problems.

Communication

- 1 course - WR-101 Communication Skills: Occupational Writing
- Read actively, think critically, and write purposefully and capably for professional audiences.

Human Relations

- 3 credits - Recommended: PSY-101 Human Relations
- Engage in ethical communication processes that accomplish goals.

Program Outcomes

Upon successful completion of this program, students should be able to:

- communicate critical information about electronic systems using verbal, written, or graphical means;
- troubleshoot electrical and electronic systems;
- use proper electrical test equipment to test and maintain electronic and electrical components and equipment;
- demonstrate safe work habits around electricity and electronic equipment;
- demonstrate basic knowledge of semiconductor manufacturing and materials.

Requirements

Course	Title	Credits
First Term		
EET-112	Electronic Equipment and Assembly I	1
EET-137	Electrical Fundamentals I	4
EET-139	Principles of Troubleshooting I	2
EET-157	Digital Logic I	3
MTH-095	Algebra III	4

Course	Title	Credits
SM-150	Semiconductor Processing I	2
Credits		16
Second Term		
EET-113	Electronic Equipment and Assembly II	1
EET-141	Electrical Fundamentals II	4
IMT-120	Industrial Machinery I	3
MFG-107	Industrial Safety & First Aid	3
SM-160	Semiconductor Processing II	2
WR-101	Communication Skills: Occupational Writing ¹	3
Credits		16
Third Term		
EET-114	Electronic Equipment and Assembly III	1
EET-142	Electrical Fundamentals III	4
IMT-223	Instrumentation & Controls	3
SM-170	Semiconductor Processing III	2
SM-280	Electronics & Microelectronics/CWE	2
Human Relations requirement		3
PSY-101	Human Relations (Recommended)	
Credits		15
Total Credits		47

¹ Substitute college transfer courses for these courses if you plan to continue your education at a higher education institution. It is recommended that you consult with a faculty advisor or a staff member in Student Services for the transfer requirements of the specific advanced program or school.

Careers

Career opportunities include:

- fabrication technician
- equipment technician
- product test technician