MICROELECTRONICS SYSTEMS TECHNOLOGY, AAS

Program Code: AAS.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.

Oregon Tech Transfer Courses

The Industrial Technology Department, in cooperation with Oregon Tech, offers a number of transferable microelectronics classes into Oregon Tech's Electronics Engineering Technology degree program.

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 - See Related Instruction for course list
- Engage in ethical communication processes that accomplish goals.

Physical Education/Health/Safety/First Aid

- 1 course - MFG-107 Industrial Safety & First Aid
- Use effective life skills to improve and maintain mental and physical wellbeing.

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 Year		
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
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
	Credits	**15**
Second Year		
Fourth Term		
EET-127	Semiconductor Circuits I	2
EET-215	Technical Mechanics	3
EET-239	Principles of Troubleshooting II	2
HD-209	Job Search Skills	1
IMT-104	Reading Schematics and Symbols	2
Electives (p. 2)		3
	Credits	**13**
Fifth Term		
EET-227	Semiconductor Circuits II	3
EET-233	Programmable Logic Controllers I	3
ESH-100	Environmental Regulations	2
MFG-140	Principles of Fluid Power	3
MFG-209	Programming & Automation for Manufacturing	3
SM-136	Photolithography	2
	Credits	**16**
Sixth Term		
CH-104	Introductory Chemistry	5
EET-250	Linear Circuits	3
SM-229	Vacuum Technology	2
SM-280	Electronics & Microelectronics/CWE	2

Course	Title	Credits
Electives (p. 2)		3
	Credits	**15**
	Total Credits	**91**

[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.

Electives

Any course with a CDT, EET, MFG, RET, SM, or WLD prefix not already in the program.

Recommended Electives:

Code	Title	Credits
CDT-103	Computer-Aided Drafting I	3
CS-140	Introduction to Operating Systems	4
EET-225	Mechatronics I	2
EET-235	Mechatronics II	2
MFG-219	Robotics	3

Careers

Career opportunities include:

- fabrication technician
- equipment technician
- product test technician