ENGINEERING TECHNOLOGY (AAS)

Catalog Effective Term: Fall 2025
Program Code: APETCH
Credential: Associate in Applied Science
High Demand Occupation, High Skill Occupation, High Wage Occupation

This program is designed to provide students with the opportunity to develop hands-on skills for careers in high-demand fields like semiconductor and battery manufacturing, industrial electronics, and robotics technology. As the demand for skilled semiconductor and nanotechnology professionals continues to rise in our increasingly connected world, this program aims to strengthen the local workforce, equipping it with the expertise needed to compete on a global scale in this critical industry.

In the Industrial Electronics Concentration, students will develop skills in mechatronics and industrial automation, and will earn the additional Industrial Electronics Technology certificate upon completing the program. In the Semiconductor and Battery Manufacturing Concentration, students will develop skills in robotics and electronics manufacturing, and will earn the additional Semiconductor and Battery Manufacturing and Robotics Technician certificates upon completing the program.

Select one of the following concentrations:

- Industrial Electronics (INEL)
- Semiconductor and Battery Manufacturing (SBM)

Full-Time Students

Industrial Electronics (INEL)

Minimum Credits Required for the Concentration: 60

Course	Title	Credits
First Semester		
ELE 111	Electrical Fundamentals	4
MEC 101	Blueprint Reading for Manufacturing	2
MTH 176	College Algebra	4
or higher numbered 4cr math course (https://coursecatalog.wccnet.edu/academics/general-education/#math)		
NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
	Credits	**12**
Second Semester		
CEM 101	Introductory Chemistry	4
or higher numbered 4cr chemistry course (https://coursecatalog.wccnet.edu/course-descriptions/cem/)		
CNT 206	Introduction to Networks	4
ELE 211	Basic Electronics	4
Speech/Comp. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#writing)		3
	Credits	**15**
Third Semester		
ELE 134	Motors and Controls	4
ENG 111	Composition I	4
	Credits	**8**
Fourth Semester		
ELE 121	Hand Soldering Techniques	2
ELE 224	Programmable Controllers (PLCs) I	4
CST 140	Digital Logic and Computer Design	3
Soc. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#socbehavsci)		3
	Credits	**12**
Fifth Semester		
ELE 254	Programmable Controllers (PLCs) II	4
MEC 105	Pneumatics and Hydraulics in Fluid Power	4
MEC 201	Mechanisms and Introduction to Mechatronics	2
Arts/Human. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#arthuma)		3
	Credits	**13**
	Total Credits	**60**

Semiconductor and Battery Manufacturing (SBM)

Minimum Credits Required for the Concentration or Option: 60

Course	Title	Credits
First Semester		
ELE 111	Electrical Fundamentals	4
MEC 101	Blueprint Reading for Manufacturing	2
MTH 176	College Algebra	4
or higher numbered 4cr math course (https://coursecatalog.wccnet.edu/academics/general-education/#math)		
ROB 101	Robotics I - I	2
ROB 110	Robotics I - II	2
	Credits	**14**
Second Semester		
CEM 101	Introductory Chemistry	4
or higher numbered 4cr chemistry course (https://coursecatalog.wccnet.edu/course-descriptions/cem/)		
ENG 111	Composition I	4
ELE 211	Basic Electronics	4
ROB 212	Robotics II	4
	Credits	**16**
Third Semester		
ELE 121	Hand Soldering Techniques	2
ELE 224	Programmable Controllers (PLCs) I	4
MEC 105	Pneumatics and Hydraulics in Fluid Power	4
Soc. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#socbehavsci)		3
Restricted Elective(s)		2-3
CST 140	Digital Logic and Computer Design	
MEC 100	Materials and Processes	
MEC 201	Mechanisms and Introduction to Mechatronics	

NCT 120	Introduction to 2D CAD CAM Programming and Applications	
	Credits	**15**
Fourth Semester		
ELE 206	Semiconductor Manufacturing	2
ELE 208	Battery Manufacturing	2
ELE 254	Programmable Controllers (PLCs) II	4
Arts/Human. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#arthuma)		3
Speech/Comp. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#writing)		3
Open Elective(s) to reach a minimum of 60 total credits.		1
	Credits	**15**
	Total Credits	**60**

Part-Time Students

Industrial Electronics (INEL)

Minimum Credits Required for the Concentration or Option: 60

Course	Title	Credits
First Semester		
ELE 111	Electrical Fundamentals	4
MTH 176	College Algebra	4
or higher numbered 4cr math course (https://coursecatalog.wccnet.edu/academics/general-education/#math)		
	Credits	**8**
Second Semester		
ELE 211	Basic Electronics	4
MEC 101	Blueprint Reading for Manufacturing	2
NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
	Credits	**8**
Third Semester		
CEM 101	Introductory Chemistry	4
or higher numbered 4cr chemistry course (https://coursecatalog.wccnet.edu/course-descriptions/cem/)		
ENG 111	Composition I	4
	Credits	**8**
Fourth Semester		
CST 140	Digital Logic and Computer Design	3
ELE 121	Hand Soldering Techniques	2
ELE 224	Programmable Controllers (PLCs) I	4
	Credits	**9**
Fifth Semester		
ELE 254	Programmable Controllers (PLCs) II	4
MEC 201	Mechanisms and Introduction to Mechatronics	2
	Credits	**6**
Sixth Semester		
ELE 134	Motors and Controls	4
Arts/Human. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#arthuma)		3
	Credits	**7**
Seventh Semester		
Soc. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#socbehavsci)		3
MEC 105	Pneumatics and Hydraulics in Fluid Power	4
	Credits	**7**
Eighth Semester		
CNT 206	Introduction to Networks	4
Speech/Comp. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#writing)		3
	Credits	**7**
	Total Credits	**60**

Semiconductor and Battery Manufacturing (SBM)

Minimum Credits Required for the Concentration or Option: 60

Course	Title	Credits
First Semester		
ELE 111	Electrical Fundamentals	4
MTH 176	College Algebra	4
or higher numbered 4cr math course (https://coursecatalog.wccnet.edu/academics/general-education/#math)		
	Credits	**8**
Second Semester		
ROB 101	Robotics I - I	2
ROB 110	Robotics I - II	2
MEC 101	Blueprint Reading for Manufacturing	2
	Credits	**6**
Third Semester		
ROB 212	Robotics II	4
ENG 111	Composition I	4
	Credits	**8**
Fourth Semester		
CEM 101	Introductory Chemistry	4
or higher numbered 4cr chemistry course (https://coursecatalog.wccnet.edu/course-descriptions/cem/)		
ELE 224	Programmable Controllers (PLCs) I	4
	Credits	**8**
Fifth Semester		
ELE 254	Programmable Controllers (PLCs) II	4
Speech/Comp. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#writing)		3
	Credits	**7**
Sixth Semester		
Arts/Human. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#arthuma)		3
Soc. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#socbehavsci)		3
ELE 121	Hand Soldering Techniques	2
	Credits	**8**
Seventh Semester		
ELE 206	Semiconductor Manufacturing	2

ELE 211	Basic Electronics	4
Restricted Elective(s)		2-3
CST 140	Digital Logic and Computer Design	
MEC 100	Materials and Processes	
MEC 201	Mechanisms and Introduction to Mechatronics	
NCT 120	Introduction to 2D CAD CAM Programming and Applications	
	Credits	**8**
Eighth Semester		
ELE 208	Battery Manufacturing	2
MEC 105	Pneumatics and Hydraulics in Fluid Power	4
Open Elective(s) to reach a minimum of 60 total credits.		1
	Credits	**7**
	Total Credits	**60**