



ENGINEERING TECHNOLOGY (A.S. /A.A.S.)

SPECIALIZATIONS: ADVANCED MANUFACTURING

PROGRAM DESCRIPTION:

The Engineering Technology Associate in Science degree program prepares students for employment or provides additional training for persons employed in manufacturing and high technology industries. HCC offers the Advanced Manufacturing specialization along with four college credit certificates: Automation, Engineering Technology Support, Lean Manufacturing and Pneumatics, Hydraulics and Motors for Manufacturing.

The 18 credit hour technical core of this degree is closely aligned with the national Manufacturing Skill Standards Council (MSSC) Certified Production Technician (CPT) industry certification. After completing this core, students will be prepared to take the MSSC assessment for the CPT Certification. Students who have already earned the MSSC-CPT will receive 15 articulated credit-hours towards the Engineering Technology degree. The Engineering Technology Associate in Science degree program is fully transferable to four year degree granting institutions.

ASSOCIATE IN SCIENCE and ASSOCIATE IN APPLIED SCIENCE (A.S./A.A.S.)

General Education & Engineering Technology Courses

GENERAL EDUCATION (15 credits)	Cr.	ENGINEERING TECHNOLOGY CORE (18 credits)	Cr.
English Composition I	3	CAD ETD 1320C CAD for Engineers	3
Natural Science Requirement	3	ELECTRONICS EET 1083C Electronics Orientation	3
Humanities Requirement	3	MEASUREMENT ETM 1010C Mechanical Measurement and Instrumentation	3
MGF 1119 Intro Math w/Appls (AAS) Mathematics General Education (AS)	3	PROCESSES ETI 1420 Manufacturing Processes and Materials	3
Social/Behavioral Science Requirement	3	QUALITY ETI 1110 Introduction to Quality	3
		SAFETY ETI 1701 Industrial Safety	3

Specialized Track Courses

ADVANCED MANUFACTURING (27 credits)

EST 1542	Introduction to Programmable Logic Controllers	3	ETM 2315L	Hydraulics and Pneumatics Lab	1
EST 1511	Motors and Controls	3	ETI 2939	Engineering Technology Capstone	3
ETI 1622	Concepts of Lean and Six Sigma	3	<i>Technical Electives (choose from the list below)</i>		11
ETM 2315	Hydraulics and Pneumatics	3			

Technical Elective Courses

ETI 1644	Production & Inventory Control	3	EST 1540	Industrial Application using PLCs & Robotics	3
EST 1535	Automated Process Control	3	ETI 1931	Special Topics in Modern Manufacturing	3
ETI 1403	Intro to Advanced Manufacturing Technology	1	ETI 1949	Manufacturing Internship	2
EGS 2122C	Geometric Dimensioning & Tolerancing	3	ENC 2210	Technical Writing	3
CGS 1510	Spreadsheet Applications I	3	ETI 1181	Quality Systems & Workplace Dynamics	2





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COLLEGE CREDIT CERTIFICATES

AUTOMATION (12 credits)

This certificate prepares students for engineering technology support positions dealing with PLCs, automation, and control systems in high technology production, manufacturing, distribution, engineering, and research and development facilities.

Course Title	Cr.	Course Title	Cr.
EST 1511 Motors and Controls	3	EST 1535 Automated Process Control	3
EST 1540 Industrial Applications using PLCs and Robotics	3	EST 1542 Introduction to PLCs	3

ENGINEERING TECHNOLOGY SUPPORT CERTIFICATE (18 credits)

This certificate prepares students for entry level technical jobs in high technology production, manufacturing, distribution, engineering, and research and development facilities.

Course Title	Cr.	Course Title	Cr.
ETM 1010C Mechanical Measurement and Instrumentation	3	ETI 1110 Introduction to Quality	3
ETD 1320C CAD for Engineering	3	ETI 1701 Industrial Safety	3
ETI 1420 Manufacturing Processes and Materials	3	EET 1083C Electronics Orientation	3

LEAN MANUFACTURING (12 credits)

This certificate prepares students for engineering technology support positions dealing with quality systems and their implementation in high technology production, manufacturing, distribution, engineering, and research and development facilities.

Course Title	Cr.	Course Title	Cr.
ETI 1110 Introduction to Quality	3	ETI 1622 Concepts of Lean Manufacturing and Six Sigma	3
ETI 1644 Production and Inventory Control	3	ETM 1010C Mechanical Measurement and Instrumentation	3

PNEUMATICS, HYDRAULICS AND MOTORS FOR MANUFACTURING (13 credits)

This certificate prepares students for engineering technology support positions dealing with facilities operations and maintenance in high technology production, manufacturing, distribution, engineering, and research and development facilities.

Course Title	Cr.	Course Title	Cr.
EET 1083C Electronics Orientation	3	EST 1511 Motors and Controls	3
ETI 1420 Manufacturing Processes and Materials	3	ETM 2315 Hydraulics and Pneumatics	3
ETM 2315L Hydraulics and Pneumatics Lab	1		

