



**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 is aligned with the Manufacturing Skills Standard Council's (MSSC) skills standards. *After completing this core students will be prepared to take the Manufacturing Skills Standards Council (MSSC) assessments for the Certified Production Technician (CPT) certification.* 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)DEGREES**

**GENERAL EDUCATION and ENGINEERING TECHNOLOGY CORE COURSES**

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

**Specialized Track Courses**

ADVANCED MANUFACTURING (27 credits)	Cr.		
EST 1542 Introduction to Programmable Logic Controllers	3		
EST 1511 Motors and Controls	3		
ETI 1622 Concepts of Lean and Six Sigma	3		
ETM 2315 Hydraulics and Pneumatics	3		
ETM 2315L Hydraulics and Pneumatics Lab	1		
ETI 2939 Engineering Technology Capstone	3		
<i>Technical Electives(choose from the list below)</i>	<i>11</i>		

**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			

