



ENGINEERING TECHNOLOGY (A.S.)

SPECIALIZATION: ADVANCED MANUFACTURING

PROGRAM DESCRIPTION:

The Engineering Technology Associate in Science/Applied Science degree programs prepare students for employment or provide additional training for persons employed in manufacturing and high technology industries. FGC offers the Advanced Manufacturing specialization along with two college credit certificates: Engineering Technology Support Specialist 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 which is endorsed by the National Association of Manufacturers' Skills Credential System. 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/APPLIED SCIENCE DEGREE (A.S./A.A.S.)					
General Education & Engineering Technology Courses					
GENERAL EDUCATION (15 credits)		Cr.	ENGINEERING TECHNOLOGY CORE (18 credits)		Cr.
ENC 1101 Composition I		3	CAD	ETD 1320 Introduction to CAD	3
PHI 2600 Ethics		3	ELECTRONICS	EET 1084 Introduction to Electronics	3
SPC 2608 Public Speaking		3	MEASUREMENT	ETM 1010 Mechanical Meas. & Instrumentation	3
MAC 1105 College Algebra or MGF 1106/1107 Math for Liberal Arts I/II (GE)		3	PROCESSES	ETI 1420 Manufacturing Materials & Processes	3
Gen. Ed. Social Sciences Approved Course		3	QUALITY	ETI 1110 Principles of Quality Assurance	3
			SAFETY	ETI 1701 Industrial Safety	3
Specialized Track Courses					
ADVANCED MANUFACTURING (27 credits)					
EST 1511	Motors and Controls	3	EST 1540C	Industrial Applications using PLCs and Robotics	3
ETI 1622	Concepts of Lean Manufacturing & Six Sigma	3	ETM 2315	Hydraulics and Pneumatics	2
EST 1542C	Introduction to Programmable Logic Controllers	3	ETM 2314L	Hydraulics and Pneumatics Lab	1
EST 1535C	Automated Process Control	3	Technical Elective		3
MAN 2500	Operations Management	3			





ENGINEERING TECHNOLOGY (A.S.)

SPECIALIZATION: ADVANCED MANUFACTURING

COLLEGE CREDIT CERTIFICATES

ENGINEERING TECHNOLOGY SUPPORT CERTIFICATE (18 credits)

This certificate prepares students for entry-level employment with an occupational title as Engineering Support Specialist or Engineering Specialist in various specialized areas to support engineering design, manufacturing processes and production, testing and/or maintaining product quality, or to provide supplemental training for persons previously or currently employed in these occupational areas.

Course Title	Cr.	Course Title	Cr.
EET 1084 Introduction To Electronics	3	ETD 1320 Introduction To CAD	3
ETI 1420 Manufacturing Materials & Processes	3	ETI 1701 Industrial Safety	3
ETM 1010 Mechanical Measurement & Instrumentation	3	ETI 1110 Principles of Quality Assurance	3

PNEUMATICS, HYDRAULICS AND MOTORS FOR MANUFACTURING (12 credits)

This certificate provides a series of courses that focuses on the concepts, theories of operation, and equipment used in manufacturing and other industrial operations. The program covers the setup, operation, maintenance and trouble shooting of pneumatic, hydraulic and electromechanical components and systems, AC and DC circuit theory, circuit design and operation, circuit analysis and troubleshooting, and industrial processes and materials.

Course Title	Cr.	Course Title	Cr.
EET 1084C Introduction to Electronics	3	ETM 2315 Hydraulics and Pneumatics	2
ETI 1420 Manufacturing Materials and Processes	3	ETM 2315L Hydraulics and Pneumatics Lab	1
EST 1511C Motors and Controls	3		

