ENGINEERING TECHNOLOGY - ROBOTICS & AUTOMATION TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

NMC Code 544

Engineering technology education focuses primarily on the applied aspects of science and engineering aimed at preparing graduates for practice in that portion of the technological spectrum closest to product improvement, manufacturing, construction, and engineering operational functions.

The NMC Engineering Technology degree offers students a broad-based curriculum across all areas of technical education, preparing the graduates for emerging job markets and highly technical fields.

NMC has created a unique training center that specializes in robotics and automation. This specialization prepares student for careers in the fast-paced world of manufacturing, automation, and control systems. These control systems are present in everything from high-tech manufacturing and robotic processes to amusement park rides.

Areas of Emphasis:

• Microcontroller Programming
• Microcontroller Systems
• Programmable Logic Controllers
• Manufacturing Engineering Process

Within this degree students will have the opportunity to earn the following: CSWA Certified Solidworks Associate, ISPS Connector and Conductor, and PCEP- Certified Entry-Level Python Programmer.

Requirements
Major Requirements

Course	Title	Credits
General Education Requirements		
ENG 111	English Composition	4
Select one of the following:		3-4
ENG 112	English Composition	
ENG 220	Technical Writing	
BUS 231	Professional Communications	
PHL 105	Critical Thinking	3
Math Competency [1]		4
Select one of the following:		4
BIO 106	Human Biology	
ENV 117	Meteorology & Climatology	
PHY 105	Physics of the World Around Us	
PHY 121	General Physics I	
GEO 115	Introduction to GIS	3
Technical Specialty Requirements		
DD 170	CADD/Computer Modeling	4
EET 102	Intro to Engineering Tech	2
EET 103	Electrical Studies I	3
MFG 104	Fluid Power	3
RAM 155	Microcontroller Programming	3
RAM 205	Microcontroller Systems	3
Robotics & Automation Technology		
EET 204	Electrical Studies II	3
EET 221	Industrial Controls	3
EET 232	Programmable Logic Controllers	3
EET 233	PLC Applications I	3
EET 234	PLC Applications II	3
MFG 203	Manuf/Engineering Processes	3
Approved Technical Elective		3
Total Credits		**60-61**

[1] Placement into MTH 121 College Algebra *or* higher, *or* completion of MTH 111 Intermediate Algebra or MTH 120 Mathematical Explorations with a 2.0 or higher

Minimum Program Requirements 60

Note: *Internship opportunities are available for additional credits.*

Approved technical Electives

Course	Title	Credits
CIT 110	Programming Logic and Design	3
CIT 178	Relational Databases	3
CIT 180	Web Development	3
CIT 190	JavaScript Programming	3
CIT 195	Application Development	3
CIT 213	Networking Technologies	4
CIT 228	Advanced Database Systems	3
CIT 255	Object-Oriented Programming	3
DD 101	Print Reading and Sketching	3
DD 110	Basic Metallurgy	3
EET 180	Biomedical Equipment I	3
EET 212	Elements of Photonics	4
EET 260	System Engineering in Practice	3
EET 281	Biomedical Equipment II	3
WSI 240	ROV Systems and Operations	3
UAS 107	Remote Pilot Ground	3
UAS 141	Remote Pilot Flight	3

Course Sequence Guide

Course	Title	Credits
Year 1		
Fall		
ENG 111	English Composition	4
GEO 115	Introduction to GIS	3
EET 102	Intro to Engineering Tech	2
EET 103	Electrical Studies I	3
RAM 155	Microcontroller Programming	3
	Credits	**15**

Spring

Select one of the following:		3-4
ENG 112	English Composition	
ENG 220	Technical Writing	
BUS 231	Professional Communications	
RAM 205	Microcontroller Systems	3
DD 170	CADD/Computer Modeling	4
EET 204	Electrical Studies II	3
	Credits	**13-14**

Year 2

Fall

MTH 121	College Algebra	4
MFG 104	Fluid Power	3
MFG 203	Manuf/Engineering Processes	3
EET 221	Industrial Controls (Fall only)	3
EET 232	Programmable Logic Controllers (Fall only)	3
	Credits	**16**

Spring

Approved Technical Elective (see list below)		3
PHL 105	Critical Thinking	3
EET 233	PLC Applications I (Spring only)	3
EET 234	PLC Applications II (Spring only)	3
Select one of the following:		4
ENV 117	Meteorology & Climatology	
BIO 106	Human Biology	
PHY 105	Physics of the World Around Us	
PHY 121	General Physics I	
	Credits	**16**
	Total Credits	**60-61**

approved technical electives

Course	Title	Credits
CIT 110	Programming Logic and Design	3
CIT 178	Relational Databases	3
CIT 180	Web Development	3
CIT 190	JavaScript Programming	3
CIT 195	Application Development	3
CIT 213	Networking Technologies	4
CIT 228	Advanced Database Systems	3
CIT 255	Object-Oriented Programming	3
DD 101	Print Reading and Sketching	3
DD 110	Basic Metallurgy	3
EET 180	Biomedical Equipment I	3
EET 212	Elements of Photonics	4
EET 260	System Engineering in Practice	3
EET 281	Biomedical Equipment II	3
WSI 240	ROV Systems and Operations	3
UAS 107	Remote Pilot Ground	3
UAS 141	Remote Pilot Flight	3

The responsibility for determining the transferability of this degree and courses to another institution is the sole responsibility of the student.