

# Associate of Applied Science: Industrial Cybersecurity Engineering Technology

(2 Years)

## Program Objectives

1. Identify and respond to security concerns relating to operational cyber physical systems.
2. Coordinate among key stakeholders for matters dealing with the security of cyber physical systems.
3. Promote stakeholder awareness and education relating to cyber physical systems security.
4. Establish optimal policies for managing risk in cyber physical systems.
5. Use security criteria to influence technology selection and deployment.

Students must meet with the Program Coordinator prior to beginning course work.

Code	Title	Credits
<b>Required Courses:</b>		
ESET 0100	Engineering Technology Orientation	1
ESET 0100L	Engineering Technology Orientation Lab	1
ESET 0181	Information Technology Fundamentals	3
ESET 0281	Defending Critical Infrastructure and Cyber-Physical Systems	3
ESET 0282A	Introduction to Network Security I	1
ESET 0282B	Introduction to Network Security II	2
ESET 0283	Information System Security Design	3
ESET 0284	Risk Management for Critical Data Systems	3
ESET 0286	Critical Network Security	3
ESET 0287	Professional Certification	3
ESET 0289	Cyber Physical Systems Security Capstone	3-6
or ESET 0297	Internship	
<b>Choose a minimum of seven (7) credits:</b>		7-10
ESET 0101 & ESET 0102	Electrical Circuits I and Electrical Circuits II	10
OR		
ESET 0121 & 0121L	Basic Electricity and Electronics and Basic Electricity and Electronics Laboratory	7
<b>Choose a minimum of five (5) credits:</b>		5-8
ESET 0140	Applied Technical Intermediate Algebra	5
OR		
ESET 0141 & ESET 0142	Applied Mathematics I and Applied Mathematics II	8
<b>Choose a minimum of twelve (12) credits:</b>		12
ESET 0120	Introduction to Energy Systems	2
ESET 0120L	Introduction to Energy Systems Laboratory	1

ESET 0122	Electrical Systems and Motor Control Theory	3
ESET 0122L	Electrical Systems and Motor Control Theory Laboratory	1
ESET 0220	Thermal Cycles and Heat Transfer	2
ESET 0221	Boiler Reactor and Turbine Principles	2
ESET 0222	Process Control Theory	3
ESET 0223	Digital Control Theory	2
ESET 0226	Process Control Devices Laboratory	1
ESET 0227	Digital Control Systems Laboratory	1
ESET 0242	Practical Process Measurements and Control	2
ESET 0245	Fundamentals of Heat Exchangers	2
ESET 0251	Reactor Theory Safety and Design	4
ESET 0292	Electrical Engineering Technology I	7
ESET 0292L	Electrical Engineering Technology I Laboratory	5
INST 0281	Electrical Automation Theory	8
INST 0282	Electrical Automation Laboratory	5
<b>General Education Objective 3: (Minimum of 3 Credits):<sup>1</sup></b>		
MATH 1153	Statistical Reasoning	3
OR		
MATH 1160	Survey of Calculus	3
OR		
MATH 1170	Calculus I	4
<b>Additional General Education Requirements:<sup>1</sup></b>		
PHYS 1101	Elements of Physics	3
PHYS 1101L	Elements of Physics Laboratory	1
ENGL 1101	Writing and Rhetoric I	3
COMM 1101	Fundamentals of Oral Communication	3
General Education Objective 6		3
<b>Total Minimum Credits</b>		<b>69</b>

<sup>1</sup> Contributes to a General Education requirement.