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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ESET 0100</td>
<td>Engineering Technology Orientation</td>
<td>1</td>
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<tr>
<td>ESET 0100L</td>
<td>Engineering Technology Orientation Lab</td>
<td>1</td>
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<tr>
<td>ESET 0181</td>
<td>Information Technology Fundamentals</td>
<td>3</td>
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<tr>
<td>ESET 0281</td>
<td>Defending Critical Infrastructure and Cyber-Physical Systems</td>
<td>3</td>
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<tr>
<td>ESET 0282A</td>
<td>Introduction to Network Security I</td>
<td>1</td>
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<tr>
<td>ESET 0282B</td>
<td>Introduction to Network Security II</td>
<td>2</td>
</tr>
<tr>
<td>ESET 0283</td>
<td>Information System Security Design</td>
<td>3</td>
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<tr>
<td>ESET 0284</td>
<td>Risk Management for Critical Data Systems</td>
<td>3</td>
</tr>
<tr>
<td>ESET 0286</td>
<td>Critical Network Security</td>
<td>3</td>
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<td>ESET 0287</td>
<td>Professional Certification</td>
<td>3</td>
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<tr>
<td>ESET 0289</td>
<td>Cyber Physical Systems Security Capstone</td>
<td>3-6</td>
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<tr>
<td>or ESET 0297</td>
<td>Internship</td>
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Choose a minimum of seven (7) credits: 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

Choose a minimum of five (5) credits: 5-8

- ESET 0140 Applied Technical Intermediate Algebra 5

OR

- ESET 0141 & ESET 0142 Applied Mathematics I and Applied Mathematics II 8

Choose a minimum of twelve (12) credits:

- 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 0245L Electrical Engineering Technology I Laboratory 7
- ESET 0247 Reactor Theory Safety and Design 4
- ESET 0292 Electrical Engineering Technology I 7
- ESET 0292L Electrical Engineering Technology I Laboratory 5

General Education Objective 3: (Minimum of 3 Credits): 1

- MATH 1153 Statistical Reasoning 3
- MATH 1160 Survey of Calculus 3
- MATH 1170 Calculus I 4

Additional General Education Requirements: 1

- 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

Total Minimum Credits 69

1 Contributes to a General Education requirement.