

# INTEGRATED SYSTEMS ENGINEERING TECHNOLOGY

Certificate(s) may have additional courses that do not overlap with the degree. Please see Certificate program page for complete listing of required courses.

Note: Students must select Option A, B, or C before starting this program.

Courses required for program admission to a stackable certificate will be listed as overlapping courses.

Code	Title	Credit Hours
ISET-1300	Mechanical/Electrical Print Reading	2
ISET-1310	Mechanical Power Transmission	2
ISET-1410	Applied Electricity I	3
MATH-1240	Contemporary Mathematics	3
Option B:		
ISET-1450	Heating Ventilation Air Conditioning/ Refrigeration I (Option B)	
Option C:		
ISET-1101	Welding Blue Print Reading (Option C)	
Select one of the following: 3		
ENG-1010	College Composition I	
ENG-101H	Honors College Composition I	
ISET-1340	Industrial Piping and Tubing	2
ISET-1420	Applied Electricity II	3
Option A:		
ISET-1320	Fundamentals of Fluid Power (Option A)	
Option B:		
ISET-1460	Fundamental Boiler Technology (Option B)	
Option C - Select one of the following:		
ISET-2100	Gas Metal Arc Welding (MIG) (Option C)	
ISET-2120	Shielded Metal Arc Welding (STICK) (Option C)	
Select one of the following: 3		
IT-1090	Computer Applications	
IT-109H	Honors Computer Applications	
ISET-2200	Industrial Motor Controls	3
COMM-1000	Fundamentals of Interpersonal Communication	3
ENG-2151	Technical Writing	3
ISET-2240	Applied National Electric Code	3
ISET-2500	Programmable Logic Controllers Maintenance I	3
PSY-1050	Introduction to Industrial/Organizational Psychology	3
Option A:		
MET-2300	Fluid Power (Option A)	
Option B:		
ISET-2450	Heating Ventilation Air Conditioning/ Refrigeration II (Option B)	
Option C - Select one of the following:		
ISET-2110	Gas Tungsten Arc Welding (TIG) (Option C)	

ISET-2131	Oxyfuel Processes/Plasma Processes	
BADM-1050	Professional Success Strategy	3
ISET-2210	Commercial Wiring	3
ISET-2220	Fundamentals of Electronics and Instrumentation	3
ISET-2990	Reliability Centered Maintenance	3
Option A - Select one of the following:		
ISET-2510	Programmable Logic Controllers Maintenance II (Option A) <sup>1</sup>	
ISET-2520	Programmable Logic Controllers Maintenance III (Option A) <sup>1</sup>	
Option B:		
ISET-2460	Applied Boiler Technology (Option B)	

<sup>1</sup> Consecutive eight week course.

## Options

### (A) Integrated Systems 8

#### Fluid Power and Programmable Logic Controllers Option (A)

Code	Title	Credit Hours
ISET-1320	Fundamentals of Fluid Power	2
MET-2300	Fluid Power	3
ISET-2510	Programmable Logic Controllers Maintenance II	2
ISET-2520	Programmable Logic Controllers Maintenance III	2
Additional program courses		51
Total Credit Hours		60

### (B) Environmental Systems

#### Boiler Technology, HVAC, Option (B)

Code	Title	Credit Hours
ISET-1450	Heating Ventilation Air Conditioning/ Refrigeration I	2
ISET-1460	Fundamental Boiler Technology	3
ISET-2450	Heating Ventilation Air Conditioning/ Refrigeration II	2
ISET-2460	Applied Boiler Technology	2
Additional program courses		51
Total Credit Hours		60

### (C) Integrated Systems

#### Welding, Option (C)

To complete this option, students must complete ISET-1101 Welding Blue Print Reading and two of the four welding courses listed below.

Code	Title	Credit Hours
ISET-1101	Welding Blue Print Reading	3
Select two of the following: 8		
ISET-2100	Gas Metal Arc Welding (MIG)	
ISET-2120	Shielded Metal Arc Welding (STICK)	
ISET-2110	Gas Tungsten Arc Welding (TIG)	
ISET-2131	Oxyfuel Processes/Plasma Processes	

Additional program courses	51
Total Credit Hours	62

## **Related Degrees and Certificates**

- Introductory Welding, Short-Term Certificate
- Welding Technology, Short-Term Certificate
- Automation Maintenance Technician, Certificate of Proficiency
- Building Maintenance Technician, Certificate of Proficiency
- Industrial Welding, Certificate of Proficiency
- Mechatronics, Certificate of Proficiency
- Integrated Systems Engineering Technology, Associate of Applied Science

## **Training and Credentials**

- Fast-Track Welding Certificate Program
- Electrical Technician Certificate of Completion
- Facility Technician
- FirstEnergy Power Systems Institute PSI, Associate of Technical Study
- Steelworkers for the Future
- Industrial Automation Certificate of Completion
- Nondestructive Testing (NDT) and Quality Assurance (QA)