

ENGINEERING TECHNOLOGY SUBSTATION AND RELAY TECHNOLOGY SPECIALIZATION ASSOCIATE IN SCIENCE DEGREE

The Associate of Science in Engineering Technology prepares students for careers in applying and maintaining technical systems across various industries. This program offers two specializations: Substation & Relay Technology and Advanced Manufacturing.

Engineering Core:

This core comprises the 18-credit hour Engineering Technology Support Specialist College Credit Certificate, aligned with the Manufacturing Skills Standards Council (MSSC) and preparing students for the MSSC Certified Production Technician (CPT) Certification, provides a foundation in:

- Electronics
- Computer-Aided Drafting (CAD)
- Mechanical Measurement & Instrumentation
- Manufacturing Processes & Materials
- Quality Assurance
- Industrial Safety

Substation & Relay Technology Specialization:

Prepares students for careers in electrical utilities and co-generation facilities, covering:

- Three-Phase Power Theory
- Protective Relaying
- Power Transformers
- High Voltage Breakers
- SCADA Systems
- Electrical Utility Industry
- Technical Documentation

Advanced Manufacturing Specialization:

Focuses on technical skills for manufacturing careers and includes the 30-credit Mechatronics and Manufacturing Automation College Credit Certificate, covering:

- Programmable Logic Controllers
- Electro-Mechanical Systems
- Robotics
- Motors and Controls
- Hydraulics and Pneumatics

Academic Advising

- advising@lssc.edu 352-787-3747

Career Development Services

- Careers@lssc.edu 352-323-3603

Program Contact Information

Relay@lssc.edu (relay@lssc.edu) 352-323-3635

Full-Time Plan

Course	Title	Hours
First Semester		
ETP 1700C	Introduction to the Electrical Utility Industry	2
ETD 1320C	Introduction to AutoCAD	3
MAC 1105	College Algebra	3
ETI 1110C	Introduction to Quality Assurance	3
ETI 1420C	Manufacturing Processes and Materials	3
Hours		14
Second Semester		
ETP 1138C	Electric Utility Print Reading	2
PHY 1020C	Conceptual Physics	3
ETI 1701C	Industrial Safety	3
ETM 1010C	Mechanical Measurement & Instrumentation	3
EET 1084C	Introduction to Electronics	3
Hours		14
Third Semester		
ENC 1101	College Composition I	3
MTB 1329	Applied Mathematical Concepts for Engineering Technology	3
ETP 2260C	Protective Relay 1	3
ETP 2122C	High Voltage Transformers	2
ETP 2161C	High Voltage Circuit Breakers	2
Hours		13
Fourth Semester		
HUM 2020	Introduction to Humanities: Antiquity through the 21st Century	3
PHY 1057C	Physics for Engineering w/Lab	3
ETP 2261C	Protective Relay 2	3
ETP 2270C	Substation Systems	2
ETP 2931C	Capstone in Protective Relay	2
POS 2041 or AMH 2020	American National Government or U.S. History Since 1877	3
Hours		16
Total Hours		57

Part-Time Plan

Course	Title	Hours
First Semester		
ETP 1700C	Introduction to the Electrical Utility Industry	2
ETD 1320C	Introduction to AutoCAD	3
Hours		5
Second Semester		
MAC 1105	College Algebra	3
ETI 1110C	Introduction to Quality Assurance	3
Hours		6
Third Semester		
ETI 1420C	Manufacturing Processes and Materials	3
EET 1084C	Introduction to Electronics	3
Hours		6
Fourth Semester		
ETP 1138C	Electric Utility Print Reading	2
PHY 1020C	Conceptual Physics	3
Hours		5
Fifth Semester		
ETI 1701C	Industrial Safety	3
ETM 1010C	Mechanical Measurement & Instrumentation	3
Hours		6
Sixth Semester		
ENC 1101	College Composition I	3

MTB 1329	Applied Mathematical Concepts for Engineering Technology	3
Hours		6
Seventh Semester		
ETP 2260C	Protective Relay 1	3
ETP 2122C	High Voltage Transformers	2
Hours		5
Eighth Semester		
ETP 2161C	High Voltage Circuit Breakers	2
HUM 2020	Introduction to Humanities: Antiquity through the 21st Century	3
Hours		5
Ninth Semester		
PHY 1057C	Physics for Engineering w/Lab	3
AMH 2020 or POS 2041	U.S. History Since 1877 or American National Government	3
Hours		6
Tenth Semester		
ETP 2261C	Protective Relay 2	3
ETP 2270C	Substation Systems	2
ETP 2931C	Capstone in Protective Relay	2
Hours		7
Total Hours		57

Program Requirements

Code	Title	Hours
General Education Courses		
ENC 1101	College Composition I	3
Select a State Core Course from Area II: Humanities		3
POS 2041 or AMH 2020	American National Government U.S. History Since 1877	3
MAC 1105	College Algebra	3
PHY 1020C	Conceptual Physics	3
Engineering Technology Core		
ETD 1320C	Introduction to AutoCAD	3
EET 1084C	Introduction to Electronics	3
ETM 1010C	Mechanical Measurement & Instrumentation	3
ETI 1420C	Manufacturing Processes and Materials	3
ETI 1110C	Introduction to Quality Assurance	3
ETI 1701C	Industrial Safety	3
Total Hours		33

Specializations (Choose One Path)

Code	Title	Hours
Substation and Relay Technology Specialization		
ETP 1700C	Introduction to the Electrical Utility Industry	2
ETP 1138C	Electric Utility Print Reading	2
ETP 2122C	High Voltage Transformers	2
ETP 2161C	High Voltage Circuit Breakers	2
PHY 1057C	Physics for Engineering w/Lab	3
ETP 2260C	Protective Relay 1	3
ETP 2261C	Protective Relay 2	3
ETP 2270C	Substation Systems	2
ETS 2550C	SCADA Systems	3

ETP 2931C	Capstone in Protective Relay	2
Total Hours		24

Code	Title	Hours
Advanced Manufacturing Specialization		
ETS 1542C	Introduction to PLCs	3
ETS 1535C	Automation Process Control	3
ETS 2511C	Electro-Mechanical Systems	3
ETS 1700C	Hydraulics and Pneumatics	3
ETS 1603C	Fundamentals of Robotics and Simulation	2
ETS 2544C	Advanced PLCs	2
ETS 1540C	Industrial Applications Using PLCs and Robotics	2
ETI 1843C	Motors and Controls	2
ETI 1949	Engineering Technology Internship	1
ETI 2950C	Capstone in Manufacturing	3
Total Hours		24

Code	Title	Hours
Program Elective Courses		
Select one of the following courses:		3
MAT 1033	Intermediate Algebra	
MGF 1100	Introduction to Mathematical Thinking	
Any EET, ETP, ETD, ETS, ETI, or ETM course not listed above.		

When beginning this program, students are advised to make an appointment for advising with the Program Manager or an instructor designated by the Program Manager.

Only required courses for an LSSC degree or qualifying certificate program are eligible for federal financial aid. Verify course choices and avoid charges by making an appointment with an academic advisor.

As per the amended Florida Rule 6A-10.02413, prior to the award of an associate in science or associate in applied science degree, LSSC students under the 2022-2023 Catalog and thereafter must demonstrate competency in civic literacy through one of the following options prior to graduation:

- successfully passing POS 2041 American National Government or AMH 2020 U.S. History Since 1877 and achieving a 60% or higher on the Florida Civic Literacy Exam, or
- successfully passing a prescribed assessment:
 - AP Government & Politics Test: United States (passing score of 3), or
 - AP U.S. History Test (passing score of 4), or
 - CLEP: American Government (passing score of 50)

To verify your Civic Literacy Requirement, please visit Degree Works.

Students must earn a grade of C or higher in all program core and specialization courses in order to qualify for graduation.

For information about career options, visit www.lssc.edu/careers (<http://www.lssc.edu/careers/>).

Students must complete 25% of each program's total credit hours at LSSC.