

SMART INDUSTRIAL AUTOMATED SYSTEMS ENGINEERING TECHNOLOGY, BACHELOR OF APPLIED SCIENCE

Curriculum Code #9605

Effective May 2026

Division of Engineering, Business and Information Technologies (<http://catalog.lorainccc.edu/academic-programs/engineering-business-information-technologies/>)

Smart Industrial Automation Technology represents a multidisciplinary engineering field concerned with integrating, operating, modifying, and troubleshooting computer-based automated manufacturing system. These smart industrial automated systems typically contain a network of automated equipment, sensors, and other devices designed to make the system more intelligent, efficient, and reliable. The Smart Industrial Automated Systems Engineering Technology program prepares individuals to apply knowledge and technical skills to work in this field.

First Year

Fall Semester		Hours
AETC 115	INDUSTRIAL ROBOTICS I	3
CADD 111 or TECN 115	INTRODUCTION TO COMPUTER AIDED DRAFTING ¹ or INDUSTRIAL BLUEPRINT READING	2
ELCT 111	ELECTRICAL CIRCUITS I	3
MTHM 155	TECHNICAL MATHEMATICS I	4
SDEV 101	INTRODUCTION TO THE LCCC COMMUNITY ³	1
TECN 111	TECHNICAL PROBLEM SOLVING	3
Hours		16

Spring Semester

AETC 121	PROGRAMMABLE LOGIC CONTROLLERS	3
ENGL 161	COLLEGE COMPOSITION I	3
MTHM 168	STATISTICS	3
TECN 121	FLUID POWER SYSTEMS ¹	3
TECN 133	MECHANICAL SYSTEMS	3
Hours		15

Second Year

Fall Semester		Hours
AETC 211	WORKCELL INTERFACING ²	3
AETC 223	PROGRAMMABLE LOGIC CONTROLLERS II ²	3
AETC 287 or TECN 287	WORK-BASED LEARNING I - AETC or WORK BASED LEARNING I - TECN	1
PHYC 150	GENERAL PHYSICS I ²	4
TECN 131	MANUFACTURING PROCESSES I ¹	3
Arts and Humanities Elective(s) ⁴		3
Hours		17

Spring Semester

AETC 215	INDUSTRIAL ROBOTICS II ²	3
AETC 231 or AETC 232	FLEXIBLE MANUFACTURING SYSTEMS ² or MULTICRAFT SYSTEMS TROUBLESHOOTING	3
AETC 288	WORK BASED LEARNING II - AETC ²	1
ELCT 211	ELECTRICAL POWER AND DEVICES ²	4
ENGL 164	COLLEGE COMPOSITION II WITH TECHNICAL TOPICS ²	3
Social Sciences Elective(s) ⁵		3
Hours		17

Third Year

Fall Semester		Hours
AETC 321	AUTOMATIC IDENTIFICATION ²	3
CADD 313	INTRODUCTION TO SOLIDWORKS WITH ADVANCED PROJECTS ²	3
PHLY 174	CRITICAL THINKING	3
QLTY 122	BASIC QUALITY TOOLS AND APPLICATIONS ¹	3
SAFE 336	MACHINE AND EQUIPMENT SAFETY WITH ADVANCED PROJECTS ²	3
Hours		15

Spring Semester

AETC 331	AUTOMATION INTEGRATION ²	4
AETC 387	WORK-BASED LEARNING - AETC ²	1
CAMM 111	INTRODUCTION TO COMPUTER NUMERICAL CONTROL ¹	2
IIOT 140	IIOT PRIVACY, SECURITY, AND CLOUD SERVICES	4
PHYC 152	GENERAL PHYSICS II ²	5
Hours		16

Fourth Year

Fall Semester		Hours
AETC 341	INDUSTRIAL INSTRUMENTATION AND CONTROL ²	4
AETC 430	SMART AUTOMATION SYSTEMS ²	4
DFAB 211	ADDITIVE MANUFACTURING AND 3D SCANNING ²	3
TECN 422	TECHNICAL PROJECT MANAGEMENT ²	4
Hours		15

Spring Semester

AETC 435	SMART AUTOMATION-SENIOR DESIGN ²	4
AETC 487	WORK-BASED LEARNING - AETC ²	1
HSTR 271	AMERICAN CIVIC LITERACY	3
QLTY 334	LEAN SIX SIGMA FOR PROCESS IMPROVEMENT WITH ADVANCED PROJECTS ²	4
Arts and Humanities Elective ⁴		3
Hours		15
Total Hours		126

¹ Indicates that this course has a prerequisite or may be taken concurrently.

² Indicates that this course requires a prerequisite.

³ A student must register for the orientation course when enrolling for more than six credit hours per semester or any course that would result in an accumulation of 12 or more credit hours.

⁴ This program requires two Arts and Humanities OT 36 electives (<http://catalog.lorainccc.edu/academic-information/transfer-module-requirements/>). These courses must be chosen from two different disciplines.

⁵ Select any OT 36 electives (<http://catalog.lorainccc.edu/academic-information/transfer-module-requirements/>) approved Social Science course except HSTR.

Program Contact(s):

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For information about admissions, enrollment, transfer, graduation and other general questions, please contact your advising team (<https://www.lorainccc.edu/admissions-and-enrollment/advising-and-counseling/>).

More program information can be found on our website.
(<https://www.lorainccc.edu/engineering/>)

Program Requirements

1. Eligible to apply/earn Associate of Applied Science in Automation Engineering Technology
2. Cumulative GPA of 2.0 (for transfer students, it has to be combined cumulative GPA of 2.0)

Credit for Prior Learning (PLA) options may be available for your program. For more information, please visit our website: www.lorainccc.edu/PLA (<http://www.lorainccc.edu/PLA>)

Program Learning Outcomes

1. Demonstrate the ability to program advanced industrial automation components and systems
2. Apply sensors and automatic identification technologies to make automated systems more capable.
3. Implement and troubleshoot industrial networked devices
4. Apply industrial technologies to make automated systems safer and more adaptable.
5. Utilize simulation, digital twin, and AR/VR in industrial situations
6. Design and implement automated systems that apply to real world situations and challenges.

MISSION STATEMENT: Lorain County Community College's (LCCC) degrees in Automation Engineering technology and the Smart Industrial Automated Systems Engineering Technology, Bachelor of Applied Science are industry tailored, hands-on college degrees and certificates focused on training students for automation and robotics engineering technologists and manufacturing engineering skills to prepare them for careers in the rapidly growing field of automated manufacturing.