

# AUTOMATION ENGINEERING TECHNOLOGY - SYSTEMS SPECIALIST MAJOR, ASSOCIATE OF APPLIED SCIENCE

Curriculum Code #6211

Effective May 2022

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

Integration is a key word in advanced technologies: combining different automated equipment, such as robots, into coordinated systems that complete specific tasks like loading/unloading machines, sorting, inspecting, and assembling parts. The automation engineering technology degree will train students to be a systems specialist. Concentration of abilities for installing and operating robots and other industrial material handling and processing technologies, as well as engineer and program equipment for systems integration. Graduates go on to become a systems design technician, factory sales/service representative, applications engineer, installation supervisor, systems integrator or production supervisor. Lorain County Community College has articulation agreements with colleges and universities including programs offered by Lorain County Community College's University Partnership.

## First Year

| Fall Semester   | Hours     |
|---|-----------|
| AETC 115 INDUSTRIAL ROBOTICS I                                | 3         |
| CADD 111 INTRODUCTION TO COMPUTER AIDED DRAFTING <sup>1</sup> | 2         |
| ELCT 111 ELECTRICAL CIRCUITS I                                | 3         |
| MTHM 155 TECHNICAL MATHEMATICS I                              | 4         |
| SDEV 101 INTRODUCTION TO THE LCCC COMMUNITY <sup>3</sup>      | 1         |
| TECN 111 TECHNICAL PROBLEM SOLVING                            | 3         |
| <b>Hours</b>  | <b>16</b> |

## Spring Semester

|   |           |
|---|-----------|
| AETC 121 PROGRAMMABLE LOGIC CONTROLLERS | 3         |
| ENGL 161 COLLEGE COMPOSITION I          | 3         |
| MTHM 168 STATISTICS                     | 3         |
| TECN 121 FLUID POWER <sup>1</sup>       | 3         |
| TECN 133 MECHANICAL SYSTEMS             | 3         |
| <b>Hours</b>                            | <b>15</b> |

## Second Year

| Fall Semester   | Hours |
|---|-------|
| AETC 211 WORKCELL INTERFACING <sup>2</sup>              | 3     |
| AETC 223 PROGRAMMABLE LOGIC CONTROLLERS II <sup>2</sup> | 3     |
| AETC 287 WORK-BASED LEARNING I - AETC <sup>2</sup>      | 1     |

|   |           |
|---|-----------|
| PHYC 150 GENERAL PHYSICS I <sup>2</sup>               | 4         |
| TECN 131 MANUFACTURING PROCESSES I <sup>1</sup>       | 3         |
| Arts and Humanities Elective(s)                       | 3         |
| <b>Hours</b>  | <b>17</b> |
| <b>Spring Semester</b>                                |           |
| AETC 215 INDUSTRIAL ROBOTICS II <sup>2</sup>          | 3         |
| AETC 231 FLEXIBLE MANUFACTURING SYSTEMS <sup>2</sup>  | 3         |
| AETC 288 WORK BASED LEARNING II - AETC <sup>2</sup>   | 1         |
| ELCT 211 ELECTRICAL POWER AND DEVICES <sup>2</sup>    | 4         |
| ENGL 164 COLLEGE COMPOSITION II WITH TECHNICAL TOPICS | 3         |
| Social Sciences Elective(s)                           | 3         |
| <b>Hours</b>  | <b>17</b> |
| <b>Total Hours</b>                                    | <b>65</b> |

<sup>1</sup> Indicates that this course has a prerequisite or may be taken concurrently.

<sup>2</sup> Indicates that this course requires a prerequisite.

<sup>3</sup> 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 13 or more credit hours.

## Arts and Humanities Electives

| Code      | Title   | Hours |
|-----------|---|-------|
| ARTS 243G | ART HISTORY I   | 3     |
| ARTS 244G | ART HISTORY II  | 3     |
| ARTS 245G | WORLD ART   | 3     |
| ARTS 246  | HISTORY OF PHOTOGRAPHY  | 3     |
| ARTS 254  | HISTORY OF AMERICAN ARCHITECTURE                              | 3     |
| ENGL 251  | AMERICAN LITERATURE I   | 3     |
| ENGL 252  | AMERICAN LITERATURE II  | 3     |
| ENGL 253G | INTRODUCTION TO WORLD LITERATURE                              | 3     |
| ENGL 254G | INTRODUCTION TO HISPANIC LITERATURE                           | 3     |
| ENGL 255G | INTRODUCTION TO FICTION                                       | 3     |
| ENGL 257G | INTRODUCTION TO POETRY  | 3     |
| ENGL 259G | INTRODUCTION TO DRAMA   | 3     |
| ENGL 261G | MASTERPIECES OF BRITISH LITERATURE I                          | 3     |
| ENGL 262G | MASTERPIECES OF BRITISH LITERATURE II                         | 3     |
| ENGL 266G | AFRICAN AMERICAN LITERATURE                                   | 3     |
| ENGL 269G | INTRODUCTION TO SHAKESPEARE                                   | 3     |
| HUMS 151G | INTRODUCTION TO HUMANITIES                                    | 3     |
| HUMS 261G | INTRODUCTION TO GREAT BOOKS: ANCIENT WORLD TO THE RENAISSANCE | 3     |
| HUMS 262G | INTRODUCTION TO GREAT BOOKS: EARLY MODERN TO THE 20TH CENTURY | 3     |
| MUSC 262G | MUSIC AS A WORLD PHENOMENON                                   | 3     |
| PHLY 165  | BIOETHICS   | 3     |
| PHLY 262G | INTRODUCTION TO EASTERN PHILOSOPHY                            | 3     |
| RELG 181G | INTRODUCTION TO WORLD RELIGIONS                               | 3     |
| RELG 261  | RELIGION IN AMERICA   | 3     |

|           |                                    |   |
|-----------|------------------------------------|---|
| RELG 262G | INTRODUCTION TO EASTERN PHILOSOPHY | 3 |
| THTR 151G | INTRODUCTION TO THEATER            | 3 |

## Social Science Electives

| Code      | Title                          | Hours |
|-----------|--------------------------------|-------|
| HSTR 151G | CIVILIZATION I                 | 3     |
| HSTR 152G | CIVILIZATION II                | 3     |
| HSTR 161  | UNITED STATES I                | 3     |
| HSTR 162  | UNITED STATES II               | 3     |
| HSTR 171G | THE WORLD SINCE 1900           | 3     |
| HSTR 252G | WOMEN IN WORLD HISTORY         | 3     |
| HSTR 260G | HISTORY OF AMERICAN TECHNOLOGY | 3     |
| HSTR 267G | AFRICAN AMERICAN HERITAGE      | 3     |
| PLSC 156  | AMERICAN NATIONAL GOVERNMENT   | 3     |
| PSYH 151  | INTRODUCTION TO PSYCHOLOGY     | 3     |

Program Contact(s):

**Scott Zitek**  
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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/automation-engineering/associate-of-applied-science-in-automation-engineering-technologies-systems-specialist/>)

Program Learning Outcomes

1. Demonstrate the programming of robots and programmable controllers to industry standards.
2. Program automated systems involving programmable controllers, networking, a human machine interface, and motion control.
3. Apply current standards of communication between various industrial equipment (eg. Voltage conversions, isolation techniques...)
4. Design, construct, and program a functional flexible manufacturing system.