

# ALTERNATIVE ENERGY TECHNOLOGY - WIND TURBINE MAJOR, ASSOCIATE OF APPLIED SCIENCE

Curriculum Code #6350

(Not offered 2022-2023)

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

The wind turbine technology program encompasses a wide range of electrical, mechanical and computer skills required to compete in the emerging alternate energy - wind turbine industry. Individuals will be prepared for a range of analysis, installation and maintenance assignments associated with the wind turbine industry. Typical job responsibilities will include design, testing, R&D, service, maintenance and installation assignments. 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     |
|---------------|---|-----------|
| ALET 111      | INTRODUCTION TO ALTERNATIVE ENERGY              | 3         |
| ELCT 111      | ELECTRICAL CIRCUITS I                           | 3         |
| ENGL 161      | COLLEGE COMPOSITION I                           | 3         |
| MTHM 155      | TECHNICAL MATHEMATICS I                         | 4         |
| SDEV 101      | INTRODUCTION TO THE LCCC COMMUNITY <sup>2</sup> | 1         |
| TECN 111      | TECHNICAL PROBLEM SOLVING                       | 3         |
| <b>Hours</b>  |   | <b>17</b> |

## Spring Semester

|              |   |           |
|--------------|---|-----------|
| AETC 121     | PROGRAMMABLE LOGIC CONTROLLERS <sup>1</sup>               | 3         |
| ALET 112     | ALTERNATIVE ENERGY MECHANICAL SYSTEMS <sup>1</sup>        | 4         |
| HLED 159     | WILDERNESS AND REMOTE FIRST AID <sup>1</sup>              | 2         |
| TECN 121     | FLUID POWER   | 3         |
| ENGL 164     | COLLEGE COMPOSITION II WITH TECHNICAL TOPICS <sup>1</sup> | 3         |
| MTHM 156     | TECHNICAL MATHEMATICS II <sup>1</sup>                     | 4         |
| <b>Hours</b> |   | <b>19</b> |

## Second Year

| Fall Semester                |  | Hours     |
|------------------------------|--|-----------|
| ALET 220                     | WIND TURBINE TECHNOLOGY I <sup>1</sup> | 3         |
| ELCT 121                     | DIGITAL ELECTRONICS <sup>1</sup>       | 4         |
| ELCT 227                     | NATIONAL ELECTRIC CODE <sup>1,3</sup>  | 2         |
| PEFT 185                     | ROPES COURSE                           | 1         |
| PHYC 150                     | GENERAL PHYSICS I <sup>1</sup>         | 4         |
| Arts and Humanities Elective |  | 3         |
| <b>Hours</b>                 |  | <b>17</b> |

## Spring Semester

|                         |   |           |
|-------------------------|---|-----------|
| AETC 241                | INSTRUMENTATION AND CONTROL <sup>1</sup>  | 3         |
| ALET 221                | WIND TURBINE TECHNOLOGY II <sup>1</sup>   | 3         |
| ELCT 211                | ELECTRICAL POWER AND DEVICES <sup>1</sup> | 4         |
| Social Science Elective |   | 3         |
| <b>Hours</b>            |   | <b>13</b> |
| <b>Total Hours</b>      |   | <b>66</b> |

<sup>1</sup> Indicates that this course requires a prerequisite.

<sup>2</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.

<sup>3</sup> Indicates a student may substitute from this list: work-based learning (ALET 287, ALET 288 and/or ALET 289) for the equivalent number of credit hours for this course.

## Arts & 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     |
| HUMS 271G | INTRODUCTION TO MYTHOLOGY                                     | 3     |
| HUMS 274  | FILM APPRECIATION   | 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 267G | AFRICAN AMERICAN HERITAGE    | 3     |
| PLSC 156  | AMERICAN NATIONAL GOVERNMENT | 3     |
| PSYH 151  | INTRODUCTION TO PSYCHOLOGY   | 3     |

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/>).

Program Learning Outcomes

1. To function effectively in the wind turbine industry, with a theoretical understanding and direct hands-on experience in the installation and operation of wind turbine power generation systems
2. Be experienced in the installation of several residential scale wind turbine systems, siting of the turbine, rigging for installation, safe practices, regulatory considerations, electrical installation in a variety of off-grid applications and operation and maintenance of utility scale turbines
3. Demonstrate a high standard of professional ethics, attitudes and values
4. Communicate effectively and work collaboratively in teams