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S18.643.6301 ■ info@adkptech.com

Adirondack Pathways in Technology Early College High School



# **Mechanical Technology**

The mission of the Mechanical Technology degree program is to prepare students for employment in various industrial manufacturing or maintenance areas and/or for the pursuit of advanced degrees in industrial engineering by educating them in communication skills, computer literacy, mathematics, science, as well as appropriate technical courses. The primary focus of the program is to prepare students to work as technicians. The program is composed of general education courses, general industrial technology subjects common to most manufacturing industries, and elective courses providing an area of emphasis in one of three specialties: pulp and paper, plastics, or computer-assisted manufacturing (CAM)

The program will prepare students to:

 Gain knowledge and practical competence in the major areas of the Industrial Technology field allowing for a wide variety of career

# Electrical Technology: Electronics

The Electronics Technology program prepares students to work in a variety of settings in the electronics industry. Electronics students learn about the fabrication, testing, maintenance, and repair of electronics equipment. Students take courses in DC and AC Circuits, Computer Programming, Digital and Analog Electronics, Microcontrollers, Operational Amplifiers, Industrial Electricity, and Networking. After completion of the degree, students have the options of going to work in the electronics field or transferring to one of several colleges in New York State offering Bachelor's Degrees in Electrical Engineering Technology.

The Program of Electrical Technology: Electronics will prepare students to:

• Demonstrate knowledge of the fundamentals of electrical circuits.

opportunities.

- Use prints and schematics to understand, communicate, and troubleshoot complex industrial controls circuits.
- Develop skills and knowledge to effectively lead and manage individuals and processes in manufacturing environments.
- Gain knowledge of industrial safety practices.
- Communicate effectively, both orally and in writing, as well as interact effectively within the work environment.
- Solve mathematical problems typically encountered in industry.

To view a video about the Mechanical Technology program at Clinton Community College please **CLICK HERE**.

## Mechanical Technology Degree Pathway Scope & Sequence (64)

Fall / Spring / Summer

## Year One

- Algebra through Scientific Inquiry
- US History through Literature
- DDP: Drawing & Design Production
- iMPACTT/ Materials Processing
- Physical Education (1/2)
- ADKP-TECH Success Seminar/CSC 102 Microcomputer Applications (3)

## Year Two

- Global Studies through ELA
- Geometry
- World of Technology
- Living Environment through Biological Sciences
- Physical Education (1/2)
- College Enrichment Experiences and Prep4Success ELA

#### SYSS

- Demonstrate knowledge of the fundamentals of analog and digital electronics.
- Demonstrate knowledge of electronic programming languages.
- Demonstrate knowledge and proper use of electrical test equipment.
- Work as entry-level electronics technicians of further study within the field at requisite institutions of higher learning.
- Communicate effectively, both orally and in writing, as well as interact effectively within the work environment.
- Solve mathematical problems typically encountered in the electronics industry.

To view a video of the Electrical Technology: Electronics program at Clinton Community College please **CLICK HERE**.

## Electrical Technology Degree Pathway Scope & Sequence (63) Fall / Spring / Summer

## Year One (3)

- Algebra through Scientific Inquiry
- US History through Literature
- DDP: Drawing & Design Production
- iMPACTT/ Materials Processing
- Physical Education (1/2)
- ADKP-TECH Success Seminar/CSC 102 Microcomputer Applications (3)

## Year Two

- Global Studies through ELA
- Geometry
- World of Technology
- Living Environment through Biological Sciences
- Physical Education (1/2)
- College Enrichment Experiences and Prep4Success ELA

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- ELA Common Core/ ENG 101 English Composition
- Computer Integrated Manufacturing (CIM)
- Algebra II / Trigonometry
- Government & Economics/Global Supply Chain Management
- Physical Education (1/2)
- Science Elective
- Health (1/2)/Humanities Elective (3)

## **Year Four**

- Collaborative Design Project (Capstone)
- Physical Education (1/2)
- Physics I (4) / Technical Math 105 (4)
- Physics II (4) /Technical Math 205 (4)
- Electives: Fall and Spring

### **Year Five**

- MEC 100 Intro to Engineering Technology (3)
- MEC 207 Industrial Maintenance (2)
- Specialized Elective (3)
- Social Science Elective (3)
- ENG 235 Technical Writing (3)
- MEC 206 Principles of Fluid Power Systems (3)
- MEC 101 Technical Drawing/CAD (3)
- INT 215 Workforce Leadership (3)

## **Year Six**

- MEC 203 Intro to QC/Q Assurance (3)
- MEC 204 Manufacturing Processes (3)
- ETE 101 Electrical Circuits I (4)
- ETE 202 Intro to Industrial Electricity (3)
- MEC 102 Blueprint Reading (1)
- MEC 209 Industrial Health and Safety (3)
- INT 214 Industry Internship\* (0)
- Specialized Elective (3)

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## Year Three (7)

- ELA Common Core/ ENG 101 English Composition
- Computer Integrated Manufacturing (CIM)
- Algebra II / Trigonometry
- Government & Economics/Global Supply Chain Management
- Physical Education (1/2)
- Science Elective
- Health (1/2)/Humanities Elective (3)

## Year Four

- Collaborative Design Project (Capstone)
- Physical Education (1/2)
- Physics I (4) / Technical Math 105 (4)
- Physics II (4) /Technical Math 205 (4)
- Free Elective (3)
- Electives: Fall and Spring

## Year Five (23)

- ETE 101 Electrical Circuits I (4)
- ETE 103 Computer Programming for Electronics (2)
- ENG 235 Technical Writing (3)
- ETE 102 Electrical Circuits II (4)
- ETE 104 Electronics I (4)
- ETE 105 Digital Electronics I (3)

## Year Six

- ETE 204 Electronics II (4)
- ETE 205 Digital Electronics II (4)
- ETE 207 Microcontroller Fundamentals (4)
- ETE 208 Operational Amplifiers (3)
- ETE 202 Industrial Electricity OR CSC 230 Networking (3)
- Industry Internship (0)

# Computer Information Systems

The mission of the Computer Information Systems degree program is to prepare students for employment in various information technology related areas and/or for the pursuit of advances degrees in information technology by educating them in the fundamental concepts, knowledge and practice in computer programming, database, web design, hardware, operating systems and networks.

The Computer Information System program will:

- Prepare students to demonstrate knowledge and practical competence in the major areas of the IT field.
- Prepare students to conduct the research required to successfully complete computerrelated projects consistent with current business/industry practice at the apprentice level.
- Prepare students for further study within the computer field at the junior level in requisite institutions of higher learning.
- Prepare students to communicate effectively, both orally and in writing, as well as interact effectively within the work environment.

To view a video on the Computer Information Systems program at Clinton Community College please **CLICK HERE**.

## Computer Information Systems Degree Pathway Scope & Sequence (63)

Fall / Spring / Summer

## Year One (3)

- Algebra through Scientific Inquiry
- US History through Literature
- DDP: Drawing & Design Production
- iMPACTT/ Materials Processing

# Computer Technology (64)

The mission of the Computer Technology degree program is to prepare students for employment in various information technology related area and/or for the pursuit of advanced degrees in computer engineering technology by educating them in the fundamental concepts, knowledge, and practices in electronics and microprocessor systems.

The program of Computer Technology will:

- Prepare students to gain knowledge and practical competence in the major area of the Computer Technology field allowing for a wide variety of career opportunities.
- Prepare students to demonstrate knowledge of the fundamental of electronic and digital circuits.
- Prepare students to conduct the research requires to successfully complete computerrelated projects consistent with current business/industry practice at the apprentice level.
- Prepare students to communicate effectively, both orally and in writing, as well as interact effectively within the work environment.
- Prepare students to solve mathematical problems typically encountered in the computer industry.

To view a video on the Computer Technology program at Clinton Community College please **CLICK HERE**.

## Computer Technology Degree Pathway Scope & Sequence (64) Fall / Spring / Summer

## Year One (3)

- Algebra through Scientific Inquiry
- US History through Literature
- DDP: Drawing & Design Production

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- Physical Education (1/2)
- ADKP-TECH Success Seminar/CSC 102 Microcomputer Applications (3)

#### Year Two

- Global Studies through ELA
- Geometry
- World of Technology
- Living Environment through Biological Sciences
- Physical Education (1/2)
- College Enrichment Experiences and Prep4Success ELA

#### **Year Three**

- ELA Common Core/ ENG 101 English Composition
- Computer Integrated Manufacturing (CIM)
- Algebra II / Trigonometry
- Government & Economics/Global Supply Chain Management
- Physical Education (1/2)
- Science Elective
- Health (1/2)/Humanities Elective (3)

#### **Year Four**

- Collaborative Design Project (Capstone)
- Physical Education (1/2)
- Physics I (4) / Technical Math 105 (4)
- Physics II (4) /Technical Math 205 (4)
- CSC 201 Advanced Software Applications and/or CSC 222 Database Web Applications and/or CSC 240 Networking II (6)
- Electives: Fall and Spring

#### Year Five (25)

- BUS 101 Business Organization & Management (3)
- CSC 121 Fundamental Concepts of Computing (3)
- HPE Elective (1)

#### SYSS

- iMPACTT/ Materials Processing
- Physical Education (1/2)
- ADKP-TECH Success Seminar/CSC 102 Microcomputer Applications (3)

#### Year Two

- Global Studies through ELA
- Geometry
- World of Technology
- Living Environment through Biological Sciences
- Physical Education (1/2)
- College Enrichment Experiences and Prep4Success ELA

#### **Year Three**

- ELA Common Core/ ENG 101 English Composition
- Computer Integrated Manufacturing (CIM)
- Algebra II / Trigonometry
- Government & Economics/Global Supply Chain Management
- Physical Education (1/2)
- Science Elective
- Health (1/2)/Humanities Elective (3)

#### Year Four

- Collaborative Design Project (Capstone)
- Physical Education (1/2)
- Physics I (4) / Technical Math 105 (4)
- Physics II (4) /Technical Math 205 (4)
- Electives: Fall and Spring

#### Year Five (22)

- ETE 101 Electrical Circuits I (4)
- ETE 103 Computer Programming for Electronics (2)
- CSC 121 Fundamental Concepts of Computing (3)
- ENG 235 Technical Writing (3)

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- Free Elective (3)
- ENG 235 Technical Writing (3)
- CSC 215 Web Design (3)
- CSC 217 Computer Programming (3)
- CSC 230 Networking I (3)

## Year Six (18)

- CSC 202 Database Systems (3)
- CSC 225 Computer Hardware (3)
- COM 101 Public Speaking (3)
- CSC 220 Operating Systems (3)
- CSC 280 Technology Practicum/Seminar (3)
- CSC 200 Elective (3)
- Industry Internship (0)

#### SYSS

- ETE 104 Electronics I (4)
- ETE 105 Digital Electronics I (3)

## Year Six (23)

- ETE 205 Digital Electronics II (4)
- ETE 207 Microcontroller Fundamentals (4)
- CSC 225 Computer Hardware (3)
- CSC 217 Computer Program (3)
- CSC 220 Operating Systems (3)
- CSC 230 Networking (3)
- CT Elective CSC 240 Networking II OR CSC 280 Internship Practicum (3)

# Wind Energy and Turbine Technology

This rapidly emerging, new technology has created a void in trained persons to do the maintenance and repair work on the vast number of turbines being built each year across the United States. The mission of this program is to prepare students for employment in large-scale wind-based renewable energy production careers and/or for the pursuit of advanced degrees in renewable energy by educating them in the fundamental concepts, knowledge, and practices in electricity, electronics, large wind turbine power generation and power distribution with an emphasis on safety practices system maintenance.

The Wind Energy and Turbine Technology program will:

- Provide students with background knowledge in electrical, mechanical, and fluid power at the entry level for wind turbine service technicians.
- Provide students with opportunities to demonstrate knowledge on the placement of wind turbines.

# Renewable Energy Technologies

Renewable Energy Technologies prepares students for entry-level positions constructing, installing and maintaining solar and wind electricity generating systems for both residential and light commercial applications. Course curricula include English, Math, Science, Industrial Technology and Electrical Technology. Other topics covered include photovoltaic systems, power generation and delivery, and wind energy. The mission of the Renewable Energy Technologies program is to prepare students for employment in solar and small windbased renewable energy related areas and/or for the pursuit of advanced degrees in renewable energy by educating them in the fundamental concepts, knowledge, and practices in electricity, electronics, and renewable power generation with an emphasis on equipment and system maintenance.

The Renewable Energy Technologies program will:

• Describe the role of renewable energy as an alternative energy source.

- Provide students with knowledge of safety practices used on utility scale wind turbines.
- Provide students with troubleshooting experiences at the entry-level for wind turbine service technicians.
- Prepare students to communicate effectively, both orally and in writing, as well as interact effectively within the work environment.
- Prepare students to solve mathematical problems typically encountered in the wind industry.

To view a video on the Wind Energy and Turbine Technology program at Clinton Community College please **CLICK HERE**.

## Wind Energy and Turbine Technology Degree Pathway Scope & Sequence (61)

Fall / Spring / Summer

## Year One (3)

- Algebra through Scientific Inquiry
- US History through Literature
- DDP: Drawing & Design Production
- iMPACTT/ Materials Processing
- Physical Education (1/2)
- ADKP-TECH Success Seminar/CSC 102 Microcomputer Applications (3)

## Year Two

- Global Studies through ELA
- Geometry
- World of Technology
- Living Environment through Biological Sciences
- Physical Education (1/2)
- College Enrichment Experiences and Prep4Success ELA

## Year Three

• ELA Common Core/ ENG 101 English

#### SYSS

- Demonstrate an understanding of the mechanical and electro-mechanical systems.
- Install, maintain, troubleshoot and repair photovoltaic renewable systems.
- Install, maintain, troubleshoot and repair wind power systems.
- Demonstrate an understanding of electrical power delivery systems.
- Demonstrate proficiency with multiple types of electrical test equipment.
- Prepare to solve mathematical problems typically encountered in the renewable Energy industry.

To view a video about the renewable Energy Technologies program at Clinton Community College please **CLICK HERE**.

## Renewable Energy Technologies Degree Pathway Scope & Sequence (61)

Fall / Spring / Summer

## Year One (3)

- Algebra through Scientific Inquiry
- US History through Literature
- DDP: Drawing & Design Production
- iMPACTT/ Materials Processing
- Physical Education (1/2)
- ADKP-TECH Success Seminar/CSC 102 Microcomputer Applications (3)

## Year Two

- Global Studies through ELA
- Geometry
- World of Technology
- Living Environment through Biological Sciences
- Physical Education (1/2)
- College Enrichment Experiences and Prep4Success ELA

#### Composition

- Computer Integrated Manufacturing (CIM)
- Algebra II / Trigonometry
- Government & Economics/Global Supply Chain Management
- Physical Education (1/2)
- Science Elective
- Health (1/2)/Humanities Elective (3)

### **Year Four**

- Collaborative Design Project (Capstone)
- Physical Education (1/2)
- Physics I (4) / Technical Math 105 (4)
- Physics II (4) /Technical Math 205 (4)
- \*Physics II (4) NOT REQUIRED BUT RECOMMENDED
- Electives: Fall and Spring

## Year Five (22)

- WTT 101 Introduction to Wind Energy (4)
- ETE 101 Electrical Circuits I (4)
- ETE 105 Digital Electronics I (3)
- MET 101 Meteorology (4)
- ETE 102 Electrical Circuits II (4)

## Year Six (29)

- WTT 102 Wind Turbine Mechanical Systems (3)
- WTT 201 Power Generation & Delivery (3)
- ENV 210 Environmental Technology (4)
- CSC 230 Introduction to Networking (3)
- HPE 124 Career Fitness (1) or HPE 105
- INT 206 Principles of Fluid Power Systems (4)
- INT 209 Environmental Health & Safety (3)
- WTT Turbine Troubleshoot & Repair (3)
- INT 102 Blueprint Reading & Schematics (2)
- ETE 202 Industrial Electricity (3)

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- ELA Common Core/ ENG 101 English Composition
- Computer Integrated Manufacturing (CIM)
- Algebra II / Trigonometry
- Government & Economics/Global Supply Chain Management
- Physical Education (1/2)
- Science Elective
- Health (1/2)/Humanities Elective (3)

## Year Four

- Collaborative Design Project (Capstone)
- Physical Education (1/2)
- Physics I (4) / Technical Math 105 (4)
- Physics II (4) /Technical Math 205 (4)
- Electives: Fall and Spring

## Year Five (24-25)

- ETE 101 Electrical Circuits I (4)
- ENV 101 Environmental Science (4)
- ETE 102 Electrical Circuits II (4)
- ETE 104 Electronics I (4) OR ETE 105 Digital Electronics (3)
- ETE 202 Industrial Electricity (3)
- Elective (3-4)

## Year Six (24)

- CSC 230 Intro to Networking (3)
- WTT 201 Power Generation & Delivery (3)
- ETE 106 PV Theory & Design (3)
- WTT 101 Intro to Wind (4)
- INT 209 Environmental Health & Safety (3)
- INT 217 Instrumentation (3)
- ETE 107 PV Installation & Maintenance (3)
- INT 102 Blueprint Reading (2)

**Enviromental Technologies** 

The mission of the Environmental Technology Program is to provide majors with a broad-based educational experience that prepare them to enter the workforce as environmental technicians or for transfer into baccalaureate programs at four-year institutions in the environmental and earth sciences.

The program will prepare Environmental Technology majors to:

- Be problem solvers
- To use appropriate technology
- To accurately collect and record data in field and laboratory settings.
- To communicate effectively.

To view a video on the Environmental Technology Program at Clinton Community College please CLICK HERE.

## **Environmental Technology Degree Pathway Scope & Sequence (64)**

Fall / Spring / Summer

## Year One (3)

- Algebra through Scientific Inquiry
- US History through Literature
- DDP: Drawing & Design Production
- iMPACTT/ Materials Processing
- Physical Education (1/2)
- ADKP-TECH Success Seminar/CSC 102 Microcomputer Applications (3)

## Year Two

- Global Studies through ELA
- Geometry
- World of Technology
- Living Environment through Biological Sciences
- Physical Education (1/2)
- College Enrichment Experiences and Prep4Success ELA

#### **Year Three**

- ELA Common Core/ ENG 101 English Composition
- Computer Integrated Manufacturing (CIM)
- Algebra II / Trigonometry
- Government & Economics/Global Supply Chain Management
- Physical Education (1/2)
- Science Elective
- Health (1/2)/Humanities Elective (3)

## Year Four

- Collaborative Design Project (Capstone)
- Physical Education (1/2)
- General Biology I/ Technical Math 105 (4)
- General Biology II/Math 161 Elementary Statistics
- ENG 205 Technical Writing

## Year Five (22)

- ENV 210 Environmental Technology
- GEL 101 Physical Geology
- CHE 111 General Chemistry
- BIO 206 Microbiology OR ENV 216 HAZWOPER/HAZMAT
- ENV 211 Water Quality Operator
- ENV 215 Environmental Site Assessment
- ENV 218 Basic Environmental Health & Safety
- CHE General Chemistry II
- PSC 240 State & Local Government

## Year Six (23)

- ENV Seminar in Environmental Issues
- ENV 214 Internship

Can't find what you are looking for? Get in touch with us  $\rightarrow$ 

# **Latest News**

## **Events**

## Institute for Advanced Manufacturing @ Clinton Community College

🕑 May 11, 2017 💄 Mr. Horn

Students pose questions to state Assembly candidates at town hall forum Cornell Cooperative Extension's Spring Garden Day O Peru High School Girl Scouts of Northeastern New York 3D Modeling and Printing Workshop Adirondack Coast 3D O Peru, NY Print Sprint 24 hour

About us

🕑 January 18, 2017 👗 Mr. DeLano

## ADK P-TECH Gives Head Start on the Future

🕑 May 1, 2016 💄 Mr. Benko

Want to read more? View Full Blog Archive  $\rightarrow$ 

challenge GirlStoutsof 3D Modeling and Printing Workshop New York State O Peru, NY Business Plan Competition O Peru, NY

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ADK P-TECH is an innovative program founded in 2013 as one of 16 P-TECH Northeastern New York schools. It was funded in Round One of a New York State and Federally funded Early College High School initiative. There are currently 26 P-TECH schools operating in NYS with an additional 7 schools scheduled to open for students in the Fall of 2017.

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