

Career Focus on...

# Electronics &

# Electromechanical Technology

## Introduction

- Do you enjoy working with your hands and your mind?
- Do you enjoy mathematics (algebra, geometry, trigonometry, and calculus) and physics?
- Would you like to work with the latest applied technologies such as telecommunications, photonics, and automated control equipment and/or robotics?
- Would you enjoy installing, maintaining, troubleshooting, and/or repairing a wide range of computer-driven manufacturing equipment?

If you've answered yes to these questions, you may want to consider a career in Electronics or Electromechanical Technology.

## Did You Know... ?

- Through 2018, job opportunities in the Electronics field will be best for applicants with an associate degree, certification, and related experience.
- About 33% of the 511,000 engineering technicians employed in the U.S. in 2008 were in the electrical and electronics fields.
- Job growth for electronic and electromechanical technicians over the next several years will be spurred on by demand for new electronic communications, medical and defense-related products.
- Employment opportunities for medical equipment repairers is projected to increase by 27% through 2018, much faster than the growth of all occupations.
- The national push for "green" technologies, such as solar panels and wind turbines, has created hot employment opportunities for electricians and mechanical engineers (American Solar Energy Society: [www.ases.org](http://www.ases.org)).

## QCC Alumni Success Story

Vida Causey is a 2006 graduate of the Electromechanical Technology program at Quinsigamond Community College. While attending QCC, Vida worked as an intern during the Summer of 2005 at Intel Corporation as a Manufacturing Technician. She is currently working at IPG Photonics as a Manufacturing Assembler.

Vida decided to attend Quinsigamond Community College due to the convenient location and access to courses in which she had an interest. She found her major intriguing and therefore the classes seemed easy. Vida believes that QCC offered her a good mix of hands-on experience and course work, which led to a more comprehensive understanding of her field.

Vida's typical day at IPG Photonics consists of working with automated machinery and ensuring that it is working properly and within specification. She is currently responsible for verifying that the diodes are being correctly aligned and installed on the circuit boards.

When asked if she had any words of wisdom for current QCC students, she responded that, "It is the place to be if you have other commitments like family and you want to pace yourself." She appreciates the flexibility of Quinsigamond Community College and says that faculty and staff at the college appreciate our students.

## Career Options

### ELECTROMECH. EQUIP. ASSEMBLERS

Median Annual Salary: \$39,520  
Recommended Education: High School (H.S.) Diploma, General Equivalency Diploma (G.E.D.), Associate's Degree (A.S.)  
[www.bls.gov/ocolocos217.htm](http://www.bls.gov/ocolocos217.htm)

### ELECT. HOME ENTERTAIN. EQUIP. INSTALLERS/REPAIRERS

Median Annual Salary: \$33,830  
Recommended Education: H.S. with vocational training, A.S.  
[www.bls.gov/ocolocos187.htm](http://www.bls.gov/ocolocos187.htm)

### SEMICONDUCTOR PROCESSORS

Median Annual Salary: \$32,230  
Recommended Education: Post-H.S. certificate, A.S.  
[www.bls.gov/ocolocos257.htm](http://www.bls.gov/ocolocos257.htm)

### AUDIO/VIDEO EQUIPMENT TECHNICIANS

Median Annual Salary: \$38,050  
Recommended Education: Post-H.S. training, A.S.  
[www.bls.gov/ocolocos109.htm](http://www.bls.gov/ocolocos109.htm)

### MEDICAL EQUIPMENT REPAIRERS

Median Annual Salary: \$41,520  
Recommended Education: A.S., Bachelor's Degree  
[www.bls.gov/ocolocos199.htm](http://www.bls.gov/ocolocos199.htm)

### ELECTROMECHANICAL TECHNICIANS

Median Annual Salary: \$46,310  
Recommended Education: Associate's Degree  
[www.bls.gov/ocolocos112.htm](http://www.bls.gov/ocolocos112.htm)

### ELECTRICAL/ELECTRONICS REPAIRERS

Median Annual Salary: \$49,260  
Recommended Education: Associate's Degree  
[www.bls.gov/ocolocos184.htm](http://www.bls.gov/ocolocos184.htm)

### ELECTRONIC ENGINEERING TECHNICIANS

Median Annual Salary: \$53,240  
Recommended Education: Associate's Degree  
[www.bls.gov/ocolocos112.htm](http://www.bls.gov/ocolocos112.htm)

### WIRED TELECOMMUNICATIONS CARRIERS

Median Annual Salary: \$56,080  
Recommended Education: Associate's Degree  
[www.bls.gov/ocolocos112.htm](http://www.bls.gov/ocolocos112.htm)

## Other Professionals in the Field

Wendy Kahan-Wright holds two positions as Electronics Tool Room Technician and part-time Electronics instructor, both at El Camino College in California. Wendy's father and older brother both worked in electronics, so as a young woman she decided to take some classes in the field. When she did, she discovered she loved working with her hands. She completed an Electronics Technician certificate, and later an associate's degree in Computer Technology (now called Electronics and Computer Hardware). As a tool room technician, Wendy purchases new equipment and parts, troubleshoots and repairs equipment. She enjoys teaching courses in the field of electronics and seeing the successes of her former students. For a time Wendy also held another job where she repaired computer controlled robots for a pneumatics controller company. She is currently enrolled in courses toward a bachelor's degree in Occupational Studies. To read more about Wendy, visit: [www.womentechworld.org/elcamino/wendy.html](http://www.womentechworld.org/elcamino/wendy.html).

## Next Steps

Wondering if the field of Electronics/Electromechanical Technology is right for you?

- Take a Career Assessment to match your interests with potential careers: [www.qcc.mass.edu/t3/ort/sites.html#careerassess](http://www.qcc.mass.edu/t3/ort/sites.html#careerassess)
  - Research the web links on this page and more: [www.qcc.mass.edu/t3/ort/sites.html#careerinfo](http://www.qcc.mass.edu/t3/ort/sites.html#careerinfo)
  - Conduct an Informational Interview. Speak with a live person employed in this field: [www.qcc.mass.edu/t3/ort/sites.html#infointerview](http://www.qcc.mass.edu/t3/ort/sites.html#infointerview)
  - Attend a Career Planning Session: [www.QCC.edu/images/capssession.pdf](http://www.QCC.edu/images/capssession.pdf)
  - Speak with an Advisor: [www2.qcc.mass.edu/advising/adVCal/advCal.asp](http://www2.qcc.mass.edu/advising/adVCal/advCal.asp)
- Speak with QCC Faculty who teach Electronics and Electromechanical Technology courses.

## Sources Used

American Solar Energy Society. "How to Land a Green Collar Job." [www.ases.org/index.php?option=com\\_content&view=article&id=107&Itemid=16](http://www.ases.org/index.php?option=com_content&view=article&id=107&Itemid=16)

Bastian, Philip. "On the Grid: Careers in Energy." Occupational Outlook Quarterly, (32-41). Fall 2008. [www.bls.gov/opub/ooq/2008/fall/art02.pdf](http://www.bls.gov/opub/ooq/2008/fall/art02.pdf)

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2010-11 Edition:

- Assemblers and Fabricators: [www.bls.gov/oco/ocos217.htm](http://www.bls.gov/oco/ocos217.htm)
- Broadcast and Sound Engineering Technicians and Radio Operators: [www.bls.gov/oco/ocos109.htm](http://www.bls.gov/oco/ocos109.htm)
- Electrical and Electronics Installers and Repairers: [www.bls.gov/oco/ocos184.htm](http://www.bls.gov/oco/ocos184.htm)
- Electronic Home Entertainment Equipment Installers and Repairers: [www.bls.gov/oco/ocos187.htm](http://www.bls.gov/oco/ocos187.htm)
- Engineering Technicians: [www.bls.gov/oco/ocos112.htm](http://www.bls.gov/oco/ocos112.htm)
- Precision Instrument and Equipment Repairers: [www.bls.gov/oco/ocos199.htm](http://www.bls.gov/oco/ocos199.htm)
- Semiconductor Processors: [www.bls.gov/oco/ocos257.htm](http://www.bls.gov/oco/ocos257.htm)

National Institute for Women in Trades, Technology & Science. "El Camino College Cal Women Tech, Women in HVACR." [www.womentechworld.org/elcamino/wendy.html](http://www.womentechworld.org/elcamino/wendy.html)

## Worcester Area Employers

- Metso Automation
- Evergreen Solar
- Allegro Microsystems
- IPG Photonics

## Intel Professional Associations

- ACES International: [www.acesinternational.org](http://www.acesinternational.org)
- Electronics Technicians Association International: [eta-i.org](http://eta-i.org)
- International Society of Certified Electronics Technicians: [www.iscet.org](http://www.iscet.org)
- National Institute for Certification in Engineering Technologies: [www.nicet.org](http://www.nicet.org)
- InfoComm International: [www.infocomm.org](http://www.infocomm.org)

## Positions Entered by QCC Graduates

- Manufacturing Technician
- Electromechanical Technician
- Associate Lab System Engineer
- Junior Technician

## Looking for employment, co-op, internship, or service learning opportunities?

Contact the Career Placement Office: [www.QCC.edu/pages/Career\\_Placement.html](http://www.QCC.edu/pages/Career_Placement.html)

## Possible Transfer Schools

- Assumption College
- Fitchburg State University
- UMass Lowell
- Wentworth Institute of Technology

## Looking for Specific Transfer Information?

- Start at the QCC Transfer web site: [www.qcc.mass.edu/transfer](http://www.qcc.mass.edu/transfer)
- Make an appointment online with the Transfer Advisor: [www.qcc.mass.edu/transfer/calendar](http://www.qcc.mass.edu/transfer/calendar)
- Email questions to: [transfer@qcc.mass.edu](mailto:transfer@qcc.mass.edu)