Summer Internships can be chosen from these positions:

- **Service Apprentice - Gas**
  Repair customer heating, A/C and appliances
  Install and maintain gas distribution system.
- **Apprentice Substation Mechanic**
  Maintain high-voltage transformers
  Repair substation control circuits.
- **Apprentice Engineering Tech - Electric**
  Perform work related to contraction, operation and maintenance of electric systems. Includes drafting, field investigations, record keeping and reporting.
- **Apprentice Relay Tech- Electric**
  Maintenance and repair of substation relay systems. Test, calibrate and repair control circuits and relays.
- **Apprentice Meter Technician- Electric**
  Install and maintain single-phase and three-phase meters.
- **Division Mechanic Assistant - Electric**
  Construction and maintenance of underground electric distribution systems, involving manholes, street light poles, transformers and cables.
- **Utility Mechanic Apprentice - Gas**
  Installation, maintenance and repair of gas distribution systems. Installation of pipes, meters and equipment, and repair/replacement of sidewalks, pavement and lawns.
- **Apprentice Plant Operator**
  Maintenance and repair of equipment such as boiler feed pumps and feed water de-aeration equipment. Testing fuel samples and water quality.

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EET 138 Introduction to Electronics I 4 credits
Corequisite: MAT 141 or equivalent
Focuses on direct current (DC) devices and circuits. Progresses from the fundamentals of electricity, Ohm's Law, Kirchoff's Law, series and parallel circuits to the study of resistors, capacitors, inductors, batteries, transistors, and diodes as they pertain to DC circuits.
3 lecture/3 laboratory hours

EET 139 Introduction to Electronics II 4 credits
Prerequisite: EET 138 or equivalent
Continuation of EET 138. Covers the basics of AC circuits and devices including resistors, capacitors, inductors and semiconductors. Introduces fundamental waveforms such as sine waves and pulses and their behavior in solid state circuits. 3 lecture/3 laboratory hours

EET 140 Electronic Construction 2 credits
Teaches the use of hand tools, drilling and other metalworking methods as well as correct soldering and repair techniques. Students apply these skills to chassis construction and wiring, and also gain experience in working with printed circuit boards.
1 lecture/3 laboratory hours

EET 214 Communications Electronics 4 credits
Prerequisite: EET 139
Study of information transmission and reception involving both digital and analog systems. Topics include AM, FM, noise, spectra, receivers, transmitters, lines and cables, and antennas.
3 lecture/3 laboratory hours

EET 215 Fiber Optics 4 credits
Prerequisite: EET 130 or EET 138; MAT 141 or equivalent
A study of fiber optics as it pertains to the communications process. Topics include the physics and behavior of light in a fiber. Skills learned include connectorization of fiber and the use of the special tools and test equipment required. Successful completion of this course can lead to FOA certification. 3 lecture/2 laboratory hours

EET 219 Electronic Networks 4 credits
Prerequisite: EET 139
Analysis and design considerations for electronic circuits, including power supplies using semiconductor diodes and zener diodes, and Class A amplifiers using bipolar and FET transistors.
3 lecture/3 laboratory hours

EET 230 Linear Integrated Circuits 4 credits
Prerequisite: EET 219
Covers the basic building blocks of linear systems, such as inverting and non-inverting amplifiers, comparators, and filters.
3 lecture/3 laboratory hours

EET 251 Digital Circuit Fundamentals 4 credits
Prerequisite: EET 139
Introduces the hardware of digital circuits and the electrical characteristics and connections of digital integrated circuit packages. Gates, registers, flip-flops, counters, decoders and encoders, display drivers, half- and full-adders, and clocks and timing circuits are further investigated in the lab. 3 lecture/3 laboratory hours

EET 263 Digital Technology – Introduction to Microprocessors and Assembly Language 4 credits
Prerequisite: EET 251
Introduces microprocessors, especially the 8080/8085/Z80 family. Uses minimization techniques to simplify functional expressions and implement digital solid-state logic circuits. Also introduces microcomputer system and Assembly language programming. Emphasizes the architecture and instruction set of microprocessors.
3 lecture/3 laboratory hours

Mercer County Community College
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Engineer Your Career

Electronics Engineering Technology

- **Earn $9,000 during the summer**
- **Pursue a career in:**
  - **Biomedical Electronics**
  - **Telecommunications Electronics**
  - **Fiber Optics**
  - **Alternative Energy**
  - **Power Electricity**

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Electronics Engineering Technology

EET Program

Students who are interested in a career in the electrical or electronics area should consider a dual degree – both the EET and EUT degrees can be earned by many students in two years. The EUT program, a joint partnership with PSE&G, offers several advantages. You can earn over $9,000 each summer working at PSE&G during the summers following your freshman and sophomore years. When you graduate you are eligible for hire full-time at PSE&G. Mercer has placed 94% of its EET/EUT graduates. Once you complete the program you can bid on any job that PSEG lists on its website; you are not limited to the internship jobs. PSEG will help with tuition for those employees who continue studies toward an advanced degree.

See the list of internship possibilities and the job description for each elsewhere on this brochure to see where your interest lies.

The EET program is primarily a transfer program. It is completely transferable to NJIT's ECET program. MCCC students who transfer will enter NJIT as Juniors and could complete the requirements for a BSET in 2 years or a MSEE in 3 years.
The ECET program at NJIT has three options which you can choose from:

- **Biomedical Engineering**
  Job opportunities exist at the various pharmaceutical companies in New Jersey.
- **Computer Engineering**
  Jobs in this area relate to positions from programming to systems administrators.
- **General Electrical Engineering**
  Opportunities are at the various electronics companies in NJ and surrounding states.
- **Telecommunications Engineering**
  Positions are available with companies using fiber optics, or networking systems.

In addition to NJIT, EET graduates have gone on to Rowan University, Drexel, and Rutgers.

Curriculum

Course	Course (Lecture/Lab Hours)	Credits
MAT141	College Algebra and Applications (4/0)	4
EET138	Introduction to Electronics I (3/3)	4
ENG101	English Composition I (3/0)	3
	Natural Science/Tech elective	3
EET140	Electrical Construction (1/3)	2
EET139	Introduction to Electronics II (3/3)	4
ENG102	English Composition II (3/0)	3
	Natural Science/Tech elective	3
EET215	Fiber Optics (3/3)	4
	General Education elective	3
HPE110	Concepts of Health and Fitness (1/2) [HPE 111 is an acceptable alternative]	2
EET219	Electronic Networks (3/3)	4
EET251	Digital Circuit Fundamentals (3/3)	4
EET214	Communicatiions Electronics (3/3)	4
	General Education elective	3
EET230	Linear Integrated Circuits (3/3)	4
EET263	Digital Technology II (3/3)	4
	Social Science or Humanities elective	3
		Total 61

Those interested in a dual degree (EET/EUT) must complete the PSE&G training courses: —UTI 101, 102 and 103— in order to be eligible for the summer internships.

Upon successful completion of the dual program, students will be able to:

- Communicate effectively in English both orally and in written form.
- Demonstrate an understanding of the fundamentals of AC and DC electricity.
- Demonstrate an understanding of the fundamentals of gas combustion.
- Work as a team with fellow workers
- Use a computer to access information from the Internet.
- Demonstrate "one on one" communication skills in an interview.
- Demonstrate mastery of basic algebra and mathematics.
- Demonstrate mastery of job skills learned through co-op experiences in two of the following areas:
  - Appliance service and repair – gas
  - Substation mechanic – electric
  - Apprentice engineering – electric
  - Relay technician
  - Meter technician
  - Division Mechanic – electric
  - Utility Mechanic – gas
  - Apprentice Plant Operator

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