

# Energy Utility Technology

## ENGINEERING TECHNOLOGIES DEPARTMENT

### Associate in Applied Science (A.A.S.) Degree

Public Service Electric & Gas (PSE&G) has teamed up with Middlesex County College to offer an associate's degree that can help students get started in a career in the electric and gas industry with PSE&G. Through a unique blend of coursework, specialized training, and hands-on work experience, students will acquire the knowledge and skills needed to be a technician in the energy utility industry.

#### ■ Can students who major in Energy Utility Technology transfer to a four-year college or university?

The major is job-oriented and designed for entrance to industry. However, students can transfer to Thomas Edison State College and earn a B.S. in Energy Utility Technology.

#### ■ Are there any requirements that must be satisfied before taking courses in the major?

The program requires that applicants have a high school diploma or equivalent. All new students must take the College's placement test. Based on the results of the test, they may be required to take developmental courses in English and mathematics. Students must also have a valid New Jersey driver's license and pass a physical examination and drug screening. Students must maintain a "B" grade or better in UTI 101 and a "C" grade or better in UTI 102 and UTI 103 in order to participate in the summer co-op.

#### ■ How long will it take to complete this degree?

Once students complete developmental coursework (if needed), the degree can be completed in two years of full-time study. They can shorten the amount of time by taking courses in the summer and winter sessions.

#### ■ What skills will graduates have?

Upon completion of this program, graduates will be able to:

- Demonstrate an understanding of the energy industry, including the history of providing reliable service and regulatory influences;
- Read schematic electronics diagrams for purposes of testing and development;
- Diagnose combustion problems as they relate to the energy utility industry;
- Use basic electronics test and measurement instruments including multimeters and oscilloscopes to troubleshoot electronics devices;
- Perform piping on residential appliances and gas leak investigation;
- Install and test meters and demonstrate an understanding of electric utility distribution.

#### ■ Questions?

Contact: Assistant Professor Thom Sabol, department chair, at 732.906.2586.

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*Below are required courses and recommended course groupings and sequences for program completion.*

Courses	Credits	Requisites / Comments
<b>Semester I</b>		
ENG 121 English Composition I	3	A passing score on the College's placement test or a grade of "C" or better in ENG 010.
MAT 107 Mathematics I	3	Appropriate score on the College's placement test, MAT 013 or MAT 013A/MAT 013B or departmental approval. Students may substitute MAT 123-MAT 124 or MAT 129-MAT 131 for MAT 107-MAT 108.
ELT 105 Foundations of Electrical and Electronics Technology	4	MAT 013 or appropriate score on the College's placement test.
UTI 101 Introduction to the Energy Utility Industry	3	Corequisite(s): MAT 014 or higher level Prerequisite(s): MAT 013 Corequisite(s): ELT 105, MAT 107
<b>Semester II</b>		
ENG 122 English Composition II	3	A grade of "C" or better in ENG 121
OR		
ENG 125 English Composition II: Writing About Literature	3	
UTI 102 Fundamentals of Gas Combustion	3	UTI 101 (with a grade of "B" or better)
UTI 103 Fundamentals of Power Alternating Current	3	UTI 101 (with a grade of "B" or better), ELT 105, MAT 107
CSC 105 Computer Applications and Systems	3	
<b>Summer I</b>		
UTI 201 Energy Utility Co-op Work Experience I	3	400 hours of supervised work experience. Prerequisite(s): UTI 102, UTI 103 (with a grade of "C" or better) and one of the following occupational concentration courses: UTI 104, UTI 105, UTI 106, UTI 107, UTI 108, UTI 109, UTI 110.
UTI ____ Energy Utility Elective	4-5	Select from UTI 104, UTI 105, UTI 106, UTI 107, UTI 108, UTI 109, UTI 110.
<b>Semester III</b>		
PHY 101 Principle of Physics	4	MAT 107 or equivalent
SPE 121 Fundamentals of Public Speaking	3	
ELT/MEC Technical Elective	3-4	
<i>Choose from the following:</i>		
ELT 110 Electrical/Electronic Devices and Circuits	4	ELT 105 or equivalent Corequisite(s): MAT 129A or MAT 129
ELT 111 Digital Electronics	3	MAT 013 or appropriate score on the College's placement test.
MEC 123 Technical Graphics/Cad I	3	
PED ____ Physical Education Elective	1	Students have the option of substituting Health Education electives in place of the Physical Education elective.
<b>Semester IV</b>		
BUS 240 Business Communications	3	
____ General Education Humanities Elective (GE HUM)	3	
ELT/MEC Technical Elective	3	
<i>Choose from the following:</i>		
ELT 110 Electrical/Electronic Devices and Circuits	4	ELT 105 or equivalent Corequisite(s): MAT 129A or MAT 129
ELT 111 Digital Electronics	3	MAT 013 or appropriate score on the College's placement test.
MEC 123 Technical Graphics/Cad I	3	
____ General Education Social Sciences Elective (GE SS)	3	
<b>Summer II</b>		
UTI 202 Energy Utility Co-op Work Experience II	3	400 hours of supervised work experience. Prerequisite(s): UTI 201 and one of the following occupational concentration courses: UTI 104, UTI 105, UTI 106, UTI 107, UTI 108, UTI 109, UTI 110.
UTI ____ Energy Utility Elective	4-5	Select from UTI 106, UTI 107, UTI 108, UTI 109, UTI 110.
<b>Total Credits: 62-65</b>		

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