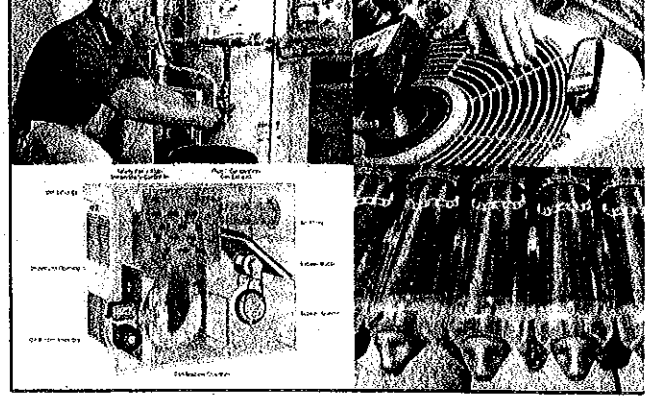
Energy Services and Technology



Description

The Energy Services and Technology (EST) program offers a two-year Associate in Applied Science degree. The program is designed to prepare students for technician level positions in the rapidly growing field of installing, maintaining, and troubleshooting high efficiency plumbing, heating, ventilating, and cooling systems in buildings. Graduates will work on systems that control water, temperature, humidity, and air quality of enclosed spaces within building structures. They will install various types of equipment used to control human comfort in residential, commercial, industrial, and institutional environments. This program will give the technician a working knowledge of plumbing and HVAC system building concepts and energy efficient design principles. Incorporated within the curriculum is the International Association of Plumbing and Mechanical Officials (IAPMO) "Accredited Green Plumbers Training" curriculum. Students can earn the Green Plumber's accreditation from IAPMO upon completion of EST degree requirements. Additionally, program graduates are eligible for State of Maine licensing in plumbing, oil burner, solid fuel, and propane and natural gas. Students can also pursue the EPA refrigeration certification. Combined with the appropriate additional coursework, graduates will also have the necessary educational background and licenses needed for advancing into a career in renewable and sustainable energy systems.

Educational Outcomes

Upon successful completion of the Energy Services and Technology program, graduates are expected to:

- Practice the skills of the profession in a conscientious, responsible, and accountable manner while recognizing the need to continue to expand their technical knowledge and skills.
- Communicate effectively and listen and respond appropriately to a variety of residential, commercial and industrial applications.
- Think critically and use their acquired analytical skills to solve problems encountered in a residential, commercial or industrial environment.

Program Mission

The Energy Services and Technology program provides graduates with the technical background and the manual skills necessary for careers in the installation and maintenance of modern, energy efficient, plumbing, heating, ventilating, and air conditioning systems. Graduates are critical thinkers and are able to troubleshoot problems in residential, commercial, or industrial environments. The program provides students with the ability to communicate effectively using standard methods of communication.

Recognizing the need for lifelong learning, the Energy Services and Technology program helps students achieve various professional and personal goals that may arise over a lifetime, including the opportunity to transfer to other college and university technical programs. The program strives to maintain a high academic standard for teaching and learning through a continuous process of self-assessment and improvement.

Students are exposed to a learning environment that is safe and supportive of student growth and achievement. Using modern training equipment, innovative teaching methods and highly trained faculty members, the Energy Services and Technology program endeavors to fully prepare students for a variety of building energy system occupations.

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Energy Services and Technology

Associate in Applied Science Degree

	Course #	Course Title	Credits	Prerequisites (Co-requisites)
	FIRST SEMESTER			
__ __	BPT125*	Drafting/Print Reading	3	
__ __	ETL107*	Electrical Principles for HVAC	3	(MAT114)
__ __	MAT114	Technical Math	3	Arithmetic score greater than 55 on the Accuplacer placement test
__ __	PLB101*	Plumbing Fundamentals	5	
__ __	PMT217*	Metal Fabrication	1	
	SECOND SEMESTER			
__ __	ENG108	Technical Writing	3	Placement test
__ __	ETL108*	HVAC Electronics and Controls	3	ETL107
__ __	HAC106*	Heat Pumps and Air Conditioning	3	(ETL108)
__ __	MAT117	College Algebra	3	Placement test
__ __	PLB201*	Advanced Plumbing Applications	5	PLB101
	THIRD SEMESTER			
__ __	COM104	Introduction to Communication OR		
__ __	COM105	Interpersonal Communication	3	
__ __	HAC201*	Heating System Fundamentals	5	
__ __	HAC204*	Biomass Solid Fuel Applications	3	(HAC201)
__ __	PHY111	Elements of Physics	4	Minimum grade of "C" in MAT117 or MAT119
__ __	_____	Social Science Elective	3	
	FOURTH SEMESTER			
__ __	HAC202*	Advanced Heating Applications	5	HAC201
__ __	HAC205*	Propane and Natural Gas	3	HAC201
__ __	HAC206*	Renewable/Sustainable Energy Systems	3	(HAC202)
__ __	HAC210*	HVAC and Plumbing Codes	3	HAC201, PLB101 (HAC202)
__ __	_____	Humanities Elective	3	
		TOTAL CREDITS	**67**	

Criteria for Graduation

Students must complete 67 credits in the Energy Services and Technology program and achieve a minimum grade of "C" in designated common and program core courses (*). Students must attain a final GPA of 2.0 or higher.

Career Opportunities

Graduates of the Energy Services and Technology program will find employment as entry level plumbing, heating, ventilation, and air conditioning technicians. They may also find employment as technicians for gas and propane systems. Solid fuel technician positions may also be an option. Graduates are encouraged to take additional coursework to qualify them for renewable energy system installers in such areas as solar thermal, geothermal, and biomass solid fuel systems.

Revised: March 28, 2012

Energy Services & Technology Associate in Applied Science

PROGRAM DESCRIPTION

- Two-year Associate of Applied Science (AAS) degree.
- Designed to prepare students for technician level positions in the rapidly growing field of installing, maintaining, and troubleshooting high efficiency plumbing, heating, ventilation, and cooling systems in buildings.
- Provides a working knowledge of plumbing and HVAC system concepts.
- Incorporated within the curriculum is the International Association of Plumbing and Mechanical Officials (IAPMO) "Accredited Green Plumbers Training" curriculum.

CRITERIA FOR GRADUATION

- 67 credits
- Minimum grade of "C" in designated common and program core courses (*). Students must maintain a final GPA of 2.0 or higher.

LICENSURE/CERTIFICATION OPPORTUNITIES

- Journeyman in Training Plumber
- Journeyman Solid Fuel Technician
- Journeyman Oil Burner Technician
- Gas/Propane Appliance Connection and Service Technician
- EPA Section 608 Universal Refrigerant Certification
- IAPMO Green Plumber's Certification

CAREER OPPORTUNITIES

- Plumbing
- Heating, ventilation, and/or air conditioning
- Oil systems
- Gas and propane systems.
- Solid fuel
- Renewable energy – solar heating and geothermal
- Heat pumps