

Our Mission

The Tennessee Colleges of Applied Technology continue to serve as the premier providers for workforce development throughout the State of Tennessee. The colleges fulfill the mission by:

- Providing competency-based training through various types of instructional delivery systems of the highest quality that will qualify individuals for employment and/or advancement in jobs.
- Providing high quality training and retraining of employed workers.
- Providing high quality training that is economical and accessible to all residents of Tennessee, thereby contributing to the economic and community development of the communities we serve.

Tennessee College of Applied Technology Elizabethton

- Accredited by the Commission of the Council on Occupational Education, 7840 Roswell Road, Suite 325, Atlanta, GA 30350, telephone 1-800-917-2081.
- Approved for the training of veterans by the State Office for Veterans' Education and the Tennessee Higher Education Commission.
- Governed by the Tennessee Board of Regents, 1415 Murfreesboro, Road, Suite 350, Nashville, TN 37217, telephone 615-366-4400.

Tennessee College of Applied Technology Elizabethton

Website address: www.tcatelizabethton.edu
426 Highway 91 North
Elizabethton, TN 37643
Telephone 423-543-0070, Toll Free 1-888-986-2368
Fax 423-547-2587
Office Hours: Monday-Friday 7:30 AM– 4:30 PM ET

“Workforce development. It’s what we do.”™

The Tennessee College of Applied Technology Elizabethton, a Tennessee Board of Regents institution, is an AA/EEO/ADA employer and does not discriminate on the basis of race, color, national origin, gender, ability and age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Student Services Coordinator, Tennessee College of Applied Technology Elizabethton, 426 Highway 91 North, Elizabethton, TN 37643, telephone 423-543-0070. Printed by Sabre Printers, 325 West Walnut Street, Johnson City, TN 37604. TBR 260, POE 14200. 1M. 12/13.

TRANSFER CREDIT

High school seniors who successfully complete the on-line Applied Technology course offered by the Tennessee College of Applied Technology Elizabethton, and with the approval of the Department of Engineering Technology at East Tennessee State University, can take a test given by ETSU and receive up to (4) four hours credit toward a BS Degree in Engineering Technology from East Tennessee State University.

TO GAIN ADDITIONAL CREDIT

High school seniors must successfully complete a test in Electronics Engineering Technology offered by ETSU for the course ENTC 2310 – Electrical Principles and upon passing the test receive (4) four credit hours for ENTC 2310.

ENTC 2310 –Electrical Principals (4 credits). Prerequisite: Math 1720.

Course description: Introduction to electricity, DC circuits, power, DC meters, conductors, insulators, capacitance, magnetism, and electromagnetic induction, AC circuits, reactance, impedance, AC power, power factor, and resonance. Lecture and lab. (fall, spring)

ADDITIONAL INFORMATION

For additional information about East Tennessee State University College of Business and Technology programs, contact Rachel Dinsmore, academic advisor, telephone 423-439-7654, email dinsmorer@etsu.edu.

ARTICULATE, ETHICAL, KNOWLEDGEABLE



An Education Partner with Tennessee
College of Applied Technology Elizabethton

APPLIED TECHNOLOGY



TENNESSEE COLLEGE
OF APPLIED TECHNOLOGY
—ELIZABETHTON—



APPLIED TECHNOLOGY

GENERAL INFORMATION

The online Applied Technology course may be taken by high school seniors who desire to enter skill-based training at the Tennessee College of Applied Technology Elizabethton or pursue technical academic studies in engineering or a related field. The Applied Technology course is also important for industrial employees seeking advancement and job stability. Students who complete the Applied Technology course will receive credit in Millwright Skills, Welding, and Pipefitting and Plumbing training programs at TCAT Elizabethton. It can also be used as a preparatory course for employment with Eastman Chemical Co.

COURSE DESCRIPTION

The Applied Technology course is designed to teach, refresh, and practice skills associated with applied technology typically used in the workplace. The course is divided into four areas: Electricity, Fluid Dynamics, Mechanics, and Thermodynamics.

Course lessons are organized according to increasing level of skill. The skills are grouped into the four areas of the course. Each area of the course contains lessons for each skill level in that area. Each lesson corresponds to the skills needed to demonstrate proficiency at that particular skill level.

COURSE OBJECTIVES

Introduce the student to Applied Technology. Improve the student's applied technology skills by reviewing the basic concepts that describe and govern how most modern technology operates. Show how these concepts can be used to diagnose and troubleshoot problems with common modern equipment. Provide the student practice in answering questions similar to those on the Applied Technology test.

CERTIFICATE AWARDS

A Certificate will be awarded after completing the Applied Technology course.

ADMISSION REQUIREMENTS

Complete an Application for Admission available at the Main Campus or online at www.tcatcelizabethton.edu. High school seniors who desire to enroll through Dual Enrollment should: (1) Complete the RODP Online Registration, <https://rodpttc.tec.tn.us/profilede.asp>; (2) Complete a Dual Enrollment Grant Application, www.tn.gov/collepays; and (3) Submit the TCAT Elizabethton Dual Enrollment Parent Agreement Form found on the TCAT Elizabethton Website, www.tcatcelizabethton.edu, under the heading High Schools from the Home Page.

REGISTRATION FEE

The registration fee for the 135-hour course is approximately \$378.50.

For high school seniors, the registration fee may be paid by the Tennessee Lottery and administered by the Tennessee Student Assistance Corporation. No textbook is required for the course.

ADDITIONAL INFORMATION

For additional information, contact TCAT Elizabethton at 423-543-0070 between 7:30 AM and 4:30 PM Eastern Time, Monday-Friday.

STUDENT SERVICES

The Student Services Office provides counseling to all students and potential students. Telephone 423-543-0070 to speak with a counselor. For auxiliary aids and services to individuals with disabilities and/or limited English proficiency, contact the Student Services Coordinator, telephone 423-543-0070.

APPLIED TECHNOLOGY COURSE OUTLINE

Applied Technology-Introduction
Problem solving strategies Program Introduction
What is problem solving?
Applied Technology Work Keys Introduction
Problem solving methods
Compartmentalizing
Common concepts
Other problem solving methods

APPLIED TECHNOLOGY — ELECTRICITY

Level 3	Alternating & 3-Phase	Printers
Introduction	Current	Photocopying
Voltage & Current	Transformers	Troubleshooting
Resistors	Motors & Generators	Exercises
Circuits & Switches	Ohm's Law	
Capacitors	Grounding & GFCIs	Level 6
Inductors	Lighting Types	Introduction
Series & Parallel	Relays & Solenoids	Thermocouples &
Circuits	Troubleshooting	Thermostats
Circuit Breakers	Exercises	Analog/Digital
Multi-meter		Converters
Troubleshooting	Level 5	Electronic Scales
Circuits	Introduction	Light Sensors &
	Digital Circuits	Emitters
Level 4	Computers	Solar Cells
Introduction	Information Storage	Troubleshooting
Magnets & Electricity	Devices	Exercises

APPLIED TECHNOLOGY — MECHANICS

Level 3	Level 4	Conveyors
Introduction	Introduction	Sound & Vibration
Force & Pressure	Screws	Troubleshooting
Friction & Inertia	Acceleration	Exercises
Planes & Levers	Rotation	
Torque & Gears	Center of Gravity	Level 6
Wheels & Pulleys	Troubleshooting	Introduction
Springs	Exercises	Gas Engines
Troubleshooting		Alternative Power
Exercises	Level 5	Hybrid Engines
	Introduction	Troubleshooting
	Bearings	Exercises
	Lubrication	

APPLIED TECHNOLOGY — THERMODYNAMICS

Level 3	Level 4	Ovens & Furnaces
Introduction	Introduction	Boilers
Temperature & Heat	Melting & Freezing	Troubleshooting
Conduction	Evaporation &	Exercises
Thermal Expansion	Condensation	
Convection	Boiling	Level 6
Radiation	Refrigeration	Introduction
Troubleshooting	Troubleshooting	Cooling Towers
Exercises	Exercises	Solar Heating
		Systems
	Level 5	Troubleshooting
	Introduction	Exercises
	Heat Exchanges	

APPLIED TECHNOLOGY — FLUID DYNAMICS

Level 3	Compression Heating	Level 6
Introduction	Troubleshooting	Introduction
Pressure & Flow	Exercises	Hydraulic Cylinders
Flotation		Piping Systems
Pipes & Valves	Level 5	Troubleshooting
Pumps	Introduction	Exercises
Troubleshooting	Piping Problems	
Exercises	Flow Measurement	
	Devices	
Level 4	Mixing & Turbulence	
Introduction	Troubleshooting	
Gases and Pressure	Exercises	
Vacuum		