Course Title: **Transportation Technology I**
Course Number: **8601210**
Course Credit: **1**

Course Description:
This course provides students with an introduction to the knowledge, human relations, and technical skills of transportation technology.

CTE Standards and Benchmarks	
04.0	Demonstrate an understanding of the characteristics and scope of technology. – The student will be able to:
04.01	Discuss the nature and development of technological knowledge and processes.
04.02	Conduct specific goal-directed research related to inventions and innovations.
05.0	Demonstrate an understanding of the core concepts of technology. – The student will be able to:
05.01	Identify systems thinking logic and creativity with appropriate compromises in complex real-life problems.
05.02	Define technological systems, which are the building blocks of technology and are embedded within larger technological, social, and environmental systems.
05.03	Identify resources involving trade-offs between competing values, such as availability, cost, desirability, and waste.
05.04	Identify the criteria and constraints of a product or system and determine how they affect the final design and development.
05.05	Define a management system as the process of planning, organizing, and controlling work.
07.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology. – The student will be able to:
07.01	Identify changes caused by the use of technology ranging from gradual to rapid and from subtle to obvious.
07.02	Classify the use of technology involving weighing the trade-offs between the positive and the negative effects.
08.0	Demonstrate an understanding of the effects of technology on the environment. – The student will be able to:
08.01	Identify technologies devised to reduce the negative consequences of other technologies.
08.02	Discuss the implementation of technologies involving the weighing of trade-offs between predicted positive and negative effects on the environment.
10.0	Demonstrate an understanding of the influence of technology on history. – The student will be able to:
10.01	Research how the evolution of civilization has been directly affected by, and has in turn affected, the development and use of tools and materials.
10.02	Define the history of technology as a powerful force in reshaping the social, cultural, political, and economic landscape.

CTE Standards and Benchmarks	
11.0	Demonstrate an understanding of the attributes of design. – The student will be able to:
11.01	Recognize the design process; including defining a problem, brainstorming, researching and generating ideas, identifying criteria and specifying constraints, exploring possibilities, selecting an approach, developing a design proposal, making a model or prototype, testing and evaluating the design using specifications, refining the design, creating or making it, and communicating processes and results.
11.02	Restate design problems that are seldom presented in a clearly defined form.
11.03	Check and critique a design continually, and improve and revise the idea of the design as needed.
11.04	List competing requirements of a design, such as criteria, constraints, and efficiency.
12.0	Demonstrate an understanding of engineering design. – The student will be able to:
12.01	Identify design principles used to evaluate existing designs, to collect data, and to guide the design process.
12.02	Describe the influence of personal characteristics, such as creativity, resourcefulness, and the ability to visualize and think abstractly on the Engineering Design process.
12.03	Construct a prototype or a working model used to test a design concept by making actual observations and necessary adjustments.
12.04	Identify factors taken into account in the process of engineering.
13.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving. – The student will be able to:
13.01	Define research and development as a specific problem solving approach that is used intensively in business and industry to prepare devices and systems for the marketplace.
13.02	Identify research needed to solve technological problems.
13.03	Differentiate between technological and non-technological problems, and identify which problems can be solved using technology.
13.04	Utilize a multidisciplinary approach to solving technological problems.
14.0	Demonstrate the abilities to apply the design process. – The student will be able to:
14.01	Identify the design problem to solve and decide whether or not to address it.
14.02	List criteria and constraints and determine how these will affect the design process.
14.03	Refine a design by using prototypes and modeling to ensure quality, efficiency, and productivity of the final product.
14.04	Evaluate the design solution using conceptual, physical, and mathematical models at various intervals of the design process in order to check for proper design and to note areas where improvements are needed.
14.05	Develop a product or system using a design process.

CTE Standards and Benchmarks	
	14.06 Evaluate final solutions and communicate observations, processes, and results of the entire design process, using verbal, graphic, quantitative, virtual, and written means, in addition to three-dimensional models.
15.0	Demonstrate the abilities to use and maintain technological products and systems. – The student will be able to:
	15.01 Document processes and procedures and communicate them to different audiences using appropriate oral and written techniques.
	15.02 Diagnose a system that is malfunctioning and use tools, materials, machines, and knowledge to repair it.
	15.03 Troubleshoot, analyze, and maintain systems to ensure safe and proper function and precision.
	15.04 Operate systems so that they function in the way they were designed.
	15.05 Use computers and calculators to access, retrieve, organize, process, maintain, interpret, and evaluate data and information in order to communicate.
16.0	Demonstrate the abilities to assess the impact of products and systems. – The student will be able to:
	16.01 Collect information and evaluate its quality.
	16.02 Synthesize data, analyze trends, and draw conclusions regarding the effect of technology on the individual, society, and the environment.
	16.03 Define assessment techniques, such as trend analysis and experimentation to make decisions about the future development of technology.
	16.04 Identify forecasting techniques to evaluate the results of altering natural systems.
17.0	Demonstrate an understanding of and be able to select and use energy and power technologies. – The student will be able to:
	17.01 Explain impossibility of building an engine to perform work that does not exhaust thermal energy to the surroundings.
	17.02 Construct a power system having a source of energy, a process, and loads.
18.0	Demonstrate an understanding of and be able to select and use transportation technologies. – The student will be able to:
	18.01 Analyze the vital role played by transportation in the operation of other technologies, such as manufacturing, construction, communication, health and safety, and agriculture.
	18.02 Define intermodalism as the use of different modes of transportation, such as highways, railways, and waterways as part of an interconnected system that can move people and goods easily from one mode to another.
	18.03 Discuss how transportation services and methods have led to a population that is regularly on the move.
	18.04 Identify processes and innovative techniques involved in the design of intelligent and non-intelligent transportation systems.
19.0	Demonstrate safe and appropriate use of tools, machines, and materials in transportation technology. – The student will be able to:
	19.01 Select appropriate tools, procedures, and/or equipment.

CTE Standards and Benchmarks	
	19.02 Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment.
	19.03 Follow laboratory safety rules and procedures.
	19.04 Demonstrate good housekeeping at workstation within total laboratory.
	19.05 Identify color-coding safety standards.
	19.06 Explain fire prevention and safety precautions and practices for extinguishing fires.
	19.07 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
20.0	Demonstrate technical knowledge and skills about steam-powered vehicles. – The student will be able to:
	20.01 Identify and define the key terms, categories, and parts of steam-powered engine.
	20.02 Describe the operating theory and principles of steam engines and steam turbines.
	20.03 Explain the uses and applications of steam power engines and systems.
	20.04 Describe energy and fuel sources for steam power operations.
	20.05 Perform technical skills in building, assembling, maintaining, or operating a steam-powered vehicle.
21.0	Demonstrate technical knowledge and skills about diesel engine power technology. – The student will be able to:
	21.01 Identify and define key terms, categories, and parts of diesel engine power technology.
	21.02 Describe the operating theory and principles of diesel engine power technology.
	21.03 Explain the uses and applications of diesel engines.
	21.04 Identify industries that produce and use diesel engines.
	21.05 Describe energy and fuel sources for diesel engines.
	21.06 Perform technical skills in building, assembling, maintaining, or operating diesel engines.
22.0	Demonstrate technical knowledge and skills about internal combustion power technology. – The student will be able to:
	22.01 Identify and define the key terms, categories, and parts of gasoline engine internal combustion technology.
	22.02 Describe the operating theory and principles of internal combustion gasoline engines.
	22.03 Explain the uses and applications of internal combustion gasoline engines.

CTE Standards and Benchmarks
22.04 Identify industries that produce and use internal combustion gasoline engines.
22.05 Describe energy and fuel sources for internal combustion gasoline engines.
22.06 Perform technical skills in building, assembling, maintaining, or operating internal combustion gasoline engines.

Course Title: **Transportation Technology II**
Course Number: **8601220**
Course Credit: **1**

Course Description:
This course provides students with an intermediate understanding of the knowledge, human relations, and technical skills of transportation technology.

CTE Standards and Benchmarks	
04.0	Demonstrate an understanding of the characteristics and scope of technology. – The student will be able to:
04.01	Illustrate the nature and development of technological knowledge and processes.
04.02	Graph the rapid increase in the rate of technological development and diffusion.
04.03	Conduct specific goal-directed research related to inventions and innovations.
05.0	Demonstrate an understanding of the core concepts of technology. – The student will be able to:
05.01	Apply systems thinking logic and creativity with appropriate compromises in complex real-life problems.
05.02	Discuss technological systems, which are the building blocks of technology and are embedded within larger technological, social, and environmental systems.
05.03	Select resources involving trade-offs between competing values, such as availability, cost, desirability, and waste.
05.04	Identify the criteria and constraints of a product or system and then determine how they affect the final design and development.
05.05	Discuss new technologies that create new processes.
05.06	Organize a management system as the process of planning, organizing, and controlling work.
07.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology. – The student will be able to:
07.01	Discuss changes caused by the use of technology ranging from gradual to rapid and from subtle to obvious.
07.02	Compare the use of technology involving weighing the trade-offs between the positive and the negative effects.
07.03	Debate the cultural, social, economic, and political changes caused by the transfer of a technology from one society to another.
09.0	Demonstrate an understanding of the role of society in the development and use of technology. – The student will be able to:
09.01	Report how different cultures develop their own technologies to satisfy their individual and shared needs, wants, and values.
09.02	Consider societal opinions and demands, as well as corporate cultures to use as a basis for deciding whether or not to develop a technology.

CTE Standards and Benchmarks	
	09.03 Consider a number of different factors, such as advertising, the strength of the economy, the goals of a company, and the latest fads as contributors to shaping the design of and demand for various technologies.
10.0	Demonstrate an understanding of the influence of technology on history. – The student will be able to:
	10.01 Research the history of technology as a powerful force in reshaping the social, cultural, political, and economic landscape.
	10.02 Debate that early in the history of technology, the development of many tools and machines was based not on scientific knowledge but on technological know-how.
	10.03 Discuss the Iron Age as the use of iron and steel as the primary materials for tools.
	10.04 Discuss the Middle Ages and its development of many technological devices that produced long-lasting effects on technology and society.
	10.05 Discuss the Renaissance, a time of rebirth of the arts and humanities, as an important development in the history of technology.
	10.06 Discuss the Industrial Revolution and the development of continuous manufacturing, sophisticated transportation and communication systems, advanced construction practices, and improved education and leisure time.
	10.07 Discuss the Information Age and its placement of emphasis on the processing and exchange of information.
11.0	Demonstrate an understanding of the attributes of design. – The student will be able to:
	11.01 Describe the design process; including defining a problem, brainstorming, researching and generating ideas, identifying criteria and specifying constraints, exploring possibilities, selecting an approach, developing a design proposal, making a model or prototype, testing and evaluating the design using specifications, refining the design, creating or making it, and communicating processes and results.
	11.02 Translate design problems that are seldom presented in a clearly defined form.
	11.03 Evaluate a design continually, and improve and revise the idea of the design as needed.
	11.04 Analyze competing requirements of a design, such as criteria, constraints, and efficiency.
12.0	Demonstrate an understanding of engineering design. – The student will be able to:
	12.01 Investigate design principles used to evaluate existing designs, to collect data, and to guide the design process.
	12.02 Examine the influence of personal characteristics, such as creativity, resourcefulness, and the ability to visualize and think abstractly on the Engineering Design process.
	12.03 Construct a prototype or a working model used to test a design concept by making actual observations and necessary adjustments.
	12.04 Evaluate factors taken into account in the process of engineering.
13.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving. – The student will be able to:

CTE Standards and Benchmarks	
13.01	Employ research and development as a specific problem solving approach that is used intensively in business and industry to prepare devices and systems for the marketplace.
13.02	Conduct research needed to solve technological problems.
13.03	Differentiate between technological and non-technological problems, and identify which problems can be solved using technology.
13.04	Utilize a multidisciplinary approach to solving technological problems.
14.0	Demonstrate the abilities to apply the design process. – The student will be able to:
14.01	Interpret the design problem to solve and decide whether or not to address it.
14.02	Evaluate criteria and constraints and determine how these will affect the design process.
14.03	Refine a design by using prototypes and modeling to ensure quality, efficiency, and productivity of the final product.
14.04	Evaluate the design solution using conceptual, physical, and mathematical models at various intervals of the design process in order to check for proper design and to note areas where improvements are needed.
14.05	(Develop, Produce) a product or system using a design process.
14.06	Evaluate final solutions and communicate observations, processes, and results of the entire design process, using verbal, graphic, quantitative, virtual, and written means, in addition to three-dimensional models.
15.0	Demonstrate the abilities to use and maintain technological products and systems. – The student will be able to:
15.01	Document processes and procedures and communicate them to different audiences using appropriate oral and written techniques.
15.02	Diagnose a system that is malfunctioning and use tools, materials, machines, and knowledge to repair it.
15.03	Troubleshoot, analyze, and maintain systems to ensure safe and proper function and precision.
15.04	Operate systems so that they function in the way they were designed.
15.05	Use computers and calculators to access, retrieve, organize, process, maintain, interpret, and evaluate data and information in order to communicate.
16.0	Demonstrate the abilities to assess the impact of products and systems. – The student will be able to:
16.01	Collect information and evaluate its quality.
16.02	Synthesize data, analyze trends, and draw conclusions regarding the effect of technology on the individual, society, and the environment.
16.03	Apply assessment techniques, such as trend analysis and experimentation to make decisions about the future development of technology.
16.04	Design forecasting techniques to evaluate the results of altering natural systems.

CTE Standards and Benchmarks	
17.0	Demonstrate an understanding of and be able to select and use energy and power technologies. – The student will be able to:
17.01	Explain impossibility of building an engine to perform work that does not exhaust thermal energy to the surroundings.
17.02	Construct a power system having a source of energy, a process, and loads.
18.0	Demonstrate an understanding of and be able to select and use transportation technologies. – The student will be able to:
18.01	Analyze the vital role played by transportation in the operation of other technologies, such as manufacturing, construction, communication, health and safety, and agriculture.
18.02	Define intermodalism as the use of different modes of transportation, such as highways, railways, and waterways as part of an interconnected system that can move people and goods easily from one mode to another.
18.03	Discuss how transportation services and methods have led to a population that is regularly on the move.
18.04	Identify processes and innovative techniques involved in the design of intelligent and non-intelligent transportation systems.
19.0	Demonstrate safe and appropriate use of tools, machines, and materials in transportation technology. – The student will be able to:
19.01	Select appropriate tools, procedures, and/or equipment.
19.02	Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment.
19.03	Follow laboratory safety rules and procedures.
19.04	Demonstrate good housekeeping at workstation within total laboratory.
19.05	Identify color-coding safety standards.
19.06	Explain fire prevention and safety precautions and practices for extinguishing fires.
19.07	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
23.0	Demonstrate technical knowledge and skills about hydraulic and pneumatic power technology. – The student will be able to:
23.01	Identify and define key terms, categories, and parts of hydraulic and pneumatic power technology.
23.02	Describe the operating theory and principles of hydraulic and pneumatic power technology.
23.03	Explain the uses and applications of hydraulic and pneumatic power systems.
23.04	Identify industries that produce and use hydraulic and pneumatic power systems.
23.05	Describe the energy sources for hydraulic and pneumatic power systems.
23.06	Perform technical skills in building, assembling, maintaining, or operating hydraulic and pneumatic power systems.

CTE Standards and Benchmarks	
24.0	Demonstrate technical knowledge and skills about electric-powered vehicles. – The student will be able to:
24.01	Identify and define the key terms, categories, and parts of an electric-powered vehicle.
24.02	Describe the operating theory and principles of electric-powered vehicle systems.
24.03	Explain the uses and applications of electric-powered vehicles.
24.04	Describe energy and fuel sources for electric-powered vehicles.
24.05	Perform technical skills in building, assembling, maintaining, or operating an electric-powered vehicle.
25.0	Demonstrate technical knowledge and skills about jet engine power technology. – The student will be able to:
25.01	Identify and define key terms, categories, and parts of jet engine power technology.
25.02	Describe the operating theory and principles of jet engine power technology.
25.03	Explain the uses and applications of jet engines.
25.04	Identify industries that produce and use jet engines.
25.05	Describe energy and fuel sources for jet engines.
25.06	Perform technical skills in building, assembling, maintaining, or operating jet engines.
26.0	Demonstrate technical knowledge and skills about rocket engine power technology. – The student will be able to:
26.01	Identify and define key terms, categories, and parts of rocket engine power technology.
26.02	Describe the operating theory and principles of rocket engine power technology.
26.03	Explain the uses and applications of rocket engines.
26.04	Identify industries that produce and use rocket engines.
26.05	Describe energy and fuel sources for rocket engines.
26.06	Perform technical skills in building, assembling, maintaining, or operating rocket engines.
27.0	Demonstrate technical knowledge and skills about solar cells and fuel cells. – The student will be able to:
27.01	Identify and define key terms, categories, and parts of solar cell and fuel cell power technology.
27.02	Describe the operating theory and principles of solar cell and fuel cell power technology.

CTE Standards and Benchmarks	
	27.03 Explain the uses and applications of solar cell and fuel cell power technology.
	27.04 Identify the industries that produce and use solar cell and fuel cell power systems.
	27.05 Describe the energy and fuel sources for solar cell and fuel cell power systems.
	27.06 Perform technical skills in building, assembling, maintaining, or operating solar cell or fuel cell systems.
28.0	Demonstrate technical knowledge and skills about human-powered vehicles. – The student will be able to:
	28.01 Identify and define the key terms, categories, and parts of human-powered vehicles.
	28.02 Describe the operating theory and principles of human-powered systems.
	28.03 Explain the uses and applications of human-powered vehicles.
	28.04 Perform technical skills in building, assembling, maintaining, or operating a simulated or real human-powered vehicle.

Course Title: **Transportation Technology III**
Course Number: **8601230**
Course Credit: **1**

Course Description:
This course provides students with an advanced understanding of the knowledge, human relations, and technical skills of energy and power technology.

CTE Standards and Benchmarks	
04.0	Demonstrate an understanding of the characteristics and scope of technology. – The student will be able to:
04.01	Graph the rapid increase in the rate of technological development and diffusion.
04.02	Conduct specific goal-directed research related to inventions and innovations.
05.0	Demonstrate an understanding of the core concepts of technology. – The student will be able to:
05.01	Apply systems thinking logic and creativity with appropriate compromises in complex real-life problems.
05.02	Assess technological systems, which are the building blocks of technology and are embedded within larger technological, social, and environmental systems.
05.03	Assess the stability of a technological system and its influence by all of the components in the system, especially those in the feedback loop.
05.04	Compare resources involving trade-offs between competing values, such as availability, cost, desirability, and waste.
05.05	Identify the criteria and constraints of a product or system and determine how they affect the final design and development.
05.06	Recommend a quality control process to ensure that a product, service or system meets established criteria.
05.07	Organize a management system as the process of planning, organizing, and controlling work.
06.0	Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study. – The student will be able to:
06.01	Report the process of patenting to protect a technological idea.
06.02	Investigate technological progresses that promote the advancement of science and mathematics.
07.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology. – The student will be able to:
07.01	Discuss changes caused by the use of technology ranging from gradual to rapid and from subtle to obvious.
07.02	Evaluate the use of technology involving weighing the trade-offs between the positive and the negative effects.

CTE Standards and Benchmarks	
	07.03 Discuss ethical considerations important in the development, selection, and use of technologies.
	07.04 Debate the cultural, social, economic, and political changes caused by the transfer of a technology from one society to another.
09.0	Demonstrate an understanding of the role of society in the development and use of technology. – The student will be able to:
	09.01 Report how different cultures develop their own technologies to satisfy their individual and shared needs, wants, and values.
	09.02 Consider societal opinions and demands, as well as corporate cultures to use as a basis for deciding whether or not to develop a technology.
	09.03 Evaluate a number of different factors, such as advertising, the strength of the economy, the goals of a company, and the latest fads as contributors to shaping the design of and demand for various technologies.
11.0	Demonstrate an understanding of the attributes of design. – The student will be able to:
	11.01 Implement the design process; including defining a problem, brainstorming, researching and generating ideas, identifying criteria and specifying constraints, exploring possibilities, selecting an approach, developing a design proposal, making a model or prototype, testing and evaluating the design using specifications, refining the design, creating or making it, and communicating processes and results.
	11.02 Translate design problems that are seldom presented in a clearly defined form.
	11.03 Evaluate a design continually, and improve and revise the idea of the design as needed.
	11.04 Analyze competing requirements of a design, such as criteria, constraints, and efficiency.
12.0	Demonstrate an understanding of engineering design. – The student will be able to:
	12.01 Select design principles used to evaluate existing designs, to collect data, and to guide the design process.
	12.02 Examine the influence of personal characteristics, such as creativity, resourcefulness, and the ability to visualize and think abstractly on the Engineering Design process.
	12.03 Construct a prototype or a working model used to test a design concept by making actual observations and necessary adjustments.
	12.04 Evaluate factors taken into account in the process of engineering.
13.0	Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving. – The student will be able to:
	13.01 Employ research and development as a specific problem solving approach that is used intensively in business and industry to prepare devices and systems for the marketplace.
	13.02 Conduct research needed to solve technological problems.
	13.03 Differentiate between technological and non-technological problems, and identify which problems can be solved using technology.
	13.04 Utilize a multidisciplinary approach to solving technological problems.

CTE Standards and Benchmarks	
14.0	Demonstrate the abilities to apply the design process. – The student will be able to:
14.01	Interpret the design problem to solve and decide whether or not to address it.
14.02	Evaluate criteria and constraints and determine how these will affect the design process.
14.03	Refine a design by using prototypes and modeling to ensure quality, efficiency, and productivity of the final product.
14.04	Evaluate the design solution using conceptual, physical, and mathematical models at various intervals of the design process in order to check for proper design and to note areas where improvements are needed.
14.05	Produce a product or system using a design process.
14.06	Evaluate final solutions and communicate observations, processes, and results of the entire design process, using verbal, graphic, quantitative, virtual, and written means, in addition to three-dimensional models.
15.0	Demonstrate the abilities to use and maintain technological products and systems. – The student will be able to:
15.01	Document processes and procedures and communicate them to different audiences using appropriate oral and written techniques.
15.02	Diagnose a system that is malfunctioning and use tools, materials, machines, and knowledge to repair it.
15.03	Troubleshoot, analyze, and maintain systems to ensure safe and proper function and precision.
15.04	Operate systems so that they function in the way they were designed.
15.05	Use computers and calculators to access, retrieve, organize, process, maintain, interpret, and evaluate data and information in order to communicate.
16.0	Demonstrate the abilities to assess the impact of products and systems. – The student will be able to:
16.01	Collect information and evaluate its quality.
16.02	Synthesize data, analyze trends, and draw conclusions regarding the effect of technology on the individual, society, and the environment.
16.03	Apply assessment techniques, such as trend analysis and experimentation to make decisions about the future development of technology.
16.04	Design forecasting techniques to evaluate the results of altering natural systems.
18.0	Demonstrate an understanding of and be able to select and use transportation technologies. – The student will be able to:
18.01	Analyze the vital role played by transportation in the operation of other technologies, such as manufacturing, construction, communication, health and safety, and agriculture.
18.02	Define intermodalism as the use of different modes of transportation, such as highways, railways, and waterways as part of an interconnected system that can move people and goods easily from one mode to another.
18.03	Discuss how transportation services and methods have led to a population that is regularly on the move.

CTE Standards and Benchmarks	
	18.04 Identify processes and innovative techniques involved in the design of intelligent and non-intelligent transportation systems.
19.0	Demonstrate safe and appropriate use of tools, machines, and materials in transportation technology. – The student will be able to:
	19.01 Select appropriate tools, procedures, and/or equipment.
	19.02 Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment.
	19.03 Follow laboratory safety rules and procedures.
	19.04 Demonstrate good housekeeping at workstation within total laboratory.
	19.05 Identify color-coding safety standards.
	19.06 Explain fire prevention and safety precautions and practices for extinguishing fires.
	19.07 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
32.0	Perform advanced-study and technical skills related to energy and power technology. – The student will be able to:
	32.01 Select an individual or group project in cooperation with the teacher.
	32.02 Develop a written plan of work to carry out the project.
	32.03 Show evidence of technical study in support of the project.
	32.04 Perform skills related to the project.
	32.05 Complete the project as planned.
33.0	Demonstrate technical knowledge and skills about powered transportation systems. – The student will be able to:
	33.01 Identify and define key terms, categories, and parts of land, water, air, and space transportation systems.
	33.02 Describe the theories and operating principles of land, water, air, and space transportation.
	33.03 Explain the uses and applications of land, water, air and space transportation vehicles.
	33.04 Identify industries that produce and use land, water, air, and space transportation vehicles.
	33.05 Describe the energy and power systems used in land, water, air, and space vehicles.
	33.06 Perform technical skills in building, assembling, servicing, or operating a complete transportation vehicle.
34.0	Conduct a research and experimentation project on an energy and power system. – The student will be able to:

CTE Standards and Benchmarks	
	34.01 Identify a problem.
	34.02 State a need to research the problem.
	34.03 Form a hypothesis about the problem.
	34.04 Plan the procedures for researching the problem.
	34.05 Conduct the research following the planned procedures.
	34.06 Present the research findings in a seminar.
35.0	Demonstrate an understanding of career opportunities and requirements in the field of transportation technology. – The student will be able to:
	35.01 Discuss individual interests related to a career in transportation technology.
	35.02 Explore career opportunities related to a career in transportation technology.
	35.03 Explore secondary education opportunities related to transportation technology.
	35.04 Conduct a job search.
	35.05 Complete a job application form correctly.
	35.06 Demonstrate competence in job interview techniques.
	35.07 Create a professional resume and letter of introduction.
	35.08 Solicit awards, letters of recommendation and recognition.
	35.09 Organize work samples in a professional, presentable format.