Scope & Sequence

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Course Name: Introduction to Transportation Technology **TSDS PEIMS Code:** 13039270 | | | | | **Course Credit:** .5  **Requirements:** Recommended for students in Grades 9 – 10.  **Prerequisites:** None. | |
| **Course Description:** Introduction to Transportation Technology includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Transportation Technology includes applicable safety and environmental rules and regulations. In Transportation Technology, students will gain knowledge and skills in the repair, maintenance, and diagnosis of transportation systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability. | | | | | | |
| **NOTE:** This is a suggested scope and sequence for the course content. This content will work with any textbook or instructional materials. If locally adapted, make sure all TEKS are covered. | | | | | | |
| **Total Number of Periods**  **Total Number of Minutes**  **Total Number of Hours** | | 88 Periods  3960 Minutes  66 Hours\* | | \*Schedule calculations based on 88/90 calendar days. Scope and sequence allows flexibility for guest speakers, student presentations, field trips, remediation, extended learning activities, etc. | | |
| **Unit Number, Title, and Brief Description** | | **# of Class Periods\***  (assumes 45-minute periods)  Total minutes per unit | | **TEKS Covered**  **130.444. (c) Knowledge and skills** | | |
| **Unit 1: Career Exploration**  Students will focus on expanding their knowledge of and interest in employment and entrepreneurship opportunities in transportation technology. Students will learn about certification opportunities and certification requirements in this field. | | 6 periods  270 minutes | | 1. The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:   (B) identify employment opportunities, including entrepreneurship opportunities, and certification requirements for the field of transportation technology. | | |
| **Unit 2: Today and Tomorrow in Transportation Technology**  Students will define, discuss, and describe current transportation technologies. Students will discuss in groups how new and emerging technologies could affect transportation and transportation technology careers in the future and present their ideas to the class. | | 11 periods  495 minutes | | (3) The student understands the technical knowledge and skills of basic transportation systems. The student is expected to:  (B) describe the basic and emerging transportation technologies.  (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (C) demonstrate the principles of group participation and leadership related to citizenship and career preparation. | | |
| **Unit 3: Workplace Safety and Environmental Responsibilities**  Students will define and demonstrate the importance of workplace safety and the proper use of safety equipment in transportation services. Students will discuss in small groups and present to the class the importance of complying with rules regarding workplace safety as well as environmental responsibilities. Students will demonstrate effective communication, group participation, and/or leadership skills in classroom activities as they model, present, and discuss health and safety workplace scenarios and situations. | | 11 periods  495 minutes | | (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (A) demonstrate the importance of workplace safety and environmental responsibilities and the use of personal protective equipment in transportation services.  (C) demonstrate the principles of group participation and leadership related to citizenship and career preparation.  (2) The student demonstrates academic skills related to the requirements of transportation technology. The student is expected to:  (A) demonstrate effective oral communication skills with individuals from various cultures such as fellow students, coworkers, and customers. | | |
| **Unit 4: Tools in Transportation Technology**  Students will be given multiple opportunities for “hands-on” presentations, discussions, and demonstrations of the proper ways to identify and safely use the hand and power tools and equipment commonly used in the field. Students will explain the functions and applications of the tools, equipment, technologies, and materials associated with transportation technology in small groups and/or classroom activities. | | 16 periods  720 minutes | | (4) The student knows the functions and applications of the tools, equipment, technologies, and materials used in transportation technology. The student is expected to:  (A) demonstrate awareness of the proper way to safely use hand and power tools and equipment commonly employed in the industry; and  (C) identify hand and shop tools and describe their proper usage. | | |
| **Unit 5: Basic Transportation Repair and Service**  Students will be given multiple opportunities to demonstrate relevant mathematical skills in-context as they locate, read, and interpret transportation repair and service information from a variety of sources. Students will identify and explain the mathematical skills necessary for specific tasks and careers in transportation technology. | | 11 periods  495 minutes | | (3) The student understands the technical knowledge and skills of basic transportation systems. The student is expected to:  (A) locate, read, and interpret transportation repair and service information.  (2) The student demonstrates academic skills related to the requirements of transportation technology. The student is expected to:  (C) demonstrate mathematical skills in performing addition, subtraction, multiplication, division, and measurements using the metric and U.S. customary systems. | | |
| **Unit 6: Diagnostic Tools and Equipment**  Students will be given multiple opportunities to demonstrate relevant mathematical skills in-context as they identify and discuss diagnostic tools and equipment. Students will continue to identify and explain the mathematical skills necessary for specific tasks and careers in transportation technology. | | 13 periods  585 minutes | | (4) The student knows the functions and applications of the tools, equipment, technologies, and materials used in transportation technology. The student is expected to:  (B) identify diagnostic tools and equipment.  (2) The student demonstrates academic skills related to the requirements of transportation technology. The student is expected to:  (C) demonstrate mathematical skills in performing addition, subtraction, multiplication, division, and measurements using the metric and U.S. customary systems. | | |

|  |  |  |
| --- | --- | --- |
| **Unit 7: Workplace Ethics and Employability**  Students will explore workplace ethics in a variety of scenarios, and identify employers’ expectations regarding appropriate work habits. Scenarios will be modeled by small groups or as a class to reinforce the reading and discussion. | 6 periods  275 minutes | (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (D) identify employers' expectations and appropriate work habits; and  (E) discuss workplace ethics in a variety of scenarios. |
| **Unit 8: Transportation Technology Project**  Students will participate in a project-based culminating activity, which will include a written description of their course learning and/or course experiences, as well as a written plan to earn certification and/or begin a career of personal interest in a transportation-related field.  As part of the project, students will demonstrate, describe, and/or discuss mathematical skills necessary for a career in the transportation technology field. | 14 periods  630 minutes | (2) The student demonstrates academic skills related to the requirements of transportation technology. The student is expected to:  (B) demonstrate effective written communication skills with individuals from various cultures such as fellow students, coworkers, and customers; and  (C) demonstrate mathematical skills in performing addition, subtraction, multiplication, division, and measurements using the metric and U.S. customary systems. |