New Horizons
REGIONAL EDUCATION CENTERS
Course Syllabus

Course Name: **Auto Tech II**

Instructor Name: **Dennis Young**

Contact Information:

Office Phone: **757-766-1100 Ext. 3318**

E-mail Address: **dennis.young@nhrec.org**

Office Location: **D32**

Office Hours: **0700-1500**

Methods of Instruction: **Lecture, Lab, Interactive web based instruction.**

Course Description:
Auto Technology II prepares students for employment in the automotive industry as entry-level technicians. The program stresses theory, diagnostic procedures and repair. The program provides the students with an understanding of automotive theory in air conditioning/heating systems, fundamentals of electricity, engine performance, and automatic transmission operation. This course of instruction provides hands-on training in each of the aforementioned subjects. The program stresses safe and accurate repair procedures based on published automotive standards. The program also emphasizes the importance of developing desirable employability skills in the following areas: personal appearance, communication, attendance and the ability to work as a team member. The program will offer each student the opportunity to attain Student ASE credentialing credits, automotive certifications and college credit through dual enrollment with Thomas Nelson Community College.

Course Textbook(s): Modern Automotive Technology, Duffy, Goodheart-Wilcox Publishing, 2017, 9th Ed., ISBN:978-1-63126-375-0 (provided by New Horizons)

Course Objectives: The program provides the students with an understanding of automotive theory in air conditioning/heating systems, fundamentals of electricity, engine performance, and automatic transmission operation.

Chronology of Course:

Orientation to Auto Tech II (3 Days-7 Hours)
Outline classroom/shop policies and procedures Outline expectation for NATEF tracking Describe competitions and opportunities available to completing students

Automatic Transmission and Transaxle (10 Days-23 Hours)
A. General Automatic Transmission and Transaxle Theory.
B. Automatic Transmission and Transaxle Diagnosis.
C. Automatic Transmission and Transaxle Service.
Electrical/Electronic Systems (73 Days-170 Hours)
A. Electrical Principles
B. Circuit Types and Ohm's Law
C. Electric and Electronic Components
D. Electrical Tools and Test Equipment
E. Wiring Diagrams and Wiring Repairs
F. Basic Electrical Tests
G. 12 volt and HV batteries Theory ,Diagnosis and Service.
H. Engine Starting Systems Theory, Diagnosis and Service.
I. Charging Systems Theory, Diagnosis and Service.
Engine Performance (73 Days-170 Hours)
A. General Engine Performance Theory.
B. Computerized Engine Controls Diagnosis
C. Ignition Systems Diagnosis and Service
D. Fuel, Air Induction and Exhaust Systems Diagnosis and Service.
E. Emission Control Systems Diagnosis and Service.
F. Engine Related Service.
Air Conditioning and Heating Systems (20 Days-47 Hours)
A. Heating Ventilation and Air Conditioning System Theory.
B. Operating Systems and related controls, Diagnosis and Service
C. A/C Systems, Diagnosis and Service.
D. Heating, Ventilation and Engine Cooling Systems, Diagnosis and Service.
E. Refrigerant Recovery, Recycling and Handling

Course Requirements:

Dickies dark blue button down shirt Dickies dark blue pants (coveralls are **not** acceptable)
Oil resistant shoes (steel toe recommended) Safety glasses and hand tools will be provided.

Grading/Evaluation Procedures:

Grading Scale: **Evaluation of Student Performance/Grading** Nine week grading periods are based on the following: Employability Skills – 35% Related Instruction (Tests, quizzes, notebook, class work) -30% Competencies (hands-on, and workplace skill demonstration) – 35% Two nine-week grading periods: 80% of semester grade Mid term and final exams: 20% of semester grade

Evaluation methods: Written tests, Observations, Competency Exams

Late work/Make-up work policy: All make up work must be submitted within 5 days of returning to class

Attendance Policy: All students are expected to attend classes promptly every day and to remain for the entire class period. The following rules shall govern student attendance: 1. Five (5) or more unexcused absences (failure to attend class) in any nine-week grading period will result in a grade of "F". 2. Twelve (12) or more unexcused absences within a semester will result in a grade of "F" for the semester. 3. Twenty four (24) or more unexcused absences within a year will result in a grade of "F" for the year 4. It is the responsibility of the student to provide documentation for **any and all** absences. **This documentation generally does not include a parent note for absences which may be excused below.** It is also the responsibility of the student to request and complete all make-up work within five (5) school days upon returning to school. Competencies and other work must still be accomplished. 5. Three (3) unexcused tardies shall constitute one (1) unexcused absence. The administrator-in-charge may grant exceptions. Students who arrive on school transportation after the bell has rung shall not be marked tardy if they report to class immediately. Students who arrive at New Horizons by any means other than school transportation shall be marked tardy whenever they enter class after the bell has rung. 6. Three (3) early dismissals shall constitute one (1) unexcused absence. 7. To be dismissed early from class, students must have written parental permission. **Early dismissals are always verified by telephoning parent(s) or guardian(s) regardless of the student's age.** Remember, students are never to leave school grounds without permission from the appropriate school administrator or his/her designee. New Horizons is a closed campus.

Student Orginizations: Skills USA

Credentialing/Licensing: Student ASE

Class Fees: Skill USA dues $17.00

Dual Enrollment: 3 Dual enrollement credits