

Automotive Technology 2018-2019 Program Syllabus Mr. Dave Thistlethwaite

Automotive Technology Course Description

This program prepares students to become automotive technicians who are trained in the latest automotive service technologies and methods. Course includes fundamental technical training on current model vehicles and components with emphasis on the latest developments in engine repair, automotive electrical and electronic systems, and emission control systems. Students will be trained using the latest curriculum and cutting-edge equipment. Instructor is an ASE (Automotive Service Excellence) Certified Master Technician. Students will be instructed in the following areas:

- Personal/Shop safety
- Professional development
- Hand tools
- Shop equipment
- Basic/advanced electrical systems
- Engine repair
- ABS brake systems
- Hydraulics
- Steering
- Suspension
- Four wheel alignment
- Basic/advanced engine performance

Additionally, our Cooperative Education Program provides a structured school-to-work opportunity for many senior students.

Instructional Philosophy

The goal of this program is to have students gain knowledge of the automotive theories as well as acquire the aptitude skills required to be an automotive technician. In the automotive program, we do not just train the students to have technical skills; we train them to be productive by also teaching them personal skills. This course will be heavily theory and laboratory based with a minimum of lecture and demonstration. Students will work in teams and independently to diagnose and repair the different systems of a vehicle, using the proper tools and equipment in a safe manner. Assignments will require students to draw upon academic skills in mathematics, science, reading and communications. Student assessment will be based on safety, group participation and individual completion of projects and tests of students' knowledge. If necessary, students will be given more than one opportunity to complete assignments to meet course standards.

Program Goals – Students will

- Utilize testing procedures and equipment associated with vehicle diagnostics
- Read, understand and communicate in the language of the automotive field
- Use mathematical skills and processes to solve problems related to the automotive field

- Demonstrate basic knowledge of the parts of an automobile
- Perform a wheel alignment to manufactures specifications
- Demonstrate safety practices in the automotive field
- Prepare for entry level employment in the automotive industry

Major Course Projects and Assignments

1. Technical Performance Projects throughout the course that students will disassemble and reassemble:
 - Gasoline engine
 - Brake components
 - Automatic transmission
 - Suspension parts
 - A Differential
2. Applied Academics Projects:
 - Writing repair orders and calculating costs and percentages of parts and labor
 - Reading a micrometer
 - Calculating gear ratio
 - Researching vehicle information utilizing Mitchell On Demand 5
3. Problem Solving Projects:
 - Diagnose various electrical problems of a vehicle and communicate actions to solve
 - Perform wheel alignment and communicate actions for corrections made to the vehicle
 - Diagnose engine performance codes
 - Diagnose hydraulic and antilock brake problems

NOCTI Assessment

All eligible seniors completing the program are required by the state of Pennsylvania to take a National Occupational Competency Testing Institute (NOCTI) exam related to their program or study. NOCTI provides occupational competency assessments required by the PA Department of Education (PDE) to measure and evaluate a student's competency in their technical program. Students must take both the written and performance sections. **This test will be used as a cumulative final exam grade of 10% for seniors.**

State Inspection and Emission Certification Classes

Optional evening classes are offered to qualifying seniors. Seniors **MUST** have a valid driver's license, be 18 years of age or turning 18 years old within 1 year from the date classes begin, **NO** discipline referrals or any suspension from GCCTC or the student's home school, no more than 10 days of absences for the school year. There is no guarantee that the student will pass. Students' will be required to pass PA. State issued written and tactile tests. Students' will attend all scheduled classes and will be on time at the start of class, if a student is late; the student will be denied entry to the class and will forfeit the entire class. Classes are generally free of charge for a GCCTC Automotive Technology student, however a fee may be charged for classes.

Grading Policy

Students will be given daily points for wearing proper attire, demonstrating shop safety, attendance, and effort while working on shop projects. Students will also be graded on exams, tests, quizzes, and reading assignments. All seniors are required to take the NOCTI exam, which is both written and performance based, as part of their final grade during their senior year.

Methods of Evaluation

The assignments and assessments for this course will be graded using a weighted system of measurement. Students will be evaluated on the following items and they will constitute their final quarter grade:

- Tests/Tasks-40%
- Daily grade-60% (based on safety, dress for class, professionalism, participation and clean work area and lab performance)
- (Seniors) NOCTI Test and portfolio-20% of final grade*
*for eligible seniors only
- (Juniors and Sophomores) Career readiness Grade level requirements-20% of final grade

The final grade will be distributed according to the sending school’s grading scale:

Final Grade	CHS	JMHS	MHS	WCHS	WGHS
A	100-93	100-92	100-90	100-90	100-90
B	92-85	91-82	89-80	89-80	89-80
C	84-75	81-70	79-70	79-70	79-70
D	74-65	69-60	69-60	69-60	69-60
F	64 and below	59 and below	59 and below	59 and below	59 and below

Text: Automotive Excellence, Volumes 1 & 2 by McGraw Hill / Glenco

* Meets National Institute for Automotive Service Excellence (N.A.T.E.F) standards

Classroom Discipline

In addition to the GCCTC Student Handbook Policies and Conduct Expectations students will create a classroom set of discipline guidelines. Developing rules together creates a sense of community and accountability and will guide as a model for rule development in a classroom setting. If students violate ANY of the guidelines, whether outlined by the school or teacher, the following interventions will be used:

- **First Offense** – Warning - if a minor offense (offenses of a serious nature will be handled in cooperation with administration)
- **Second Offense** - Phone Call or Email home and/or a referral to guidance counselor
- **Third and Subsequent Offenses** - Referral to Administration

Technology and Software Use

Students are expected to follow the technology guidelines outlined in the GCCTC 2018-2019 Student Handbook at ALL times. Violations of these guidelines could result in indefinite suspension of technology usage in the classroom and/or computer lab during Automotive Technology scheduled sessions.

Dress Requirements:

- All students will be required to dress professionally and in uniform during school hours
- All students will be required to wear leather steel toe work boots (steel-toe preferred)
- All students will be required to wear safety glasses during lab sessions (provided by GCCTC)
- All students will be required to wear blue jeans or work pants (no holes in pants; shorts are not allowed)

By signing below you acknowledge having read and understood the Automotive Technology Course Outline and Course Policies. Parents/ guardians and students will be notified if any changes need to be made to the course policies. If you have additional questions and/or comments you may call the school at (724) 627-3106 extension 213 to speak with the teacher or email Mr. Thistlethwaite at thistlethwaited@greenectc.org.

Guardian/ Parent Signature: _____

Date: _____

Student Signature: _____

Date: _____