



RTCC

Randolph Technical Career Center

Automotive Technology

Program Syllabus

2011 ---- 2012

Instructor: Damon Jillson



Program: Automotive Technology
Instructor: Damon Jillson
Embedded Credit: Science

Program Description:

The automotive technology program is designed to give students opportunities to demonstrate mastery in the automotive field. The curriculum reflects the Vermont Auto Dealers' Association standards and Vermont's framework Standards. Students who participate in this program have opportunities to gain entry-level experience, receive specialization in a field through cooperative education experiences, and earn their state inspection certificate.

Technical Communication:

Every student will complete RTCC's Technical Communication (English) class as part of their program. Students have the opportunity to receive extra help from student services. We encourage this to happen after English class.

Objectives:

The student will demonstrate his/her knowledge concerning the automotive profession and career opportunities.

The student will demonstrate proper use and handling of the tools in the automotive shop.

The student will demonstrate the ability to diagnose brake problems and correct them.

The student will know the parts of an engine, how they work, and how to diagnose engine performance problems through the use of the OBD II equipment.

The student will know the parts of the suspension system, diagnose problem, and repair suspension system components.

The student may have the opportunity to participate in a cooperative education placement in the automotive industry.

The student will complete the Vermont state inspection course and upon completion they will receive his/her inspection license through Vermont Department of Motor Vehicles

The student will complete the OBD II course.

Course Expectations, Projects and Grading Protocol: refer to Automotive Technology Curriculum notebook. Each Unit is outlined and has assessment sheets included.

Scope and Sequence: refer to the Automotive Technology Curriculum Notebook.

Automotive Syllabus

Fall Semester September	Orientation and Safety Proper clothing, safety glasses, and other safety equipment Right to know Laws M.S.D.S Knowledge of appropriate fire protection
Fall Semester October	Selects proper fuels, oils, lubricants and fluids. Interprets engine specifications, measurements, and performance data. Demonstrates proper service/repair procedures
Winter Semester November	Engine Repair Lubrication and Cooling Systems General Engine Diagnosis; R&R Cylinder Head and Valve Train Diagnosis and Repair
Winter Semester December	Wheel and Tires Diagnosis and Repair Wheel Balance
Winter Semester January	Brakes Select, handle, store, and install brake fluids Includes Silicone Fluids Inspect, repair, and replace, brake lines, flexible hoses, fittings VT State Safety Inspection O.B.D II Emission testing
Winter Semester February	Engine Performance Drivability Fuel System Diagnosis General Electrical System Diagnosis
Spring Session March	Automotive Transmission/ Transaxle Manual Drive Train and Axles
Spring Session April	Employability Skills Fills out applications, work/repair orders, and other necessary forms Prepares a resume Uses telephone

Communicates with supervisors, co-workers, and clients/
customers

Participates in a job interview

Write Business letters

Spring Session

May

Wheel alignment

Measure and adjust front end alignment; includes caster,
camber, toe

Diagnosis vehicle tire wear, pulling, wander, poor steering;
determine needed repair

Measure vehicle riding height

Spring Session

June

A/C System Diagnosis and Repair Refrigeration System
component Accessories Diagnosis and Repair

General Service Technician Certification

After each core unit there will be a General Service Technician test administered through the State of Vermont Department of Education. These tests will be taken online and graded online. These tests will be taken in a control environment where the student will be allotted the entire class period to complete them. After a successful completion the student will be given a certification to add to their portfolio.

VT State Inspector and O.B.D Training Program

The Automotive Program at RTCC will train students for Vermont State Inspection and On Board Diagnostic II program. The VT DMV will test all students at completion of the coursework.

This is a requirement for all seniors enrolled in the automotive program.

VT Auto Dealers Associations Automotive Linkage Scenario Assessment Program

Certificate of completion will be given through the VT. Department of Motor Vehicle.

Project Running Start – Dual Enrollment College Credit

Project Running Start is collaboration between New Hampshire Community Technical Colleges and RTCC. Students earn 3 credits for Basic Automotive (AT 111).

Automotive Technology Program of Study

In order for students to take advantage of the Automotive Technology program they should complete courses required for High School graduation in the areas of:

- ✓ English – Reading comprehension and writing ability are necessary for the program.
- ✓ Math –Completion of at minimum, Math Connections II or equivalent. Recommendation that Algebra I and Geometry are taken.
- ✓ Science – A sound foundation in basic science, scientific method and basic lab skills.
- ✓ Health
- ✓ Physical Education
- ✓ Art
- ✓ History – History requirements should be completed.

Articulation agreement and dual enrollment courses available through:

Community College of New Hampshire Running Start – seniors can earn up to three college credits with the completion of the RTCC Automotive Technology program.

Vermont State Colleges - Students completing the “Introduction to College Studies” can earn a voucher for three college credits accepted at any Vermont State College. Additionally students whose academic skills qualify them for the “Fast Forward” program are provided a voucher for three college credits accepted at any Vermont State College.

Industry-Recognized Certifications available through RTCC’s Automotive Technology Program:

Vermont Department of Motor Vehicles – Vermont State Inspection License

Vermont General Service Technician Exams and Certifications

Valvoline Motor Oil

Post High School Automotive Career Opportunities: Students who have completed RTCC's Automotive Technology program have gone into the following careers:

- Automotive technicians
 - Capital City GMC/ Buick
 - Courtesy Toyota
 - Formula Ford
 - Wilson Tire
 - Route 66 Auto
- Service Manager
 - Capital City Kia
- Parts Manager
 - White River Toyota
 - Autozone
- Parts Associate
 - Fisher Auto
- Service Advisors
 - Willie Racine
 - Gerish Honda
- Other career options include – independent service facilities, specialty centers, large retail facilities, dealership sales and service, etc.

College: Students who have completed the RTCC Automotive Technology program have gone onto the following colleges and to the military:

- Vermont Technical College
- Northwest Ohio
- Wyoming Technical College
- New Hampshire Technical College
- Ohio Automotive Diesel
- University Technical Institute
- Military

The Automotive Technology program provides a foundation for application to any college and university with program related to Automotive Technology.