AUMT 2334 Automotive Engine Performance Analysis II

Course Syllabus: Spring 2017

"Northeast Texas Community College exists to provide responsible, exemplary learning opportunities."

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	By appointment	By appointment	By appointment	By appointment	By appointment	N/A

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Catalog Course Description:
AUMT 2334 - Automotive Engine Performance Analysis II

3 credit hours
Lecture/Lab/Clinical: Two hours of lecture and five hours of lab each week.

Diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems. Includes use of advanced engine performance diagnostic equipment. May be taught manufacturer specific.

Note: Additional course fee(s) required.

Class Schedule:
M/W tba

Required Textbook(s):
Fundamentals of Automotive Technology – *Principles & Practice*
CDX Automotive
Jones and Bartlett Learning
ISBN 978-1-4496-7108-2

Recommended Reading(s):
See: Blackboard

Student Provisions:
Certain tools and equipment related to the topic of study will be REQUIRED of the student to provide for themselves. A tool list is available from your instructor. Your instructor may also require additional tools and/or determine certain tool specifications, for use in classes during the term.
It is HIGHLY RECOMMENDED that the student furnish a lab vehicle to be used in lab and hands-on practical exercises.

- This vehicle is NOT the student's daily driver.

- The student should understand that the vehicle can greatly enhance their learning experience.
- This vehicle should be legally registered and insured.
- The student should keep sufficient funds available for possible parts and service needs.
- The student will be required to perform service and do live work on these vehicles.

We ask that the vehicle be a small pickup. A Chevrolet S-10, Ford Ranger or Dodge Dakota is requested as we (NTCC Automotive) need a similarity in vehicles due to the need of specialized tools (NTCC to provide) in some areas of study.

Student Learning Outcomes: The student should be able to understand and apply basic Automotive Scope wave forms and analysis. Voltage, Amperage, Compression, vacuum and pressure will be instructed. Misfire diagnostics along with injector and ignition coil operation and testing will be included. Modes including mode 6 will be covered.

Exemplary Educational Objectives:
N/A

SCANS Skills:
6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 8.1, 8.2, 8.3, 8.4

Evaluation/Grading Policy:
Grading will be represented by a Grade Value Points System. 500 points is the target goal for the course and would be equal to a 100% or an "A" grade. The course calendar will display point's assignments.

100 points - Theory (Knowledge) Primary objective read and study Textbook. As per calendar dates, Chapter questions and answers are to be entered into a Student Notebook. Work will be verified/graded by Student Notebook checks weekly. Lecture (PPT) note taking is also required as a component of a Student notebook. Lecture and PPT notes will be verified/graded at instruction digression.
100 points - CDX web based instruction as assigned by the Instructor or published class calendar, CDX quizzes and subject matter tests/quizzes - must be completed by completion dates and to instructional satisfaction. Assignments will close 10 pm Sunday evening following the assignment. Re-opening is only allowed when a student emergency or sickness existed.
100 points - Shop (Skills) Grade includes hands-on work with Lab Sheets, work on training devices such as Atech; Validation exercises and Skill Testing. There are 16 essential element labsheets/tasksheets identified in Calendar. Others may be assigned at the will of the instructor. All labsheets/tasksheets ust be completed timely and to instructional satisfaction.
100 points - Includes Employability assessment grading. Essential Elements, attendance, ethics and NTCC/CSAP policies adherence are required of Students. Absences deduct 10 points. Tardies for any class during the day are a deduct of 2 points. Unauthorized Cell phone use during class will be a deduct of 5 points. Ethics violations including (but not limited to) cheating, disrespect, display of anger, foul language, careless or wreck less behaviors or actions will be a deduct of up to 20 points per incident. Safety violations (depending on severity) may deduct points.
100 points - Combination of the CDX Final Exam, the mid-term exam, and the semester final exam(s).

Essential Elements may be held to either a Pass/Fail standard or a deduction of grade points at the discretion of the course Instructor.
The Essential Elements of this AUMT class are as follows:

- On Time Physically/Mentally
- Assignments Completed On Time
- Exhibit Safety
- Exhibit Positive Attitude
- Display Self-Responsibility
- Display of Positive Ethics
- Other specific assignment (such as a research paper/report) as the instructor may assign.

Standard Grades:
A= Superior (90-100)
B= Above Average (80-89)
C= Average (70-79)
D= Below Average (60-69) (May not be suitable for advancement)
F= Failing (59-00) (Not suitable for advancement)

450 to 500 points = A
400 to 449 points = B
350 to 399 points = C
300 to 349 points = D
Under 299 points is Failing.

Note: A "C" or better is required in your declared major.

Note: A Work Ethics standard is based on the characteristics listed below under Professionalism. The instructor may grade on a weekly or daily basis depending on their preference. If you are absent you will receive a zero for the day for all daily criteria. 3 tardies of less than 14 minutes can equal an absence. To exceed 10% total course time with absenteeism may result in course failure and dismissal at the discretion of the Instructor and the Program Director.

Note: The following are several examples of objectives that may be used to satisfy demonstration of positive attitudes. Cross-over may occur within this criteria.

- Use safe work habits
- Demonstrate positive personal habits including personal hygiene
- Display good judgment
- Demonstrate productivity
- Demonstrate quality work
- Prepared for class
- Manage time

Note: The following attitudes can result in a zero for the day.

- **Not properly dressed.**
- **No safety glasses.**
- **Sleeping during class or lab.**
- **Using cell phones/texting during class or lab.**
- **Dis-agreeable behavior**

Lectures & Discussions, Tests/Exams and Assignments:

Students are expected to take hand written notes (e-notes allowed) during lecture and instructor lead demonstrations. Students will be advised ahead of time when notes are allowed for use during quizzes or tests.

Other Course Requirements:
To be announced the first week of class.

Student Responsibilities/Expectations:
Attend class on time with required books, pen, notebook, laptop or tools as may be appropriate. Additional requirements to be announced by instructor.

Attendance Policy

Regular and punctual attendance at all scheduled classes is expected. Attendance is necessary for successful completion of course work. If you are absent, you are responsible for initiating procedures for make-up work. All course work missed, regardless of cause, is to be completed to the satisfaction of the instructor. Please see the schedule of classes for the last day to withdraw. Religious Holy Days: please refer to the current Northeast Texas Community College Student Handbook

The Carroll Shelby Automotive Program has 90% required attendance policy for all courses! After exceeding the allowed absences you will receive either an F or Incomplete for the course. It is up to you to initiate a drop in the Office of Admissions and Records. (At the discretion of the instructor, a student with no more than one absence and with an "A" average will be exempt from the final exam.)

Note: Coming to class late three times will be considered an absent.

Professionalism

The Automotive Technology program, like most other vocational programs, has policies that must be followed. These policies will give you, the student, a better opportunity to learn the mechanical power trade. *The general classroom and lab policies are listed in this syllabus and are to be abided by.* The instructor may have additional policies for their class. If required the instructor will choose partners for assignments as required.

General Safety Rules

The instructor may have additional safety policies for their class.

1. Make sure all hand tools are in good condition. Using a damaged hand tool of the incorrect tool for the job may result in injury.
2. When lifting a car by using a jack, always make sure the jack is centered. When the vehicle is raised always use safety jack stands. Never go under a car without safety jack stands.
3. Never wear jewelry such as rings, bracelets, necklaces, watches, or ear rings when working on a car.
4. Long hair should be tied back.
5. Never use compressed air to remove dirt from your clothing. Also, never spin bearings with compressed air.
6. When using any machines, such as presses, hoists, drill presses, or special equipment, make absolutely certain that all operational procedures are followed and all safety tests have been passed.
7. Always wear safety glasses in shop areas.

8. Always use exhaust fans/evacuation system when running a car in the shop.
9. Use proper lifting procedures when lifting heavy objects.
10. Make sure you know the shop layout.
    a. Fire extinguisher locations
    b. Emergency fire exits
    c. Eyewash station
    d. First-aid kit
    e. Fire blanket
11. Dispose of all hazardous waste in appropriate containers.
12. Horseplay physical or verbal is not allowed at any time. THINK BEFORE YOU ACT!
13. Report all injuries to the Instructor immediately.
14. Wear proper work clothes in the shop area. (See: Dress Code.)
15. Students are not permitted to use instructor's tools at any time.
16. Students are not permitted to enter any instructor's offices unless accompanied by an Automotive Technology faculty member. **NO EXCEPTIONS!**
17. Any personal emergencies will be handled through the switchboard and security.
18. Any printing must have the instructor's approval.

Good Housekeeping (Daily)

1. Clean up all spills immediately.
2. Make sure all tools and toolboxes are returned to their proper place.
3. Store oily rags in proper containers.
4. Clean all tools before returning to tool room or assigned toolbox.
5. Sweep shop areas after each class.
6. Clean all equipment after use.
7. Keep benches clean and free of trash.
8. Make sure tools are in proper working order. Report any broken tools to the instructor immediately.
9. Do not leave creepers and tools on floors unless in use.
10. Empty shop garbage cans.

Vehicle Rules

1. Do not sit on cars.
2. Do not sit in cars unless you need to be in the car.
3. When pushing cars always push from the back never from the side.
4. Always use floor mats and seat covers.
5. Always use fender covers when working under the hood.
6. When moving vehicle always make sure your hands, shoes and clothing are clean, in order to avoid getting the interior dirty.
7. Be sure to clean greasy handprints off fenders and hoods when work is completed.
8. Do not play car radios.
9. Do not write on dirty cars (i.e. Wash me)
10. Never ever mess with any car that comes into the shop.
11. Treat every vehicle better than you would treat your own.

Class Rules

1. When asking questions please raise your hand and wait to be called on.
2. Sunglasses may not be worn in class.
3. No aggressive body contact.
4. No cheating. Do your own work. See Cheating Policy

5. Food, Drink & Gum are not allowed during the instructional periods.
6. Profanity is not allowed.
7. All telephones, pagers and beepers are to be turned off before class and lab. If class is interrupted due to personal communication devices you will receive a 0 for the day.
8. The teacher is always right.
9. If the teacher is wrong refer to rule number 8.
10. If you have any problems ask to talk to the teacher in private and any problem can be worked out.
11. Smoking is allowed only in designated areas.
12. The Internet will be used only with the approval of the Mechanical Power Technology Faculty.

Live Work

1. All live work is at the discretion of the instructor and department chair.
2. All live work must have training value to the student and be part of or consistent with the requirements of the course of study.
3. No live work will be allowed unless student has completed related tasks or units.
4. All vehicles must have a signed work request completed, approved and filed in the office before any work may begin.
5. A copy of the work request will be left on the vehicle's dash while the vehicle is in the shop.
6. Students and outside customers are responsible for paying for any materials used in the repair of vehicles.
7. The student working on a vehicle will be responsible for making a bill of materials to be approved by the instructor.
8. All property belonging to students or customers to be worked on is brought into the school and left in the school at the owner's risk.

Code of Ethics

1. Treat people with respect.
2. Exhibit positive behavior.
3. Wear proper dress and exhibit a professional appearance.
4. Follow rules, regulations and policies as established.
5. Maintain regular attendance.
6. Assume responsibility for decisions and actions.
7. Demonstrate willingness to learn.
8. Practice time management.
9. Practice cost effectiveness.
10. Apply ethical reasoning.
11. Display initiative.
12. Display assertiveness.
13. Exhibit pride.
14. Exhibit the following characteristics:
    a. Honesty
    b. Reliability
    c. Diligence
    d. Enthusiasm
    e. Cooperativeness
    f. Loyalty

Dress Code

It is important to present a professional image in the work place. Uniform shirts are to be light blue work shirts (short or long sleeves) and work pants are to be navy blue in color (example - Dickie brand) and five (5) pair are recommended (minimum requirement of three pair). These are not available at the Campus Bookstore but can be purchased at most retail stores (i.e., Wal-Mart, K-mart, Sears, JC Penney). If your employer furnishes uniform shirts, they may be worn in place of the school shirt. These shirts should be tucked in, clean and neat at all times. You must have an approved uniform by the twelfth day of class. If you do not, you will have 10 points deducted from your professionalism grade each class period the shirt is not worn. Shorts and sandals are not allowed. *Professional appearance is part of your grade and is reflected in your work ethics grade.*

Safety Glasses

Safety glasses are required. Prescription glasses are okay if confirmed by a statement from your optometrist and are fitted with side shields. Bring this statement at the start of school.

Driver's License

Automotive students are required to have a valid driver's license. Without this students cannot drive vehicles to complete the required tasks. Students' are responsible for providing vehicles for many of the tasks they are required to complete.

Tools/Supplies

In addition to the regular college expenses, students entering the automotive trades programs must possess hand tools. The cost of tools and a roll cab for the freshman year is expensive investment depending on brand and place of purchase. For the second year, the costs are considerably less. It is recommended that all tools and equipment be insured under the parents' or the student's homeowner's insurance. NTCC is not responsible for students' tools. Some of the required supply items that students accepted into the automotive service technician program need to furnish are not on the equipment lists. These items, such as welding rods, brake fluid, oils, etc., must be of a particular type and should not be purchased prior to arrival on campus. Again, after arriving on campus, students will receive information about the identification and purchase/attainment from individual course instructors at an approximate cost of $150 for the school year. See required tool list.

Vehicles for Task Completion

Students' are responsible for providing vehicles for many of the tasks they are required to complete. The school supplies certain lab units used in very specific tasks, but it is the student's responsibility to find the vehicles to complete their lab tasks. Student's may work on their own, family and friends vehicles, but remember that we are student and some projects take much more time than a professional shop. Also note that all outside work is at the discretion of the instructor. It is desirable, but not required to have a later (2000 or newer) model vehicle that can be left on campus to perform required occupational practices in labs. Students may exchange vehicles with other students when different years, makes, and models are necessary to complete tasks. It is not necessary that the vehicle be licensed or insured and there is parking provided for these vehicles.

Parts and Supplies

The Mechanical Power Technology Dept. does not purchase parts for projects. The owner is responsible for acquiring all parts and supplies required for the repair. There will be a shop service charge of five dollars ($5.00) on each repair order. This is to cover hazardous waste disposal and consumable materials.

NTCC Academic Honesty Statement:
"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Academic Ethics:
The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:
It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the NTCC Catalog or Student Handbook.

Family Educational Rights And Privacy Act (Ferpa):
The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Other Course Policies:

NOTICE: TO ALL SPRING 2015 SHELBY A/P 2ND YEAR STUDENTS RE: NEW POLICIES FOR THE 2015 SPRING SEMESTER ARE NOW IN FORCE. IN PART, THESE POLICIES REFLECT THE PROGRAM GOAL OF COMPLYING WITH AND ACHIEVING THE NTCC CODE OF ETHICS, WHILE ALSO ADDRESSING ADVISORY BOARD SUGGESTIONS IN PREPARING THE STUDENT FOR THE WORLD OF WORK.

1. EACH STUDENT SHALL DISPLAY INITIATIVE BY SERVING AS TOOL ROOM MANAGER A MINIMUM OF 2 WEEKS (10 DAYS) PER SEMESTER. THIS DUTY WILL COMMENCE AT 12:30 PM AND BE COMPLETED AT 5:30 PM ON THE VOLUNTEERED DAYS.
2. A STUDENT (CLASS LEADER) WILL BE SELECTED TO SERVE AS ACTING SHOP MANAGER FOR A PERIOD OF TIME TO BE NOT LESS THAN 4 WEEKS OF THE SEMESTER (FOR THE SAKE OF CONTINUITY). THIS STUDENT WILL ASSUME THE RESPONSIBILITY FOR DECISIONS AND ACTIONS NECESSARY TO

INSURE THAT THE CURRENT CLASS ASSIGNED/ALLOWED LAB WORK IS NECESSARY AND PERTINANT TO THE COURSE OF STUDY AND SHALL DETERMINE THAT ALL REQUESTED STUDENT ASSIGNMENTS AND STUDENT PROJECT WORK WILL BE COMPLETED PROFESSIONALLY AND WITH EFFECTIVE TIME MANAGEMENT CONSIDERATIONS THROUGH ASSERTIVENESS AND RESPONSIBLE DECISIONS. A POSITIVE ATTITUDE IS ESSENTIAL TO THIS INITIATIVE AND ENFORCING CORRECT TOOL/EQUIPMENT USE AND SAFTY IS AN EMBEDDED COMPONET OF THE POSITION. THIS POSITON WILL COMMENCE AT 8:00 AM AND END AT 12:45 PM DAILY.

3. EVERY STUDENT SHALL ACTIVELY VOLUNTEER AS AN APPROVED CLUB MEMBER, A RACE/PROJECT TEAM MEMBER (GO-CARTS, DRAG RACE PROJECT, SHELBY TRIBUTE PROJECT, RACE CAR, OR APPROVED PROJECT) OR OTHER APPROVED ACTIVITY WHEREIN PARTICIPATION SHALL BE REQUIRED. (PROJECT LEADERS MAY BE ASSIGNED) THE TIME OF ACTIVE PARTICIPATION SHALL BE FROM 1:00 PM UNTIL 3:30 PM AND NOT TO BE LESS THAN 3 DAYS OF EACH WEEK UNLESS OTHERWISE ARRAINGED WITH AN INSTRUCTOR. PARTICPATING STUDENTS SHALL DISPLAY ENTHUSIASIM, COOPERATION, RELIABILITY AND EXPENSE MANAGEMENT DECISIONS TO THE BEST OF THEIR ABILITY.
4. ALL STUDENTS SHALL AT ALL TIMES TREAT OTHERS WITH RESPECT, EXIBIT POSITIVE AND PRODUCTIVE BEHAVIOR, ASSUME PERSONAL RESPONSIBILITY FOR ACTIONS AND ATTITUDES, DEMONSTATE A DESIRE TO LEARN, AND PRESENT THEMSELVES TO BE AN ADMIRABLE MEMBER OF THE CARROLL SHELBY PROGRAM COMMUNITY. ALL STUDENTS WILL BE INVOLVED WITH COURSE RELATED STUDY, RESEARCH, OR MANUAL WORK DURING 100% OF ASSIGNED CLASS TIME.
5. THERE ARE 2 CLASS UNITS DAILY WITH A 20 MINUTE BREAK IN BETWEEN. CLASSES THAT ARE SCHEDULED TO BEGIN AT 8:00 AM; START PRECISELY AT THE SCHEDULED TIME. STUDENTS ARRIVING LATE ARE NOT ALLOWED RE-JOIN CLASS UNTIL THE NEXT SEQUENTIAL CLASS PERIOD BEGINNING AT 10:00 AM; AN ABSENT WILL BE RECORED IN THE GRADE BOOK.
6. NO FOOD OR DRINK ALLOWED IN CLASSROOMS DURING ACTIVE CLASS TIMES. STUDENTS WILL (AT ALL TIMES) PRESENT THEMSELVES BY APPEARANCE, LANGUAGE AND ACTIONS IN A MANNER CONSISTANT WITH THE GOALS, EXPECTATIONS AND PROFESSIONALISM OF THE CARROLL SHELBY A/P. APPROPRIATE UNIFORMS, FOOTWEAR AND PERSONAL HYGEIENE WILL BE NOTED. EXAMPLE; IF A SHIRT IS DESIGNED TO BE TUCKED-IN, IT SHOULD BE. PANTS THAT HAVE BELT LOOPS; SHOULD HAVE A BELT. CAPS ARE ALLOWED IN THE LAB AS LONG AS THEY REPRESENT AN ASPECT OF THE AUTOMOTIVE INDUSTRY.
7. BY CONCENSIS (100% OF BALLOT) OF THE STUDENTS IN AM CLASSES, CLASSES MAY BE CONDUCTED FROM 8:00 AM UNTIL 12:00 NOON MONDAY THRU FRIDAY ALTERNATE 8:00 AM UNTIL 1:00 PM MONDAY THRU THURSDAY ALTERNATE 7:30 AM UNTIL 11:30 AM MONDAY THRU THURSDAY.
8. STUDENTS THAT WORK OFF CAMPUS AND CANNOT PRESENT THEMSELVES FOR ANY ABOVE DESCRIBED ACTIVITY (WITH THE INSTRUCTORS PERMISSION) CAN SUBSTITUDE A WEEKLY WORK ACTIVITY LOG. THIS LOG DOCUMENT WILL BE SUPPLIED AND EXPLAINED BY THE INSTRUCTOR.