



Course Requirements

Please Note: This syllabus is believed to have all the latest updated ACC policy and procedures, on campus protocols and available information involving the Engine course.

WARNING: If you do not have an ACC picture ID by the second week of class you may not be allowed into the ACC buildings to attend your class at the appointed time. If you forget your ACC ID badge at home, you will have to go to Building 1000 to attain a visitor pass or travel home to retrieve it and return to campus. You will be counted absent or tardy. I do not recommend you printing this syllabus due the length and possible Updates that still may have to be added/subtracted. I require completion of two safety related modules that you can complete online. SP2 training (SP2.org) instructions are within this syllabus. Start work on your shop safety (3.5 Hrs) and chemical/pollution shop safety (1.5 Hrs). The SP2 certificates are good for one year more. Several of you have already finished these modules from another class, you are ahead in the game.

Syllabus

IMPORTANT DATES TO REMEMBER:

[Input applicable information]

Registration for current and former students:

<http://www.austincc.edu/calendars/important-dates-and-deadlines>

AUMT 1419 AUTOMOTIVE ENGINE REPAIR (4-3-3). Fundamentals of engine operation, diagnosis and repair including lubrication systems and cooling systems. Emphasis on overhaul of selected engines, identification and inspection, measurements, and disassembly, repair, and reassembly of the engine. Prepares students for ASE certification tests.

PREREQUISITES: None

SECTION SPECIFIC INFORMATION

The syllabus should have the

- course name and abbreviation, section number, and synonym (e.g., Engineering Physics I, PHYS 2425-011-39130)
- campus, room, and time of day

INSTRUCTOR SPECIFIC INFORMATION

The following instructor information should be on the syllabus:

- instructor's name
- phone number(s) (instructor's office phone or Voice Box for adjunct instructors)
- office hours and location of office or means of accessing virtual office hours
- information on how conferences outside of office hours can be arranged
- ACC email address
- other avenues for contacting the professor, as appropriate (through BlackBoard, e.g.)

As a general rule, instructors should avoid interacting with students through social media or providing personal phone numbers.

COURSE DESCRIPTION

- Credit Hours: 4
- Classroom Contact Hours per week: 3 (for a 16-week class)
- Laboratory Contact Hours per week: 3 (for a 16-week class)*

For clarity and alignment with SACS-COC expectations, the credit and contact hours should be explicitly stated. An example for a 16-week lab science class is given. Other non-classroom activity hours should be used as appropriate (e.g., clinical, internship, etc.) The description from the college catalog should also go here and can be added to as needed. If there is a required field activity, service-learning, or other activity outside of class, that should be mentioned, as well other general information that seems appropriate. If it is a workforce (WECM) course rather than a transfer (ACGM) course, some language about transferability should also be added, such as: "Transferability of workforce courses varies. Students interested in transferring courses to another college should speak with their Area of Study (AoS) advisor, Department Chair, and/or Program Director."

COURSE POLICIES

Faculty should detail their course policies. Many of these policies are defined by departments and will therefore be the same across all courses of that discipline.

Attendance/Class Participation

Each instructor should clearly express their attendance and class participation policies. The instructor also needs to be explicit about whether the class is synchronous or asynchronous, and what activities, e.g., discussion boards, have mandatory participation. If the course has a laboratory component, clear guidance is needed on how the laboratory activities will be conducted. If there are specific policies for field or laboratory activities, they could be included here. Some suggested wording is: “Regular and punctual class and laboratory attendance is expected of all students. If attendance or compliance with other course policies is unsatisfactory, the instructor may withdraw students from the class.” For online courses: “Regular and timely class participation in discussions and completion of work is expected of all students. If attendance or compliance with other course policies is unsatisfactory, the instructor may withdraw students from the class.” To cover situations where classes are canceled because of weather, pandemic, or other emergencies: “The student is responsible for communicating with their professor during the closure and completing any assignments or other activities designated by their professor.”

Missed Exam and Late Work Policies

Each instructor should clearly express their policies with regard to missed exams, late homework or laboratory exercises, etc. Again, this helps immensely when dealing with student grade disputes.

Incompletes

This policy should also be clearly stated. Recommended wording is: “An incomplete (grade of “I”) will only be given for extenuating circumstances. What constitutes “extenuating circumstances” is left to the instructor’s discretion, while following any rules or guidelines set by the department. If a grade of I is given, the remaining course work must be completed by a date set by the student and professor and given on the “Report of Incomplete” form. This date is often about three weeks prior to the end of the following semester. A grade of I also requires completion and submission of the [Incomplete Grade form](#), to be signed by the faculty member (and student if possible) and submitted to the department chair. Students may request an Incomplete from their faculty member if they believe circumstances warrant. The faculty member will determine whether the Incomplete is appropriate to award or not. The following processes must be followed when awarding a student an I grade.

1. Prior to the end of the semester in which the “I” is to be awarded, the student must meet with the instructor to determine the assignments and exams that must be completed prior to the deadline date. This meeting can occur virtually or in person. The instructor should complete the Report of Incomplete Grade form.
2. The faculty member will complete the form, including all requirements to complete the course and the due date, sign (by typing in name) and then email it to the student. The student will then complete his/her section, sign (by typing in name), and return the completed form to the faculty member to complete the agreement. A copy of the fully completed form can then be emailed by the

faculty member to the student and the department chair for each grade of Incomplete that the faculty member submits at the end of the semester.

3. The student must complete all remaining work by the date specified on the form above. This date is determined by the instructor in collaboration with the student, but it may not be later than the final withdrawal deadline in the subsequent long semester.
4. Students will retain access to the course Blackboard page through the subsequent semester in order to submit work and complete the course. Students will be able to log on to Blackboard and have access to the course section materials, assignments, and grades from the course and semester in which the Incomplete was awarded.
5. When the student completes the required work by the Incomplete deadline, the instructor will submit an electronic Grade Change Form to change the student's performance grade from an "I" to the earned grade of A, B, C, D, or F.

If an Incomplete is not resolved by the deadline, the grade automatically converts to an "F." Approval to carry an Incomplete for longer than the following semester or session deadline is not frequently granted."

COURSE OUTLINE/CALENDAR

The syllabus should contain a course outline for the lecture (and laboratory), outlining what students will be doing on what days, identifying test dates and other due dates.

Instructors are encouraged to add a statement of variance, such as:

"Please note that schedule changes may occur during the semester. Any changes will be announced in class and posted as a Blackboard Announcement (or other resource faculty is using to communicate)."

Statement on Academic Integrity

Austin Community College values academic integrity in the educational process. Acts of academic dishonesty/misconduct undermine the learning process, present a disadvantage to students who earn credit honestly, and subvert the academic mission of the institution. The potential consequences of fraudulent credentials raise additional concerns for individuals and communities beyond campus who rely on institutions of higher learning to certify students' academic achievements and expect to benefit from the claimed knowledge and skills of their graduates. Students must follow all instructions given by faculty or designated college representatives when taking examinations, placement assessments, tests, quizzes, and evaluations. Actions constituting scholastic dishonesty include, but are not limited to, plagiarism, cheating, fabrication, collusion, falsifying documents, or the inappropriate use of the college's information technology resources. Further information is available at the [Academic Integrity website](#). Any course specific policies, expectations, or procedures could be included here.

Student Rights & Responsibilities

Students at ACC have the same rights and protections under the Constitution of the United States. These rights include freedom of speech, peaceful assembly, petition and association. As members of the community, students have the right to express their own views, but must also take responsibility for giving the same rights to others and not interfere or disrupt the learning environment. Students are entitled to fair treatment, are expected to act consistently with the values of the college, and obey local, state, and federal laws. [Student Rights & Responsibilities](#). As a student of Austin Community College you are expected to abide by the [Student Standards of Conduct](#).

Senate Bill 212 and Title IX Reporting Requirements

Under Senate Bill 212 (SB 212), the faculty and all College employees are required to report any information concerning incidents of sexual harassment, sexual assault, dating violence, and stalking committed by or against an ACC student or employee. Federal Title IX law and College policy also require reporting incidents of sex- and gender-based discrimination and sexual misconduct. This means faculty and non-clinical counseling staff cannot keep confidential information about any such incidents that you share with them. If you would like to talk with someone confidentially, please contact the District Clinical Counseling Team who can connect you with a clinical counselor on any ACC campus: (512) 223-2616, or to schedule online, go to the [Counseling website](#). While students are not required to report, they are encouraged to contact the Compliance Office for resources and options: Charlene Buckley, District Title IX Officer, (512) 223-7964; compliance@austincc.edu. If a student makes a report to a faculty member, the faculty member will contact the District Title IX Officer for follow-up.

Student Complaints

A defined process applies to complaints about an instructor or other college employee. You are encouraged to discuss concerns and complaints with college personnel and should expect a timely and appropriate response. When possible, students should first address their concerns through informal conferences with those immediately involved; formal due process is available when informal resolution cannot be achieved. Student complaints may include (but are not limited to) issues regarding classroom instruction, college services and offices on the basis of actual or perceived race, color, national origin, religion, age, gender, gender identity, sexual orientation, political affiliation, or disability. Further information about the complaints process, including the form used to submit complaints, is available at the [Student Complaint Procedures website](#).

Statement on Privacy

The Family Educational Rights and Privacy Act (FERPA) protects confidentiality of students' educational records. Grades cannot be provided by faculty over the phone, by email, or to a fellow student. Class grades should be posted in Blackboard, and this could be mentioned here.

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Campus Carry

The Austin Community College District concealed handgun policy ensures compliance with Section 411.2031 of the Texas Government Code (also known as the Campus Carry Law), while maintaining ACC's commitment to provide a safe environment for its students, faculty, staff, and visitors. Beginning August 1, 2017, individuals who are licensed to carry (LTC) may do so on campus premises except in locations and at activities prohibited by state or federal law, or the college's concealed handgun policy. It is the responsibility of license holders to conceal their handguns at all times. Persons who see a handgun on campus are asked to contact the ACC Police Department by dialing 512-223-1231. Please refer to the concealed handgun policy online at the [Campus Carry website](#).

Discrimination Prohibited

The College seeks to maintain an educational environment free from any form of discrimination or harassment including but not limited to discrimination or harassment on the basis of race, color, national origin, religion, age, sex, gender, sexual orientation, gender identity, or disability. Faculty at the College are required to report concerns regarding sexual misconduct (including all forms of sexual harassment and sex and gender-based discrimination) to the Manager of Title IX/Title VI/ADA Compliance.

Licensed clinical counselors are available across the District and serve as confidential resources for students.

Additional information about Title VI, Title IX, and ADA compliance can be found in the [ACC Compliance Resource Guide](#).

Use of the Testing Center

The Testing Centers will allow only limited in person testing and testing time will be limited to the standard class time, typically one and one-half hours. Specifically, only the following will be allowed in the Testing Centers:

- Student Accessibility Services (SAS) Testing: All approved SAS testing
- Assessments Tests: Institutionally approved assessment tests (e.g., TSIA or TABE)
- Placement Tests: Placement tests (e.g., ALEKS)
- Make-Up Exams (for students who missed the original test): Make-up testing is available for all lecture courses but will be limited to no more than 25% of students enrolled in each section for each of four tests
- Programs incorporating industry certification exams: Such programs (e.g., Microsoft, Adobe, etc.) may utilize the ACC Business Assessment Center for the industry certification exams (BACT) at HLC or RRC

The instructor should provide additional information about how they will conduct examinations and other assessments here.

Student Accessibility Services

Austin Community College (ACC) is committed to providing a supportive, accessible, and inclusive learning environment for all students. Each campus offers support services for students with documented disabilities. Students with disabilities who need classroom, academic or other accommodations must request them through Student Accessibility Services (SAS). Students are encouraged to request accommodations prior to the beginning of the semester, otherwise the provision of accommodations may be delayed. Students who have received accommodations from SAS for this course will provide the instructor with the legal document titled "Faculty Notification Letter" (FNL) through the Accessible Information Management (AIM) portal. Until the instructor receives the FNL, accommodations should not be provided. Once the FNL is received, accommodations must be provided. Accommodations are not retroactive, so it is in the student's best interest to request their accommodations as soon as possible prior to the beginning of the semester. Please contact SAS@austincc.edu for more information.

Library Services

ACC Library Services offers both in-person and extensive online services, with research and assignment assistance available in-person during limited hours of service. Although all college services are subject to change, plans include ACC students signing up for study space and use of computers at open libraries, extensive online instruction in classes, online reference assistance 24/7 and reference with ACC faculty librarians. In addition, currently enrolled students, faculty and staff can access Library Services online (also 24/7) via the ACC Library website and by using their ACCeID to access all online materials (ebooks, articles from library databases, and streaming videos). ACC Libraries offer these services in numerous ways such as: "Get Help from a Faculty Librarian: the 24/7 Ask a Librarian chat service," an online form for in-depth research Q and A sessions, one-on-one video appointments, email, and phone (voicemail is monitored regularly).

- [Library Website](#)
- [Library Information & Services during COVID-19](#)
- [Ask a Librarian](#) 24/7 chat and form
- [Library Hours of Operation by Location](#)
- Email: library@austincc.edu

Parent and Family Engagement Services

ACC understands how important parent and family support is to every student's college journey. From parents and siblings to stepparents, grandparents, partners, and loved ones, the Parent and Family Engagement Office at ACC is committed to empowering families to support student success. The office provides a family orientation to ACC, free

[workshops](#) explaining the world of higher education (financial aid, student resources, career and transfer services, etc.), a monthly [newsletter](#) full of student success tips, and a website designed to answer family members' frequently asked questions. All students, especially first-generation students, are encouraged to share these resources with their families and invite them to be part of the Riverbat experience. Contact familyengagement@austincc.edu or visit the [Parent & Family Engagement website](#) for more information.

COLLEGE POLICIES

These are statements of which all students should be aware and which are consistent across the institution. The wording of these statements should not be changed by instructors.

TEXTS AND REFERENCES USED:

TODAY'S TECH AUTO ENGINE REPAIR PKG. , 6th Edition,
Classroom and Shop Manual ISBN:13 – 978-1-305-95813-5 (Printed package)

Cengage On-line with Mindtap ISBN:13 – 978-1-305-958203

Cengage ebook ISBN:13 – 978-0-357-693797 (least expensive)

Cengage Unlimited ISBN:13 – 978-0-357-700006 (multi-classes with Cengage books)

By Christopher Hadfield/Randy Nussler, Cengage Learning

PowerPoint presentations.

Selected films and charts from various sources.

Automotive books/textbooks found in the RVS bookstore located downstairs in building G and RRC bookstore located in Bldg. 2000, Rm 2102.0.

ONLINE: <http://www2.austincc.edu/autotech/> & www.austincc.edu

Library resources: Blackboard

<https://acconline.austincc.edu/webapps/portal/frameset.jsp>

A note about the textbook: There is additional information under “The Textbook” heading in Blackboard on the content listings. We are using the Cengage with Mindtap version of the book. Trying to reduce your overall textbook expenses. All homework and assignments will be completed through Blackboard. The quarterly tests could be given on Blackboard or in paper form. Prices vary widely based on format or ebook. If you are taking several courses where the professors are using Cengage produced books/ebooks using the Cengage Unlimited pricing schedule can be a great savings for

you. If all else fails, wait until the first day of class before making a purchase. A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Example: cengage.com, amazon.com, allbookstores.com, bookstores.com, ecampus.com
<http://www.cengagebrain.com/>

CLASS LECTURES & BLACKBOARD

Some of the information in the book will not be covered in lectures due to time constraints. However, you will still be responsible for reading and understanding it because you may see some of it on a test, quiz, or homework assignment. Also, some of the information covered in lectures may not be in your book. Therefore, you will be able to find all course lectures, power points, homework assignments, job sheets, the syllabus, etc. on the blackboard for this course. The blackboard website is <https://acconline.austincc.edu/webapps/portal/frameset.jsp> or you can find it at the main ACC page www.austincc.edu under e-services on the right side of the page. Course blackboard information will be updated regularly as needed. Software downloads are available at <http://www.austincc.edu/helpdesk/software.html>

INSTRUCTIONAL METHODOLOGY: Using a combination of computer based instruction, lecture, and faculty demonstration, students will practice towards mastery of all required NATEF tasks

COURSE RATIONALE: Utilizing appropriate safety procedures, Demonstrate familiarity with historical development and career information on the automotive industry; demonstrate safe, professional, and responsible work practices; identify and demonstrate the proper use of shop equipment and tools; identify and describe functions of vehicle subsystems; demonstrate the use of service publications; identify various automotive fasteners used in industry; and perform automotive maintenance.

COMMON COURSE OBJECTIVES: To prepare students for entry-level employment and certification through ASE. Special Notes: Attendance on the first day of class is MANDATORY. The Syllabus, Safety, and Orientation will be discussed. Students not attending will be dropped.

DISTANCE EDUCATION: (for online or hybrid courses only)

“Students will use the Blackboard learning management system for assignment instructions, submitting assignments, and collaboration.”

CLASS AND LAB POLICIES:

Attendance on the first day of class is MANDATORY. The Syllabus, Safety, and Orientation will be discussed. Students not attending could be dropped. The College System believes that regular attendance in all classes is necessary and makes no distinction between excused and unexcused absences. I will personally excuse within reason and at my discretion. This applies only to the number of absences counted towards dropping a student, not daily/shop grades.

WITHDRAWAL POLICY:

The College defines withdrawals as occurring after the official reporting date of the semester, typically the 12th class day (February 01). In addition, the Legislature has mandated the Rule of Six (see below). There may also be financial aid issues. The last day to withdraw without a grade or a “W” is February 01, 2023. “It is the responsibility of each student to ensure that his or her name is removed from the rolls should they decide to withdraw from the class. The instructor does, however, reserve the right to drop a student should he or she feel it is necessary. If a student decides to withdraw, he or she should also verify that the withdrawal is recorded before the Final Withdrawal Date. The Final Withdrawal Date for this semester is [April 24, 2023]. The student is also strongly encouraged to keep any paperwork in case a problem arises. Students are responsible for understanding the impact that withdrawal from a course may have on their financial aid, veterans’ benefits, and international student status. Per state law, students enrolling for the first time in Fall 2007 or later at any public Texas college or university may not withdraw (receive a “W”) from more than six courses during their undergraduate college education. Some exemptions for good cause could allow a student to withdraw from a course without having it count toward this limit. Students are strongly encouraged to meet with an advisor when making decisions about course selection, course loads, and course withdrawals.”

Tobacco

ACC’s smoke-free policy, effective January 02, 2012, prohibits the use of smoke-producing tobacco in district facilities, on college grounds, and in ACC-owned vehicles. The tobacco-free/smoke-free policy became effective January 2, 2012.

UPDATE: The Austin Community College has expanded the college’s smoke-free

policy to prohibit nicotine vapor products and devices (such as electronic cigarettes) and smokeless tobacco products, effective

January 05, 2015.

1. Regular attendance is required. Only 3 absences and tardies will be accepted if a grade no better than a "D" is expected. *(1C-1, 4, 2A-4)

2. Students are required to maintain a "C" average, or a grade point average of 2.00. This means that the average of all classes must be a "C" in order to obtain either a certificate of completion, or degree. Students who either arrive late for class, leave early, and/or bring no tools cannot expect to complete lab assignments in a timely manner and receive a grade better than "D". For further information see the sections on "graduation" and "Academic Suspension" in the Administration Information area of the current ACC Catalog. *(1A-1, 1C-1, 2, 4, 5, 2A-4)

3. Students are expected to bring their own 3-ring binder with notebook paper for notes and holding handouts given during the class lectures. The student should have an appropriate writing instrument to take notes, fill out worksheets, complete assignments and complete tests.

4. Students are expected to purchase their own tools. A list of the minimum type and number of tools are furnished at the beginning of each semester. List of tools are included with this syllabus suggested for this course. Each student will have his/her own tools available for shop work at the beginning of each class period. Loaning or borrowing of tools between students is discouraged. Specialty tools, tools not on the student tool list, are available from the Tool Room. The college will furnish tools for students who are enrolled in the Introduction to Automotive class. Failure to bring tools after the first month of enrollment in the Automotive Program subjects each student to disciplinary action up to and including dismissal from the program. *(1C-5, 2A-2)

5. Safety is always first. Common sense and our certifying agency, NATEF, require that all students wear safety glasses in the shop. Students without safety glasses will be prohibited from any shop activities. Closed toe shoes (no sandals, flip flops) are required for shop activities. *(1C-2, 4, 5)

6. Each student is strongly encouraged to participate in class. In any classroom situation that includes discussion and critical thinking, there are bound to be many differing viewpoints. These differences enhance the learning experience and create an atmosphere where students and instructors alike will be encouraged to think and learn.

On sensitive and volatile topics, students may sometimes disagree not only with each other but also with the instructor. It is expected that faculty and students will respect the views of others when expressed in classroom discussions.

7. By applying to and registering at Austin Community College, students agree to abide by the Student Discipline Policy and Student Rights and Responsibilities regulations published in the ACC College Catalog and this Student Handbook. Acts prohibited by the college for which discipline may be administered include student profit associated with any lab project, scholastic dishonesty, including but not limited to cheating on an exam or quiz, plagiarizing, and unauthorized collaboration with another in preparing outside work. Academic work submitted by students shall be the result of their thought, research or self expression. Academic work is defined as, but not limited to tests, quizzes, whether taken electronically or on paper, projects, either individual or group; classroom presentations, and homework. Prohibited acts include disruptive conduct of any kind. Disruptive conduct is defined as, but not limited to: Behavior that significantly interferes with or disrupts any ACC teaching, research, administrative, disciplinary, public service or other authorized activity. Behavior that threatens the health or safety of members of the ACC community, visitors to ACC, or participants at ACC-sponsored events, or willful negligence in the performance of lab projects. The minimum penalty for violation of these policies is a grade of "F" for the course.

8. Each ACC campus offers support services for students with documented physical or psychological disabilities. Students with disabilities must request reasonable accommodations through the Office of Student Accessibility Services & Assistive Technology on the campus where they expect to take the majority of their classes. Students are encouraged to do this three weeks before the start of the semester.

9. Any withdrawals are the responsibility of the student. If a student fails to make the withdrawal by the drop date, an automatic grade of "F" will be awarded. *(1C-1, 4, 2A-4)

10. Proper shop attire will be worn at all times. This includes, but is not limited to, work pants, a work shirt with a collar, work boots or shoes, and safety glasses, all similar to what would be worn at a professional automotive repair shop. Flip flops, loose baggy clothing, dangling jewelry, or clothing that is too revealing in nature are not allowed. The student may be sent home at the instructor's discretion. Violations will lower the student's grade and possibly cause the student to fail the course.

11. This is not a policy but: Students should not have their cell phone on in the classroom during scheduled class times except for the emergency ACC contact system.

Students may check messages during their break as long as their phone calls do not cause the student to return from break late. If there is a personal emergency, the student should notify the instructor. Instructors will use their discretion to determine the emergency warrants the student departure to address the situation. (Students may be able to set their phones to vibrate, and leave the classroom to receive an emergency call.) In the lab area the cell phones can become a distraction which can cause safety issues around the vehicles and/or the shop equipment. Using the cell phone as a flash light is not a good excuse so go check out a real flashlight from the tool room. Cell phones have been lost, left behind and damaged while in the shop. If something happens to your cell phone, you are still responsible.

HEALTH & SAFETY PROTOCOLS

On Tuesday, May 18, Governor Greg Abbott issued an executive order that changes the mandate for face coverings in Texas in response to the COVID-19 pandemic. In compliance with this order, ACC can no longer require anyone to wear a facial covering while visiting our campuses, centers, or facilities. The change took effect beginning Thursday, May 20, 2021. The option to wear a mask will be voluntary.

Date: November 30, 2022 (Memo)

Starting January 3, 2023, ACC campus and center buildings will operate with identified main entrances. These are areas where all students and visitors on campus can enter a building during normal business hours. Establishing a primary access point(s) for every college building is an important preventive safety measure that aligns with federal best practices. By limiting access points into our buildings, ACC can better identify those who should be on the campus and provide an opportunity to expedite searches in the event of a suspicious item or person. It's important to note that even with primary access points, every door will continue to function as an exit point from the building. All other building doors will operate under access-control technology. That means these doors will automatically lock from the outside and require an approved ACC-issued employee ID card to gain entry — even during regular operating hours.

To ensure a smooth and seamless transition, please be prepared with the following:

Learn the Designated Entrances | Each building will have a designated entrance or entrances depending upon the size of the building. These doors will be open during business hours for students and visitors.

Process for Students & Visitors | All students, visitors, and any employee without their ID card must visit the Campus Manager's office upon arrival. Here, they will be able to sign in and obtain a temporary badge for the day. As always, if you see something, say something. If something doesn't seem right, such as someone propping open a door to the outside, please call ACC Police Dispatch at 512-223-1231.

We encourage you to enter this number in your phone's contacts.

If you are planning to be in any ACC facility for any purpose, the following are required:

- Everyone must have an ACC ID and always wear it while on campus.
- Read the Return to Campus Plan for Procedures & Protocols before accessing a campus.

ON-CAMPUS PROTOCOLS

Wash and sanitize your hands prior to entering a classroom, office, or facility. Hand sanitizing stations, disinfecting wipes, soap, and water are readily available. Continue to practice good hygiene by washing your hands frequently for 20 seconds. Practice social distancing with all individuals by maintaining at least three feet of separation.

A maximum of two people at a time will be allowed in elevators.

ILLNESS & TRAVEL PROTOCOLS

If you feel sick, feverish, or unwell, please do not come to campus or office.

You will need to get tested for COVID-19 and report the results (positive or negative) to ACC's COVID-19 Liaison (see below).

If you become ill in the classroom or inside an ACC facility, you will be asked to go into an isolation room to take the state's online self-assessment.

Isolation rooms are available on each campus and center with resources and information to help you learn about the next steps and where to go for a COVID-19 test. All areas used by anyone who is sick or tests positive for COVID-19 will be immediately closed, waiting for the appropriate period of time before it is thoroughly deep cleaned, disinfected, and deemed safe to reopen.

If you have been in contact with someone who tested positive for COVID-19 within the last 14 days, you must self-report. ACC's Self-Report form is available online.

ACC has identified a primary COVID-19 Liaison responsible for communicating and coordinating with local health departments. Our liaison is Michael Garcia, Executive Director of Regulatory Affairs, sem-helpdesk@austincc.edu.

A training video is available here at:

<https://www.austincc.edu/coronavirus/health-and-safety-protocols>

ACC “COLLEGE POLICIES & STUDENT SUPPORT SERVICES” are covered in more detail in BLACKBOARD course shells – listed on your Blackboard Menu

These are statements of which all students should be aware and which are consistent across the institution.

Use of ACC email

All College e-mail communication to students will be sent solely to the student’s ACC email account, with the expectation that such communications will be read in a timely fashion. ACC will send important information and will notify students of any college-related emergencies using this account. Students should only expect to receive email communication from their instructor using this account. Likewise, students should use their ACC email account when communicating with instructors and staff. Information about ACC email accounts, including instructions for accessing it, are available at: <http://www.austincc.edu/help/accmail/questions-and-answers>

STUDENT SUPPORT SERVICES

The success of our students is paramount, and ACC offers a variety of support services to help, as well as providing numerous opportunities for community engagement and personal growth.

Academic Support

ACC offers academic support services on all of its campuses. These services, which include online tutoring, academic coaching, and supplemental instruction, are free to enrolled ACC students. Tutors are available in a variety of subjects ranging from accounting to pharmacology. Students may receive these services on both a drop-in and referral basis.

Tutoring

Our Automotive Department Tutor: Tyrell Williamson - tyrell.williamson@g.austincc.edu

An online tutor request can be made here:

<https://de.austincc.edu/bbsupport/online-tutoring-request/>

Student Organizations

ACC has over seventy student organizations, offering a variety of cultural, academic, vocational, and social opportunities. They provide a chance to meet with other students who have the same interests, engage in service-learning, participate in intramural sports, gain valuable field experience related to career goals, and much else. Student Life coordinates many of these activities, and additional information is available at: <http://sites.austincc.edu/sl/>.

Personal Support

Resources to support students are available at every campus. To learn more, ask your professor or visit the campus Support Center. All resources and services are free and confidential. Some examples include, among others:

Food resources including community pantries and bank drives can be found here:

<https://www.centraltexasfoodbank.org/food-assistance/get-food-now>

Assistance with childcare or utility bills is available at any campus Support Center:

<http://www.austincc.edu/students/support-center>.

The Student Emergency Fund can help with unexpected expenses that may cause you to withdraw

from one or more classes: <http://www.austincc.edu/SEF>.

Help with budgeting for college and family life is available through the Student Money Management

Office: <http://sites.austincc.edu/money/>.

A full listing of services for student parents is available at:

<https://www.austincc.edu/students/child-care>

The CARES Act Student Aid will help eligible students pay expenses related to COVID-19:

<https://www.austincc.edu/coronavirus/cares-act-student-aid>.

Mental health counseling services are available throughout the ACC Student Services District to address personal and or mental health concerns:
<http://www.austincc.edu/students/counseling> .

If you are struggling with a mental health or personal crisis, call one of the following numbers to connect with resources for help. However, if you are afraid that you might hurt yourself or someone else, call 911 immediately.

Free Crisis Hotline Numbers:

Austin / Travis County 24-hour Crisis & Suicide hotline: 512-472-HELP (4357)
The Williamson County 24-hour Crisis hotline: 1-800-841-1255
Bastrop County Family Crisis Center hotline: 1-888-311-7755
Hays County 24 Hour Crisis Hotline: 1-877-466-0660
National Suicide Prevention Lifeline: 1-800-273-TALK (8255)
Crisis Text Line: Text "home" to 741741
Substance Abuse and Mental Health Services Administration (SAMHSA) National Helpline:
1-800-662-HELP (4357)
National Alliance on Mental Illness (NAMI) Helpline:1-800-950-NAMI (6264)

DETAILED GRADING FORMULA:

Evaluation Test: Also Known as the AUMT 1419 PRE/POST Test

This test is for me only to see what you may already have experienced or have knowledge of parts of an automobile. This test assists the instructors in evaluating the course and the students per the NAFTA requirements. The test is to assist me in trying to tailor the class for my students.

AUMT 1419 Pre Test

GRADING:

Grading System:

Evaluation Pre/PostTestFree

SP2 Safe Test10%

Three Tests(10% each).....30%
Final Test Grade.....15%
Daily participation and attendance.....20%
New Engine Technology Report....._.....10%
Chapter Questions (ASE-multi choice.....10%
Notebook/Homework/Handouts.....05%

Ford or Subaru TrainingExtra Credit

A positive constructive attitude, also plays an important part in the overall evaluation of the shop work and will be directly related to the shop grade. *(1C-1, 2, 4, 5, 2A-4)

We use SP2.org as a safety training and test given by the Automotive Department after the safety presentations. This test is worth 10% of your total grade. This is a standardized safety module and test given to all the Automotive students at ACC. The modules and tests will be taken on-line through the Learning Management System (LMS). These modules will provide information about specific safety and prevention topics related to our automotive industry. You may leave

and return to a module at any time. Each module ends with a quiz. After completing the assigned modules, you will take a final exam. You will have five (5) attempts to correctly answer 80% of the questions and earn your certificate of completion. Once the class roll is completed, I will enter your student information into the course system. The student will have two weeks to complete the Safety modules.

Login: www.sp2.org

Your ID: I use the first part of your ACC email/gmail.

Example: Your normal ACC gmail is (bob.smith1@g.austincc.edu)

Only use bob.smith1

Your Password is your student id number, BUT - no letter. Normal would have been b1152542. Use only 1152542. Once you log in you may update your password if you wish.

There are a total 2 modules both related to shop safety.

Each has a series of lessons that leads to a Final Quiz for each..

The results of these two quizzes will be averaged and create your SP2 score.

1. Automotive Service Safety

2. Automotive Service Pollution Prevention,

by completing these two allows you to work in the lab (shop) for the remainder of the semester.

It would be sad for you to sit on the side lines and not in the shop if you have not completed these courses in 2 weeks.

There are three quarterly tests, each counting for 10% each of the total grade making up 30% of the final grade.

There will be a final. This final is mandatory and will be comprehensive and make up 15% of the final grade so it is very important. It contains multiple choice questions and a shop skill test worth 25% of the test.

Automotive Students: If you earn your ASE certification in the specific subject area being taught for that course and you have an overall average grade of 75 or better on the instructor's grade sheet at the class/lab the week before the final exam is scheduled to be given by the instructor, you may be able to be exempted from taking the written/paper portion of the final exam once the instructor has received a certified copy of the document proving you have passed the ASE test in the specific subject area being taught and if the instructor believes you have sufficiently proven your ability to perform the work in that subject area. You must request exemption and then receive direct approval from the instructor in order to be exempted from the written/paper portion of the final exam.

All students must take the hands-on portion of the final exam. If you provide a certified ASE test results paper showing you passed the ASE in the subject area and are also exempted by the instructor from taking the paper/written portion of the final exam based on ASE certification and have proven your ability to do the course work, you will receive

the ASE score on the written portion of your final exam. There will be a grade given for participation during the class day. There are 16 class days scheduled. The grade (one for every class day 6.25 points per class), they cannot be made up. The daily grade will constitute 20% of the final grade. This grade is derived from both your actions and the time you spend in the class and in the shop. Ex...If you arrive late and leave early the grade for that day would be a 60. Timely completion of the New Engine Technology Report, this will be 10% of the final grade. Report layout requirements and subject starter are listed on Blackboard. Homework is answering the ASE style questions in the back of each chapter. The end of chapter questions have been installed on Blackboard. If you use the Cengage system, answer the question on the Mindtap system and I will retrieve the score and install it on Blackboard. Answer the questions and the system will score the chapter questions and install it into your Blackboard Gradebook. If you print out the homework then put it in your notebook. The majority of questions on the quarterly tests will be over the homework questions. The homework questions are worth 10% of final grade. 05% of the final grade given for a well kept, organized and complete notebook. The notebook should be constructed as follows: Cover sheet (name, course name and number, section number,) Notes and handouts. NATEF Job sheets (Completed) and Appendix Natef task list and correlation chart. Work orders from jobs in shop (each student should have their own notebook by the second class day and should bring it every day). Any withdrawals are the responsibility of the student. If a student fails to make the withdrawal by the drop date, an automatic grade of "F" will be awarded. *(1C-1, 4, 2A-4)

AUTOMOBILES FOR SHOP WORK:

Although cars are always needed for shops, whose car and which car is worked on first is not considered an important part of the course. The instructor must first approve all cars being worked in the shop. Even though emergencies occur with cars breaking down, we are not here to schedule work as a garage would. Time schedules will not be considered or given as related to repair work of any given automobile. Only work related to the course (related to engine repairs/maintenance) will be considered. No work will be performed on a car if the subject has not first been covered in the classroom.

CARE AND CLEANING OF TOOLS, EQUIPMENT AND SHOP AREA (including classroom).

All students will be expected to participate in shop and classroom cleanup at the end of each class period. Ample time will be allotted by the instructor for this purpose. All tools will be cleaned and put in the proper place before class will be dismissed. *(1A-4, 2B-1, 2A-2)

NATEF

The Board of the National Institute for Automotive Service Excellence (ASE) is the responsible body for the Automobile Technician Training Certification Program. The Certification Program is under the direct supervision of the Board of Trustees of the National Automotive Technicians Education Foundation (NATEF). The purpose of the Automobile Technician Training Certification Program is to improve the Quality of training offered at the secondary and post-secondary levels. Austin Community College is currently certified in all automotive areas

NATEF TASK PRIORITIES

P-1 = must complete 95%

P-2 = must complete 80%

P-3 = must complete 50%

Task listing provided – handout

ENGINE REPAIR COURSE OUTLINE:

1. ORIENTATION AND SHOP SAFETY:

- A. Introduction to shop test equipment.
- B. Review of shop safety and safe vehicle lifting
- C. Review of hazardous materials
- D. Introduction to test equipment and use of shop equipment
- E. Orientation of use of basic hand tools used in engine overhaul.
- F. Introduction to fasteners and thread repairs

2. SERVICE AND VEHICLE INFORMATION

- A. Introduction to service records, manuals and guides

B. Vehicle Identifications and emission ratings.

3. BASIC ENGINE OPERATIONS

A. Lubrication system, including oil pan and pump.

B. Coolant system.

4. REPAIR AND REBUILDING INDUSTRY

5. OPERATING SYSTEMS

6. MATERIALS

7. CONSTRUCTION AND DESIGN OF AUTOMOBILE ENGINES

A. Cylinder head and valve train.

B. Cylinder block.

C. Pistons, connecting rods and crankshaft.

D. Camshaft, lifters, and related component parts.

E. Intake and exhaust systems, turbo and supercharging.

F. Emission system.

G. Starting and other electrical systems.

8. INSPECTION, DIAGNOSIS, TESTS, DISASSEMBLY, AND MEASUREMENTS:

A. Use of engine stands to disassemble engines.

B. Instruction in reading of measuring equipment, including
inside and outside micrometers, depth gauges and hole gauges.

C. Instruction in inspecting parts for wear, cracks, warpage, etc.

D. Measuring for taper and out-of-round.

9. VALVES, VALVE GUIDES AND VALVE SEATS

A. Inspecting, testing for warpage and grinding of valves.

B. Inspecting valve seats for excessive wear and cracking.

C. Grinding and narrowing of valve seats.

D. Checking valve guides for wear and knurling of guides.

10. CYLINDER HEADS

A. Checking for warpage

B. Replacing expansion or soft plugs.

C. Cleaning and preparation for reassembly.

11. PISTONS, CONNECTING RODS, CAMSHAFT AND CRANKSHAFT

A. Checking component parts for cracks, defects, etc.

B. Cleaning of piston ring grooves and re-ringing.

C. Measuring crankshaft for out-of-round, taper and wear.

12. ENGINE BLOCK

A. Checking block for cracks, imperfections, etc.

B. Measuring cylinder bores for wear, taper and out-of-round.

C. Ridge rimming and honing.

D. Replacement of core, freeze/front, galley plugs.

E. Checking crankshaft bore for alignment.

13. REMOVAL AND INSTALLATION PROCEDURES

- A. Safety procedures while removing and installing engines.
- B. Correct procedures and proper equipment.

14. REBUILDING PROCEDURES

- A. Correct selection of parts (engine identification).
- B. Proper placement of gaskets, use of gasket sealer, etc.
- C. Use of correct torque specifications.
- D. Pre-oiling of engine and testing for oil leaks

15. ALTERNATE FUELS

SCANS SKILLS AND OTHER NOTATIONS

Notated and identified * with activities throughout this syllabus are the generalized Scans Skills. A complete explanation of these headings are found in the guidelines for instructional programs in workforce education by the Texas Coordinating Board. The ASE TASKS are noted with P1, P2, or P3 depending on NATEF priority. Numbers below each task are for student evaluation in the lab.

1. FOUNDATION SKILLS

A. BASIC SKILLS:

- I. Reading
- II. Writing
- III. Arithmetic and Mathematical Operations
- IV. Listening
- V. Speaking

B. THINKING SKILLS:

- I. Creative Thinking
- II. Decision Making
- III. Problem Solving
- IV. Visualize

V. Reasoning

C. PERSONAL QUALITIES

- I. Responsibility
- II. Self-Esteem
- III. Sociability
- IV. Self-Management
- V. Integrity and Honesty

2. WORKPLACE COMPETENCIES

A. RESOURCES:

- I. Time
- II. Money
- III. Material and Facilities
- IV. Human resources

B. INTERPERSONAL SKILLS:

- I. Participate and Member of a Team
- II. Teach Others New Skills
- III. Serve Clients/Customers
- IV. Exercise Leadership
- V. Negotiate
- VI. Work with Diversity

C. INFORMATION

- I. Acquire and Evaluate Information
- II. Organize and Maintain Information
- III. Interpret and Communicate Information
- IV. Use Computers to Process Information

D. SYSTEMS:

- I Understand Systems
- II. Monitor and Correct Performance
- III. Improve or Design Systems

E. TECHNOLOGY

- I Select Technology
- II. Apply Technologies to Task
- III. Maintain and Troubleshoot Equipment

Beginner Starter Tool Set

This set is a required base set for all Automotive Technology Students

Description

Quantity

1-1/2" drive extension set	1-3/8" drive, spark plug socket, 5/8"
1-1/2" drive ratchet	1-3/8" drive, metric, shallow socket set
1-1/2" drive socket set metric	1-Gasket scraper
1-1/2" drive socket set SAE	1-Inspection mirror
1-1/4" drive extension set	1-Pry bar (long)
1-1/4" drive ratchet	1-Tool box
1-1/4" drive socket set,SAE, deep and shallow	1-Vise Grip Pliers
1-1/4" drive socket set, metric, deep and shallow	1-1/2 inch drive impact
1-3/8" drive ratchet	1-3/8 drive impact
1-3/8" drive extension set	1-Air chuck with gauge
1-3/8" drive socket set SAE, shallow	1-Battery & Antifreeze Hydrometer
1-3/8" drive socket set, SAE deep	1-Battery Post / terminal Cleaner
1-3/8" drive torque wrench, 40-200 in. lbs.	1-Blow Gun
1-3/8" drive, metric, deep socket set	1-Circuit tester,12V test light
1-3/8" drive, spark plug socket, 13/16"	1-Combination phillips & straight blade screwdriver set

1-Feeler Gauges	1-Pliers, diagonal cutting
1-Fender cover	1-Pliers, needle nose
1-Flashlight	1-Putty knife/ scraper
1-Funnel	1-Rubber mallet
1-Hacksaw	1-Safety glasses or goggles
1-Hammer, ball peen 18 oz.	1-Telescoping magnet
1-Hammer, Plastic tip (soft face)	1-Wire brush, small
1-Hook & pick set	1-Wrench set, combination, 12-point, 5mm - 22mm
1-Jumper wire set	1-Wrench set, combination, 12-point, 1/4 - 1 inch
1-Pair mechanic's (work) gloves	
1-Oil Filter Wrenches (Small & large)	
1-Automotive Uniform Shirt *Price varies by size/all shirts are short sleeve \$20.00-24.00	

The attached website is the location for purchasing your Shop shirt. Thru our ACC marketplace.

https://secure.touchnet.com/C20395_ustores/web/product_detail.jsp?PRODUCTID=188

AUMT 1407 Basic Electrical

Test Light or Power Probe
 Digital Multimeter
 Wire Strippers/crimpers
 Set of jumper wires
 Battery post/terminal brush
 5/16" Battery side terminal wrench
 AUMT 1419 Engine Repair & Rebuilding

Set of "T" gauges

Plastic Gauge
Ring Compressor
Oil Pressure gauge set
Antifreeze hydrometer
Tap & Die set
Hose clamp plier set or hose clamp pliers
Oil filter wrench
Hose pinch off pliers
1/2" drive torque wrench, 50-250 ft. lbs.

Student Tool Vendor List

Matco Tools TechEd | Automotive Tools Student Discounts
<https://www.matcotools.com/tech-ed/>

Tech & Vocational Student Discount Program - Sears
www.sears.com/en_us/dap/brand-showcase/tech-students-toolspartners.html

Student Tech Program | Mac Tools
www.mactools.com/en-us/buy-now/student-tech-programs

Craftsman Club | Vocational & Tech Students Discounts
<https://club.craftsman.com/vo-tech-students>

Snap-on Student Excellence Program
<https://www1.snapon.com/Industrial-Education/Snapon-Program.htm>

Kobalt Tools: Tool Sets, Tool Boxes, Power Tools & More
<https://www.kobalttools.com/>

Cornwell Tools
www.cornwelltools.com/

Tech Ed - GearWrench
www.gearwrench.com/gearwrench_teched

SK Tools | Home
<https://www.sktools.com/>

Husky® Tools - Exclusively at The Home Depot - homedepot.com

www.homedepot.com/Husky

Tooltopia.com: Automotive Tools and Equipment | Mechanic Shop
www.tooltopia.com/

Northern Tool - Quality Tools for Serious Work
www.northerntool.com/

thetoolwarehouse.net - The Tool Warehouse
www.thetoolwarehouse.net/

Automotive Tools and Auto Tools from Tool Discounter
www.tooldiscounter.com/

STANLEY® Tools: Hand Tools & Storage Products | STANLEY Tools
www.stanleytools.com/

National Tool Warehouse - In Stock & Ready to Ship
Adwww.nationaltoolwarehouse.com/

Tekton

https://www.tekton.com/sockets-and-ratchets?gclid=EAlaIQobChMI7_fJg4CS1gIVlIZpCh1Ymwj8EAAYASAAEglpUPD_BwE

Readings

TEXTS AND REFERENCES USED:

TODAY'S TECH AUTO ENGINE REPAIR PKG. , 6th Edition,
Classroom and Shop Manual ISBN:13 – 978-1-305-95813-5 (Printed package)

Cengage On-line with Mindtap ISBN:13 – 978-1-305-958203

Cengage ebook ISBN:13 – 978-0-357-693797 (least expensive)

Cengage Unlimited ISBN:13 – 978-0-357-700006 (multi-classes with Cengage books)

By Christopher Hadfield/Randy Nussler, Cengage Learning

PowerPoint presentations.

Selected films and charts from various sources.

Automotive books/textbooks found in the RVS bookstore located downstairs in building G and RRC bookstore located in Bldg. 2000, Rm 2102.0.

ONLINE: <http://www2.austincc.edu/autotech/> & www.austincc.edu

Library resources: Blackboard

<https://acconline.austincc.edu/webapps/portal/frameset.jsp>

Course Subjects

AUMT 1419 AUTOMOTIVE ENGINE REPAIR (4-3-3). Fundamentals of engine operation, diagnosis and repair including lubrication systems and cooling systems. Emphasis on overhaul of selected engines, identification and inspection, measurements, and disassembly, repair, and reassembly of the engine. Prepares students for ASE certification tests.

ENGINE REPAIR COURSE OUTLINE:

1. ORIENTATION AND SHOP SAFETY:

- A. Introduction to shop test equipment.
- B. Review of shop safety and safe vehicle lifting
- C. Review of hazardous materials
- D. Introduction to test equipment and use of shop equipment
- E. Orientation of use of basic hand tools used in engine overhaul.
- F. Introduction to fasteners and thread repairs

2. SERVICE AND VEHICLE INFORMATION

- A. Introduction to service records, manuals and guides
- B. Vehicle Identifications and emission ratings.

3. BASIC ENGINE OPERATIONS

- A. Lubrication system, including oil pan and pump.
- B. Coolant system.

4. REPAIR AND REBUILDING INDUSTRY

5. OPERATING SYSTEMS

6. MATERIALS

7. CONSTRUCTION AND DESIGN OF AUTOMOBILE ENGINES

- A. Cylinder head and valve train.
 - B. Cylinder block.
 - C. Pistons, connecting rods and crankshaft.
 - D. Camshaft, lifters, and related component parts.
 - E. Intake and exhaust systems, turbo and supercharging.
 - F. Emission system.
 - G. Starting and other electrical systems.
8. INSPECTION, DIAGNOSIS, TESTS, DISASSEMBLY, AND MEASUREMENTS:
- A. Use of engine stands to disassemble engines.
 - B. Instruction in reading of measuring equipment, including inside and outside micrometers, depth gauges and hole gauges.
 - C. Instruction in inspecting parts for wear, cracks, warpage, etc.
 - D. Measuring for taper and out-of-round.
9. VALVES, VALVE GUIDES AND VALVE SEATS
- A. Inspecting, testing for warpage and grinding of valves.
 - B. Inspecting valve seats for excessive wear and cracking.
 - C. Grinding and narrowing of valve seats.
 - D. Checking valve guides for wear and knurling of guides.
10. CYLINDER HEADS
- A. Checking for warpage
 - B. Replacing expansion or soft plugs.
 - C. Cleaning and preparation for reassembly.
11. PISTONS, CONNECTING RODS, CAMSHAFT AND CRANKSHAFT
- A. Checking component parts for cracks, defects, etc.
 - B. Cleaning of piston ring grooves and re-ringing.
 - C. Measuring crankshaft for out-of-round, taper and wear.
12. ENGINE BLOCK
- A. Checking block for cracks, imperfections, etc.
 - B. Measuring cylinder bores for wear, taper and out-of-round.
 - C. Ridge rimming and honing.
 - D. Replacement of core, freeze/front, galley plugs.
 - E. Checking crankshaft bore for alignment.
13. REMOVAL AND INSTALLATION PROCEDURES
- A. Safety procedures while removing and installing engines.

B. Correct procedures and proper equipment.

14. REBUILDING PROCEDURES

- A. Correct selection of parts (engine identification).
- B. Proper placement of gaskets, use of gasket sealer, etc.
- C. Use of correct torque specifications.
- D. Pre-oiling of engine and testing for oil leaks

15. ALTERNATE FUELS

SCANS SKILLS AND OTHER NOTATIONS

Student Learning Outcomes/Learning Objectives:

AUMT 1419 AUTOMOTIVE ENGINE REPAIR (4-3-3). Fundamentals of engine operation, diagnosis and repair including lubrication systems and cooling systems. Emphasis on overhaul of selected engines, identification and inspection, measurements, and disassembly, repair, and reassembly of the engine.

Course Rationale: Utilizing appropriate safety procedures, Demonstrate familiarity with historical development and career information on the automotive industry; demonstrate safe, professional, and responsible work practices; identify and demonstrate the proper use of shop equipment and tools; identify and describe functions of vehicle subsystems; demonstrate the use of service publications; identify various automotive fasteners used in industry; and perform automotive maintenance.

Common Course Objectives: To prepare students for entry-level employment and certification through ASE.