



## **Auto Service and Maintenance Auto 121 Fall 2022**

<b>Department</b>	Industry and Transportation
<b>Instructor</b>	Jason Felton
<b>NCC Email</b>	jfelton@ccsnh.edu
<b>Telephone Number</b>	(603)578-8950
<b>Office Hours</b>	By Appointment Only
<b>Office Location</b>	Automotive Building
<b>Class Days/Meeting Time</b>	Lecture: Tuesday and Thursday 1:00 – 1:50 Room H286 Lab: Monday 8:00 – 11:50
<b>Class Location</b>	Lecture: H286 Lab: Auto Building

### **Rationale:**

This course provides an understanding of maintenance requirements for today's vehicles. These concepts are important as they will be utilized when the student starts employment at a repair facility

### **Course Description:**

The study and development of skills in automotive maintenance and preventive maintenance procedures such as engine lubrication, exhaust systems, cooling systems, tire rotation and balance, and NH state motor vehicle inspection procedures, engine drive belt, thread repair, Oxy/acetylene torches. A student must earn a 'C' or better to achieve a passing grade in this course. This course contains a service learning opportunity

### **Course Competencies:**

1. The student will learn the safety procedures involved in the service and repair of automotive chassis systems, tool identification and usage, and proper/safe vehicle lifting.
2. Students will learn proper drilling, tapping and repair of threaded holes.

3. The student will learn to properly identify fasteners, gaskets, seals, and the proper use of chemical gasket/fastener products.
4. The student will learn the proper procedures in using the oxygen acetylene torch to perform heating and cutting.
5. The student will learn the proper procedures for using the black-light for fluid leak detection.
6. Students will learn to perform a safety inspection on vehicles.
7. **Students will learn proper work habits**

## Essential Questions:

1. What new information can I use at a repair facility?
2. Why is it important to know how to properly check over a vehicle?
3. What other information can be learned from properly checking over a vehicle?

## Required Materials:

Automotive Service Inspection, Maintenance, Repair 6<sup>th</sup> edition  
Tom Gilles  
9781337794039

Click on this link to access the NCC bookstore's website  
<https://www.bkstr.com/nashuaccstore/home>

## Technology

In order to be successful at NCC, all students need a laptop or personal computer (PC) as well as reliable internet access. It is recommended that students purchase a laptop for in-class use. Specifications can be found by clicking on the link below. If you do not have Internet access or the right kind of computer equipment (e.g., laptop, webcam, etc.) you may be eligible for the college's technology lending program, which is a first come first served program. Click on this link for more information  
<https://www.nashuacc.edu/technology> *[Note: webpage is still under construction]*

Laptops that meet NCC technology specifications are available for purchase at the NCC bookstore. Financial aid may be used for purchases made at the bookstore. Contact the bookstore for more information  
<https://www.bkstr.com/nashuaccstore/home>

## Supplemental Materials:

[These may include notebook, additional readings, etc.]

## Course Expectations:

### **Make Up Policy:**

Not all missed work is eligible for make-up. It is the student's responsibility to inquire about missed work at the first class meeting after returning from an absence. The instructor will determine eligibility and provide an appropriate assignment. Any approved assignment must be completed and turned in as directed.

There is no provision for make-up of a midterm exam, final exam, or lab practical exam.

### **Student Responsibilities, including but not limited to:**

Students are responsible for completing reading and written assignments on time.

Students are expected to take notes. Not all covered material is in the book.

Students are expected to be professional and courteous.

Students are expected to arrive on time for classes/labs.

Students are expected to have the essential books/supplies/tools.

Protective eyewear is required in any lab (shop).

Food is prohibited in all labs and classrooms during classes.

Lab service bays must be cleaned and/or washed at the end of each lab session.

All students must contribute to the clean-up process.

No students will be dismissed from lab session until service bays are clean.

### **Homework**

Self-study assignments are required. Some are listed in the course calendar; some will be assigned throughout the semester. Chapter end questions assigned per the course calendar are due at the beginning of the first class meeting of the week assigned. Chapter-end questions should include the question number, answer letter as well as the related answer text. Re-copying the question text is not necessary. Please include the chapter number on your answer sheet.

Scheduled homework assignments are averaged into the equivalent of one quiz grade. Assignments will not be accepted late and a zero grade will be given, unless prior arrangements have been made. Any assignment turned in via e-mail will be accepted provided it is mailed prior to the due date/time. Occasionally work will be assigned that *must* be e-mailed, for those assignments a hard copy will not be accepted.

## Grading:

**Grades will be assigned according to the following department scale:**

Point/letter grade equivalents:	Grading Weights:
100-94: A	10% Quizzes
93-90: A-	35% Lab Assignments/Evaluation
89-87: B+	15% Midterm exam
86-84: B	15% Final exam
83-80: B-	20% Lab exam
79-77: C+	5% Homework
76-74: C	
73-70: C-	
69-67: D+	
66-64: D	
63-60: D-	
Below 60: F	

## Diversity, Equity, and Inclusion Statement:

We are all responsible for creating a diverse, equitable, inclusive, and just environment. Thus, we must treat individuals with respect by valuing all types of diversity. This is fundamental in creating a welcoming and inclusive learning environment. Diversity may include multiple ways of identifying ourselves, including, but not limited to race, color, national origin, language, sex, disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. These diverse identities, among many others not mentioned, influence the perspectives our students, faculty, and staff bring to the NCC community. Through use of various approaches that enhance intellectually rich, respectful, safe, and inclusive learning environments, this dynamic process will demonstrate our sustained commitment at NCC. It is our core belief that diversity, equity, and inclusion promote excellence, collaboration, and innovation while also seeking justice.

## Available Support Services

**Tutoring and Writing Center:** The Tutoring and Writing Center, located in the library, offers free academic support services to all NCC students. Meet in-person or via Zoom with experts who can tutor you in math or accounting or help you with writing for any course. Tutoring is drop-in or by appointment. View the current tutoring schedule at <https://library.nashuacc.edu/home/tutoring>

Online chat tutoring is also available 24/7 with Smarthinking. Find a link on the left navigation menu inside Canvas courses.

**Classroom Accommodations:** Students who have a documented disability (physical, learning, or mental health) and require reasonable classroom accommodations must meet with the Disabilities Support Coordinator to set up an NCC Reasonable Accommodation Plan (RAP). If you had an IEP or 504 in high school, you may qualify for a plan. If you would like more information or if you are not sure if you qualify for a plan, please contact Jodi Quinn, Disabilities Support Coordinator, located in The Academic Success Center in the library, 603-578-8900 ext. 1451. View additional information and the application here: <http://www.nashuacc.edu/student-services/academic-success-center/disability-services> In order to receive classroom accommodations, it is the student's responsibility to meet with his/her instructor privately and provide a hard copy of the signed Reasonable Accommodation Plan (RAP) each term the student wants to utilize classroom accommodations even if the student has had that instructor in a previous term.

**Audio Record Classroom Lecture:** Please note that as a student in this class, you may have a classmate who by permission can audio record class lectures for his/her learning purposes. **Only students with prior written permission** from the instructor or the Disabilities Support Coordinator may audio record class lectures - *for educational purposes only*. Students who audio record class lectures are prohibited from selling, transcribing, or distributing the recordings in *any manner* and are asked to delete the recordings when it is no longer essential for their learning purposes.

Instructors may record their own class lectures, activities, and discussions using electronic video, still photo, or audio recording for educational purposes, including academic research, professional development, and recording of course content for access through online learning and other formats. Every student present will be informed by the instructor of any recording at the beginning of class.

## Department Policies

Cellphones, laptops, tablets and other electronic equipment should be shut off during class unless previously approved by instructor.

### **Required Tools:**

All students are required to possess hand tools per the *Required Tool List*. Each student is expected to have the tools available for each lab session. The instructor reserves the right to refuse admission to (or dismiss from) lab any student who is not regularly prepared with the required tools. All tools should be at the college no later than the first Monday in October.

### **Tool Box Storage**

Nashua Community College and the Automotive Department require that students purchase a basic set of tools when taking any one of the automotive courses. This list can be found on the College's website.

Students are responsible for having the complete tool kit by the first week of October. The toolbox and its contents will be inspected to ensure every student has the mandatory tool kit.

Storage of student toolboxes is a privilege and as such, NCC will allow you to store your toolbox in our building for as long as you are enrolled and in good standing in automotive classes at the College.

You must remove your toolbox within 30 days of your last date of attendance of an automotive course. After 30 days, your toolbox will be considered abandoned; the box and its contents will become the property of NCC.

NCC is not responsible for theft or damage to your toolbox or any of its contents while being stored at the College.

Toolboxes may be left at the college during break so long as the student is registered for classes the following semester. If students chooses to leave their tools here, they will not be able to access them until classes begin after the break.

Students must have the key to their toolbox when they come to remove the box from the college.

Every toolbox and its contents must be inspected by one of the Automotive Department Faculty before the student can remove the toolbox.

### **Shop Policies**

---

1. All students, faculty and visitors must wear safety glasses when using any power tools, striking tools, and/or when vehicles are on a lift. Work should always be stopped when visiting groups enter the shop floor.
2. All students are required to supply and wear their own personal protective equipment while on the shop floor; there are no exceptions to this policy.
3. All tools and equipment should be stored away when they are finished being used; student tool boxes must be locked and stored in their designated area/room at the end of class.
4. There will be no playing of music during labs, as it causes a distraction.
5. No food or uncovered drinks are allowed in the classroom and shop areas; only covered drinks are permissible.
6. Cell phone use is not allowed in the shop unless a student has permission from the instructor; all calls and text messages should be done before class, after class, or during breaks.
7. **All lab rooms must be cleaned at the end of each lab; there are no exceptions to this policy.**

8. Broken/malfunctioning tools and equipment should be reported to the instructor immediately.
9. Any vehicle left in the shop or outside for repairs must have the keys tagged and left with the instructor. All keys should be placed on the board in the office for vehicles that are left outside.
10. Only work pertaining to the course outline should be performed during lab times; i.e., no brake repairs during electrical class, etc. **There are no exceptions to this policy.**
11. Any student wishing to perform work on their own personal vehicle after class must make arrangements with one of their instructors to do so. It is at the instructor's discretion to allow such work to be performed, and instructors **MUST** be present for the entire time that the student is working in the shop.
12. A student may not perform work on any vehicle unless that student has been properly trained in that particular area. (For example, a student cannot replace brakes if they have not taken the brakes course).
13. Students cannot use any tools or equipment unless they have been trained prior to use by an NCC faculty member.
14. Any work performed after class cannot interfere with or disrupt any other class or activity. Students cannot "skip" another class to work on their vehicle.
15. Disabled vehicles should not be driven by students. Disabled vehicles should be pushed or pulled to where they need to go.
16. Any disabled vehicle left for repairs should be clearly marked with what the issue is (for example, "no brakes") and a note should be placed on the windshield or steering wheel.
17. Students **MUST NOT** operate any vehicle that is not legally registered, even their own. **Unregistered vehicles cannot be driven on campus.**
18. All invoices for vehicle repairs **MUST** be paid in full within 24 hours of completion of the repair. Any repair order with parts exceeding \$150.00 must be paid the same day or in advance of work being performed. All invoices are to be paid in the Business Office.
19. Students will be required to remove jackets and sweatshirts with draw strings or remove the draw strings while working in the lab, regardless of the activity.

## Lab Policies and Expectations

Working in a typical automotive shop or "lab" environment requires that all participants observe and abide by all safety rules while, at the same time, practicing good common sense. Students must always be aware of the many moving parts, pressurized components and electric items encountered when servicing a vehicle. Extreme caution must be practiced when lifting or hoisting a vehicle. **Safety for all shop personnel is job one.**

Consideration must be given to the vehicle and the service operation that no harm comes to the vehicle. Students are required to treat each vehicle, including training vehicles, with respect. Students are expected to reassemble components correctly and with all fasteners installed and torqued.

Consideration must also be given to the learning experience related to the operation. Service information is available to the student in print form and through online information systems. Students are expected to reference related procedures and specifications for the job at hand. The student is also required to consult with the instructor to confirm proper procedure before attempting any repair that is unfamiliar to the student. This is a learning environment so don't be afraid to ask for help.

## College Policies

**Non-Discrimination Policy:** The NCC Equity Committee is designated to coordinate compliance with the Non-Discrimination Policy and handles all concerns of discrimination that occur on campus that are not covered under Title IX. View more information here [Non-Discrimination Policy and Grievance Procedure](#)

**Title IX Policy:** Classroom instructors at Nashua Community College are encouraged to create and maintain a safe learning environment in which students feel able to share opinions and related life experiences in classroom discussions, in written work, and in meetings with professors. To the greatest extent possible, this information will be kept private. However, staff and faculty have a legal obligation to report information concerning sexual misconduct, violence and exploitation of individuals per federal statute and in compliance with established policies and procedures at Nashua Community College. If you have been subjected to sexual misconduct, violence or exploitation, we encourage you to contact your Title IX representative Lizbeth Gonzalez, 603-578-8900 x1528 or [lgonzalez@ccsnh.edu](mailto:lgonzalez@ccsnh.edu) for support and assistance. View more information here [Title IX Policy and Grievance Procedure](#)

**Attendance:** Regular attendance and active class participation are essential for academic success. If a student must be absent from class, the student should



contact his/her professor and follow the professor's make up policy listed in the syllabus under course expectations.

Rarely, a student may experience a serious situation that prevents that student from attending class for an extended period. This could be for reasons such as illness/hospitalization, loss of childcare, or lack of transportation. In these situations, the student should notify his/her professor as soon as possible and contact the advising center for assistance [nccacademicadvisingcenter@ccsnh.edu](mailto:nccacademicadvisingcenter@ccsnh.edu)

**AF Policy:** If a student misses more than the number of hours the course meets during a two-week period (e.g. six hours for a three credit course), the faculty may withdraw a student from the course with an "AF" grade. Please note that absences, tardies, and leaving class early all count towards "missed class time." In an online or hybrid course, the faculty may withdraw a student for not participating in online activities and/or submitting assignments for two weeks. Logging into Canvas does not count as participation.


Students should also understand an AF grade can be assigned by an instructor or an administrator at any time for reasons other than poor grade performance or failure to meet attendance requirements e.g., violation of the Student Code of Conduct, disruptive behavior, etc.

Please be advised that if the behavior of any student (or students) continually disrupts the learning of his/her classmates, the following steps will be taken 1) verbal warning; 2) meeting with instructor and department chair; 3) referral to Vice President of Academic Affairs and/or removal from the course with AF grade.

An "AF" grade is calculated in the GPA as an "F". Students should refer to the student handbook for additional information about the AF policy.

**Canvas:** Canvas is the online learning management system used by instructors and learners at Nashua Community College. Instructors will post syllabi, course related documents and grades in Canvas. Students may be required to submit assignments and/or take assessments through Canvas and/or participate in discussion boards. **If class is ever cancelled because of instructor illness or inclement weather, students will need to check Canvas for their assignment.**

**24/7 Canvas Support:** To access support through email, phone or chat

click on the  icon. Students can also find guides, videos, and a Canvas community by clicking on the *CCSNH Resources* icon on the tool bar at the left of the Canvas screen then choosing Canvas Resources.

If you have forgotten your Easy Login Password information, please visit the following link: <https://password.ccsnh.edu/accounts/Reset>

**College Email System:** Nashua Community College has established a College email system as a means of the College sending official information to enrolled students, and for students to send communication to their instructors and College personnel. All students registered at NCC will be assigned a College email account/address to be used as the only email address for all email communication: 1) sent to the students from their instructors and from all College personnel; and, 2) sent by the students to their instructors and to all College personnel.

In addition:

- Students should check their College email account regularly to ensure they are staying current with all official communications. Official communication includes, but is not limited to, policy announcements, registration and billing information, schedule changes, emergency notifications and other critical and time sensitive information.
- Students should also check their college email account to be sure that they are current with all email communication from their faculty.
- The student email account/address should be the only e-mail address students use to send email to faculty and College personnel so that student email is recognized and opened.
- This service is provided exclusively to the students of NCC. Accounts are for individual use only, and are not transferable or to be used by any other individual.
- Students using their College email account do so under the policies set forth in the Student Handbook under "Student Computer Conduct Code".

**Sensitive Materials Policy:** During the semester, in order to cover certain academic topics, there may be occasions to view or discuss material which may not meet the student's own personal definition of appropriateness. At such times, every student has the right to decide not to participate. Every effort will be made by the instructor to notify students in advance of when such sensitive material will be used so that students can make alternative arrangements. Faculty will guide students in the identification of alternate learning opportunities consistent with relevant course objectives so that students opting out of scheduled "sensitive" learning experiences will not be penalized academically in any way. Please note the opportunity to leave the classroom discretely is always available to each student when such sensitive material is being discussed. The student then has the responsibility before the next class meeting to inform the instructor as to the reason for leaving.

**Plagiarism Policy:** Plagiarism is a serious violation of a student's academic integrity and the trust between a student and his or her teachers. Plagiarism is the act of a person presenting another person's work as if it were his or her own original work. Such acts of plagiarism include, but are not limited to:

1. A student submitting as his or her own work an entire essay or other assignment written by another person.
2. A student submitting as his or her own creation the artwork (including but not limited to a painting, drawing, photograph, object, digital representation) of another person.

3. A student taking word for word a section or sections of another person's work without proper acknowledgment of the source and quotation.
4. A student using statistics or other such facts or insights as if these were the result of the student's efforts and thus lacking proper acknowledgment of the original source.
5. The paraphrasing of another person's unique work with no acknowledgment of the original source.
6. Copying another student's work on a quiz or test.

Some instructors may consider self-plagiarism to be a form of plagiarism. Self-plagiarism includes **submitting the same paper** in response to **two different** assignments. Please consult with your instructor and carefully review instructor expectations posted on your syllabus if you have any questions.

When a student is found to have plagiarized an academic assignment, it will be up to each instructor to determine the penalty. Depending on the severity of the incident, this could range from a warning to a loss of credit for the assignment. In all cases of plagiarism, the instructor will notify the student's advisor by posting an alert on EAB Navigate. The advisor will then document the incident on EAB using advisor notes. If any further incidents of plagiarism are reported to the student's advisor, additional sanctions will be imposed. These may include notification of the Vice President of Academic Affairs; loss of credit for the course; suspension or dismissal from a department program; academic probation; and/or expulsion from the College.

### Credit Hour Guidelines

1. A credit hour shall be the equivalent of one (1) hour of classroom or direct faculty instruction and a minimum of two (2) hours of out-of-class student work each week for 15 or 16 weeks.
2. A credit hour shall be allocated based on the following:

Category	Contact Hours per Week	Contact Hours per Sem. (based on minimum 15 week semester)
Class	1	15
Laboratory	2 or 3	30-45
Clinical	3 to 5	45-75
Practicum, Fieldwork	3	45
Internship	3 to 6	45-90
Co-op	Variable by Dept.	Variable by Dept.

## Course Calendar

Week #	Begins	LECTURE/DISCUSSION	LAB	ASSIGNMENT DUE
1	Aug 29	Chapter 2 and 3 Course introduction, careers, certification, safety	Safety tour, SDS(MSDS), Hazardous waste, tools and usage, Fire, SRS/Hybrid/HID, safety Quiz Vehicle cleaning/sterilizing procedures	Ch2 and 3
2	Sep 5	Chapter 9 and 11 Shop equipment and lifting equipment	Lift safety quiz, HeliCoil, Preparing Vehicle for Service, Preparing Vehicle for Customer, Vehicle inspections, oil change, tire rotate, TPMS reset	Chapter 9 and 11
3	Sep 12	Chapter 7 Hardware, Fasteners, Drills and Thread repair	Helicoil, Oil change demo, tire rotation demo Concern, Cause, Correction	Chapter 7
4	Sep 19	Chapter 12 Engine Lubrication	Vehicle inspection	Ch12 ASE 1-10
5	Sep 26	Chapter 13 Under hood and body Inspection	Vehicle inspection, oil changes, tire rotation and balancing	Ch13 ASE 1-10
6	Oct 3	Chapter 62 Wheel and Tire Service	Under car inspection	Ch 62 ASE 1-10
7	Oct 10	Chapter 14 Under Car inspection	Vehicle inspections, oil change, tire rotate, TPMS reset	Ch14 ASE 1-10
8	Oct 17	Mid Term Review	PMI Midterm	Mid Term
9	Oct 24	Chapter 51 Engine Sealing, Gaskets, Fastener Torque	Review all material up to this point	Ch51 ASE 1-10
10	Oct 31	Chapter 20 Cooling system	Inspect and adjust accessory drive belts	Ch20 ASE 1-10
11	Nov 7	Chapter 22 Automotive Belts	Hose and clamp inspection, replacement	Ch22 ASE1-5
12	Nov 14	Chapter 23 Automotive Hoses	Inspect air filter, continue vehicle inspections and bolt exercise Oxy/Acetylene torch demo	Ch23 ASE 1-5
13	Nov 21	Vehicle inspection	Vehicle inspection	,
14	Nov 28	Pre purchase, used car inspection	Pre purchase, used car inspection	
15	Dec 5	Review for final	Review for final	Review for final
16	Dec 13 – 16	Lab Exam Schedule TBA		

**This schedule is subject to change**