COURSE TITLE: Intro to Automotive Technology (AUMT 1405-5A)

CREDIT

4 Semester Credit Hours (3 hours lecture, 4hour Lab)

MODE OF INSTRUCTION

Face to Face

INSTRUCTOR CONTACT INFORMATION

Instructor: Bob Hodnett

Email: rhodnett@lit.edu

Office Phone: 409-257-0065

Office Location: ATC-#104

Office Hours: Monday / Wednesday 10:30a.m.-12:00p.m. pm during semester. By appointment only.

PREREQUISITE/CO-REQUISITE:

(NONE)

COURSE DESCRIPTION

AUMT 1405 introduces the basics of automotive technology and the overall industry with the following topics: vehicle construction and major systems; shop safety and workplace skills; hand and power tools and equipment; measurement; factory service information and work orders; fasteners; oils, coolants, lubricants, and chemicals; vehicle maintenance, including fluid service and vehicle cleaning and detailing; industry careers; ASE certification preparation; and workplace skills. This course will give you the knowledge to secure an entry-level job, such as a technician at a local oil change shop. It will also lay the groundwork for later courses in this program.

COURSE OBJECTIVES

Upon completion of this course, the student will be able to:

- Recall the differences between an automotive part, assembly, and system.
- Describe the overall construction, sizes, body types, and general specifications of modern vehicles.
- Describe a vehicle's engine and related operating systems, including the fuel, cooling, lubrication, exhaust, and emission control systems.
- Explain how the three major sections of a vehicle's computer system interact.
- Identify the subsystems of a vehicle's electrical system.
- Describe and explain the proper use of basic hand tools and their proper use.

- Describe vehicle drive train types, and identify the proper maintenance and service schedules in order too properly fill out a workorder.
- Recall the basic design and purpose of vehicle suspension, steering, and brake systems.
- Identify the accessory and safety systems found in modern vehicles.

REQUIRED TEXTBOOK AND MATERIALS

1. Modern Automotive Technology (Digital Textbook)
   Author: James E. Duffy/Brian Lacroix
   Publisher: Goodheart and Willcox Company, Inc.
   ISBN # 979-8-89118-989-8 11th edition *
2. Modern Automotive Technology (Digital Workbook))
   Author: James E. Duffy/Brian Lacroix
   Publisher: Goodheart and Willcox Company, Inc.
   ISBN # 979-8-89118-989-8 11th edition *
3. Modern Automotive Technology (Digital Shop Manual)
   Author: James E. Duffy/Brian Lacroix
   Publisher: Goodheart and Willcox Company, Inc.
   ISBN # 979-8-89118-989-8 11th edition *
4. Notebook and 8.5" x 11" notebook paper
5. Blue and Black ink pen.
6. Lap top or Tablet with internet capability's

ATTENDANCE POLICY

1. Missing more than 20% of classes will result in an automatic "F" for the course.
2. Absences are counted for unexcused, excused and coming to class late.
3. Missing more than 20% of a class period will count as an absence.
4. Being tardy 3 times equals 1 absence.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

Course Schedule

Weeks:	**Topic**	**Reference**
1/2/3	Course introduction, policies, Basic Automotive Technology & Safety • Lecture/Lab • Chapters 1 & 2 • Quiz	Handouts
4/5	Basic hand tools • Lecture/ Lab • Chapter 3 • Quiz	
6	Power Tools & Equipment • Lecture/Lab • Chapter 4 • Review Chapters:1,2,3&4 • Test	
7	Automotive Measurement • Lecture/Lab • Chapter 5 • Review Chapter 5 • Quiz	
8/9/10	Service information, workorders. Vehicle maintenance, fluid service & recycling • Lecture/Lab • Chapter 6 & 9 • Review Chapters 6&9 • Quiz	
11/12/13	Fasteners, gaskets, seals, & sealants Automotive oils, coolants, lubricants, chemicals. • Lecture/Lab • Chapter 7 & 8 • Review Chapters: 7&8 • Test	
14/15	Vehicle cleaning detailing. Automotive careers & ASE certification. Foundational & workplace skills • Lecture/Lab • Chapters 10,11, 12 • Review Chapters: 10,11, &12	
16	Finals Week • Test	

Calendar dates are subject to change due to unforeseen circumstances.
Check Blackboard for any changes in due dates

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Daily work, quizzes, and homework assignment.	**40%**
Lab	**30%**
Homework	**10%**
Final Exam	**20%**
Total	***100%***

GRADE SCALE

- 90-100 A
- 80-89.9 B
- 70-79.9 C
- 60-69.9 D
- 0-59.9 F

TECHNICAL REQUIREMENTS

1. The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be found online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

No Cell Phone use will be allowed in class, unless it is known to the instructor, for a special reasoning.

All cell phones must be turned off and put away. Text messaging during class time will not be tolerated. Text messaging during an exam will be considered academic dishonesty. The exam will be considered over and the student will receive a zero for the exam.

2. **No** smoking or use of any **tobacco** products allowed including vapes
3. Do not bring any **food** or **drinks** in class
4. No visitor allowed in class including children
5. **Do not disturb lecture for any reason. If you must leave class or come in late, do so without disturbing class.**
6. **DRESS CODE: Proper work attire only, NO *Open shoes, Short pants, low riding, or sleeveless shirts,* will be allowed in any program classrooms.**
7. **No** grades will be **dropped**, No homework or assignments can be made up or accepted after instructor has taken up for grading.

8. **Homework** must be done **in proper outline form, neat and legible**, prepared on **loose leaf (8.5" X 11") note book paper**, written only on **one** side.
9. Assignment must be turn in at the beginning of class
10. Any student caught cheating will be dropped from class and given an F for the semester grade.
11. Students are required to be present for all examinations and lectures.
12. There is NO MAKE-UP for missing any quizzes or major test or exams
13. Learning activities will be subjectively graded by the instructor. Students assigned to a group must be present at all times when the project is being worked on.
14. Instructor will reply to students email in a reasonable time or within 3 working days. Not available on Friday, Saturday, Sundays, Holidays or days the campus is closed.

NOTE:

Students who violate any of these policies will be asked to leave class and given an absent for the class period. Students who are continuing disturbing classes will be suspended from class for the remainder of the semester and given an grade of F.

Students may vary in their competency levels on these abilities. You can expect to acquire these abilities only if you honor all course policies, attend classes regularly, complete all assigned work in good faith and on time, and meet all other course expectations of you as a student.

Course Outline:

The Automobile

Vehicle Parts, Assemblies, and Systems

Vehicle Construction

Engine

Computer System

Electrical System

Drive Train Systems

Suspension, Steering, and Brake Systems

Accessory and Safety Systems

Auto Shop Safety

Auto Shop Layout

Shop Safety

Preventing Physical Injury

Fire Prevention

Preventing Electrical Accidents

General Shop Safety Rules

Basic Hand Tools

Tool Storage and General Rules

Wrenches

Screwdrivers

Pliers

Hammers

Punches and Chisels

Files

Holding and Cutting Tools

Cleaning and Scraping Tools

Probe and Pickup Tools

Pry Bars and Pullers

3.12 Insulated Tools

Power Tools and Equipment

Compressed Air System

Air Tools

Electric Tools

Hydraulic Tools

Shop Equipment

Automotive Measurement

Measuring Systems

Measuring Tools

Torque Wrenches and Measurement Gauges

Service Information and Work Orders

Service Information

Additional Information Sources for Technicians

Work Orders

Vehicle Identification Numbers

Fasteners, Gaskets, Seals, and Sealants

Bolts and Nuts

Nonthreaded Fasteners

Torqueing Bolts and Nuts

Thread Repairs

Removing Damaged Fasteners

Gaskets and Seals

Automotive Oils, Coolants, Lubricants, and Chemicals

Engine Oils

Engine Oil Standards

Transmission, Driveline, and Brake Fluids

Coolants

Common Shop Lubricants and Chemicals

Vehicle Maintenance, Fluid Service, and Recycling

Preventative Maintenance

Fluid Service

Filter Service

Chassis Lubrication

Tire Service

Multipoint Vehicle Inspection

Recycling and Disposal of Auto Shop Waste

Vehicle Cleaning and Detailing

Exterior Cleaning

Paint Decontamination

Removing Isolated Scuffs and Scratches

Paint Corrections

Paint Protection

Headlight Restoration

Interior Cleaning and Detailing

Automotive Careers and ASE Certification preparation.

The Automotive Technician

Preparing for a Career in Automotive Technology

ASE Certification preparation

Foundational and Workplace Skills

Desirable Workplace Traits

Professional Image

Pay Structures

Types of Shops

Applying for a Position