

MIDLAND COLLEGE
SYLLABUS
AUMT 1307
AUTOMOTIVE ELECTRICAL SYSTEMS
2-4

Course Description: An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of, charging and starting systems, and electrical accessories. Emphasis on electrical principles, schematic diagrams, and service publications. May be taught manufacturer specific.

Text, References and Supplies: Required: **Cengage Unlimited digital e-book--** "AUTOMOTIVE SERVICE INSPECTION MAINTENANCE REPAIR" by Tim Gilles 6th Edition. (Note: only one workbook is required for ALL courses: AUMT 1305, 1307, 1310, 1316, 2317)---- Cengage Unlimited ISBN-13: 9781337956413

Course Goals/Objectives: Utilizing appropriate safety procedures, the student will interpret wiring schematics and symbols; explain electrical principles; and explain the theory and principles of battery starting, charging systems, and automotive electrical accessories; demonstrate diagnosis and repair of battery starting, charging systems, automotive electrical accessories and basic electrical wiring and terminal repairs. Demonstrate proper use of electrical test equipment and Ohms law application. Define basic electrical principles, interpret wiring schematics and symbols, and explain operation of batteries, starting/charging systems, and automotive circuits.

- A. BASIC ELECTRICAL SYSTEM THEORY
- B. BATTERY FUNDAMENTALS
- C. BATTERY SERVICES
- D. STARTING SYSTEM FUNDAMENTALS
- E. STARTING SYSTEM SERVICE
- F. CHARGING SYSTEM FUNDAMENTALS
- G. CHARGING SYSTEM SERVICE
- H. LIGHTING AND WIRING FUNDAMENTALS
- I. LIGHTING SYSTEMS DIAGNOSIS AND REPAIR
- J. LIGHTING AND WIRING SERVICE
- K. SAFETY, SECURITY, COMFORT SYSTEMS, AND ELECTRICAL ACCESSORIES

Students may perform the following tasks in order to maintain safe lab and classroom spaces:

- Participate in shop and classroom maintenance which may include, but not limited to sweeping, mopping, disposing of trash, cleaning work benches, organize tools and equipment, organize tool room, disinfect classroom tables and chairs.
- Disassemble discontinued lab training vehicles or equipment for salvage.
- Repurpose lab vehicles to be utilized in lab assignments.
- Other course related tasks as assigned by instructor.

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Student Contributions and Class Policies:

Students MUST actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity will be reported as never attended and dropped from the course.

1. Student/Participant must furnish a set of approved safety eye glasses.
2. Student/Participant must understand class attendance is critical; therefore, three consecutive absences or five total absences may be considered justification for failure or dismissal from class.
3. Punctuality, being prepared for class, being alert, participating pro-actively and exhibiting a respectful and appropriate attitude will be required.

Evaluation of Students:

10% = Attendance/Punctuality
10% = Professionalism/Participation
25% = Mid-term & Final exams
40% = Skills Objectives (Lab Assignments)
15% = Knowledge Objectives (Classroom Assignments)
100% Total

90 and above	A
80-89	B
70-79	C
60-69	D
59 and below	F

Course Schedule: This class meets for 2 lecture hours and 4 lab hours per week.

SCANS Information: SCANS skills are taught and/or reinforced in automotive courses. The student must locate, read, interpret and understand instruction information and direction materials. The participant must communicate thoughts, ideas and information through verbal and written mediums. Practical arithmetic and mathematics will apply continually throughout automotive technology training. Listening, interpreting, and responding to verbal communications and instructions as well as speaking in response to questioning will be a daily involvement. Thinking, reasoning, visualizing and problem solving are required assets to the automotive technician. The student/participant must display responsibility, self-management and honesty.

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Administrative Information:

Curt Pervier, Division Dean Technical Studies

Lisa Tanner, Applied Technology Secretary
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Fax: (432) 685-6472

Pete Avalos, Department Chair/Professor
ATC Office #128
(432) 681-6344
pavalos@midland.edu

Students should feel free to contact the instructor at any time. Appointments are encouraged for advising and planning the most appropriate or beneficial course work.

Non-Discrimination Statement

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individual has been designated to handle inquiries regarding the non-discrimination policies:

Tana Baker

Title IX Coordinator/Compliance Officer
3600 N. Garfield, SSC 131
Midland, Texas 79705
(432) 685-4781

tbaker@midland.edu

For further information on notice of non-discrimination, visit the ED.gov Office of Civil Rights website, or call 1 (800) 421-3481.

Americans with Disabilities Act (ADA) Statement:

Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must visit www.midland.edu/accommodation and complete the Application for Accommodation Services located under the Apply for Accommodations tab. Services or accommodations are not automatic, each student must apply and be approved to receive them. All documentation submitted will be reviewed and a "Notice of Accommodations" letter will be sent to instructors outlining any reasonable accommodations.