

SYLLABUS

Code: AUTO 241

Title: Automotive
Electricity/Electronics II

Institute: STEM **Department:** Automotive

Course Description: Beginning with a review of fundamentals, this course proceeds into capacitance, magnetism, semi-conductors, amplifiers, integrated circuits, and microprocessors as they relate to the modern automobile. Practical application of the above information will be stressed as part of the diagnostic and trouble-shooting procedures.

Prerequisites: A grade of "C" or higher in AUTO 123 and AUTO 141

Corequisites:

Prerequisites or Corequisites:

Credits: 3

Lecture Hours: 0

Lab/Studio Hours: 0

REQUIRED TEXTBOOK/MATERIALS:

Safety glasses, basic hand tools, textbook (see college bookstore website)

ADDITIONAL TIME REQUIREMENTS:

None

COURSE LEARNING OUTCOMES:

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

- Describe verbally and in written form, the operational characteristics of capacitors, magnetically operated devices, semi-conductors, amplifiers, integrated circuits and microprocessors.
- Perform standard industry tests on the above components as they apply to automotive circuits.
- Diagnose advanced automotive electrical problems using appropriate test equipment

GRADING STANDARD:

I. GRADING

The final grade for the course you are taking will be determined by several factors. It will combine performance in both classroom and laboratory activities as stated below:

CLASSROOM GRADING

For all grades, **attendance** and **tardiness** will be monitored and will be a determining factor in your final grade. After 3 unexcused class sessions, students will be advised to drop the class.

All classroom assignments must be completed satisfactorily.

Students must maintain the following averages on tests and quizzes to receive grades indicated.

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A	95 -100
A-	92 - 94
B+	88 - 91
B	84 - 87
B-	80 - 83
C+	75 - 79
C	70 - 74
D	60 - 69
F	Below 60
INC	This grade is given at the discretion of the instructor. Minimally, the student must have completed 70% of both the classroom and laboratory assignments at a satisfactory level.

It is the student's responsibility to approach the instructor to request an INC grade prior to the end of the term. Incomplete assignments must be completed within 21 working days after the end of the term in which they received INC grade.

LABORATORY GRADING

ALL LAB ASSIGNMENTS MUST BE COMPLETED. A GRADE OF "C" OR BETTER IS REQUIRED ON ALL LAB ASSIGNMENTS TO PASS THIS COURSE.

The following describes the basic levels of performance a student must demonstrate to receive one of the grades listed below on LABS ONLY.

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|---|---|
| A | Students need to meet the requirements listed below for "C" and "B" level work, and in addition, the student must demonstrate superior skill level and professional work habits, while working on a "live" vehicle (where appropriate). |
| B | Students must meet the requirements for "C" level work as listed below, and in addition, the student must be able to demonstrate an in depth understanding of the system being serviced. |
| C | The student must complete all tasks at a mastery level . Mastery is defined as: the ability to perform a task at a level that restores, services, or repairs components or systems to an adequate and safe level of performance in accordance with standard industry practice. |
| D | Inability to complete Lab assignments to acceptable industry standards as described in C grade above. Students will need to perform lab again. |
| F | Unsatisfactory preparation and performance of Lab assignment. Students will be referred to instructor. |

II. STUDENT RESPONSIBILITIES

1. Students must be prepared to perform each lab correctly and **safely**. Research your assignment in the appropriate service information resource prior to beginning lab work. (electronic service information, service manual, technical service bulletins, text book, etc.).
2. Familiarize yourself with the tools, equipment and procedures that will be required to complete your assignment.
3. Schedule adequate time to complete your lab work. Be prompt -- bays will be held for only 15 minutes.
4. Students are required to provide the basic hand tools that are needed to complete each lab assignment.
5. Students must report to tool room and fill out a grade sheet before beginning lab assignment.

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6. Have your work checked and lab sheet initialed by a learning assistant at each designated point in the lab.
7. Upon completion of your lab work:
 - CLEAN and return all equipment to the toolroom.
 - Sweep and mop entire bay area.
 - Clean work benches, tool carts and any other work areas used.
 - Have lab assistant grade your work.

COURSE CONTENT:

(Supplemental unit information such as topics could include unit learning outcomes.)

<u>UNIT #</u>	<u>UNIT TITLE</u>
1.	Fundamentals
2.	Series Circuits
3.	Parallel and Series/Parallel Circuits
4.	Wire Repair
5.	Solid State Semi-Conductors
6.	Capacitance and Magnetism
7.	Reading Schematics, Interpretation
8.	Strategy for Diagnosis

DEPARTMENT POLICIES:

For Department Policies, please refer to our website at:

<https://www.brookdalecc.edu/stem-institute/automotive-technology/>

College Policies:

As an academic institution, Brookdale facilitates the free exchange of ideas, upholds the virtues of civil discourse, and honors diverse perspectives informed by credible sources. Our College values all students and strives for inclusion and safety regardless of a student's disability, age, sex, gender identity, sexual orientation, race, ethnicity, country of origin, immigration status, religious affiliation, political orientation, socioeconomic standing, and veteran status. For additional information, support services, and engagement opportunities, please visit www.brookdalecc.edu/support.

For information regarding:

- ◆ Brookdale's Academic Integrity Code
- ◆ Student Conduct Code
- ◆ Student Grade Appeal Process

Please refer to the [BCC STUDENT HANDBOOK AND BCC CATALOG](#).

NOTIFICATION FOR STUDENTS WITH DISABILITIES:

Brookdale Community College offers reasonable accommodations and/or services to persons with disabilities. Students with disabilities who wish to self-identify must contact the Disabilities Services Office at 732-224-2730 (voice) or 732-842-4211 (TTY) to provide appropriate documentation of the disability, and request specific accommodations or services. If a student qualifies, reasonable accommodations and/or services, which are appropriate for the college level and are recommended in the documentation, can be approved.

ADDITIONAL SUPPORT/LABS:

See the Tutoring Center for information <https://www.brookdalecc.edu/academic-tutoring/tutoring-center/>.

MENTAL HEALTH:

- Mental Health Crisis Support: From a campus phone, dial 5555 or 732-224-2329 from an external line; off-hours calls will be forwarded to BCC police (2222 from a campus phone)
- Psychological Counseling Services: 732-224-2986 (to schedule an appointment during regular hours)

The syllabus is intended to give student guidance in what may be covered during the semester and will
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be followed as closely as possible. However, the faculty member reserves the right to modify, supplement, and make changes as the need arises.