



INSTRUCTIONAL PACKAGE

EEM 117
AC/DC Circuits I

Effective Term
2021-2022

INSTRUCTIONAL PACKAGE

Part I: Course Information

Effective Term: 202110

COURSE PREFIX: EEM-117

COURSE TITLE: AC/DC Circuits 1

CONTACT HOURS: 6

CREDIT HOURS: 4

RATIONALE FOR THE:

This course serves as a foundation course in the mechatronics Curriculum. Specifically, student will be introduced to electricity and electrical circuits, and best practices for safely working with electricity in an industrial environment. This course serves as a prerequisite and/or co-requisite to all Mechatronics courses.

COURSE DESCRIPTION:

This course is a study of direct and alternating current theory, Ohm's Law, series, parallel, and combination circuits. Circuits are constructed and tested.

PREREQUISITES/CO-REQUISITES:

((ACCUPLACER Reading Comp 032 and ACCUPLACER Sentence Skills 036) or
(New ACCUPLACER Reading Comp 200 and New ACCUPLACER Sentence Skills 200) or
(COMPANION Reading 032 and COMPANION Sentence Skills 036) or
(SAT Critical Reading 300) or
(ACT Reading 12 and ACT English 10) or
(Multiple Measures English 1) or
(Credit level [ENG 032](#) Minimum Grade of C* or Credit level [ENG 100](#) Minimum Grade of C* or
Credit level [ENG 155](#) Minimum Grade of C or Credit level [ENG 155](#) Minimum Grade of TC or
Credit level [ENG 101](#) Minimum Grade of C or Credit level [ENG 101](#) Minimum Grade of TC))
and (Credit level [MAT 032](#) Minimum Grade of C* or Credit level [MAT 155](#) Minimum Grade of C
or Credit level [MAT 155](#) Minimum Grade of TC or
Credit level [MAT 101](#) Minimum Grade of C or Credit level [MAT 101](#) Minimum Grade of TC or
ACCUPLACER Elementary Algebra 040 or ACCUPLACER Arithmetic 024 or
New ACCUPLACER Arithmetic 200 or New ACCUPLACER Adv Algebra 200 or
SAT Mathematics 400 or New SAT Mathematics 350 or ACT Math 13 or Multiple Measures
Math 1)

***Online/Hybrid** courses require students to complete the DLI Online Student Orientation prior to completing an online course. The DLI Online Student Orientation can be found in WaveNet, under the My Student tab.

REQUIRED MATERIALS:

Please visit the [BOOKSTORE](#) online site for most current textbook information. Use the direct link below to find textbooks.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

ADDITIONAL REQUIREMENTS:

Headphones/earbuds for multimedia content, scientific calculator, (TI36x Pro or equivalent), USB flash drive. Colored pens or pencils, ¼ ruled graph paper

TECHNICAL REQUIREMENTS:

Access to Desire2Learn (D2L), HGTC's student portal for course materials.
myHGTC and college email access.
Access to AmatroL e-learning LMS

STUDENT IDENTIFICATION VERIFICATION

Students enrolled in online courses will be required to participate in a minimum of one (1) proctored assignment and/or one (1) virtual event to support student identification verification. Please refer to your Instructor Information Sheet for information regarding this requirement.

CLASSROOM ETIQUETTE:

As a matter of courtesy to other students and your professor, please turn off cell phones and other communication/entertainment devices before class begins. If you are monitoring for an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

NETIQUETTE: is the term commonly used to refer to conventions adopted by Internet users on the web, mailing lists, public forums, and in live chat focused on online communications etiquette. For more information regarding Netiquette expectations for distance learning courses, please visit [Online Netiquette](#).

Part II: Student Learning Outcomes

COURSE LEARNING OUTCOMES and ASSESSMENTS*:

1. Students shall exhibit critical reasoning when confronted with technical day-to-day problems and challenges.
2. Students shall know and demonstrate safe working habits and procedures IAW current OSHA standards.
3. Students shall analyze DC circuits using Ohm's, Kirchhoff's, Watt's laws for series and parallel circuits.

4. Students shall analyze Ac circuits to include inductive, capacitive, resistive and combination circuits.
5. Students will be able to calculate the power factor of an AC circuit.
6. Students should be able to describe the operation of transformer and relay devices.
7. Students will be able to interpret electrical diagrams by identifying common diagram symbols.
8. Student will be able to calculate transformer circuit parameters when using turns ration formulas
9. Students will be able to operate electrical and electronics equipment to test and diagnose circuit operation.

**Students – please refer to the Instructor’s Course Information sheet for specific information on assessments and due dates.*

General Education Outcomes

This course fulfills the following General Education Outcomes through the Upon completion of this course, students will be able to:

- Communicate effectively
- Think critically
- Self and professional development.

Effective Professional and Interpersonal Communication (EPIC)

This course fulfills HGTC’s Quality Enhancement Plan for Effective Professional and Interpersonal Communication. Upon completion of this course, students will be able to:
(Check all that apply.)

- Utilize appropriate communication formats when conveying professional and interpersonal thoughts and ideas.
- Apply appropriate language when speaking and writing for their chosen field of study or Industry.
- Demonstrate appropriate communication techniques when engaging audiences.

Part III: Grading and Assessment

EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS*:

Students' performance will be assessed, in accordance with the weight associated with the various measures/artifacts listed below.

EVALUATION*

Tests/Quizzes	20%
Labs	30%
Assignments	20%
Class Participation	5%
Shop Practices	5%
Final Exam	20%
	100%

****Students, for the specific number and type of evaluations, please refer to the Instructor's Course Information Sheet.***

GRADING SYSTEM:

Please note the College adheres to a 10 point grading scale A = 100 – 90, B = 89- 80, C = 79 – 70, D = 69 – 60, F = 59 and below. You must have your Dean's approval if changes in the scale are made.

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the [academic calendar](#) for deadlines for add/drop. You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of 80 percent (80%) of their classes in order to receive credit for any course. Due to the varied nature of courses taught at the college, some faculty may require up to 90 percent (90%) attendance. Pursuant to 34 Code of Federal Regulations 228.22 - Return to Title IV Funds, once a student has missed over 20% of the course or has missed two (2) consecutive weeks, the faculty is obligated to withdraw the student and a student may not be permitted to reenroll. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

For online and hybrid courses, check your Instructor's Course Information Sheet for any required on-site meeting times. Please note, instructors may require tests to be taken at approved testing sites, and if you use a testing center other than those provided by HGTC, the center may charge a fee for its services.

Part V: Student Resources



THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):

The SSTC offers to all students the following **free** resources:

1. **Academic tutors** for most subject areas, **Writing Center support**, and **college success skills**.
2. Online **tutoring** and academic support resources.
3. Professional and interpersonal communication **coaching** in the EPIC Labs.

Visit the [Student Success & Tutoring Center](#) website for more information. To schedule tutoring, contact the SSTC at sstc@hgtc.edu or self-schedule in the Penji iOS/Android app or at www.penjiapp.com. Email sstc@hgtc.edu or call SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455, or go to the [Online Resource Center](#) to access on-demand resources.



STUDENT INFORMATION CENTER: TECH Central

TECH Central offers to all students the following **free** resources:

1. **Getting around HGTC:** General information and guidance for enrollment, financial aid, registration, and payment plan support!
2. Use the [Online Resource Center \(ORC\)](#) including Office 365 support, password resets, and username information.
3. **In-person workshops, online tutorials and more services** are available in Desire2Learn, Student Portal, Degree Works, and Office 365.
4. **Chat with our staff on TECH Talk**, our live chat service. TECH Talk can be accessed on the student portal and on TECH Central's website, or by texting questions to (843) 375-8552.

Visit the [Tech Central](#) website for more information. Live Chat and Center locations are posted on the website. Or please call (843) 349 – TECH (8324), Option #2.

STUDENT TESTING:

Testing in an **online/hybrid** course may be accomplished in a variety of ways:

- Test administered within D2L
- Test administered in writing on paper
- Test administered through Publisher Platforms

Furthermore, tests may have time limits and/or require a proctor.

Proctoring can be accomplished either face-to-face at an approved site or online through our online proctoring service. To find out more about proctoring services, please visit the [Online Testing](#) section of the HGTC's Testing Center webpage.

The **Instructor Information Sheet** will have more details on test requirements for your course.

DISABILITY SERVICES:

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to HGTC's [Accessibility and Disability Service webpage](#). The Accessibility and Disability staff will review documentation of the student's disability and, in a confidential setting with the student, develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided.

STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:

Horry-Georgetown Technical College prohibits discrimination and harassment, including sexual harassment and abuse, on the basis of race, color, sex, national or ethnic origin, age, religion, disability, marital or family status, veteran status, political ideas, sexual orientation, gender identity, or pregnancy, childbirth, or related medical conditions, including, but not limited to, lactation in educational programs and/or activities.

TITLE IX REQUIREMENTS:

All students (as well as other persons) at Horry-Georgetown Technical College are protected by Title IX—regardless of their sex, sexual orientation, gender identity, part- or full-time status, disability, race, or national origin—in all aspects of educational programs and activities. Any student, or other member of the college community, who believes that he/she is or has been a victim of sexual harassment or sexual violence may file a report with the college's Chief Student Services Officer, campus law enforcement, or with the college's Title IX Coordinator, or designee.

*Faculty and Staff are required to report incidents to the Title IX Coordinators when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

INQUIRIES REGARDING THE NON-DISCRIMINATION/TITLE IX POLICIES:

Student and prospective student inquiries concerning Section 504, Title II, and Title IX and their application to the College or any student decision may be directed to the Vice President for Student Affairs.

Dr. Melissa Batten, VP Student Affairs

Title IX Coordinator

Building 1100, Room 107A, Conway Campus

PO Box 261966, Conway, SC 29528-6066

843-349-5228

Melissa.Batten@hgtc.edu

Employee and applicant inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Vice President for Human Resources.

Jacquelyne Snyder, VP Human Resources

EEO and Title IX Coordinator

Building 200, Room 212A, Conway Campus

PO Box 261966, Conway, SC 29528-6066

843-349-5212

Jacquelyne.Snyder@hgtc.edu