



**ELCR-1010 Direct Current Circuits
COURSE SYLLABUS
Spring Semester 2018**

COURSE INFORMATION

Credit Hours/Minutes: 6 Hours / 5250 Minutes
Class Location: Gillis Building, Room 827, Vidalia Campus
Class Meets: Tuesday and Thursday (TR), 1:00 PM to 4:30 PM
Course Reference Number (CRN): 40152

INSTRUCTOR CONTACT INFORMATION

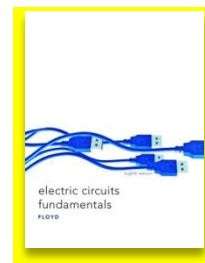
Instructor Name: William Greene
Office Location: Gillis Building, Room 822, Vidalia Campus
Office Hours: Monday through Thursday, 10:30 AM to Noon, 1:00 PM to 3:00 PM
Email Address: [William Greene \(wgreene@southeasterntech.edu\)](mailto:wgreene@southeasterntech.edu)
Phone: (912) 538-3102
Fax Number: (912) 538-3106

SOUTHEASTERN TECHNICAL COLLEGE'S (STC) CATALOG AND STUDENT HANDBOOK

Students are responsible for all policies and procedures and all other information included in Southeastern Technical College's [Catalog and Student Handbook \(http://www.southeasterntech.edu/student-affairs/catalog-handbook.php\)](http://www.southeasterntech.edu/student-affairs/catalog-handbook.php).

REQUIRED TEXT

Electric Circuit Fundamentals, 8th ed.
by Thomas L. Floyd,
published by Prentice Hall,
ISBN# 0-13-507293-X



REQUIRED SUPPLIES & SOFTWARE

Engineering / Scientific Calculator (TI-83 Plus or better recommended)

Note: Although students can use their smart phones and tablets to access their online course(s), exams, discussions, assignments, and other graded activities should be performed on a personal computer. Neither Blackboard nor Georgia Virtual Technical Connection (GVTC) provide technical support for issues relating to the use of a smart phone or tablet so students are advised to not rely on these devices to take an online course.

COURSE DESCRIPTION

Introduces Direct Current (DC) circuit concepts and applications.

MAJOR COURSE COMPETENCIES / COURSE OUTLINE

1. Laboratory Procedures and Safety Practices

2. Electrical Laws and Principles
3. DC Test Equipment
4. Basic Series, Parallel, and Combination Circuits
5. Complex Series and Parallel Circuits
6. DC Theorems

PREREQUISITE(S)

MATH 1012 (out of program), MATH 1013 (diploma), or MATH 1111 (diploma/degree)

GENERAL EDUCATION CORE COMPETENCIES

Southeastern Technical College has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

STUDENT REQUIREMENTS

Students are expected to complete all tests and comprehensive problems by the due dates. A ten point penalty will be assessed for each day a comprehensive problem is late. There are no makeup tests. Tests are made available for several days; therefore, there are no makeup tests. Students who miss a test will be assigned a grade of zero. Students are responsible for policies and procedures included in the [STC Catalog and Student Handbook](#). All online students must pledge that they have read and understand the STC Online Orientation within the first five days of class. Online students are responsible for checking e-mails and Blackboard announcements DAILY.

ATTENDANCE GUIDELINES

Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of "F" (Failing 0-59) and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an "F" in a course.

SPECIAL NEEDS

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact [Helen Thomas](mailto:hthomas@southeasterntech.edu) (hthomas@southeasterntech.edu), 912-538-3126, to coordinate reasonable accommodations.

SPECIFIC ABSENCES

Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

PREGNANCY

Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126.

WITHDRAWAL PROCEDURE

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" (Withdrawn) is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of "F" being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

Remember - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

MAKEUP GUIDELINES (TESTS, QUIZZES, HOMEWORK, PROJECTS, ETC.)

Students are required to take all tests and complete all assignments scheduled during the semester. Failure to take Tests/Exam(s) and complete assignments will result in a grade of zero. There will be no makeup of assignments or EXAMS. If Internet or browser failure occurs, contact instructor immediately. A decision will be made at that time if the exam will be reset. Instructor reserves the right to deduct points from the exam scores for exceeding the scheduled time limit on the exam and/or requiring student to come to campus to take the final exam. Note: If student notifies instructor about exam problems because of technical issues after the due date or on the last day of the semester, the student will NOT be allowed to make-up the exam. No exceptions! Assignments must be turned in on the assigned date and will not be accepted late, a grade of zero will be given. ALL Assignments are due according to the lesson plan.

ACADEMIC DISHONESTY POLICY

The Southeastern Technical College Academic Dishonesty Policy states that all forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline. The policy can also be found in the Southeastern Technical College Catalog and Student Handbook.

PROCEDURE FOR ACADEMIC MISCONDUCT

The procedure for dealing with academic misconduct and dishonesty is as follows:

1. First Offense

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

2. Second Offense

Student is given a grade of "WF" (Withdrawn Failing) for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

3. Third Offense

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of third offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

STATEMENT OF NON-DISCRIMINATION

The Technical College System of Georgia and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, sex, religion, disability, age, political affiliation or belief, genetic information, disabled veteran, veteran of the Vietnam Era, spouse of military member or citizenship status (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

<p>American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer</p>	<p>Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer</p>
<p>Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1st Street, Vidalia Office 108 Phone: 912-538-3126 Email: Helen Thomas hthomas@southeasterntech.edu</p>	<p>Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1st Street, Vidalia Office 138B Phone: 912-538-3147 Email: Blythe Wilcox bwilcox@southeasterntech.edu</p>

ACCESSIBILITY STATEMENT

Southeastern Technical College is committed to making course content accessible to individuals to comply with the requirements of Section 508 of the Rehabilitation Act of Americans with Disabilities Act (ADA). If you find a problem that prevents access, please contact the course instructor.

GRIEVANCE PROCEDURES

Grievance procedures can be found in the Catalog and Handbook located on Southeastern Technical College's website.

ACCESS TO TECHNOLOGY

Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the [Southeastern Technical College \(STC\) Website \(www.southeasterntech.edu\)](http://www.southeasterntech.edu).

TECHNICAL COLLEGE SYSTEM OF GEORGIA (TCSG) GUARANTEE/WARRANTY STATEMENT

The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.

GRADING POLICY

Assessment/Assignment	Percentage
Exams	30%
Homework	10%
Laboratories	20%
Study Guides	5%
Final Exam*	35%

GRADING SCALE

Letter Grade	Range
A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

DISCLAIMER STATEMENTS:

- (1) Instructor reserves the right to change the syllabus and/or lesson plan as necessary.
- (2) The official copy of the syllabus is located inside the student's online course shell or will be given to them during face to face class time the first day of the semester. The syllabus displayed in advance of the semester in a location other than the course you are enrolled in is for planning purposes only.

* ELECTRONICS COMPETENCY EXAMS:

The ELCR-1010 Final Exam is the **Electronics Systems Associate (ESA) Level 1 – Direct Current Circuits Exam**. The cost for taking this exam is **\$35** payable to the STC Business Office before the last week of the semester. Please plan for this cost to complete the Direct Current series of classes successfully. A grade of 75% or higher on this exam will result in the student being awarded their ESA Level 1 certificate from the International Society of Certified Electronics Technicians (ISCET).

No minimum grade is required for this exam; however, this exam will carry a **35% grading weight**. Poor performance on this exam could result in a final class grade of <70 out of 100 which will require the student to retake ELCR-1010.

Upon successful completion of Levels 1 through 4 of the ESA exams (i.e. ≥75% on ESA 1 through 4 exams), the student is awarded the Associate Certified Electronics Technician (CET) Certificate from the ISCET.

Students who wish to retake any ESA Exam in order to improve their grades to receive their Associate CET Certificate can do so at a cost of \$15 per exam within two years of the original purchase of their test voucher for that exam.

ELCR-1010 Direct Current Circuits Spring Semester 2018 Lesson Plan

WEEK 1

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Jan 8	None	None	None	None
Jan 9	1.1, 1.2	Class Introduction – Syllabi, Outline, Rules, and Regulations Coverage Section 1.1 – Scientific & Eng Notation Section 1.2 – Units & Metric Prefixes	Read Sections 1.1 & 1.2 [On BLACKBOARD] Read / Review START HERE info POST to appropriate Message Boards	1, b,c
Jan 10	1.1, 1.2		Do Section 1.1 & 1.2 Reviews Read Sections 1.3, 1.4 & 1.5	1, b,c
Jan 11	1.3 – 1.5	Section 1.3 – Metric Unit Conversions Section 1.4 – Measured Numbers Section 1.5 – Electrical Safety	Do Section 1.3 & 1.4 Reviews Read Section 1.5	1, b,c

WEEK 2

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Jan 15	None	Holiday	Holiday	None
Jan 16	1	LabVolt – Trainer Familiarization Chapter 1 Review	Complete Chapter 1 Homework Complete Chapter 1 Study Guides	1, a,b,c
Jan 17			Study for Chapter 1 Test	1, b,c
Jan 18	1 2.1 – 2.3	Chapter 1 Test Section 2.1 – Atoms Section 2.2 – Electrical Charge Section 2.3 – Voltage	Read Sections 2.1, 2.2 & 2.3	1, a,b,c
Jan 22			Do Section 2.1 – 2.3 Reviews Read Sections 2.4 & 2.5	2, b,c

WEEK 3

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Jan 23	2.4 – 2.5	Section 2.4 – Current Section 2.5 – Resistance LabVolt – Electronic Quantities	Read Sections 2.6 & 2.7	2,3, a,b,c
Jan 24	2.6, 2.7		Read Sections 2.6 & 2.7	2,3, c
Jan 25	2.6, 2.7	Section 2.6 – The Electric Circuit Section 2.7 – Basic Circuit Measurements LabVolt – Switches & Concepts	Do Section 2.6 & 2.7 Reviews	2,3, a,b,c
Jan 29	2		Complete Chapter 2 Homework Complete Chapter 2 Study Guides	2,3, b,c

WEEK 4

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Jan 30	2	Chapter 2 Review Chapter 2 Test	Read Sections 3.1 – 3.5	2,3, a,b,c
Jan 31	3.1 – 3.5		Watch Chapter 3 Video DE-12	2, c
Feb 1	3.1 – 3.5	Section 3.1 – Ohm’s Law Section 3.2 – Application of Ohm’s Law Section 3.3 – Energy & Power Section 3.4 – Power in an Electric Circuit Section 3.5 – Power Rating of Resistors	Do Section 3.1 – 3.5 Reviews	2, b,c
Feb 5	3.6 – 3.8		Read Sections 3.6 – 3.8	2, c

WEEK 5

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Feb 6	3.1 – 3.8	LabVolt – Ohm’s Law		2,3, a,b,c
Feb 7			Read Sections 3.6 – 3.8	2,3, c
Feb 8	3.6 – 3.8	Section 3.6 – Energy Conversion and Voltage Drop in a Resistance Section 3.7 – Power Supplies Section 3.8 – Intro to Troubleshooting	Do Section 3.6 – 3.8 Reviews	2, b,c
Feb 12	3		Complete Chapter 3 Homework Complete Chapter 3 Study Guides	2,3, b,c

WEEK 6

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Feb 13	3	Chapter 3 Review Chapter 3 Test	Read Sections 4.1 – 4.5	2-4, a,b,c
Feb 14			Do Section 4.1 – 4.5 Reviews	4, b,c
Feb 15	4.1 – 4.5	Section 4.1 – Resistors in Series Section 4.2 – Total Series Resistance Section 4.3 – Current in a Series Circuit Section 4.4 – Applications of Ohm’s Law Section 4.5 – Voltage Sources in Series	Read Sections 4.6 – 4.10	4, b,c
Feb 19	4		Read Sections 4.6 – 4.10	3,4, c

WEEK 7

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Feb 20	4.8 – 4.10	Section 4.6 – Kirchoff’s Voltage Law Section 4.7 – Voltage Dividers Section 4.8 – Power in Series Circuits Section 4.9 – Voltage Measurements Section 4.10 – Troubleshooting	Do Section 4.6 – 4.10 Reviews	3,4, b,c
Feb 21	4		Complete Chapter 4 Homework	3,4, b,c
Feb 22	4	LabVolt – Series Resistive Circuits Chapter 4 Review		3,4, a,b,c
Feb 26	4		Complete Chapter 4 Study Guides	3,4, b,c

WEEK 8

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Feb 27	4	Chapter 4 Review Chapter 4 Test	Read Sections 5.1 – 5.4	3,4, a,b,c
Feb 28	5		Watch Chapter 5 Video DE-16	4, c
Mar 1	5.1 – 5.4	Section 5.1 – Resistors in Parallel Section 5.2 – Total Parallel Resistance Section 5.3 – Voltage in Parallel Circuits Section 5.4 – Application of Ohm’s Law MID-TERM	Read Sections 5.5 – 5.8	4, b,c
Mar 5	5.1 – 5.4		Do Section 5.1 – 5.4 Reviews	4, b,c

WEEK 9

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Mar 6	5.5 – 5.8	Section 5.5 – Kirchoff’s Current Law Section 5.6 – Current Dividers Section 5.7 – Power in Parallel Circuits Section 5.8 – Troubleshooting	Do Section 5.5 – 5.8 Reviews	4, b,c
Mar 7	5.5 – 5.8		Watch Chapter 5 Video F-13	4, c
Mar 8	5	LabVolt – Parallel Resistive Circuits Chapter 5 Review		3,4, a,b,c
Mar 12			Complete Chapter 5 Homework Complete Chapter 5 Study Guides	3,4, b,c

WEEK 10

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Mar 13	5	Chapter 5 Review Chapter 5 Test 60% Semester Point		3,4, a,b,c
Mar 14	6.1 – 6.4		Read Sections 6.1 – 6.4	4,5, c
Mar 15	6.1 – 6.4	Section 6.1 – Identifying Series-Parallel Section 6.2 – Analysis of Series-Parallel Section 6.3 – Voltage Dividers w/ Loads Section 6.4 – Loading Effect of Voltmeters		4,5, b,c
Mar 19	6.1 – 6.4	65% Drop Deadline for Classes	Do Section 6.1 – 6.4 Reviews	4,5, b,c

WEEK 11

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Mar 20	6.1 – 6.4	LabVolt – Series/Parallel Resistive Circuit		3-5, a,b,c
Mar 21	6.1 – 6.4		Study for Sections 6.1 - 6.4 Exam	3-5,b,c
Mar 22	6.1 – 6.4	Chapter 6: Series-Parallel Circuits - Sections 6.1 - 6.4 Test		3-5, a,b,c
Mar 26	6.5 – 6.7		Read Sections 6.5 – 6.7	5,6, c

WEEK 12

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Mar 27	6.5 – 6.7	Section 6.5 – The Wheatstone Bridge Section 6.6 – Thevenin’s Theorem Section 6.7 – Maximum Power Transfer	Do Section 6.5 – 6.7 Reviews	5,6, b,c
Mar 28			Study for Sections 6.5 – 6.7 Exam	3-6, b,c
Mar 29	6.5 – 6.7	LabVolt – Thevenin’s Theorem Chapter 6: Series-Parallel Circuits - Sections 6.5 - 6.7 Test		3-6, a,b,c
Apr 2-5	None	SPRING BREAK	SPRING BREAK	None
Apr 9	6.5 – 6.7		Read Sections 6.8 – 6.9	4-6, c

WEEK 13

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Apr 10	6.8	Section 6.8 – The Superposition Theorem Section 6.9 – Troubleshooting		4-6, b,c
Apr 11	6.8		Do Section 6.8 Review Read Section 6.9	3-6, a,b,c
Apr 12	6.9	Chapter 6: Series-Parallel Circuits - Sections 6.8 - 6.9 Test	Do Section 6.9 Review Complete Chapter 6 Homework Complete Chapter 6 Study Guides	3-6, a,b,c
Apr 16	6.8 6.9		Read Appendix C	4-6, c

WEEK 14

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Apr 17	App C	Current Sources Norton's Theorem		4-6, b,c
Apr 18	App C		Read Appendix C	4-6, c
Apr 19	App C	Millman's Theorem LabVolt – Millman's Theorem		3-6, a,b,c
Apr 23			Study for Appendix C Exam	

WEEK 15

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Apr 24	App C	Appendix C Test ISCET ESA Exam Review	Study for Final Exam	3-6, a,b,c
Apr 25	1 – 6		Study for Final Exam	1-6, b,c
Apr 26	1 – 6	ISCET ESA Exam Review	Study for Final Exam	1-6, b,c
Apr 30	1 – 6		Study for Final Exam	1-6, b,c
May 1	1 – 6	ISCET ESA Exam Review Semester Classes End	Study for Final Exam	1-6, b,c

FINALS WEEK

Date	Chapter /Lesson	Content	Assignments & Tests Due Dates	Competency Area
May 2	1 – 6	DC Circuits Final Exam [Proctored] ISCET ESA-1 Exam	9:00 AM Test Time	1-6, b,c
May 3	1 – 6	DC Circuits Final Exam [Proctored] ISCET ESA-1 Exam	1:00 PM Test Time	1-6, b,c

COMPETENCY AREAS:

1. Laboratory Procedures and Safety Practices
2. Electrical Laws and Principles
3. DC Test Equipment
4. Basic Series, Parallel, and Combination Circuits
5. Complex Series and Parallel Circuits
6. DC Theorems

GENERAL CORE EDUCATIONAL COMPETENCIES:

- a) The ability to utilize standard written English.
- b) The ability to solve practical mathematical problems.
- c) The ability to read, analyze, and interpret information.