



## **ELCR-1030 Solid State Devices COURSE SYLLABUS Fall Semester 2019**

### **COURSE INFORMATION**

Credit Hours/Minutes: 5 Hours / 4500 Minutes

Campus / Class Location: Vidalia Campus / Building B, Room 827

Class Meets: Monday and Wednesday (MW), 5:15 PM to 7:55 PM

Course Reference Number (CRN): 20007

### **INSTRUCTOR CONTACT INFORMATION**

Instructor Name: William (Chip) Greene

Office Location: Vidalia Campus / Building B, Room 822

Office Hours: MTWR from 8:00 AM to 9:00 AM and 10:30 AM to 11:30 AM

Email Address: [wgreene@southeasterntech.edu](mailto:wgreene@southeasterntech.edu)

Phone: (912) 538-3102

Fax Number: (912) 538-3106

Preferred Method of Contact: Text or Email to Instructor

### **SOUTHEASTERN TECHNICAL COLLEGE'S (STC) CATALOG AND HANDBOOK**

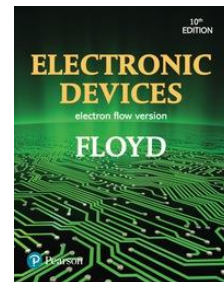
Students are responsible for all policies and procedures and all other information included in Southeastern Technical College's [Catalog and Handbook](http://www.southeasterntech.edu/student-affairs/catalog-handbook.php) (<http://www.southeasterntech.edu/student-affairs/catalog-handbook.php>).

### **REQUIRED TEXT**

*Electronic Devices, Electron Flow Version*

*10th edition*

by Thomas L. Floyd,  
published by Prentice Hall,  
ISBN# 0-13-442010-1



### **REQUIRED SUPPLIES & SOFTWARE**

Engineering / Scientific Calculator

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. Students should not share login credentials with others and should change passwords periodically to maintain security.

## **COURSE DESCRIPTION**

This course provides instruction in the theory and application of solid state devices in the electronics industry. Emphasis is placed on the physical characteristics and uses of solid state devices. Topics include PN diodes, power supplies, voltage regulation, bipolar junction theory and application, field effect transistors, and special applications.

## **PREREQUISITE(S)**

ELCR 1020

## **MAJOR COURSE COMPETENCIES / COURSE OUTLINE**

1. PN Diodes
2. Power Supplies
3. Voltage Regulation
4. Bipolar Junction Theory and Application
5. Field Effect Transistors
6. Special Applications

## **GENERAL EDUCATION CORE COMPETENCIES**

STC 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 (TRADITIONAL)**

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 E-Catalog. 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.

## **TRADITIONAL 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 also 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 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.

## **STUDENTS WITH DISABILITIES**

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact the appropriate campus coordinator to request services.

**Swainsboro Campus:** [Macy Gay, \(mgay@southeasterntech.edu\)](mailto:mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1210

**Vidalia Campus:** [Helen Thomas, \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165

## **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 make arrangements with the appropriate campus coordinator.

**Swainsboro Campus:** [Macy Gay, \(mgay@southeasterntech.edu\)](mailto:mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1210

**Vidalia Campus:** [Helen Thomas, \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165

It is strongly encouraged that requests for consideration be made **PRIOR** to delivery and early enough in the pregnancy to ensure that all the required documentation is secured before the absence occurs. Requests made after delivery **MAY NOT** be accommodated. The coordinator will contact your instructor to discuss accommodations when all required documentation has been received. The instructor will then discuss a plan with you to make up missed assignments.

## **WITHDRAWAL PROCEDURE**

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% point of the term in which student is enrolled (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 for the course(s) when the student completes the withdrawal form.

Important – Student-initiated withdrawals are not allowed after the 65% point. After the 65% point of the term in which the student is enrolled, the student has earned the right to a letter grade and will receive a grade for the course. Please note: Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of "F" (Failing 0-59) being assigned.

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

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 also speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. A grade of "W" will count in attempted hour calculations for the purpose of Financial Aid.

## **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 STC Academic Dishonesty Policy states 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 STC 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" 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 (TCSG) and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, gender, 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 nondiscrimination policy encompasses the operation of all technical college-administered programs, federally financed programs, educational programs and activities involving admissions, scholarships and loans, student life, and athletics. It also applies to the recruitment and employment of personnel and contracting for goods and services.

All work and campus environments shall be free from unlawful forms of discrimination, harassment and retaliation as outlined under Title IX of the Educational Amendments of 1972, Title VI and Title VII of the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act of 1967, as amended, Executive Order 11246, as amended, the Vietnam Era Veterans Readjustment Act of 1974, as amended, Section 504 of the Rehabilitation Act of 1973, as amended, the Americans With Disabilities Act of 1990, as amended, the

Equal Pay Act, Lilly Ledbetter Fair Pay Act of 2009, the Georgia Fair Employment Act of 1978, as amended, the Immigration Reform and Control Act of 1986, the Genetic Information Nondiscrimination Act of 2008, the Workforce Investment Act of 1998 and other related mandates under TCSG Policy, federal or state statutes.

The Technical College System and Technical Colleges shall promote the realization of equal opportunity through a positive continuing program of specific practices designed to ensure the full realization of equal opportunity.

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

<b>American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer</b>	<b>Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer</b>
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 <sup>st</sup> Street, Vidalia Office 165 Phone: 912-538-3126 Email: <a href="mailto:Helen.Thomas@southeasterntech.edu">Helen.Thomas@southeasterntech.edu</a>	Lanie Jonas, Director of Human Resources Vidalia Campus 3001 East 1 <sup>st</sup> Street, Vidalia Office 138B Phone: 912-538-3230 Email: <a href="mailto:Lanie.Jonas@southeasterntech.edu">Lanie.Jonas@southeasterntech.edu</a>

### 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 STC’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).

### 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 *	55%
Homework	10%
Laboratories	25%
Study Guides	10%

## 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:

ELCR-1030 grading is based on the individual chapter exams and labs for the course. However, the final exam for ELCR-1060 (Linear Integrated Circuits) is the ESA Level 3 Exam which covers both Solid State Devices (ELCR-1030) and Linear Integrated Circuits (ELCR-1060).

As we complete each chapter (or area) of the solid state devices material, you will see an icon that will tell you specifically which portions of the ESA-3 material you should now be reviewing for your final exam in ELCR-1060.

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-1060.

Upon successful completion of all four parts of the ESA exams (i.e.  $\geq 75\%$  on ESA I through IV exams), the student is awarded their Associate 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-1030 Solid State Devices

### Fall Semester 2019 Lesson Plan

#### WEEK 1 (AUG IS AUGUST)

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Aug 13				
Aug 14	1.1, 1.2, 1.3	Class Introduction – Syllabi, Outline, Rules, and Regulations Coverage <b>(Sect is Section)</b> Sect 1.1 – Atomic Structure Sect 1.2 – Materials Used in Electronics Sect 1.3 – Current in Semiconductors	<b>[On Blackboard]</b> Read / Review <b>START HERE</b> info POST to appropriate <b>Message Boards</b> Read Sect 1.1, 1.2 & 1.3	1, b,c
Aug 15	1		Read Sect 1.4 & 1.5	1, b,c
Aug 19	1.4, 1.5	Sect 1.4 – N & P-Type Semiconductors Sect 1.5 – The PN Junction	<b>LabVolt – Introduction to Semiconductors</b>	1, b,c

#### WEEK 2

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Aug 20	1	BLACKBOARD	<b>Complete Chapter 1 Study Guides</b> <b>Complete Chapter 1 Homework</b> Study for Chapter 1 Exam	1, a,b,c
Aug 21	1 2.1, 2.2, 2.3	BLACKBOARD Sect 2.1 – Diode Operation Sect 2.2 – Voltage-Current Characteristics of a Diode Sect 2.3 – Diode Approximations	<b>Chapter 1 Exam</b> Read Sect 2.1, 2.2 and 2.3	1,2, b,c
Aug 22	2		Read Sect 2.4, 2.5 and 2.6	2, b,c
Aug 26	2.4, 2.5, 2.6	Sect 2.4 – Half-Wave Rectifiers Sect 2.5 – Full-Wave Rectifiers Sect 2.6 – Power Supply Filters and Regulators		2, b,c

**WEEK 3 (SEPT IS SEPTEMBER)**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Aug 27</b>	<b>2</b>		Read Sect 2.7, 2.8, 2.9 & 2.10	2, b,c
<b>Aug 28</b>	<b>2.7, 2.8, 2.9, 2.10</b>	Sect 2.7 – Diode Limiters and Clampers Sect 2.8 – Voltage Multipliers Sect 2.9 – The Diode Data Sheet Sect 2.10 – Troubleshooting		1, b,c
<b>Aug 29</b>	<b>2</b>	BLACKBOARD	Begin Chapter 2 Study Guides Begin Chapter 2 Homework	1,2, a,b,c
<b>Sept 2</b>	<b>No Class</b>	HOLIDAY – LABOR DAY	HOLIDAY – LABOR DAY	<b>No Class</b>
<b>Sept 3</b>	<b>2</b>	BLACKBOARD	Continue Chapter 2 Study Guides and Chapter 2 Homework	1,2, a,b,c

**WEEK 4**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Sept 4</b>		Chapter 2 Review	<b>LabVolt – Diodes and Half-wave Rectification</b> <b>LabVolt – Full-Wave Rectification and Filter</b>	
<b>Sept 5</b>	<b>2</b>	BLACKBOARD	<b>Complete Chapter 2 Study Guides</b> <b>Complete Chapter 2 Homework</b> Study for Chapter 2 Exam	1,2, b,c
<b>Sept 9</b>	<b>2</b> <b>3.1, 3.2, 3.3, 3.4</b>	BLACKBOARD Sect 3.1 – The Zener Diode Sect 3.2 – Zener Diode Applications Sect 3.3 – Varactor Diodes Sect 3.4 – Optical Diodes	<b>Chapter 2 Exam</b> Read Sect 3.1, 3.2, 3.3 and 3.4	1,2,3, b,c
<b>Sept 10</b>	<b>3</b>		Read Sect 3.5 and 3.6 Begin Chapter 3 Study Guides Begin Chapter 3 Homework	1,3,6, a,b,c



**WEEK 5**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Sept 11</b>	<b>3.5, 3.6, 3.7</b>	Sect 3.5 – The Solar Cell Sect 3.6 – Other Types of Diodes Sect 3.7 – Troubleshooting Chapter 3 Review	<b>LabVolt – Diode Wave Shaping &amp; Zener Regulation</b>	1,3,6, b,c
<b>Sept 12</b>	<b>3</b>	BLACKBOARD	<b>Complete Chapter 3 Study Guides</b> <b>Complete Chapter 3 Homework</b> Study for Chapter 3 Exam	1,3,6, a,b,c
<b>Sept 16</b>	<b>3</b> <b>11.1,</b> <b>11.2,</b> <b>11.3,</b> <b>11.4</b>	BLACKBOARD Sect 11.1 – The Four-Layer Diode Sect 11.2 – The Silicon-Controlled Rectifier (SCR) Sect 11.3 – SCR Applications Sect 11.4 – The Diac and Triac	<b>Chapter 3 Exam</b> Read Sect 11.1, 11.2, 11.3 and 11.4	1,3,6, b,c
<b>Sept 17</b>	<b>11</b>	BLACKBOARD	Read Sect 11.5, 11.6 and 11.7 Begin Chapter 11 Study Guides Begin Chapter 11 Homework	1,3,6, a,b,c

**WEEK 6**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Sept 18</b>	<b>11.5,</b> <b>11.6,</b> <b>11.7</b>	Sect 11.5 – The Silicon-Controlled Switch (SCS) Sect 11.6 – The Unijunction Transistor (UJT) Sect 11.7 – The Programmable Unijunction Transistor (PUT)	<b>LabVolt – Silicon Controlled Rectifier</b>	1,3,6, b,c
<b>Sept 19</b>	<b>11</b>	BLACKBOARD	<b>Complete Chapter 11 Study Guides</b> <b>Complete Chapter 11 Homework</b>	1,3,6, a,b,c
<b>Sept 23</b>	<b>11</b>	Chapter 11 Review	<b>LabVolt – UJT Triggered SCR Power Control</b> Study for Chapter 11 Exam	1,3,6, b,c
<b>Sept 24</b>	<b>11</b>	BLACKBOARD	<b>Chapter 11 Exam</b> Read Sect 4.1, 4.2 and 4.3	1,3,6, b,c

**WEEK 7 (OCT IS OCTOBER)**

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Sept 25	4.1, 4.2, 4.3	Sect 4.1 – Bipolar Junction Transistor (BJT) Structure Sect 4.2 – Basic BJT Operation Sect 4.3 – BJT Characteristics and Parameters		4, b,c
Sept 26	4		Read Sect 4.4, 4.5 and 4.6	4, b,c
Sept 30	4.4, 4.5, 4.6	Sect 4.4 – The BJT as an Amplifier Sect 4.5 – The BJT as a Switch Sect 4.6 – The Phototransistor		4, b,c
Oct 1	4	BLACKBOARD	Read Sect 4.7 and 4.8 Begin Chapter 4 Study Guides Begin Chapter 4 Homework	4, a,b,c

**WEEK 8**

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Oct 2	4.7, 4.8	Sect 4.7 – BJT Categories & Packaging Sect 4.8 – Troubleshooting	<b>LabVolt – Transistor Junctions &amp; PNP Bias</b>	4, b,c
Oct 3	4		<b>Complete Chapter 4 Study Guides</b> <b>Complete Chapter 4 Homework</b> Study for Chapter 4 Exam	4, a,b,c
Oct 7	4	BLACKBOARD	<b>Chapter 4 Exam</b>	4, b,c
Oct 8	5	<b>MID-TERM (for Full Term)</b>	Read Sect 5.1 and 5.2 (DC is Direct Current)	4, b,c

**WEEK 9**

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Oct 9	5.1, 5.2	Sect 5.1 – The DC Operating Point Sect 5.2 – Voltage-Divider Bias		4, b,c
Oct 10	No Class	<b>Staff Development Day – No Class</b>	<b>Staff Development Day – No Class</b> Read Sect 5.3 and 5.4	<b>No Class</b>
Oct 14	5.3, 5.4	Sect 5.3 – Other Bias Methods Sect 5.4 – Troubleshooting	<b>LabVolt – Introduction to Transistor Amps</b>	4, b,c
Oct 15	5	BLACKBOARD	Begin Chapter 5 Study Guides Begin Chapter 5 Homework	4, a,b,c
Oct 16	5	Chapter 5 Review	<b>LabVolt – Bias Stabilization</b>	4, b,c

**WEEK 10**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Oct 17</b>	<b>5</b>	BLACKBOARD	<b>Complete Chapter 5 Study Guides</b> <b>Complete Chapter 5 Homework</b> Study for Chapter 5 Exam	4, a,b,c
<b>Oct 21</b>	<b>5</b>	BLACKBOARD	<b>Chapter 5 Exam</b>	4, b,c
<b>Oct 22</b>	<b>6</b>	(AC is Alternating Current) (Amp is Amplifier)	Read Sect 6.1, 6.2, and 6.3	4, b,c
<b>Oct 23</b>	<b>6.1, 6.2, 6.3</b>	Sect 6.1 – Amplifier Operations Sect 6.2 – Transistor AC Models Sect 6.3 – The Common-Emitter Amp	<b>LabVolt – Common Emitter Circuit</b> <b>65% Point for Full Term Semester</b>	4, b,c

**WEEK 11**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Oct 24</b>	<b>6</b>		Read Sect 6.4, 6.5, and 6.6	4, b,c
<b>Oct 28</b>	<b>6.4, 6.5, 6.6</b>	Sect 6.4 – The Common-Collector Amp Sect 6.5 – The Common-Base Amp Sect 6.6 – Multistage Amplifiers	<b>LabVolt – Common Collector Circuit</b> Read Sect 6.7 and 6.8	4, a,b,c
<b>Oct 29</b>	<b>6</b>	BLACKBOARD	Begin Chapter 6 Study Guides Begin Chapter 6 Homework	4, b,c
<b>Oct 30</b>	<b>6.7, 6.8</b>	Sect 6.7 – The Differential Amplifier Sect 6.8 – Troubleshooting Chapter 6 Review	Study for Chapter 6 Exam	4,6, b,c

**WEEK 12 (NOV IS NOVEMBER)**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Oct 31</b>	<b>6</b>	BLACKBOARD	<b>Complete Chapter 6 Study Guides</b> <b>Complete Chapter 6 Homework</b>	4, a,b,c
<b>Nov 4</b>	<b>7.1, 7.2</b>	BLACKBOARD Sect 7.1 – The Class A Power Amp Sect 7.2 – Class B and Class AB Amps	<b>Chapter 6 Exam</b> Read Sect 7.1 and 7.2	4,6, b,c
<b>Nov 5</b>	<b>7</b>	BLACKBOARD	Read Sect 7.3 and 7.4 Begin Chapter 7 Study Guides Begin Chapter 7 Homework	4,6, a,b,c
<b>Nov 6</b>	<b>7.3, 7.4</b>	Sect 7.3 – The Class C Amp Sect 7.4 – Troubleshooting Chapter 7 Review	Study for Chapter 7 Exam <b>Complete Chapter 7 Study Guides</b> <b>Complete Chapter 7 Homework</b>	4,6, a,b,c

**WEEK 13**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Nov 7</b>	<b>8</b>	BLACKBOARD (FET is Field-Effect Transistor) (JFET is Junction Field-Effect Transistor)	<b>Chapter 7 Exam</b> Read Sect 8.1, 8.2, 8.3 and 8.4	4,6, b,c
<b>Nov 11</b>	<b>8.1, 8.2, 8.3, 8.4</b>	Sect 8.1 – The JFET Sect 8.2 – JFET Characteristics and Parameters Sect 8.3 – JFET Biasing Sect 8.4 – The Ohmic Region		5, b,c
<b>Nov 12</b>	<b>8</b>	BLACKBOARD (MOSFET is Metal Oxide Semiconductor Field-Effect Transistor)	Read Sect 8.5, 8.6 and 8.7 Begin Chapter 8 Study Guides Begin Chapter 8 Homework	5, a,b,c
<b>Nov 13</b>	<b>8.5, 8.6, 8.7</b>	Sect 8.5 – The MOSFET Sect 8.6 – MOSFET Characteristics and Parameters Sect 8.7 – MOSFET Biasing		5, b,c

**WEEK 14**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Nov 14</b>	<b>8</b>	(IGBT is Insulated-Gate Bipolar Transistor)	Read Sect 8.8 and 8.9	5, a,b,c
<b>Nov 18</b>	<b>8.8, 8.9</b>	Sect 8.8 – The IGBT Sect 8.9 – Troubleshooting Chapter 8 Review	<b>LabVolt – Junction FETs</b> Study for Chapter 8 Exam <b>Complete Chapter 8 Study Guides</b> <b>Complete Chapter 8 Homework</b>	5, a,b,c
<b>Nov 19</b>	<b>8</b>	BLACKBOARD	<b>Chapter 8 Exam</b> Read Sect 9.1, 9.2, 9.3 and 9.4	5, b,c
<b>Nov 20</b>	<b>9.1, 9.2, 9.3, 9.4</b>	Sect 9.1 – The Common-Source Amp Sect 9.2 – The Common-Drain Amp Sect 9.3 – The Common-Gate Amp Sect 9.4 – The Class D Amplifier		5,6, b,c

**WEEK 15 (DEC IS DECEMBER)**

<b>Date</b>	<b>Chapter / Lesson</b>	<b>Content</b>	<b>Assignments &amp; Tests Due Dates</b>	<b>Competency Area</b>
<b>Nov 21</b>	<b>9</b>		Read Sect 9.5, 9.6 and 9.7	5,6, a,b,c
<b>Nov 25</b>	<b>9.5, 9.6, 9.7</b>	Sect 9.5 – MOSFET Analog Switching Sect 9.6 – MOSFET Digital Switching Sect 9.7 – Troubleshooting		5,6, b,c
<b>Nov 26</b>	<b>9</b>	BLACKBOARD	Begin Chapter 9 Study Guides Begin Chapter 9 Homework	5,6, a,b,c
<b>Nov 27</b>		<b>HOLIDAY - THANKSGIVING</b>	<b>HOLIDAY - THANKSGIVING</b>	
<b>Nov 28</b>		<b>HOLIDAY - THANKSGIVING</b>	<b>HOLIDAY - THANKSGIVING</b>	
<b>Dec 2</b>	<b>9</b>	Chapter 9 Review Semester Classes End	<b>LabVolt – JFET Amplifier</b> <b>Complete Chapter 9 Study Guides</b> <b>Complete Chapter 9 Homework</b> Study for Chapter 9 Exam	5,6, b,c

## FINAL EXAM WEEK

Date	Chapter / Lesson	Content	Assignments & Tests Due Dates	Competency Area
Dec 3	9	BLACKBOARD	Chapter 9 Exam	5,6, b,c
Dec 4	9		Complete by Midnight	5,6, b,c

### Competency Areas:

1. PN Diodes
2. Power Supplies
3. Voltage Regulation
4. Bipolar Junction Theory and Application
5. Field Effect Transistors
6. Special Applications

### 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.