

ELCR 2140 – Mechanical Devices
COURSE SYLLABUS
SUMMER SEMESTER 2017 (201716)

Course Title: Mechanical Devices
Course Number: ELCR 2140
Credit Hr / Min: 2 hr / 2250 min
Class Location: GVTC / Blackboard
Class Meets: Via Internet / 9 wks
CRN: 60232

Instructor: William Greene
Office Hours: Mon & Wed 1:00 pm – 4:30 pm
Tues & Thurs 4:30 pm – 6:00 pm
Office: RMTc Room 822, Vidalia Campus
E-mail: wgreene@southeasterntech.edu
Phone: 912-538-3102 **FAX:** 912-538-3106

REQUIRED TEXTS: *Power Transmission Handbook & Workbook, 5th ed.*
by PTDA, published by PTDA,
ISBN# 978-0-9817331-9-7 (2 volume set)



REQUIRED VIDEOS: STC Supplied (see your instructor)

REQUIRED TEST VOUCHERS: None

REQUIRED SUPPLIES: Engineering / Scientific Calculator

COURSE DESCRIPTION: Develops knowledge and skills necessary to transmit mechanical power using common industrial linkage types. Emphasis is placed on use of mechanical devices in combination with electronic controls. Topics include: linkages, motion analysis, gear drives, and preventative maintenance.

PREREQUISITES: Program Admission

MAJOR COURSE COMPETENCIES / COURSE OUTLINE:

1. Linkages
2. Gear Drives
3. Motion Analysis
4. Preventative Maintenance

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: Students are expected to complete all work and comprehensive projects required by the instructor by the due dates and to attend the required proctored campus exam. Students will have at least one week to complete tests and projects. **Students who miss a test will be assigned a grade of zero. A ten point penalty will be assessed for each day a comprehensive project is late.** Discussion Board assignments are due on the Monday following the Thursday they are assigned. Exceptions to the due dates of assignments due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

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.**

ONLINE ATTENDANCE: It is the student's responsibility to be academically engaged each week doing course related 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 will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. Students will be expected to

complete all work required by the instructor as described in the individual course syllabus.

Students will have at least one week to complete tests and assignments. All tests and assignments are due at (time) on (Monday, Tuesday, or Wednesday) of each week. (Instructors...fill in the time and choose a day that assignments are due each week). Exceptions to the due dates of assignments due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

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, 912-538-3126, to coordinate reasonable accommodations. (hthomas@southeasterntech.edu)

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, 912-538-3126, hthomas@southeasterntech.edu.

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" 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 also 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.

PROCTORED EVENT REQUIREMENT: In order to validate student identity for all online courses, students enrolled in online courses are **required** to complete one proctored event per online course. The proctored event will be administered on two separate days during the semester—once on the Vidalia campus and once on the Swainsboro campus and will be monitored by the instructor or another STC employee. The proctored event may be a major exam, assignment, or presentation, etc. that will count a minimum of 20% of the course grade. Students must attend one of the scheduled proctored sessions and will need to make arrangements with work, childcare, etc. The specific dates of the proctored event are scheduled on the Lesson Plan/Calendar for the online course. Students living further than 75 miles from either campus who cannot come to Southeastern Tech for the event must secure an approved proctoring site. The site and the proctor must meet Southeastern Technical College's requirements (instructor will provide more information and necessary forms if this is the case). Note: Students taking proctored events off campus will utilize the Proctor Scheduling and Approval Form found in Blackboard within the Getting Started/Start Here and Proctoring Event area. The completed form should be submitted to the course instructor a minimum of two weeks prior to the proctored event. If approved, the instructor will notify the proctor.

Students arranging off-campus proctoring must take the event on one of the—originally scheduled days. Students who do not complete the proctored event as scheduled must submit a valid documented excuse within three business days after the scheduled event. If the excuse is approved, students must make arrangements with the instructor to makeup/reschedule the missed event. The penalty and makeup

instructions will be at the instructor's discretion. Proctored events will be given after the 65% point of the semester. **Students who do not complete the proctored event will receive an F in the course.**

As published on STC's website, any expenses incurred to obtain a proctor will be the responsibility of the student; however, students are not charged a proctoring fee when taking the proctored exam on the campus of Southeastern Tech. Most of Georgia's technical colleges do not charge to proctor exams for students enrolled in other TCSG colleges. Students who are enrolled at Southeastern Technical College and live out of the state of Georgia or out of the country could incur a proctoring charge. However, in that instance, the instructor would assist the student in locating the least expensive proctor.

PROCTORED EVENT FOR THIS COURSE: ELCR-2140 has one (1) proctored event over the 9 week summer semester period, which is a lab exercise. E-mail your professor when you have chosen which day you would like to take this exam. **If you need special arrangements outside of the assigned day / time slots for the proctored event, contact your instructor immediately. The assigned days/times are June 27th and June 28th between 1:00 PM and 4:00 PM.** The session will be given at the Vidalia Campus in the Gillis Building, Room 824 and/or 827.

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 your 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! Comprehensive project 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:

--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.

--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.

--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 second 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:

ADA/Section 504 - Equity- Title IX (Students) - OCR Compliance Officer	Title VI - Title IX (Employees) - EEOC Officer
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 st Street, Vidalia Office 108 Phone: 912-538-3126 hthomas@southeasterntech.edu	Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1 st Street, Vidalia Office 138B Phone: 912-538-3147 bwilcox@southeasterntech.edu

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 STC website at www.southeasterntech.edu.

ELCR 2140 COURSE GRADING POLICY:

Chapter Review Questions	35%
Video Review Questions	10%
Discussion Boards	10%
Laboratory Skills (Proctored)	20%
Midterm & Final Exams	<u>25%</u>
	100%

GRADING SCALE:

A	(90-100)
B	(80-89)
C	(70-79)
D	(60-69)
F	(0-59)

ELCR 2140 DISCUSSION BOARD GRADING RUBRIC:

Criteria	Achievement Level		
	Level 1 (0%)	Level 2 (70%)	Level 3 (100%)
Student Post to Discussion Board (50% Weighting)	0 points Student did not post to the Discussion Board -OR- Student post has at least 3 of the following: * Grammatical, spelling, or punctuation errors. * Less than four sentences. * Does not address all questions posed.	35 points Student post has at least 2 of the following: * Grammatical, spelling, or punctuation errors. * Less than four sentences. * Does not address all questions posed.	50 points Student post contains 4 or more sentences and addresses all questions. Student post has no more than 1 grammatical, spelling, or punctuation error.
Student Reply to Another Student (50% Weighting)	0 points Student did not reply to another student post. -OR- Student reply has at least 2 of the following: * Grammatical, spelling, or punctuation errors. * Less than three sentences.	35 points Student reply has at least 1 of the following: * Grammatical, spelling, or punctuation errors. * Less than three sentences. * Does not address all questions posed.	50 points Student reply contains 3 or more sentences. Student post has no grammatical, spelling, or punctuation errors.

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 employed 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.

****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.

LESSON PLAN
ELCR 2140 – Mechanical Devices
Summer Semester 2017 (201716)

Color Codes: **Black** = Assignments / Information, **Blue** = Graded Assignments

Date	Chap / Lesson	Content / Location	Assignments & Tests	Comp Area*
WEEK 1				
May 17		Chapter 1 – Fundamentals BLACKBOARD	[On BLACKBOARD] Read / Review START HERE information POST to appropriate Message Boards Download/Review all material Start planning for Proctored Lab Events	a,c
18	1	HANDBOOK pg 1-9 to 1-15 BLACKBOARD WORKBOOK pg 1-3 to 1-5	Read Chapter 1 Review Chapter 1 Power Points Review Chapter 1 Workbook Questions	1-4, a,b,c
22	1	VIDEO Fundamental Principles BLACKBOARD BLACKBOARD	Watch Video 820.01 (Take Notes) Do Video 820.01 Questions Do Chapter 1 Workbook Questions	1-4, a,b,c
23	2	Chapter 2 – Bearings HANDBOOK pg 2-17 to 2-41 BLACKBOARD BLACKBOARD	Read Chapter 2 POST on Discussion Board #1 Review Chapter 2 Power Points	1,4, a,b,c
WEEK 2				
May 24	2	WORKBOOK pg 2-7 to 2-10 BLACKBOARD VIDEO Bearings: Types & Maintenance	Review Chapter 2 Workbook Questions REPLY on Discussion Board #1 Watch Video 820.02 (Take Notes)	1,4, a,b,c
25	2	BLACKBOARD BLACKBOARD BLACKBOARD	Do Video 820.02 Questions POST on Discussion Board #2 Do Chapter 2 Workbook Questions	1,4, a,b,c
29		HOLIDAY – Memorial Day	HOLIDAY – Memorial Day	
30	3	Chapter 3 – Belt Drives HANDBOOK pg 3-43 to 3-59 BLACKBOARD	Read Chapter 3 REPLY on Discussion Board #2	1,4, a,b,c
31	3	BLACKBOARD WORKBOOK pg 3-11 to 3-13 BLACKBOARD	Review Chapter 3 Power Points Review Chapter 3 Workbook Questions POST on Discussion Board #3	1,4, a,b,c
WEEK 3				
June 1	3	BLACKBOARD BLACKBOARD	REPLY on Discussion Board #3 Do Chapter 3 Workbook Questions	1,4, a,b,c
5	3	BLACKBOARD BLACKBOARD BLACKBOARD	POST on Discussion Board #4 REPLY on Discussion Board #4 POST on Discussion Board #5	1,4, a,c
6	4	Chapter 4 – Chain Drives HANDBOOK pg 4-61 to 4-84	Read Chapter 4	1,4, a,c
7	4	BLACKBOARD WORKBOOK pg 4-15 to 4-18	Review Chapter 4 Power Points Review Chapter 4 Workbook Questions	1,4, a,b,c

WEEK 4				
June 8	4	BLACKBOARD BLACKBOARD	REPLY on Discussion Board #5 Do Chapter 4 Workbook Questions	1,4, a,c
12	1-4	BLACKBOARD	Do MIDTERM Exam	1,4, a,b,c
13	5	Chapter 5 – Clutches & Brakes HANDBOOK pg 5-85 to 5-96 BLACKBOARD	Read Chapter 5 Review Chapter 5 Power Points	1,4, a,b,c
14	5	WORKBOOK pg 5-19 to 5-21	Review Chapter 5 Workbook Questions	1,4, a,b,c
WEEK 5				
June 15	5	BLACKBOARD BLACKBOARD	POST on Discussion Board #6 REPLY on Discussion Board #6	1,4, a,c
19	5	BLACKBOARD	Do Chapter 5 Workbook Questions	1,4 a,b,c
20	7	Chapter 7 – Couplings & U-Joints HANDBOOK pg 7-123 to 7-151 MIDTERM	Read Chapter 7 MIDTERM	1,4, a,c
21	7	BLACKBOARD WORKBOOK pg 7-27 to 7-29	Review Chapter 7 Power Points Review Chapter 7 Workbook Questions	1,4, a,b,c
WEEK 6				
June 22	7	BLACKBOARD BLACKBOARD	POST on Discussion Board #7 REPLY on Discussion Board #7	1,4, a,c
26	7	BLACKBOARD	Do Chapter 7 Workbook Questions	1,4, a,b,c
27	Lab	STC – GILLIS BUILDING 824 PROCTORED EVENT	LAB 1: V-Belt Installation LAB 2: Motor & Shaft Alignment	4, b,c
28	Lab	STC – GILLIS BUILDING 824 PROCTORED EVENT	LAB 1: V-Belt Installation LAB 2: Motor & Shaft Alignment	4, b,c
WEEK 7				
June 29 65% Point		BLACKBOARD	POST on Discussion Board #8 REPLY on Discussion Board #8	4, b,c
		JULY 4th HOLIDAY (July 3 – July 6)	JULY 4th HOLIDAY (July 3 – July 6)	
July 10	8	Chapter 8 – Gears HANDBOOK pg 8-153 to 8-171	Read Chapter 8 POST on Discussion Board #9	2,4, a,c
11	8	BLACKBOARD WORKBOOK pg 8-31 to 8-34	Review Chapter 8 Power Points Review Chapter 8 Workbook Questions	2,4, a,b,c
12	8	VIDEO Gear Drives BLACKBOARD	Watch Video 820.03 (Take Notes) Do Video 820.03 Questions	2,4, a,c
WEEK 8				
July 13	8, 10	BLACKBOARD Chapter 10 – Linear Motion HANDBOOK pg 10-193 to 10-223 BLACKBOARD	Do Chapter 8 Workbook Questions Read Chapter 10 REPLY on Discussion Board #9	2,3,4, a,b,c
17	10	BLACKBOARD WORKBOOK pg 10-39 to 10-42	Review Chapter 10 Power Points Review Chapter 10 Workbook Questions	3, a,b,c

18	10	BLACKBOARD BLACKBOARD BLACKBOARD	POST on Discussion Board #10 REPLY on Discussion Board #10 Do Chapter 10 Workbook Questions	3, a,b,c
19	16	Chapter 16 – Lubrication HANDBOOK pg 16-315 to 16-329	Read Chapter 16	4, a,c
WEEK 9				
July 20	16	WORKBOOK pg 16-63 to 16-65	Review Chapter 16 Workbook Questions	4, a,b,c
24	16	BLACKBOARD	Do Chapter 16 Workbook Questions	4, a,b,c
25	16	REVIEW	REVIEW for Final Exam	1-4, b,c
26	16	REVIEW	REVIEW for Final Exam	1-4, b,c
FINALS WEEK				
July 31	1 – 5, 7, 8, 10, 16	Day 1 of Final Exams	Mechanical Devices Final Exam	1-4, a,b,c
Aug 1	1 – 5, 7, 8, 10, 16	Day 2 of Final Exams	(Complete by Midnight of Day 2)	1-4, a,b,c

*** Competency Areas:**

Mechanical Devices Competency Areas:

- | | |
|----------------|-----------------------------|
| 1. Linkages | 3. Motion Analysis |
| 2. Gear Drives | 4. Preventative Maintenance |

General Core Competency Areas:

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

IMPORTANT REMINDERS CONCERNING ASSIGNMENTS:
(Students are responsible for all information contained in this lesson plan)

- **Assignments:** This lesson plan is subject to change at instructor’s discretion. All assignments must be submitted and completed by the due dates listed above to receive credit.....so manage your time wisely each week. Missing assignments receive a grade of zero.
- **Videos:** These videos contain useful supplemental information for the course. Students should take notes while watching the videos to use when answering the video questions on BLACKBOARD. A DVD containing the selected course videos will be provided for enrolled students at the beginning of the semester.
NOTE: These DVDs are the property of STC and contain copyrighted information purchased specifically for this course. **Failure to return the DVD before the end of the semester will result in an incomplete for the class.**
- **DISCUSSION BOARDS:** Students will complete ten (10) discussion board assignments that will count as part of the final course grade. These assignments will be graded from the discussion boards by the instructor based on the grading rubric and are NOT to be submitted to the instructor. **Students are required to post a minimum of two (2) comments/threads for each discussion board.** This means you will **post your initial response** to the discussion and then **post at least one reply to another student** in the class. Students are encouraged to begin early in the corresponding chapter work. Watch your spelling and grammar. This is considered a writing assignment. Comments need to be constructive and non-argumentative. I’m looking for quantity and quality in your postings and not just one-liners such as “I agree”. Refer to the online course for more information on posting to the discussion boards and how students are evaluated weekly. **ALTHOUGH DISCUSSION BOARDS ARE PART OF CHAPTER ASSIGNMENTS, THESE CANNOT BE POSTED LATE. A GRADE OF ZERO WILL AUTOMATICALLY BE ASSIGNED.**