



Syllabus for AT-30 Auto Trans & Transaxle

Course Information

Semester & Year: Fall 2022

Course ID & Section #: AT-30-E4120

Instructor's name: Ernest Shull

Day/Time of required meetings: Tuesday & Thursday 1:15 PM to 5:35 PM

Location: AT-128

Course units: 4

Instructor Contact Information

Office location AT-129A

Office hours: Monday & Wednesday 1:00PM to 2:00PM

Phone number: 707-476-4221

Email address: Ernest-Shull@redwoods.edu

Catalog Description

A course covering theory and principles related to both hydraulic and electronically actuated automatic transmissions/transaxles. Topics will include positive and variable displacement pumps, torque converters, torque converter clutches, hydraulic valves, electronic shift solenoids, governors, and common compound planetary gear arrangements. The laboratory portion of the course will focus on diagnostic and overhaul procedures, in-vehicle testing, and bench testing of various components. The course is designed in conjunction with Automotive Service Excellence (ASE) standards and subsequently will prepare the student for the ASE Automatic Transmission Certification Examination.

Text and References

Automotive Automatic Transmissions and Transaxles: CDX Master Automotive Technician Series

Edition: 2018

Author: Santini, Keith / VanGelder, Kirk

ISBN-13: 978-1-284-12203-9

ISBN-10: 1-284-12203-4

Other requirement: Safety Glasses

Course Student Learning Outcomes

1. Perform maintenance and adjustments on transmissions and transaxles.
2. Diagnose and repair in-vehicle transmission and transaxle problems.
3. Diagnose and repair off-vehicle transmission and transaxle problems.

Accessibility

College of the Redwoods is committed to making reasonable accommodations for qualified students with disabilities. If you have a disability or believe you might benefit from disability-related services and accommodations, please contact your instructor or [Disability Services and Programs for Students](#) (DSPS). Students may make requests for alternative media by contacting DSPS based on their campus location:

- Eureka: 707-476-4280, student services building, 1st floor
- Del Norte: 707-465-2324, main building near library
- Klamath-Trinity: 530-625-4821 Ext 103

If you are taking online classes DSPS will email approved accommodations for distance education classes to your instructor. In the case of face-to-face instruction, please present your written accommodation request to your instructor at least one week before the needed accommodation so that necessary arrangements can be made. Last-minute arrangements or post-test adjustments usually cannot be accommodated.

Evaluation & Grading Policy

Course Evaluation

Course Points

All Labs will contribute to 50% towards your final grade. Labs are graded at 20 points per lab. 10 Points towards participation and 10 points towards Repair Orders.

Tests and Homework will contribute towards the other 50% with 10% towards Homework and 40% towards Tests

Chapter Quiz Assignment

Homework will include completing the chapter quizzes for that day as a group in class. This can be made up if a class day is missed.

Extra Credit - Each student may elect independently to read and report on a topic related to automatic transmissions/transaxles from a source other than the course text i.e. recognized trade publications, library reference material, magazines, newspaper articles, etc... The report must be no less than one page typed and no longer than three pages typed. You must properly cite your references on a separate page. You may earn up to 50 points per report and you may turn in a maximum of 1 report per semester. Please inform the instructor of your topic prior to doing this assignment.

Admissions deadlines & enrollment policies

Fall 2022 Dates

- *Classes begin: 8/20/22*
- *Last day to add a class: 8/26/22*
- *Last day to drop without a W and receive a refund: 9/02/22*
- *Labor Day Holiday (all campuses closed): 09/05/22*
- *Census date: 9/06/22 or 20% into class duration*
- *Last day to petition to file P/NP option: 09/16/22*
- *Last day to petition to graduate or apply for certificate: 10/27/22*
- *Last day for student-initiated W (no refund): 10/28/22*
- *Last day for faculty-initiated W (no refund): 10/28/22*
- *Veteran's Day (all campuses closed): 11/11/22*

- *Fall Break (no classes): 11/21/22 – 11/25/22*
- *Thanksgiving Holiday (all campuses closed): 11/23/22 – 11/25/22*
- *Final examinations: 12/10/22 – 12/16/22*
- *Semester ends: 12/16/22*
- *Grades available for transcript release: approximately 01/06/23*

Attendance

The college assumes that students will attend every session of a class for which they are registered. If, however, attendance is irregular, students may be dropped from a class. Excessive absence is defined as a total of absences which equals two weeks in a 16-week semester, for a class meeting twice per week that would equate to 4 absences. For attendance purposes, the college regards a laboratory session as the equivalent of one class meeting.

Veterans and financial aid recipients should remember that should they drop below the number of units required of them by the Veterans Administration or financial aid office for any reason during the semester, including being dropped from a class for excessive absences, they will lose part of the government assistance allowances and may be required to repay funds already disbursed.

In any event, if an attendance problem does develop, work with the instructor to resolve it. The purpose here is to see what we can do together to keep you in the class in order to help you master the course content.

Course Attendance Policy

Attendance will be taken at the start of each class session. Students who accumulate 4 absences during the first 10 weeks of class will be dropped from this class by the instructor, with no exceptions.

Punctuality is essential in the workplace and is considered respectful of fellow students and instructors. Excessive tardiness can affect your score as well. Less time present means you have less time to complete tasks.

Students who have experienced extenuating circumstances can complete & submit the Excused Withdrawal Petition to request an Excused Withdrawal (EW) grade instead of the current Withdrawal (W) or non-passing (D, F & NP) grades. The EW Petition is available on the Admissions and Records Forms Webpage. Supporting documentation is required.

Academic dishonesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, the determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

Disruptive behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process, a disruptive student may be temporarily removed from class. In addition, the student may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

Inclusive Language in the Classroom

College of the Redwoods aspires to create a learning environment in which all people feel comfortable contributing their perspectives to classroom discussions. It, therefore, encourages instructors and students to use language that is inclusive and respectful.

Setting Your Preferred Name in Canvas

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact [Admissions & Records](#) to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. This does not change your legal name in our records. See the [Student Information Update form](#).

Canvas Information

If using Canvas, including navigation instructions, tech support information, what Canvas is used for, and your expectation for how regularly students should check Canvas for your class.

Log into Canvas at <https://redwoods.instructure.com>

Password is your 8-digit birth date

For tech help, email its@redwoods.edu or call 707-476-4160

Canvas Help for students: <https://webapps.redwoods.edu/tutorial/>

Canvas online orientation workshop: [Canvas Student Orientation Course \(instructure.com\)](#)

Community College Student Health and Wellness

Resources, tools, and trainings regarding health, mental health, wellness, basic needs and more designed for California community college students, faculty and staff are available on the California Community Colleges [Health & Wellness website](#).

[Wellness Central](#) is a free online health and wellness resource that is available 24/7 in your space at your pace.

Students seeking to request a counseling appointment for academic advising or general counseling can email counseling@redwoods.edu.

Emergency procedures / Everbridge

College of the Redwoods has implemented an emergency alert system called Everbridge. In the event of an emergency on campus you will receive an alert through your personal email and/or phones.

Registration is not necessary in order to receive emergency alerts. Check to make sure your contact information is up-to-date by logging into WebAdvisor <https://webadvisor.redwoods.edu> and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or security@redwoods.edu if you have any questions. For more information see the [Redwoods Public Safety Page](#).

In an emergency that requires an evacuation of the building anywhere in the District:

- Be aware of all marked exits from your area and building
- Once outside, move to the nearest evacuation point outside your building
- Keep streets and walkways clear for emergency vehicles and personnel

Do not leave campus, unless it has been deemed safe by the campus authorities.

Eureka Campus Emergency Procedures

Please review the [campus emergency map](#) for evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information on Public Safety go to the [Redwoods Public Safety Page](#). It is the responsibility of College of the Redwoods to protect life and property from the effects of emergencies within its own jurisdiction.

In the event of an emergency:

1. Evaluate the impact the emergency has on your activity/operation and take appropriate action.
2. Dial 911, to notify local agency support such as law enforcement or fire services.
3. Notify Public Safety 707-476-4111 and inform them of the situation, with as much relevant information as possible.
4. Public Safety shall relay threat information, warnings, and alerts through the Everbridge emergency alert system, Public address system, and when possible, updates on the college website, to ensure the school community is notified.
5. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet, (evacuation to a safe zone, shelter in place, lockdown, assist others if possible, cooperate with First Responders, etc.).
6. If safe to do so, notify key administrators, departments, and personnel.
7. Do not leave campus, unless it is necessary to preserve life and/or has been deemed safe by the person in command.

Student Support Services

The following online resources are available to support your success as a student:

- [CR-Online](#) (Comprehensive information for online students)
- [Library Articles & Databases](#)
- [Canvas help and tutorials](#)
- [Online Student Handbook](#)

[Counseling](#) offers assistance to students in need of professional counseling services such as crisis counseling.

Learning Resource Center includes the following resources for students

- [Academic Support Center](#) for instructional support, tutoring, learning resources, and proctored exams. Includes the Math Lab & Drop-in Writing Center
- [Library Services](#) to promote information literacy and provide organized information resources.
- [Multicultural & Diversity Center](#)

Special programs are also available for eligible students include

- [Extended Opportunity Programs & Services \(EOPS\)](#) provides services to eligible income disadvantaged students including: textbook award, career academic and personal counseling, school supplies, transportation assistance, tutoring, laptop, calculator and textbook loans, priority registration, graduation cap and gown, workshops, and more!
- The TRiO Student Success Program provides eligible students with a variety of services including trips to 4-year universities, career assessments, and peer mentoring. Students can apply for the program in [Eureka](#) or in [Del Norte](#)
- The [Veteran's Resource Center](#) supports and facilitates academic success for Active Duty Military, Veterans and Dependents attending CR through relational advising, mentorship, transitional assistance, and coordination of military and Veteran-specific resources.
- Klamath-Trinity students can contact the CR KT Office for specific information about student support services at 530-625-4821

Class schedule

<i>Date</i>	<i>Assigned Reading</i>	<i>Theory</i>	<i>Lab Assignment</i>
8/23	<i>Chapters 2 & 3</i>	<i>Shop Safety/Tools</i>	<i>Tour/Haz-Mat</i>
8/25	<i>Chapter 6</i>	<i>Automatic Trans Fundamentals</i>	<i>Transmission I.D.</i>
8/30	<i>Chapter 7</i>	<i>Transmission Components</i>	<i>Transmission Inspections</i>
9/1	<i>Chapter 8</i>	<i>Hydraulic Fundamentals</i>	<i>Transmission Pressure Tests</i>
9/6	<i>Chapter 9</i>	<i>Torque Converters</i>	<i>Filter Change/Flushes</i>
9/8	<i>Chapter 10/11</i>	<i>Electronic & Hydraulic Trans</i>	<i>Electrical Diagnostics</i>
9/13		<i>Test 1</i>	
9/15	<i>Chapter 13</i>	<i>Transmission Removal</i>	<i>R&R Transaxle</i>
9/20		<i>Lab Day</i>	<i>R&R Transaxle</i>
9/22	<i>Chapter 19</i>	<i>Transmission Reinstallation</i>	<i>R&R Transaxle</i>
9/27		<i>LAB DAY</i>	<i>R&R Transaxle</i>
9/29		<i>LAB DAY</i>	<i>R&R Transaxle</i>
10/4	<i>Chapter 12</i>	<i>In Vehicle Transmission Repairs</i>	<i>Seal Service</i>
10/6	<i>Chapter 20</i>	<i>Dual Clutch Transmissions</i>	<i>Power Flow Diagnostics</i>
10/11		<i>Scan Tool Usage</i>	<i>Scan Tools</i>
10/13	<i>Chapter 22</i>	<i>Hybrid Vehicles</i>	<i>Hybrids</i>
10/18		<i>Planetary Gear Sets</i>	<i>Example Teardown</i>
10/20	<i>Chapter 23</i>	<i>Honda Transmissions</i>	<i>Honda Teardown</i>
10/25	<i>Chapter 23</i>	<i>Honda Transmissions</i>	<i>Honda Teardown</i>
10/27		<i>Test 2</i>	<i>Honda Teardown</i>
11/1	<i>Chapter 14</i>	<i>Transmission Disassembly</i>	<i>4T65E Teardown</i>
11/3	<i>Chapter 14</i>	<i>Transmission Disassembly</i>	<i>4T65E Teardown</i>
11/8	<i>Chapter 16</i>	<i>Gear Train Rebuilding</i>	<i>4T65E Gear Train</i>
11/10	<i>Chapter 15</i>	<i>Hydraulic System Rebuilding</i>	<i>4T65E Clutches</i>
11/15	<i>Chapter 17</i>	<i>Valve Body & Electric</i>	<i>4T65E Valve Body</i>
11/17		<i>Test 3</i>	
11/22	<i>Fall Break</i>	<i>No Class</i>	
11/24	<i>Fall Break</i>	<i>No Class</i>	
11/29	<i>Chapter 27</i>	<i>Ford 6R60</i>	<i>4T65E Valve Body</i>
12/1	<i>Chapter 24</i>	<i>4T65E Speed Rally</i>	<i>Identify Components</i>
12/6	<i>Chapter 25</i>	<i>4T65E Speed Rally</i>	<i>Identify Components</i>
12/8		<i>Make Up Day</i>	
12/13	<i>FINAL EXAM</i>	<i>COMPREHENSIVE</i>	