SAN JUAN COLLEGE

TTEN 172 Automatic Transmission/Transaxles Section Name Section Credit Hours Credits Syllabus

Course Information

Meeting times and location: section meeting_times section location

Catalog description: The operating principles of Toyota and Lexus automatic transmissions, transaxles, and their diagnosis, electrical and electronic controls, and repair will be covered. Instruction on noise, vibration and harshness diagnosis and correction will also be covered along with mechanical and hydraulic components. Safety is emphasized.

Prerequisites: Take TTEN-175 TTEN-120

Terms offered: Fall Only

Section-specific Course Description:

Course Level Objectives

-Service, diagnosis and repair of automatic transmission sub systems

- Inspect, diagnose and repair U-Series Tandem based shift control system

-Inspect, diagnose and repair U-Series Ravigneaux/LePelletier based shift control system

-Service diagnose and overhaul transmissions with compound based gear trains

Required Texts and/or Materials

Today's Technician: Automatic transmissions and Transaxles
9780357380321

Pickerill
Cengage

Required Technology and Software

- Canvas
- Chrome, Safari, or Firefox

Course Requirements

Students will do the following activities:

1. Using generic text and labsheet, identify and describe planetary gear set components, simple planetary gear set power flow, gear ratio characteristics
2. Using generic text and assigned labsheet, identify and describe transmission identification and designations, and transmission units on car and bench
3. Using TIS, basic hand tools and assigned labsheet, R&R Toyota Automatic Transmission/Transaxle
4. Using generic text and assigned labsheet describe the electronic transmission control system and system operation
5. Using generic text and assigned labsheet describe the function and operation of major oil pump components
6. Using generic text and assigned labsheet, describe oil pump pressure regulation and control system operation, and demonstrate diagnosis of mainline pressure fault using Techstream and pressure gauge
7. Using generic text and assigned labsheet, describe torque converter w/lock up clutch operation, and demonstrate diagnosis of component/system fault using various diagnostic tools
8. Using generic text and assigned labsheet, describe apply device operation, and diagnose apply device fault using clutch application chart
9. Using generic text and assigned labsheet, describe Simpson A-series gear train nomenclature, function and operation including power flow in all gear ranges
10. Using generic text and assigned labsheet, identify and describe Simpson A-series apply device orientation, nomenclature function, and operation
11. Using generic text and assigned labsheet, identify and describe Simpson A-series shift control function, operation, diagnosis and testing

12. Using generic text and assigned labsheet, describe Tandem based U-series gear train nomenclature, function and operation including power flow in all gear ranges
13. Using generic text and assigned labsheet, identify and describe Tandem based U-series apply device orientation, nomenclature function, and operation
14. Using generic text and assigned labsheet, identify and describe Tandem based U-series shift control function, operation, diagnosis and testing
15. Using generic text and assigned labsheet, describe Ravigneaux\LePelletier based U-series gear train nomenclature, function and operation including power flow in all gear ranges
16. Using generic text and assigned labsheet, identify and describe Ravigneaux\LePelletier based U- -series apply device orientation, nomenclature function, and operation
17. Using generic text and assigned labsheet, identify and describe Ravigneaux\LePelletier based U--series shift control function, operation, diagnosis and testing
18. Using generic text, labsheet, diagnostic tools and procedures, describe AB60E shift control system function and operation
19. Using generic text, labsheet demonstrate DTC and Symptom based diagnostic procedures of the shift control system
20. Using generic text, labsheet and procedures listed in TIS, perform, inspection disassembly procedures of the AB60E transmission
21. Using generic text and labsheet, perform diagnosis, inspection and overhaul of the AB60E transmission components determine necessary action

Other Classroom Policies and Expectations

Clean employee dealership uniforms should be worn to class daily. Personal Protective Equipment must be worn in the shop at all times.

Grading

Final grades are calculated based on the following...

Lab work is 40%

Tests and Quizzes are 30%

Final is 30%

Course Time Commitment

The Toyota Web Based E-Learning modules will require students to dedicate time after class to complete them. As students are required to Pass a minimum of 4 ASE tests to graduate, students should plan 2-4 hours of study time for each of those ASE exams per week.

Canvas Participation and Expectations

Announcements, student labsheets, grades and supplemental reading/study material will be posted on Canvas. Students are expected to log into Canvas frequently to check for new announcements and grade updates.

Participation and Attendance Policy

Because of the class emphases on hands-on lab activities, consistent attendance is required. Students that are not in class when attendance is taken will be counted absent. Personal errands should be scheduled for times that will not conflict with class schedule. Students will not be given make-up work.

Federal and State education guidelines has stated that students missing 10% or more of their classes should not be eligible for class credit. The SJC Automotive Department uses the attendance rubric below when calculating your attendance.

If you miss 10% of your classes you will receive an “X” grade. Refer to the following chart:

% Classes Missed	Attendance Score
0% thru 9%	OK
10%	X
20%	X
30%	X
40%	X
50%	X
60%	X
70%	X
80%	X
90%	X
100%	X

Understand that this is based on percentage of the total number of days available in the course based on the official SJC course calendar. For example:

If your course schedule shows that a course runs 20 days (4 weeks), 2 missed days would count as missing 10% of the available days and would result in an incomplete X grade.

So each day in a 20 day course counts as 5%. Each day in a 40 day course counts as 2.5% (and rounds to 3%). Each day in an 80 day course counts as 1.25% (and rounds to 1%) etc.

Also remember that late arrivals are counted absent.

Instructor Response Times & Regular Interaction Expectations

Instructor will normally respond to phone calls/texts the same day. Please allow two business days to respond to emails.

Key Dates to Remember

Full Academic Calendar

Course Schedule

This will be completed at a later date

Program Handbook

1. Using generic text, labsheet, diagnostic tools and procedures, describe AB60E shift control system function and operation
2. Using generic text, labsheet demonstrate DTC and Symptom based diagnostic procedures of the shift control system
3. Using generic text, labsheet and procedures listed in TIS, perform, inspection disassembly procedures of the AB60E transmission

Using generic text and labsheet, perform diagnosis, inspection and overhaul of the AB60E transmission components determine necessary action

Technical Support

Technical support is available through the San Juan College Help Desk 24/7/365. The help desk can be reached at 505-566-3266 or by creating a ticket at San Juan College Help Desk.

For password reset and and Canvas support, visit the Student Technology Guide website.

Accessibility/Privacy Policies for all Technology Tools Used

Accessibility/Privacy Policies for all Technology Tools Used

Student Support

At San Juan College, we are committed to supporting your academic success and overall well-being. We recognize that college life can be challenging and stressful, impacting both learning and personal health. We are here to help you succeed.

Academic Support and Resources

We provide a range of academic support services to help you stay on track on your educational journey. Free resources include tutoring, computer loans, life skills workshops, and so much more. Visit the Academic Support and Resources webpage to learn more about support and resources available through Academic Advising, the Tutoring Center, the Student Resource Center (formerly Student Achievement Center) and the Testing Center.

Student Support and Resources

If you or someone you know could benefit from counseling, accessibility services, career exploration, veteran transitional assistance, or any of our other support services, visit the Student Support and Resources webpage where you'll find detailed information about various resources available to you as an SJC student.

We encourage you to take advantage of these free resources to enhance your college experience and ensure your success.

College Policies and Resources for Current Students

The Student Handbook provides information on student support, student organizations, and student conduct policies at San Juan College.

The San Juan College catalog outlines the Academic Policies students need to know.

Healthy and Safe Practices for Being on Campus

We want a healthy and safe campus for students, faculty, staff, and guests.

Contagious diseases and your responsibility:

If you have COVID-19 symptoms, fever, flu or even the common cold, you should stay home. Do not come to campus if you are feeling sick. Contact your instructor about missing class (and review your instructor's policies on missed or late work). Being sick does not necessarily excuse you from completing your work on time.

Safety on campus and your responsibility:

If you are on campus and experience or witness an emergency, call 9-1-1 first and then the Department of Public Safety at 505-566-3333 (or just 3333 if calling from a campus phone).

When you are on campus, be aware of your surroundings. If you need an escort to your vehicle, call 505-566-4444 (DPS non-emergency line) or 505-215-3091 (officer on duty line).

The College will send information for campus emergencies through SJC AlertAware, email and the webpage. Stay informed and stay safe.

Inclement Weather Information

Students will receive notification of class delays and cancellations due to inclement weather via the SJC AlertAware and SJC student email. Face-to-face classes will not meet in person; however, students are advised to check with instructors about alternative meeting options, as some may choose to meet via zoom. Hybrid classes will meet as scheduled via zoom. For questions regarding your class delay or cancelation, please contact your instructor.

Online Course Fee

Online Courses - San Juan College requires all online courses to include some form of assessment to demonstrate the mastery of course objectives. This could include exams, capstone projects, e-portfolios, presentations, final papers or other appropriate assessments. The use of a proctoring

platform, plagiarism detection software or other method to ensure that assessments are completed by the enrolled student is required.

A course fee of $5.00 is assessed for all online courses at San Juan College to cover the cost of the above services. Students who are required to take a proctored exam and choose to use a physical testing center outside the SJC Testing Center or SJC Disability Services will be responsible for the cost of using that center.