



## **ASEP 150 GM Engines & Related Systems Section Name Section Credit Hours Credits**

### **Syllabus**

## Course Information

**Meeting times and location:** section meeting\_times section location

**Catalog description:** This course covers the principles and operation of the General Motors internal combustion engine. Gasoline and diesel engines will be properly disassembled with nomenclature identification. All parts will be inspected, measured, and reassembled. The operation and repair of the oiling and cooling system will also be covered as well as variable valve timing, turbo chargers and superchargers. The theory, operation and diagnosis of each of these systems will be covered and the manufacturers diagnostic and repair procedures will be stressed. Personal and vehicle safety will be emphasized.

**Prerequisites:** Take ASEP-160 Take ASEP-120

**Terms offered:** Summer Only

**Section-specific Course Description:**

## Course Level Objectives

1. Demonstrate safe procedures for engine service.
2. Demonstrate knowledge of gasoline engine operating principles.
3. Identify various under-hood lubricants and their usage.
4. Perform an engine oil pressure test.
5. Locate and repair engine oil leaks.
6. Disassemble and assemble V type and in-line engine designs.
7. Identify various engine sealants and their applications.
8. Measure crankshaft rod and main journals for taper and out-of-round.
9. Measure crankshaft end play with a dial indicator.

10. Plasti-gage main and rod bearings.
11. Measure cylinder walls for taper and out of round and fit pistons.
12. Deglaze cylinder walls.
13. Install piston rings and check ring gap clearances.
14. Remove cylinder ridge.
15. Remove and install camshaft bearings.
16. Time camshaft(s) to crankshaft.
17. Inspect timing chains, gears, and belts for wear and stretch.
18. Inspect oil pump & lubrication system.
19. Perform a complete valve job.
20. Inspect valve train and guides per manufacturer procedure.
21. Remove and replace core plugs.
22. Diagnose engine noises such as piston slap, rod knock, carbon build-up and valve noise.
23. Adjust hydraulic and solid lifters.
24. Demonstrate competency in using engine overhaul tools.
25. Remove and install front wheel and rear wheel drive engines.
26. Remove and install valve covers in the vehicle.
27. Remove and install cylinder heads in the vehicle.
28. Remove and install intake manifold in the vehicle.
29. Pressure test the cooling system & diagnoses coolant loss.
30. Remove and replace hoses, radiators, and cooling fan.
31. Remove and replace a water pump.
32. Remove, inspect, and replace a thermostat.

## Required Texts and/or Materials

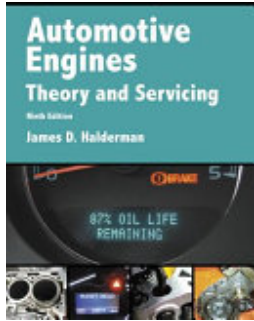
### **Automotive Engines**

9780134654003

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Pearson

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## Required Technology and Software

- Canvas
- Chrome, Safari, or Firefox

## Course Requirements

Students will do the following activities:

- Complete daily quizzes relating to classroom lectures and reading assignments.
- Complete Unit exams relating to specific, high level learning outcomes.
- Perform theoretical system diagnosis and procedures using assigned lab sheets.
- Perform live, hands-on system diagnosis and procedures using assigned lab sheets.

## 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.

Students are expected to supply and use their own basic tool set. Ask your instructor for more information regarding tools.

## Grading

Final grades are calculated based on the following rubrics:

To determine final grades...

Category	Weight %
Quizzes & Exams	40%
Shop Work	30%
Final Assessments	30%

Percentage-to-letter grade scale...

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

Note: GPA of 70 or higher required for course credit.

## Course Time Commitment

The General Motors Web Based E-Learning modules will require students to dedicate time after class to complete them. You should plan on completing 2-3 E-Learning modules each week.

Daily reading assignments and study will require 1-2 hours of time out of class each day.

## 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 daily 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:

<b>% Classes Missed</b>	<b>Attendance Status</b>
1% thru 9%	OK
10%	X Grade
20%	X Grade
30%	X Grade
40%	X Grade
50%	X Grade
60%	X Grade
70%	X Grade
80%	X Grade
90%	X Grade
100%	X Grade

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%. Each day in an 80 day course counts as 1.25%, etc.

Also remember that late arrivals are counted absent.

## Instructor Response Times & Regular Interaction Expectations

Instructor normally respond to phone calls/texts and emails the same day if they are not sent too late in the evening.

## Key Dates to Remember

[Full Academic Calendar](#)

## Course Schedule

See catalog for specific course schedule.

## 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 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.