

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information**Department:**Automotive**Submitter**

First Name: Nick

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Course Prefix and Number:AM - 131**# Credits:**7**Contact hours**

Lecture (# of hours):

Lec/lab (# of hours): 154

Lab (# of hours):

Total course hours: 154

For each credit, the student will be expected to spend, on average, 3 hours per week in combination of in-class and out-of-class activity.

Course Title:Chassis Systems**Course Description:**

A theory and lab course covering the design, construction, service, and repair of front and rear suspension systems, wheels and tires, steering systems, and alignments.

Type of Course:Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s):Automotive Technology AAS

Are there prerequisites to this course?

Yes

Pre-reqs:Pass MTH-020 or placement in MTH-050, pass RD-080 or placement in RD-090

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

Are there any requirements or recommendations for students taken this course?

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F Only

Audit:Yes

When do you plan to offer this course?

✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. service and repair different type of front and rear suspension systems,
2. service and repair wheel and tire assemblies,
3. align front wheel and steering assemblies,
4. align rear wheel and steering assemblies,
5. service the different styles of steering gear boxes, linkage, and power steering pumps;
6. install aftermarket alignment kits,
7. diagnose, service, and repair computer-controlled suspension systems;
8. explain the fundamentals of operation and repair of four wheel steering systems,
9. adjust headlight assemblies.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. suspension types, components, and construction.
 - a. solid axle front end.
 - b. independent front suspension.
 - c. beam type suspension.
2. types of springs.
 - a. leaf.
 - b. coil.
 - c. torsion bar.
 - d. air springs.
3. shock absorbers.
4. rear suspension systems.
 - a. function of components.
 - b. rear wheel alignment.
 - c. inspection, diagnosis, and service procedures.
5. front suspension systems.
 - a. function of components.

- b. front wheel alignment.
- c. inspection, diagnosis, and service procedures.
- 6. four wheel alignment.
 - a. pre-alignment inspection.
 - b. service procedures.
 - c. aftermarket kits and components.
 - d. using alignment angles for system diagnosis.
- 7. wheels and tires.
 - a. inspection and repair.
 - b. tire tread wear patterns and causes.
 - c. diagnosis of tire/wheel related problems.
 - d. tire rotation patterns.
 - e. construction and materials.
 - f. types and applications.
- 8. computer controlled suspension systems.
 - a. construction.
 - b. operation.
 - c. service.
- 9. manual and power steering gears.
 - a. gear and ball type.
 - a1. inspection.
 - a2. replace.
 - a3. service.
 - b. rack and pinion type.
 - b1. inspect.
 - b2. replace.
 - b3. service.
- 10. power steering pumps.
 - a. inspect.
 - b. replace.
 - c. service.
- 11. computer controlled steering systems.
 - a. inspect.
 - b. replace.
 - c. service.

Does the content of this class relate to job skills in any of the following areas:

- | | |
|--------------------------------------|-----------|
| 1. Increased energy efficiency | No |
| 2. Produce renewable energy | No |
| 3. Prevent environmental degradation | No |
| 4. Clean up natural environment | No |
| 5. Supports green services | No |

Percent of course:0%

First term to be offered:

Next available term after approval

:
