

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 - 130**# 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:Brake Systems**Course Description:**

Theory and lab course covers basic hydraulics, brake fluids, friction materials, seals, disc and drum brakes, disc and drum brake servicing equipment, hydraulic and vacuum brake boosters and anti-lock brake systems.

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?

✓ **Fall**

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. demonstrate the fundamentals of brake service,
2. troubleshoot and repair the basic hydraulic section of a brake system,
3. service both hub style and hub-less style disc brake rotors,
4. service both hub style and hub-less style brake drums,
5. repair and maintain drum brake systems,
6. repair and maintain disc brake systems,
7. demonstrate the fundamentals of anti-lock brake systems,
8. diagnose, test, and repair anti-lock brake systems;
9. demonstrate the operation and repair of traction control/vehicle stability systems.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. basic fundamentals.
 - a. hydraulic system.
 - b. anti-lock braking systems (ABS/RABS).
 - c. traction control/vehicle stability systems.
2. system service.
 - a. drum inspection and reconditioning.
 - b. disc brake inspection and reconditioning.
 - b1. run-out.
 - b2. parallelism.
 - b3. minimum thickness.
 - b4. scoring.
 - b5. reconditioning
 - c. brake bleeding procedures.
 - d. parking brake.
 - d1. nomenclature.
 - d2. adjustment.

- e. power brakes inspection and service.
- f. mechanical brake problem diagnosis.

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
:
