

Northwest Arkansas Community College
(Workforce Division)

Discipline Code

BIKE

Course Number

2023

Course Title

Bicycle Suspension Systems

Catalog Description

This course covers the most common suspension systems, their use and repair. Students will assemble and repair both front and rear suspension components. Students will learn the theory of common suspension geometries.

Prerequisites

Successful completion of all BIKE 1000 level courses with a D or better. Enrolled in all BIKE 2000 level courses. BIKE 2013, 2023, 2033, 2043 advised as co-requisites.

Credit Hours

3 credit hours

Contact hours

45 lecture contact hours; 45 lab contact hours

Load hours

3 load hours

Semesters Offered

Fall, Spring & Summer

ACTS Equivalent

N/A

Grade Mode

A-F

Learning Outcomes

Students completing this course will:

- Disassemble and reassemble commonly specified suspension forks.
- Disassemble and reassemble commonly specified rear shocks.
- Demonstrate ability to replace rear suspension pivot components.
- Determine and set front and rear suspension sag for users.
- Disassemble and reassemble two commonly specified dropper seat posts.

- Select, install, and adjust a dropper seat post on a bicycle.

General Education Outcomes Supported

- Students develop higher order thinking skills.
- Students can write clear, coherent, well-organized documents, substantially free of errors.
- Students develop effective oral communication skills.
- Students can achieve mathematical literacy.
- Students demonstrate information literacy.

BIEA (Bicycle Industry Employers' Association) Program Outcomes Supported

- Student will demonstrate ability to assemble and repair all types of bicycles currently in use.
- Apply foundational skills and knowledge to continuing professional development in response to changes in bicycle technology.
- Apply knowledge of systems and measures to find solutions to novel repair situations.
- Student is able to provide solutions that balance business, customer, and professional goals.
- Demonstrate ethical conduct in all job and personal cycling activities that maintains an image appropriate for the profession.

Standard Practices

Topics list

- Suspension Forks
- Rear Suspension Systems
- Dropper Seat Posts

Learning activities

- Courses must, at a minimum, cover the core learning outcomes for each topic. Faculty may add to these outcomes but may not omit any of them.
- Laboratory exercises should average between 2-3 hours each week and include all applicable elements of the Barnett's Bicycle Industry Manual modules for the lesson and outcome for assessment.
- Lab safety and equipment orientation and enforcement of safety protocols is the responsibility of each faculty. A standard lab safety PowerPoint will be provided to faculty for training. Scoring 100% on a mandatory department-provided lab safety quiz is required before students may participate in lab.
- Since all general education outcomes are supported by specific course and program outcomes, all instructors should include learning activities that develop these outcomes in their courses and identify them in course syllabi. Instructors should describe how these activities will be evaluated in their course syllabi and/or reflected in their gradebooks.

Assessments

Written exams, quizzes, and class assignments; class participation; lab-based performance profiles and competency-based demonstration of mastery, and digital work including, but not limited to, group work, discussion, and projects done in virtual environment and/or college's LMS.

Grading guidelines

- 80% of students will score 'Satisfactory' or higher on rubric concerning physical demonstration of suspension fork rebuilding.
- 80% of students will score 'Satisfactory' or higher on rubric concerning physical demonstration of rear shock rebuilding.
- 80% of students will score 'Satisfactory' or higher on rubric concerning physical demonstration of suspension pivot rebuilding.
- 80% of students will score 'Satisfactory' or higher on rubric concerning physical demonstration of suspension sag setting.
- 80% of students will score 'Satisfactory' or higher on rubric concerning physical demonstration of dropper seat post rebuilding.
- 80% of students will score 'Satisfactory' or higher on rubric concerning physical demonstration of dropper post installation.

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