

Kari Cowden

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Summary of Qualifications

Experienced instructor with over five years of combined teaching experience at Colorado State University (CSU) and Front Range Community College (FRCC). Proven expertise in teaching, curriculum development, and active learning strategies. Recognized for excellence in teaching and mentoring with multiple award nominations. Areas of specialization include MATLAB, engineering mechanics, and mathematics.

Education

- **Graduate Teaching Certificate**, Institute for Learning and Teaching, Colorado State University, June 2018
 - **Master of Science in Mechanical Engineering**, Colorado State University, May 2018
 - **Bachelor of Science in Mechanical Engineering and Mathematics**, University of Wyoming, May 2003
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Professional Experience

Instructor

Colorado State University
2024–Present

- Courses taught include Engineering Problem Solving (MECH 105) and Intro to Mechanical Engineering (MECH 103).

Adjunct Instructor

Front Range Community College
2020–2023

- Courses taught include Intro to Computer Programming, Intro to Engineering, Engineering Mechanics I: Statics, and Print Reading for Manufacturing.
- Skilled in delivering in-person, online, and hybrid classes with effective learning management system integration.
- Nominated for Master Teacher Award in 2020-2021 and 2022-2023.

Math & Engineering Tutor

Front Range Community College
2021–Present

- Provide academic support in mathematics and engineering subjects.

Graduate Teaching Assistant/Lab Instructor

Colorado State University
2016–2017

- Taught MECH 201 and MECH 402, focusing on lab instruction and grading.
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Teaching Experience

Colorado State University:

- MECH 103: Introduction to Mechanical Engineering
- MECH 105: Engineering Problem Solving
- MECH 201 and MECH 402 (Graduate Teaching Assistant/Lab Instructor)

Front Range Community College:

- EGG 1060: Intro to Computer Programming (MECH 105 equivalent)
 - EGG 1000: Intro to Engineering (similar to MECH 103)
 - EGG 1050 and EGG 1051 (MECH 231 equivalent, course design only)
 - EGG 2011: Engineering Mechanics I: Statics (CIVE 260 equivalent)
 - MTE 106: Print Reading for Manufacturing
 - MAT 1140: Career Math
 - MATH 1220: Integrated Math
 - MAT 0250: Quantitative Literacy
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Professional Development

- KEEN Seminars
 - Fostering innovation and entrepreneurship in engineering education (5 hours)
- **Teaching with Purpose Workshop**, Front Range Community College, 2023
 - Focused on inclusion, diversity, and equity in teaching (6 hours).
- **Active Learning Institute**, Front Range Community College, 2021
 - Completed 56 hours, including 20 hours of course redesign.

- **Online Essentials Workshop and Practicum**, Front Range Community College, 2020-2021
 - 15 hours of coursework focused on online teaching strategies.
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Leadership

Advisor for University Student Launch Initiative (USLI) Rocket Team

Colorado State University
2024–Present

- Guide the 24-member undergraduate team during their weekly meetings on rocket design, budget allocation, and project planning.
- Support the leadership team in weekly meetings by offering insights and assistance on leadership-related matters.
- Review and provide feedback on all written materials.
- Attend all Senior Design and NASA presentations.

Advisor for USDA Bait Dispenser Senior Design Team

Colorado State University
Spring 2024– Fall 2024

- Guide the 3-member undergraduate team during their weekly meetings on design, budget allocation, and project planning.
- Attend all Senior Design presentations.

New Instructor Mentor

Front Range Community College
2022–2023

- Guide and mentor new instructors throughout their first year of teaching.
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Service

Colorado State University
Spring 2024– Fall 2024

- Biomedical Hiring Lecture: 3 hours
- Sustainable Engineering Hiring Lectures: 3 hours
- CFD Hiring Lectures: 3 hours

- Honors Thesis Advisor (Jack Garman): 2 hours
 - Berlin First Year Seminar Abroad Meetings: 10 hours
 - Transfer Student Social: 2 hours
 - Graduate Research Showcase: 1 hour
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Awards and Recognitions

- **Master Teacher Nominee**, Front Range Community College
2020-2021, 2022-2023
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Publications

1. Dias-Netipanyj, M.F., Cowden, K.M., Sopchenski, L., Cogo, S.C., Elifio-Esposito, S., Popat, K.C., Soares, P. "Effect of crystalline phases of titania nanotube arrays on adipose-derived stem cell adhesion and proliferation." *Materials Science & Engineering C*, October 2019.
2. Cowden, K.M., Dias-Netipanyj, M.F., and Popat, K.C. "Effects of titania nanotube surfaces on osteogenic differentiation of human adipose-derived stem cells." *Nanomedicine: Nanotechnology, Biology, and Medicine*, April 2019.
3. Cowden, K., Dias-Netipanyj, M.F. & Popat, K.C. "Adhesion and proliferation of human adipose-derived stem cells on titania nanotube surfaces." *Regenerative Engineering and Translational Medicine*, February 2019.
4. Cowden, K.M. Thesis Publication: "Interaction of Adipose-derived Stem Cells with Titania Nanotube Surfaces," May 2018.
5. Cowden, K.M., D.S. Bishop, D.E. Walrath, and J.E. McInroy. "Granular-Filled Composite Struts for Increased Damping in Hexapod Applications." *SPIE International Symposium on Smart Structures and Materials*, Newport Beach, CA, March 2003.