

# GRADUATE CERTIFICATE IN RAILROAD ENGINEERING, POST-BACCALAUREATE CERTIFICATE

---

The Railroad Engineering Certificate Program is a 12-credit hour certificate program housed in the Department of Engineering. The Program is designed to prepare students with an undergraduate degree in engineering (or related field) to succeed in a career in railroad engineering. Coursework includes material from civil, electrical, industrial, and mechanical engineering.

## Specific Admission Requirements

An applicant for the certificate must be admitted as a graduate student and can then complete the certificate in non-degree status. Colorado residents can complete the certificate as guest (for credit) students. If a student decides to later pursue the MS in Engineering with a concentration in Railroad Engineering, the student must apply and be accepted to that degree program; credits completed toward the certificate can be applied toward the degree.

## Student Learning Outcomes

Each student will be able to

- Demonstrate advanced understanding of the fundamental knowledge which serves as the basis for practice in railroad engineering.
- Apply that knowledge in the design and analysis of a system or process to meet specified needs.

## Outcomes Assessment Activities

Within the Department's existing assessment structures, the performance of Certificate students in the specific courses will be evaluated separately from other students.

## Specific Program Requirements

A student will receive a Railroad Engineering Certificate after completing the following courses with a grade of B or better.

Course	Title	Credits
EN 511	Structural Engineering	3
EN 531	Railroad Power Systems	3
EN 551	Fleet Management	3
EN 552	Vehicle Dynamics	3
<b>Total Credits</b>		<b>12</b>