

# Data Science Certificate\*



## Certificate Details:

### Required Courses

- **CS 133- Foundations of Data Science** Prereqs: MATH 143
- **CS 233- Essentials of Data Science** Prereqs: CS 133
- **CS 334- Algorithms for Machine Learning** Prereqs: CS 233, MATH 360/3611 Coreqs: MATH 301
- **CS 411- Databases for Data Scientists** Prereqs: CS 233  
or  
**CS 410- Databases** (not recommended for non-CS majors or non-CS minors)
- **MATH 301: Introduction to Linear Algebra** Prereqs: MATH 175/176
- **MATH 360: Engineering Statistics** Prereqs: MATH 175/176  
or  
**MATH 361: Probability and Statistics I** Prereqs: MATH 175/176

## Why Data Science?

There is an increasing need in industry and academic research for students with an understanding of concepts, practical skills, and ethical implications of data science and machine learning.

This certificate opens up an opportunity for students across campus to go *beyond the major* and acquire skills that could potentially benefit research efforts across campus and give students skills to increase their employment possibilities.

## What will you get out of it?

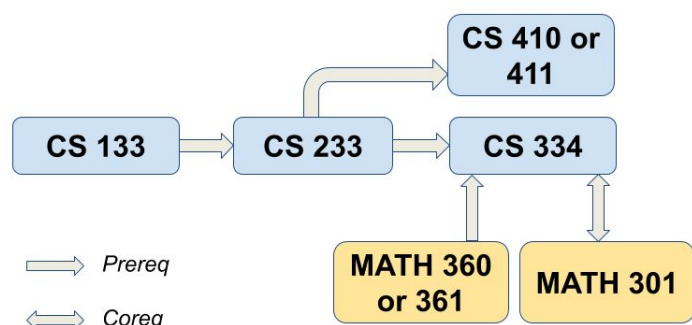
Gain experience in data management, analysis; be able to think critically about real-world scenarios to ask and answer questions where data can be applied. Upon completion of the course, you should be better suited for undergraduate (or graduate) research using emerging data science tools as well as jobs that require data science skills in your domain.

## What does it require?

The certificate requires 12 credits (4 courses shown on the left), and is primarily aimed at STEM Majors. However, any student with the appropriate math background would also benefit.

CS 133 is available starting Fall'19 and CS 233 from Spring'20.

## Course Flowchart:



BOISE STATE UNIVERSITY

COLLEGE OF ENGINEERING  
Department of Computer Science

\* Will be available in Fall'20 but students can start now