

# CERTIFICATE IN DATA SCIENCE FOUNDATIONS

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An undergraduate certificate introducing students to the basic tools of data science. This certificate is open to all students except Data Science majors, for whom all these courses are required components of the degree program.

## Learning Objectives

Upon successful completion, students will be able to:

1. Write simple python programs that can interact with external files to obtain and record information, including web sources.
2. Use python or R packages for data manipulation, data preparation and visualization.
3. Apply inferential reasoning using p-values, significance tests and confidence intervals to real world phenomena.
4. Use R packages for data visualization.