

# DATA (DAT)

---

## **DAT 3380 Introduction to Data Science (5 Credits)**

An introduction to data science using R. This course provides an overview of concepts, skills, and technologies used for working with large, complex, and messy datasets. Provides an introduction to the full data workflow, from data acquisition and cleaning to exploration, analysis, visualization, and communication of final results. Explores ethical and social considerations inherent in working with "big data," including privacy, design, reproducibility, and bias. Using real-world datasets, students will explore, visualize, and pose questions about data. Course Schedule (<https://catalog.spu.edu/course-search/?keyword=DAT%203380>)

## **DAT 4380 Introduction to Machine Learning (5 Credits)**

An introduction to statistical machine learning. Emphasis on applications and practical implementation of machine learning algorithms using the R programming language, with a conceptual overview of the underlying theory and mathematics. Topics include a variety of supervised learning methods for regression and classification as well as unsupervised learning methods for clustering and dimension reduction. Also explores ethical and societal issues that arise in applications of machine learning. Typically offered: Occasionally. Course Schedule (<https://catalog.spu.edu/course-search/?keyword=DAT%204380>)

## **DAT 4500 Data and Society (5 Credits)**

In this course students will analyze, writeup, and publish insights on real-world data. In addition, students will explore and reflect on social, ethical, and theological implications of data and the practice of data analytics. Typically offered: Spring. Course Schedule (<https://catalog.spu.edu/course-search/?keyword=DAT%204500>)