DATA 100 Course Syllabus

DATA 100 001 - Introduction to Data Science in Python (3)

Course Description

DATA 100 (3) Introduction to Data Science in Python (3)

> Fundamentals of data science ~~with an emphasis on computational thinking~~and programming with an emphasis on problem solving, testing, debugging, and working with data sets. Real-world applications from disciplines in the sciences, humanities, medicine, engineering, social sciences, business and others. No prior computing background is required.

Prerequisite: None

Equivalence: COSC 100

Learning Outcomes

Upon successful completion of this course, students will be able to:

> 1. ~~develop the ability to "think computationally" using programming principles.~~
> 1. develop the ability to use programming principles to solve problems, conduct data analyses, create data visualizations, recognize patterns in data, and detect errors in code.
> 2. practice the creation of loops, conditionals, and functions to analyze data.
> 3. identify and use different data types to accomplish a variety of data science tasks.
> 4. apply common workflows to load, process, clean, and analyze data.
> 5. appraise the quality of data and assess its limitations in answering questions.
> 6. understand the role of testing and version control to writing sustainable code.
> 7. create reproducible, ethical, and sustainable data analyses.
> 8. apply the skills and techniques in this course to generate reproducible analyses.

Assessment

Item	Weight	~~Weight~~	Frequency
Learning Logs	5%	~~10%~~	Weekly
Labs	25%	~~30%~~	Weekly
Project	25%	~~30%~~	Weekly
Tests	25%	~~30%~~	Bi-weekly
Final Exam	20%		Scheduled during the exam period

Passing Criteria

All students must satisfy ALL conditions to pass the course:

> 1. Pass the Labs with an average grade of at least 50%, with no more than 4 missed labs.
> 2. Pass the Tests with an average grade of at least 50%.
> 3. Pass the Project with a grade of at least 4050%.
> 4. Pass the Course overallFinal Exam with a grade of at least 50%
> 5. Pass the Course overall with a grade of at least 50%.

If a student does not satisfy the appropriate requirements, the student will be assigned the **lower** of their earned course grade or, a maximum overall grade of 45 in the course.