Computer Science 260
Programming for Data Science

Instructor
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Office Hours – TR 2:00 – 3:00 pm

Required text
zyBook online textbook:
1. Sign in or create an account at learn.zybooks.com
2. Enter zyBook code: UNDCS260NordlieSpring2019
3. Subscribe

GTA
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Websites of interest
Blackboard - http://blackboard.und.edu
zyBooks: http://learn.zybooks.com
Python – http://www.python.org
Jupyter Notebook – www.jupyter.org
Sun VirtualBox (virtual image software) – www.virtualbox.org
Download Image and Notebooks – http://undcemcs01.und.edu/~john.nordlie/

Purpose
The Programming for Data Science course provides students with an introduction to the main tools and ideas in the data scientist's toolbox. The course gives an overview of the data, questions, techniques and tools that data analysts and data scientists work with. This course provides a conceptual introduction to the ideas behind turning data into actionable knowledge and tools that will be used to analyze this data. The course will cover collecting, cleaning and sharing data. Additionally, this course will cover how to communicate results through visualizations.

Learning Outcomes:
At the end of this class, the students will be able to:
- Describe what Data Science is and the skill sets needed to be a data scientist
- Write programs in Python
- An understanding of how the nature of the data collection, the data itself, and the analysis processes relate to the kinds of inferences that can be drawn
- Understand the limitations of data sets based on their contents and provenance
- Knowledge of data organization, management, preservation, and reuse
- Knowledge of what statistical analysis techniques to choose, given particular demands of inference and available data
- Knowledge of general linear models and cluster analysis methods for statistical analysis
- Skills and knowledge in preparing data for analysis, including cleaning data, manipulating data, and dealing with missing data
- Skills in actually analyzing data using open source data analysis tools

General

1) Exams will only be given at the scheduled times unless prior arrangements have been made.

2) Regular attendance is expected and students are responsible for any/all material covered in class.

3) All programming assignments are due on the assigned dates in class. Assignments will be accepted one class period late with a 20% deduction. No assignments will be accepted more than 1 class period late. Homework assignments are due by the end of business and WILL NOT be accepted late without prior approval.

4) Grading:	Midterm exam	100 points
	Programs	12 @ 10 points each
	Final project	100 points

Letter grades will basically follow 90, 80, 70, and 60 percent. There will be no individual curving of tests and/or programs; however, the overall percentages may be adjusted in favor of the students.

Accommodations for Disabilities

If you have any kind of disability, whether apparent or non-apparent, learning, emotional, physical, or cognitive, and you need some accommodations or alternatives to lectures, assignments, or exams, please feel free to contact me to discuss reasonable accommodations for your access needs. I also encourage you to contact the Disability Services for Students (McCannel Hall Room 190, http://www1.und.edu/disability-services/). The can assist with documenting your needs or creating an accommodation plan.

Plagiarism

Students are allowed and even encouraged to discuss ideas. Students can “help” other students with algorithms and small sections of code. However, students are also expected to do their own work. Students caught cheating will receive zero points for any assignment or test, and will be reported for academic fraud.

This document is subject to change.