Course Syllabus

Course Information

BUAN 6340; Programming for Data Science; Spring 2019

BUAN 6340.501.19S	Thus. 7-10pm	JSOM 2.722
BUAN 6340.002.19S	Fri. 4-7pm	JSOM 1.212

Professor Contact Information

Jason Parker

Office:	JSOM 3.807
Office number:	(972) 883-5141
Office hours:	Wednesday and Thursday 2-5

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Prerequisites: BUAN 6356 or MIS 6323.

Course Description

BUAN 6340 - Programming for Data Science (3 semester credit hours) This course covers many aspects of programming for data science and analytics, including syntax, handling data, data visualization, and implementation of statistical analysis models. The course will be taught using Python language and may use a different programming language as applicable. Prerequisites: BUAN 6356 or MIS 6323. (3-0) Y

Student Learning Objectives/Outcomes

- To apply core Python structure as well as object-oriented design in Python to build own solutions to free-form programming challenges in the problem sets.
- To use and fully understand core database and linear algebra packages in Python for the analysis of data.
- To gain simple familiarity with primary analytics tools in Python and to apply advanced features/packages

Required Textbooks and Materials

Access to a computer which can run the Python language interpreter. Ideally, this would be the student's own machine which they could bring into class, although that is not necessary. The computer labs on campus are sufficient for using the R program for this course.

For this course, we will be using the Anaconda Python v 3.6 which can be freely downloaded from: https://www.anaconda.com/download/

No textbooks are required for this course.

Suggested Course Materials

Many books relevant to this course can be found online for free from their publishers

Two examples include:

VanderPlas, Jake. *Python data science handbook: Essential tools for working with data*. O'Reilly Media (2016). https://jakevdp.github.io/PythonDataScienceHandbook/

Martelli, Alex, Anna Ravenscroft, and David Ascher. *Python cookbook*. " O'Reilly Media, Inc.", 2005. http://chimera.labs.oreilly.com/books/1230000000393/index.html

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Assignments & Academic Calendar

The midterm and final exams will be taken in class.

Week	Topic	Due	Thurs.	Fri.
1	Syntax		17-Jan	18-Jan
2	Postix		24-Jan	25-Jan
3	IO	PS 1	31-Jan	1-Feb
4	Numpy		7-Feb	8-Feb
5	Classes	PS 2	14-Feb	15-Feb
6	Optimization		21-Feb	22-Feb
7	Resampling	PS 3	28-Feb	1-Mar
8	Exam 1		7-Mar	8-Mar
9	Training		14-Mar	15-Mar
10	DS packages	PS 4	28-Mar	29-Mar
11	Neural nets		4-Apr	5-Apr
12	Automation	PS 5	11-Apr	12-Apr
13	Spark		18-Apr	19-Apr
14	Tensorflow		25-Apr	26-Apr
15	Exam 2		2-May	3-May

Grading Policy

50% Problem sets (6 total, equally weighted)
50% Exams (2 total, equally weighted)

Grading is on an absolute scale:

A = 89.5 and above
B = 79.5 to 89.4
Etc.

Course & Instructor Policies

Extra credit is not available for this course. Make-up exams will not be given. With clear, physical proof for an excused absence in an exam (e.g., hospitalization or death of an immediate family member), an exam may be dropped (i.e., the other exam will count double). Classroom attendance will not be taken, but attendance is highly encouraged.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.