MSAN-694-01
Distributed Computing
Intersession 2017

Instructor: Diane Woodbridge

Time and Location: 10 AM - 4PM , Jan 09, 2017 - Jan 20, 2017,
101 Howard 155 and 156
(No class on January 16th)

Contact Information: dwoodbridge@usfca.edu

Office Hours: Breaks between classes.

1 Learning Outcome

Students will learn Apache Spark with hands-on activities.

- Understand Apache Spark concepts and programming basics.

- Learn how Apache Spark runs on different cluster environments including standalone, Hadoop YARN and Mesos.

- Gain experience with Apache Spark data processing including Spark API, Spark SQL, MLlib, ML and streaming.

2 Grading

Attendance and Participation - 10 %
Individual Programming Assignment - 5 x 5 %
Group Programming Assignment - 25 %
Daily Quiz - 5 x 8 %

3 Class Overview

1. Introduction to Apache Spark

2. Spark Programming Basics

3. AWS Hands-on (By AWS)

4. Running Spark on a Cluster (Spark Standalone, YARN and Mesos)

5. Spark SQL

6. Spark MLlib and Spark ML

7. Spark Streaming

4 University Policy

All students at the University of San Francisco are subject to several university policies. Some of these are highlighted below. Visit usfca.edu/catalog/policies for a full list of these policies.

4.1 Academic Integrity

As a Jesuit institution committed to cura personalis-the care and education of the whole person-USF has an obligation to embody and foster the values of honesty and integrity. USF upholds the standards of honesty and integrity from all members of the academic community. All students are expected to know and adhere to the University's Honor Code. You can find the full text of the code online at `www.usfca.edu/academic_integrity`. The policy covers:

- Plagiarism - intentionally or unintentionally representing the words or ideas of another person as your own; failure to properly cite references; manufacturing references.

- Working with another person when independent work is required.

- Submission of the same paper in more than one course without the specific permission of each instructor.

- Submitting a paper written by another person or obtained from the internet.

- The penalties for violation of the policy may include a failing grade on the assignment, a failing grade in the course, and/or a referral to the Academic Integrity Committee.

4.2 Behavioral Expectations

All students are expected to behave in accordance with the Student Conduct Code and other University policies (see http://www.usfca.edu/fogcutter/). Open discussion and disagreement is encouraged when done respectfully and in the spirit of academic discourse. There are also a variety of behaviors that, while not against a specific University policy, may create disruption in this course. Students whose behavior is disruptive or who fail to comply with the instructor may be dismissed from the class for the remainder of the class period and may need to meet with the instructor or Dean prior to returning to the next class period. If necessary, referrals may also be made to the Student Conduct process for violations of the Student Conduct Code.

4.3 Confidentiality, Mandatory Reporting, and Sexual Assault

As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. I also have a mandatory reporting responsibility related to my role as a faculty member. I am required to share information regarding sexual misconduct or information about a crime that may have occurred on USFs campus with the University. Here are other resources:

- To report any sexual misconduct, students may visit Anna Bartkowski (UC 5th floor) or see many other options by visiting our website: `www.usfca.edu/student_life/safer`.

- Students may speak to someone confidentially, or report a sexual assault confidentially by contacting Counseling and Psychological Services at 415-422-6352.

- To find out more about reporting a sexual assault at USF, visit USFs Callisto website at: `www.usfca.callistocampus.org`.

- For an off-campus resource, contact San Francisco Women Against Rape (SFWAR) (415) 647-7273 (`www.sfwar.org`).

5 Student Resources

The following are general resources available to students at the University of San Francisco. For more information, please contact the relevant office.

5.1 Students with Disabilities

If you are a student with a disability or disabling condition, or if you think you may have a disability, please contact USF Student Disability Services (SDS) at 415 422-2613 within the first week of class, or immediately upon onset of disability, to speak with a disability specialist.
If you are determined eligible for reasonable accommodations, please meet with your disability specialist so they can arrange to have your accommodation letter sent to me, and we will discuss your needs for this course. For more information, please visit: http://www.usfca.edu/sds or call (415) 422-2613.

5.2 Learning and Writing Center

The Learning & Writing Center provides assistance to all USF students in pursuit of academic success. Peer tutors provide regular review and practice of course materials in the subjects of Math, Science, Business, Economics, Nursing and Languages. Other content areas can be made available by student request. To schedule an appointment, log on to TutorTrac at `https://tutortrac.usfca.edu`. Students may also take advantage of writing support provided by Rhetoric and Language Department instructors and academic study skills support provided by Learning Center professional staff. For more information about these

services contact the Learning & Writing Center at (415) 422-6713, email: lwc@usfca.edu or stop by our office in Cowell 215. Information can also be found on our website at `www.usfca.edu/lwc`.

5.3 Counseling and Psychological Services

Our diverse staff offers brief individual, couple, and group counseling to student members of our community. CAPS services are confidential and free of charge. Call 415-422-6352 for an initial consultation appointment. Having a crisis at 3 AM? We are still here for you. Telephone consultation through CAPS After Hours is available between the hours of 5:00 PM to 8:30 AM; call the above number and press 2.

6 Student Accounts - Last day to withdraw with tuition reversal

Students who wish to have the tuition charges reversed on their student account should withdraw from the course(s) by the end of the business day on the last day to withdraw with tuition credit (census date) for the applicable course(s) in which the student is enrolled. Please note that the last day to withdraw with tuition credit may vary by course. The last day to withdraw with tuition credit (census date) listed in the Academic Calendar is applicable only to courses which meet for the standard 15-week semester. To find what the last day to withdraw with tuition credit is for a specific course, please visit the Online Class Schedule at www.usfca.edu/schedules.