

# Data Analysis Skills

## ACG 6935 - Spring 2017

Fisher School of Accounting

Syllabus version: December 7, 2016

## 1 General

### 1.1 Course objective

The course objective is to introduce first and second year PhD students in Accounting and Finance to archival research. The primary focus is on introducing the most commonly used datasets on WRDS (Compustat, CRSP and IBES) and learning SAS to manage and analyze these datasets.

### 1.2 Instructor details

Instructor: Joost Impink, joost@ufl.edu

Office: 336 Gerson Hall, (352) 273-1974

Office hours: during lab sessions, or email for an appointment

### 1.3 Class schedule

The meeting dates are Tuesday (lab session) and Thursday (instruction) in module 3. See table 1 on page 7 for a detailed (tentative) class schedule. **Note: the first class is Tuesday, January 3, 2017.**

Tuesday/Thursday, Periods 7-8 (1:55 - 3:50 pm), GER 228

### 1.4 Textbook

The Little SAS Book: A Primer, Fifth Edition by Lora Delwiche and Susan Slaughter, ISBN-13: 978-1612903439. Students may also use earlier versions instead.

The 2012 edition of the book is digitally available through the UF library website at <http://ufl.summon.serialssolutions.com>: Search for “The Little SAS Book: A Primer”; the fourth search result should be the eBook of the 2012 edition.

## 1.5 Class website

This course has a website on Canvas (for announcements, grades, reading materials). We will use a github repository for SAS code (details in class).

## 1.6 Class websites

We will use a Canvas website (for announcements, grades, reading materials). Reference materials on WRDS datasets, common SAS procedures as well as the assignments for this course are organized on a separate website, see <http://www.wrds.us/cms>.

# 2 Course Requirements

## 2.1 Performance assessment

The grade is determined as follows:

Assignments	50%
Class participation	50%
Total	<u>100%</u>

The assignments and class participation are graded between 1 (lowest) and 10 (highest). The final grade is letter grade based on the following scale:

Grade	Score
A	9.00 - 10.00
A-	8.00 - 8.99
B+	7.00 - 7.99
B	6.00 - 6.99
B-	5.00 - 5.99
C+	4.00 - 4.99
C	3.00 - 3.99
C-	2.00 - 2.99
D	1.00 - 1.99

For example, if the grades are: 8.0 for the assignments (50%) and 9.0 for participation (50%), then the score would be:  $8.0 \times 50\% + 9.0 \times 50\% = 8.5$ , which corresponds to a A- (it is in the 8.00 - 8.99 score range).

## 2.2 UF policies for grade points

For current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

## 2.3 Assignments

A typical class each Thursday will consist of a discussion of an assignment, an introduction to new materials, a small in-class exercise and a discussion of a new assignment. Tuesday classes consist of a lab-meeting, where students can work on the assignment and ask questions. Students need to submit their work before the following Thursday where the assignment will be discussed briefly. No case handed in, or attempted hand-ins after the deadline can result in failing the class.

Students are encouraged to install Cygwin (a Linux emulator) with git (versioning software) and create a github account on <http://www.github.com>. Students can then organize their SAS code for the assignments in a repository, that is accessible by the instructor.

## 2.4 Class sessions

Students are advised to treat class attendance as an academic appointment that must be met, much as one must meet a business appointment. Students are encouraged to attend all Thursday class sessions. Attending the Tuesday meetings (lab sessions) is optional.

Students are expected to arrive for classes prepared to meet class room obligations and to devote full attention and commitment to the work of that class. Each instruction session will consist of lecture, discussion, exercises related to the assignments.

Students are required to bring a laptop to class, but only to be used for tasks related to the class session. Emailing, texting, and working on matters unrelated to the work at hand are inappropriate behaviors because they are disrespectful and distracting to the class and to the instructor.

## 2.5 Policy issues

Assignments are individual efforts. Cheating is not tolerated. The University's Honor Code applies in all matters and will be enforced without limit or exception.

## 2.6 Students with disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

## 2.7 Course evaluation

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the

semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.



"You seem to have the qualifications we're looking for in an accountant"

### 3 Topics (detail)

#### Week 1 Introduction

##### Preparation

Read 'the little SAS book' chapters: 1, 3, and 4 (skip chapter 2)

We will work with SAS and WRDS in class, so you are required to bring a laptop with either SAS installed, or with a remote login to your pc (with SAS installed). You will also need WRDS login credentials. Visit [wrds.wharton.upenn.edu](http://wrds.wharton.upenn.edu) to request an account (this usually takes a few days).

##### Topics

Data step, RETAIN, BY

Proc Means

Remote submit

Compustat Fundamental Annual (Funda)

## **Week 2 Proc SQL and Compustat**

### **Preparation**

Read 'the little SAS book' chapter 6 and intro to SQL, see <http://www2.sas.com/proceedings/sugi29/268-29.pdf>

### **Topics**

Proc SQL: Inner Join, left join, group by  
Compustat Fundamental Quarterly (Fundq)  
Compustat Segment files

## **Week 3 SAS Macros and CRSP**

### **Preparation**

Read The little SAS book chapter 7 and intro on macros, see <http://www2.sas.com/proceedings/sugi31/039-31.pdf>.

### **Topics**

Macros: Simple text replacement  
Macros: Conditional code  
Macros: from SQL into macro variable  
CRSP Daily stock file (DSF)  
CRSP Monthly stock file (MSF)  
CRSP Indices (DSIX, MSIX)  
Matching Compustat and CRSP (CCM)

## **Week 4 Clay Macros (%DO\_OVER and %ARRAY) and IBES**

### **Preparation**

Read Clay documentation, see <http://wrds.us/cms/?hId=54207c91ed771802001f467e&pId=5472811aeea04d02000a5542>.

### **Topics**

Macros: %ARRAY  
Macros: %DO\_OVER  
Matching Compustat, CRSP with IBES  
IBES Summary  
IBES Detail

## **Week 5 Event studies**

### **Preparation**

No preparation.

### **Topics**

Constructing abnormal return measures (CAPM, market model, size adjusted returns).

## **Week 6 SEC filings, methods**

### **Preparation**

No preparation.

### **Topics**

SEC filings on Edgar

Common methods: OLS, Fixed effects, Logistic regression

Creating tables with descriptive statistics, correlation table, differences in mean/median for groups

## **Week 7 Using Stata for analytics and integrating Stata into a SAS workflow**

### **Preparation**

No preparation.

### **Topics**

Exporting data, executing Stata code and importing results from SAS.

Table 1: Class Schedule (tentative)

Class	Date	Topic
1	Jan 3	Introduction to course
2	Jan 5	Compustat
3	Jan 10	Lab session: Assignment 1
4	Jan 12	Proc SQL and Compustat (continued)
5	Jan 17	Lab session: Assignment 2
6	Jan 19	SAS Macros and CRSP
7	Jan 24	Lab session: Assignment 3
8	Jan 26	Clay Macros (%DO_OVER and %ARRAY) and IBES
9	Jan 31	Lab session: Assignment 4
10	Feb 2	Event studies
11	Feb 7	Lab session: Assignment 5
12	Feb 9	SEC filings, methods
13	Feb 14	Lab session: Assignment 6
14	Feb 16	Using Stata for analytics and integrating Stata into a SAS workflow