ACC 499 – Analytical Tools for Accountants

Course Syllabus
Spring Semester 2019
Section: 14187D
Location – BRI 5
Class Sessions – Thursdays, 2:00 – 2:50 PM
Units: 1 unit
Class time: 50 minutes per week

Professor: Professor Julie W. Suh, Ph.D.
Office: ACC 212
E-mail: suhw@marshall.usc.edu

Office Hours: TBD

Course Description

This class will introduce you to the technical tools you will need to pursue a successful career in accounting. The first half of the course will focus on the fundamentals of financial modeling using Microsoft Excel. This will build the analytical thinking and problem solving needed for more advanced tools. The second half will build on this foundation and will focus on analysis using Python and data analysis toolkits in Python, such as Pandas, Numpy, Matplotlib, and Seaborn. Application exercises will be tailored for Accounting majors.

Learning Objectives

Upon completion of this course, you should be able to:

- Build dynamic and efficient financial accounting models using Microsoft Excel (Leventhal Learning Objective 1)
- Apply problem solving skills to material learned in introductory accounting courses (Leventhal Learning Objectives 1 and 2)
- Analyze datasets using the Python programming language and its libraries such as Numpy, Pandas, Matplotlib, and Seaborn (Leventhal Learning Objective 1)
- Use Python and related libraries to solve accounting business problems in audit, tax, and advisory. (Leventhal Learning Objectives 1, 2, and 3)

To achieve these learning objectives, a combination of background reading and technical assignments, interactive discussions, and practice problems will be utilized. Please note: the most important word in the sentence above is “interactive.” The reason is that research on learning indicates it is very difficult to gain anything more than a superficial understanding of material without practice and feedback. Therefore, you should expect our class sessions to incorporate a substantial amount of both.

To demonstrate you achievement of the learning objectives stated above, you will be required to demonstrate your knowledge by individually working problems using in-class and homework assignments as well as individual projects.

Required Materials

The following books are available in the bookstore:


Lastly, feel free to purchase the book online as this can also result in substantial cost savings.
Grading Policies

The total class grade will be weighted as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Class Assignments/Participation</td>
<td>20%</td>
</tr>
<tr>
<td>Homework Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Midterm Project</td>
<td>25%</td>
</tr>
<tr>
<td>Final Project</td>
<td>25%</td>
</tr>
</tbody>
</table>

Final grades represent how you perform in the class relative to other students. Your grade will not be based on a mandated target, but on your performance. The average grade for this class is expected to average about 3.3. Three items are considered when assigning final grades:

1. Your average weighted score as a percentage of the available points for all assignments (the points you receive divided by the number of points possible).
2. The overall average percentage score within the class.
3. Your ranking among all students in the class.

The grade of "W" is allowed only if a student withdraws after the official add period and before the end of the drop period during the semester. The grade of incomplete (IN) can be assigned only if there is work not completed because of a documented illness or unforeseen emergency occurring after the drop period of the semester that prevents the student from completing the semester. An "emergency" is defined as a serious documented illness, or an unforeseen situation that is beyond the student’s control, that prevents a student from completing the semester. Prior to the end of the drop period, the student still has the option of dropping the class so incompletes will not be considered. Arrangements for completing an IN must be initiated by the student and agreed to by the instructor prior to the final examination. All work required to replace the IN with a final grade must be completed within one calendar year from the date the IN was assigned. If the student does not complete the work within the year, the IN will automatically be converted to a grade of F.

Assignments and Grading Detail

Expectations regarding your performance on in-class assignments, homework assignments, and individual project are as follows:

In-class Assignments/Participation

It is important to attend every lecture since we build on material covered in previous lectures. In addition, because this is a class involving technical problem solving skills, every class will have at least one in-class assignment that you will complete on your own during the lecture. This is to ensure that you are able to apply the concepts covered in the class. Failure to attend class will be detrimental towards your final grade.

Since this is a fast-paced class, it is important that you pay attention for the entire class time. Surfing the web, texting, sending emails, etc. will not be allowed; failure to abide by these rules will hurt your participation grade in the class.

Homework Assignments

Part of the learning process in this class will take place on your own, as you struggle and work through problems at home. Since homework assignments are designed to help you deepen your understanding of the class material, it is important to work through the problems without the help of other students (or the web!).

Individual Projects

There are two individual projects for this class. In the first project (Midterm Project), you will be required to build an Excel-based valuation model for a fictional company. In the second project...
(Final Project), you will be required to produce a report answering specific questions about a particular dataset using tools and skills covered in class.

**STUDENT LEARNING OBJECTIVES**

<table>
<thead>
<tr>
<th>OBJ 1</th>
<th>High</th>
<th>Technical, Conceptual, Problem-Solving Knowledge</th>
<th>Students will expand their critical thinking and problem solving skills learned in introductory and intermediate accounting courses.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJ 2</td>
<td>Medium</td>
<td>Research, Analysis, and Critical Thinking</td>
<td>Students will use academic/professional literature to build their knowledge of and analyze complexities of business internal and external accounting requirements.</td>
</tr>
<tr>
<td>OBJ 3</td>
<td>Low</td>
<td>Ethical Decision Making</td>
<td>Students will apply ethical principles and professional standards in decision-making.</td>
</tr>
<tr>
<td>OBJ 4</td>
<td>Medium</td>
<td>Communication</td>
<td>Students will continue to strengthen their ability to communicate ideas clearly and strategically, after considering the relevant audience, situation and purpose of the communication.</td>
</tr>
<tr>
<td>OBJ 5</td>
<td>Low</td>
<td>Leadership, Collaboration, and Professionalism</td>
<td>Students will demonstrate leadership skills and the ability to work cooperatively and productively to accomplish established goals.</td>
</tr>
</tbody>
</table>
Add/Drop Process
Students may drop via Web Registration at any time prior to XXX. Please note that if you drop after XXX your transcripts will show a W for the class.

Dates to Remember:
- Last day to add classes or drop without a "W"  
  Friday, January 25, 2019
- Last day to change enrollment from P/NP to Letter Grade  
  Friday, February 22, 2019
- Last day to drop with "W"  
  Friday, April 5, 2019

Retention of Graded Coursework
Graded work that has not been returned to you will be retained for one year after the end of the semester. Any other materials not picked up by the end of the semester will be discarded after final grades have been submitted.

Recordings
No student may record any lecture, class discussion or meeting with the professor without the professor's prior express written permission. The word "record" or the act of recording includes, but is not limited to, any and all means by which sound or visual images can be stored, duplicated or retransmitted whether by an electro-mechanical, analog, digital, wire, electronic or other device or any other means of signal encoding. The professor reserves all rights, including copyright, to lectures, course syllabi and related materials, including summaries, PowerPoints, prior exams, answer keys, and all supplementary course materials available to the students enrolled in this class whether posted on Blackboard or otherwise. They may not be reproduced, distributed, copied, or disseminated in any media or in any form, including but not limited to all course note-sharing websites. Exceptions are made for students who have made prior arrangements with DSP and the professor.

USC Statement on Academic Conduct and Support Systems

Academic Conduct:
Students enrolled in any class offered by the Leventhal School of Accounting are expected to uphold and adhere to the standards of academic integrity established by the Leventhal School of Accounting Student Honor Code. Students are responsible for obtaining, reading, and understanding the Honor Code System handbook. Students who are found to have violated the Code will be subject to disciplinary action as described in the handbook. For more specific information, please refer to the Student Honor Code System handbook, available in class or from the receptionist in ACC 101.

Support Systems
Student Counseling Services (SCS) - (213) 740-7711 – 24/7 on call
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.
https://engemannshc.usc.edu/counseling/

National Suicide Prevention Lifeline - 1-800-273-8255
Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. http://www.suicidepreventionlifeline.org

Relationship & Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender-based harm. https://engemannshc.usc.edu/rsvp/

Sexual Assault Resource Center
For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: http://sar.c.usc.edu/

Office of Equity and Diversity (OED)/Title IX compliance – (213) 740-5086
Works with faculty, staff, visitors, applicants, and students around issues of protected class.
https://equity.usc.edu/
Bias Assessment Response and Support
Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. https://studentaffairs.usc.edu/bias-assessment-response-support/

The Office of Disability Services and Programs
Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support & Advocacy – (213) 821-4710
Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. https://studentaffairs.usc.edu/ssa/

Diversity at USC – https://diversity.usc.edu/
Tabs for Events, Programs and Training, Task Force (including representatives for each school), Chronology, Participate, Resources for Students

USC Emergency Information
Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.
Provides overall safety to USC community. dps.usc.edu

Students with Disabilities
USC is committed to making reasonable accommodations to assist individuals with disabilities in reaching their academic potential. If you have a disability which may impact your performance, attendance, or grades in this course and require accommodations, you must first register with the Office of Disability Services and Programs (www.usc.edu/disability). DSP provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to your TA) as early in the semester as possible. DSP is located in GFS (Grace Ford Salvatori Hall) 120 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776. Email: ability@usc.edu.

Emergency Preparedness/Course Continuity
In case of a declared emergency if travel to campus is not feasible, the USC Emergency Information web site (http://emergency.usc.edu/) will provide safety and other information, including electronic means by which instructors will conduct class using a combination of USC’s Blackboard learning management system (blackboard.usc.edu), teleconferencing, and other technologies.
<table>
<thead>
<tr>
<th>Session</th>
<th>Date</th>
<th>Topic</th>
<th>Reading Assignments*</th>
<th>HW Assignments**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/10</td>
<td>Course Introductions /Introduction to Microsoft Excel</td>
<td>Suh Ch. 1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1/17</td>
<td>Introduction to Financial Modeling: Best practices for setting up</td>
<td>Suh Ch. 2 - 3</td>
<td>HW 1: Lemonade</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dynamic financial model in Excel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1/24</td>
<td>Conditionals Used in Audit/Tax</td>
<td>Suh Ch. 4 (up to p. 64)</td>
<td>HW 2: FizzBuzz</td>
</tr>
<tr>
<td>4</td>
<td>1/31</td>
<td>Lookup functions and Dynamic Worksheet References Used in Audit/Tax</td>
<td>Suh Ch. 4</td>
<td>HW 3: Rock Paper Scissor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(pp. 65-91)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2/7</td>
<td>3-Statement Financial Model - Nordstrom – Part 1</td>
<td>Suh Ch. 4</td>
<td>HW 4: Battleship Excel!</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(pp. 65-91)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2/14</td>
<td>3-Statement Financial Model – Nordstrom – Part 2</td>
<td>Suh Ch. 8</td>
<td>Work on Project</td>
</tr>
<tr>
<td>7</td>
<td>2/21</td>
<td>In-Class Case Study: Applications to Accounting</td>
<td>Suh Ch. 8</td>
<td>Work on Project</td>
</tr>
<tr>
<td>8</td>
<td>2/28</td>
<td>Goal Seek / Data Tables</td>
<td>Data Tables Assignment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midterm Project Due</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>3/7</td>
<td>Introduction to Python Programming/Python Basics</td>
<td>McKinney Ch. 2</td>
<td>Program 1</td>
</tr>
<tr>
<td></td>
<td>3/10-3/17</td>
<td>Spring Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>3/21</td>
<td>Flow Control</td>
<td>McKinney Ch. 3</td>
<td>Program 2</td>
</tr>
<tr>
<td>11</td>
<td>3/28</td>
<td>Functions and Dictionaries</td>
<td>McKinney Ch. 3</td>
<td>Program 3</td>
</tr>
<tr>
<td>12</td>
<td>4/4</td>
<td>Numpy Basics</td>
<td>McKinney Ch. 4</td>
<td>Find Dataset for Final Project/ Program 4</td>
</tr>
<tr>
<td>13</td>
<td>4/11</td>
<td>Pandas – Introduction</td>
<td>McKinney Ch. 5</td>
<td>Program 5</td>
</tr>
<tr>
<td>14</td>
<td>4/18</td>
<td>Pandas – Applications to Audit/Tax</td>
<td></td>
<td>Work on Final Project</td>
</tr>
<tr>
<td>15</td>
<td>4/25</td>
<td>Special Topic – Applications to Accounting</td>
<td></td>
<td>Work on Final Project</td>
</tr>
<tr>
<td>5/7</td>
<td></td>
<td>Final Project Due</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Reading Assignments should be completed before class on the date listed above.
** HW Assignments are due the following class period (date listed above is the date in which the HW Assignment has been assigned).