READ EVERYTHING VERY CAREFULLY!

Instructor
James R. Evans, Ph.D.
Professor
Department of Operations, Business Analytics, and Information Systems
Room 526, Lindner College of Business
Email: James.Evans@UC.edu (please put BANA 7011 in the subject line)
Cell Phone (for urgent issues only please): 513 375-8770
Office Hours: On campus (MWF 9-11); virtual office hours via Adobe Connect will be posted on Blackboard.

Most often I can address your issue with an email or a phone call. Please use email as the primary mode of contact. I will respond to email within 24 hours, and generally much sooner, contingent on my schedule. However, understand that if you try to contact me very close to an assignment deadline, I cannot guarantee a response in time.

I will answer clarifying questions on homework, help you with concepts you don’t understand, or help you troubleshoot Excel issues. Have specific questions that you wish to ask when requesting help; don’t simply ask “Am I doing this right?”!

Course Description
This course is the first of a sequence of two courses in the MBA program that provides an introduction to business analytics (the second course is BANA 7012). This course focuses on basic topics of data analysis and statistics, emphasizing data visualization and summarization, descriptive statistical measures, probability distributions and data modeling, sampling and estimation, and statistical inference.

This book was designed around Microsoft Excel 2013 for Windows. Excel will be used as the platform for conducting analyses and performing statistical calculations. Since the second edition of the book was published, new versions of Excel have been released (I am incorporating this into the third edition which won’t be published for over a year). However, I encourage you to use Excel 2016 for Windows or Excel 2016 for Mac, which has the statistical procedures that we will be using. IMPORTANT! You cannot use any earlier versions of Excel for Mac as it does not have the capabilities you will need. If you use Excel 2016, note that menus are somewhat different from the screen shots in the book; it is your responsibility to ensure that you are using the correct commands and menus that you will need. Students may purchase Microsoft Office at greatly discounted prices from UCIT.
Course Objectives:
Students who complete this course will be able to:
- Use Microsoft Excel to summarize, visualize, and analyze data in practical business situations.
- Compute and interpret key statistical measures.
- Apply probability rules and probability distributions in business problems.
- Compute and interpret confidence intervals for sample data.
- Conduct simple one-sample and two-sample tests of hypotheses and apply Analysis of Variance and Chi-Square Tests.

Required Textbook:
Evans, Business Analytics: Methods, Models, and Decisions, SECOND EDITION. Pearson/Prentice-Hall © 2016. ISBN 13: 978-0-321-99782-1. DO NOT purchase the international/global edition as it has different problems and data sets. Be cautious of purchasing books from 3rd party vendors as they often sell the international editions illegally. This book may also be used for BANA 7012 depending on the instructor.

Software and Files

1. Please download all the online Excel data files from [www.pearsonhighered.com/evans](http://www.pearsonhighered.com/evans). Click on the Business Analytics 2e book cover or the Online Data Files link (see below).
These are the files used in the textbook examples and referred to in the homework problems.

2. You will not need to download Analytic Solver Platform for this class. **However,** you should make sure that the Analysis Toolpak is installed in Excel; see page 50 in the text about this for Windows. For Mac Office 2016, it should already be installed (check the Data Tab); if not, start Excel, click Tools and then Add-Ins, click the Data Analysis Toolpak and then OK.

**Learning Activities**

A variety of learning activities are designed to support the course objectives, facilitate different learning styles, and build a community of learners. Learning activities for the modules include the following:

1. Reading the textbook
2. Reading other optional articles for your professional development
3. Viewing and listening to PowerPoint lectures
4. Completing written assignments and taking quizzes based on your homework
5. Completing an independent project broken down into five assignments.

Some practice problems from the text are assigned after each lecture. Solutions are provided. It is vitally important that you work these, understand your mistakes, and fully understand the solutions in preparation for exams!

**Blackboard**

Everything you need to take this course (except for the textbook files and software) is available on Blackboard.

1. Use the Discussion Board Q&A to post questions regarding clarification of assignments or lecture and text material. Please read the posts to avoid asking duplicate questions; you can click on the “Subscribe” button to get email announcements when a new entry has been posted to the Discussion Board with a link to click on and take you directly to the new post. This is the best way to keep up.
2. For questions of a personal nature or for help with assignments, contact the instructor directly; all Discussion Board posts are available to the entire class.
3. Check Blackboard announcements every day! You are responsible for any changes/corrections/etc. that I may post regarding assignments or course material.

**Assignments**

The assignments for this class will revolve around (1) easy lecture quizzes, (2) homework problems from the text (which you will use for weekly quizzes), and (3) a case assignment that require both Excel analysis and a formal written report.

**Lecture Quizzes**
Lecture quizzes are easy and designed to test your understanding of basic concepts. You can take these twice; if you don't understand something the first time, you should review the lecture again.

**Homework Problems**
Problems from the text are assigned for each module. All problems are to be done in Excel. After working the problems you will take a short quiz based on your answers to the homework. While taking the quiz, you may stop and finish it later, however, you will not be permitted to backtrack to any answers that were previously submitted. **If you want to understand why you got a question wrong, send me your Excel homework file and I will gladly explain what you did incorrectly!**

**Project**
An individual project is assigned in module 2. It must be submitted as a Word document (NOT PDF) that summarizes and explains the results in a clear and professional manner, along with an Excel workbook that provides the analysis and statistical output from your work. **Read the instructions very carefully!** The written report will be submitted through SafeAssign on Blackboard and checked for plagiarism, so do the work yourself.

Your Excel worksheets should be neat and organized, with clear text labels and additional comments and/or explanations inserted in the worksheet as needed to fully explain your work. Each project will be graded using a rubric that will be provided on Blackboard. Review these so you know my expectations!

**Deadlines**

**For this course I will strictly adhere to the following policy:** All quizzes and assignments must be completed by the prescribed due dates and times (Eastern time if you are in another time zone) As a student engaged in graduate level study it is your responsibility to review the syllabus, know the deadlines, and plan accordingly. I will not accept excuses that you simply forgot, had too much to do at work, or didn’t see the deadlines (this applies to exams also – I have had students in the past who didn't take the exams on time because they simply forgot; they received a 0). **Back up your work as you do it, and have a plan for potential Internet connection or other technology failures and do not leave assignments or exams to the last minute.**

**Exams**

Exams are scheduled for 72-hour periods (from 12:00 am until midnight 3 days later) on January 26-28; February 9-11; and February 23-25. You MUST take the exams during these time windows. **Mark your calendars! Failure to take the exams during these time windows will result in a 0.** I will not accept any excuses after the deadline.

You may use any resources such as the book, a calculator, and Excel, but I guarantee if you are not prepared, you won’t be able to waste a lot of time trying to find the answer or
approach to use in the book and complete the exam during the limited time. Exams are
timed and will automatically stop when the time limit has been reached, and you must
complete them in one sitting. Questions are randomized from pools of questions
covering similar concepts. To minimize cheating, you will not be allowed to backtrack to
a previous question once it has been submitted nor will you be provided the correct
answers (if you want to review your exam, please schedule an appointment). Should
your Internet connection fail or Blackboard crash, you can restart where you left off, but
the timer will keep running. So it is your responsibility to insure the integrity of your
technology.

---

**Academic Integrity and Student Code of Conduct**

If you are not already familiar with the Student Code of Conduct, I suggest you go to
http://www.uc.edu/conduct/Code_of_Conduct.html and read it carefully. In
particular, I want to highlight the following:

**Academic misconduct definitions**

(a) Aiding and abetting academic misconduct
   Knowingly helping, procuring or encouraging another person to engage in academic misconduct.

(b) Cheating
   Any dishonesty or deception in fulfilling an academic requirement such as:
   (i) Use or possession of unauthorized material or technological devices during an
       examination, an “examination” meaning any written, oral work or assessment submitted
       for evaluation or grade.
   (ii) Obtaining assistance with, or answers to, examination questions from another person with or
       without that person’s knowledge.
   (iii) Furnishing assistance with, or answers to, examination questions to another person.
   (iv) Possessing, using, distributing or selling unauthorized copies of an examination.
   (v) Representing as one’s own an examination taken by another person.
   (vi) Taking an examination in place of another person.
   (vii) Obtaining unauthorized access to the computer files of another person or agency or altering
       or destroying those files.

(d) Plagiarism
   (i) Submitting another’s published or unpublished work in whole, in part or in paraphrase, as one’s
       own without fully and properly crediting the author with footnotes, quotation marks, citations, or
       bibliographic references.
   (ii) Submitting as one’s own original work, material obtained from an individual, agency, or the
       internet without reference to the person, agency or webpage as the source of the material.
   (iii) Submitting as one’s own original work material that has been produced through
       unacknowledged collaboration with others without release in writing from collaborators.
   (iv) Submitting one’s own previously written or oral work without modification and instructor
       permission.
It is considered cheating to take any exam with any other student or outside help from people or websites. Also, do not take any screen shots of quiz or exam questions. I will be glad to review exams with you either in my office or virtually.

“UNAUTHORIZED MATERIAL” INCLUDES ANY WEBSITES THAT ILLEGALLY POST SOLUTIONS OR INFORMATION FROM FORMER STUDENTS.

Don't be stupid, I have caught students in the past and they have been significantly penalized in their grade, not to mention receiving a strike toward the LCB “two strike dismissal” policy.

**Course Grading** Total Points for each course component are given in the table below:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Quizzes</td>
<td>46</td>
<td>50</td>
<td>20</td>
<td>60</td>
<td>20</td>
<td>38</td>
<td>16</td>
<td>250</td>
</tr>
<tr>
<td>Project</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>Homework Quizzes</td>
<td></td>
<td>16</td>
<td>18</td>
<td>10</td>
<td>16</td>
<td>8</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Exams</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Total Points</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>850</td>
</tr>
</tbody>
</table>

Based on these, your grade will be determined by the following grading scale
740 or more = A
700 – 739 = A-
675 – 699 = B+
640 – 674 = B
600 – 639 = B-
560 – 599 = C+
500 – 559 = C
0 – 499 = F

The grading scale is very generous and nearly everyone should get at least a B+ if you put forth serious effort (no guarantees, however!). Please don’t ask me for extra credit work if you do poorly on an exam or in the course; in fairness to all, if I did that for one person I would have to do that for everyone in the class and that’s not going to happen.

**Course Schedule**

The course runs from Monday, January 8 – Sunday, February 25. All modules start on Mondays but will be available on Blackboard one week before they begin. Please mark key dates for quizzes, assignment deadlines, and exams on your calendar. Start reading the book and viewing the lectures early to give you time to do the assignments and work the practice problems. I realize that many of you work, but
if you wait until the weekend to do a week’s worth of material, you will have difficulty.

Note that the material included in Modules 3, 5, and 7 are a bit shorter to provide additional time to study for exams, so I encourage you to get your work done and submitted early before the exam.

All times are Eastern time, so if you are in another time zone, please adjust your schedule!

<table>
<thead>
<tr>
<th>Dates and Modules</th>
<th>Readings</th>
<th>PowerPoint Lectures</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1 January 8-14</td>
<td>Chapter 1 pages 1-18</td>
<td>Lecture 1.1: Introduction to Business Analytics</td>
<td>Lecture Quizzes and Problem Assignment Quiz 1 due at the end of the day (11:59 pm) on Sunday, January 14</td>
</tr>
<tr>
<td></td>
<td>Chapter 2 pages 37-47</td>
<td>Lecture 1.2: Data in Business Analytics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chapter 3 pages 53-66</td>
<td>Lecture 1.3 Basic Excel Skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 1.4 Data Visualization – Excel Charts</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 1.5 Data Visualization – Additional Tools</td>
<td></td>
</tr>
<tr>
<td>Module 2 January 15-21</td>
<td>Chapter 3 pages 72-89</td>
<td>Lecture 2.1 Frequency Distributions and Histograms</td>
<td>Lecture Quizzes and Problem Assignment Quiz 2 due at the end of the day (11:59 pm) on Sunday January 21</td>
</tr>
<tr>
<td></td>
<td>Chapter 4 pages 96-110</td>
<td>Lecture 2.2 Additional Tools for Summarizing Data</td>
<td>Begin work on project assignment; due by the end of the day on WEDNESDAY, FEBRUARY 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 2.3 Supplement – Additional Features of PivotTables</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 2.4 Measures of Location</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 2.5 Measures of Dispersion</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 2.6 Measures of Shape</td>
<td></td>
</tr>
<tr>
<td>Exam 1 open Friday JANUARY 26 at 12:00 am to Sunday JANUARY 28 at midnight. Covers Modules 1 and 2 only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Module 3 January 22-28</td>
<td>Chapter 4 pages 110-125</td>
<td>Lecture 3.1 Computing Descriptive Statistics</td>
<td>Lecture Quizzes and Problem Assignment Quiz 3 due at the end of the day (11:59 pm) on MONDAY January 29.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 3.2 Measures of Association</td>
<td></td>
</tr>
<tr>
<td>Module 4</td>
<td>January 29 – February 4</td>
<td>Lecture 3.3 Outliers and Statistical Thinking</td>
<td>I gave you an extra day because of the exam.</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------</td>
<td>--------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Chapter 5 pages 132-161</td>
<td>Lecture 4.1 Basic Probability Concepts</td>
<td>Lecture Quizzes and Problem Assignment Quiz 4 due at the end of the day (11:59 pm) on Sunday, February 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 4.2 Joint and Marginal Probability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 4.3 Conditional Probability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 4.4 Random Variables and Probability Distributions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 4.5 Expected Value and Variance of Probability Distributions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 4.6 Common Discrete Probability Distributions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 4.7 Introduction to Continuous Distributions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture 4.8 Normal and Exponential Distributions</td>
<td></td>
</tr>
</tbody>
</table>

Exam 2 open Friday February 9 at 12:00 am to Sunday February 11 at midnight. Covers Modules 3 and 4 only

<table>
<thead>
<tr>
<th>Module 5</th>
<th>February 5-11</th>
<th>Lecture 5.1 Random Sampling from Probability Distributions</th>
<th>Lecture Quizzes and Problem Assignment Quiz 5 due at the end of the day (11:59 pm) on MONDAY February 12. Again an extra day because of the exam.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chapter 5 pages 161-170</td>
<td>Lecture 5.2 Data Modeling and Distribution Fitting</td>
<td>NOTE THAT YOUR PROJECT IS DUE ON WEDNESDAY OF THIS WEEK</td>
</tr>
<tr>
<td></td>
<td>Chapter 6 pages 182-189</td>
<td>Lecture 5.3 Statistical Sampling</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module 6</th>
<th>February 12-18</th>
<th>Lecture 6.1 Sampling Distributions</th>
<th>Lecture Quizzes and Problem Assignment Quiz 6 due at the end of the day (11:59 pm) on Sunday, February 18</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chapter 6 pages 189-199</td>
<td>Lecture 6.2 Confidence Intervals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chapter 7 pages 206-218</td>
<td>Lecture 6.3 Prediction Intervals and Sample Size Determination</td>
<td></td>
</tr>
<tr>
<td>Lecture 6.4 Basic Concepts of Hypothesis Testing</td>
<td>Lecture 6.4 One-Sample Hypothesis Testing Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>---------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Module 7</strong> February 19-25</td>
<td><strong>Chapter 7 pages 215-226</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture 7.1 Two Sample Hypothesis Tests</td>
<td>Lecture 7.2 F-Test and Analysis of Variance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture 7.3 Chi-Square Test</td>
<td>Lecture Quizzes and Problem Assignment Quiz 7 due at the end of the day (11:59 pm) on <strong>FRIDAY FEBRUARY 23</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PLEASE NOTE THAT THIS DEADLINE DIFFERS FROM THE PREVIOUS MODULES TO ACCOMMODATE THE ACADEMIC CALENDAR!**

Exam 3 open **FRIDAY** February 23 at **12:00 am** to **SUNDAY** February 25 at midnight. Covers Modules 5, 6, and 7 only.