2012

211-04 Statistics for Business II

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Williams College of Business Mission: “We educate students of business, enabling them to improve organizations & society, consistent with the Jesuit tradition.”

Instructor: Carolyn P. Luzader

Department: Management Information Systems

Mailbox: Smith Hall 102 – See Paula Flynn/Donna Berns in Smith Hall 320 if it is locked

Phone: (513) 871-1601 between 9 am & 9 pm - Please leave a message & your call will be returned within 24 hrs.

Email: luzader@xavier.edu (This is the preferred method to contact me.)

Prerequisites: MATH156 or STAT210, INFO200

Textbooks: Statistics for Business & Economics*, 11th Edition; Anderson, Sweeney & Williams
The Cartoon Guide to Statistics (CGS), Larry Gonick & Woollcott Smith

* There is a special print edition containing only Chapters 9-22 & bundled with the Aplia software

Course Content:
2. Two Exams – make-up exams will be given at my discretion (60%)
3. Homework – combination of problems in class & from the textbook using Excel; late homework will not be accepted for any reason (15%)
4. Quizzes – in-class; no makeup or late quizzes; lowest one will be dropped (15%)
5. Active/Thoughtful Class Participation & Class Preparedness – you will need to access the portal for email & files, make copies of handouts for class prior to lecture & prepare homework using Excel (5%)
6. Attendance – it is necessary to understand the material; you may miss no more than TWO non-mandatory classes to pass the course; please note mandatory attendance dates; attendance for a given date requires you to be in class for at least 90% of the scheduled class time; you must notify me in email prior to missing class to remain in the course; you must make arrangements to turn in assignments by the deadline; any special circumstances (i.e., missing a mandatory class) must be negotiated with me prior to missing class in order to pass the course; see Operating Principles for attendance grading (5%)
7. Use of Excel – you will use the laptops during class for exercises, quizzes & exams; you will be using Excel & files posted on blackboard in class & outside of class; using laptops during class to access email, Google, Facebook, YouTube etc. is not permitted & will result in immediate failure of the course.
8. Optional Help Sessions – if you need help with the material or software
9. Academic Collaboration & Learning with Classmates
10. Extra Credit Opportunities – for those who want to do more!

Please note: My lectures will depart from the textbook & will focus on how the material applies to business. I strongly recommend you use quizzes, homework problems & lecture notes as the primary basis of your study. You need to complete your homework assignments (by the deadlines), all exams (by the deadline), & all quizzes (lowest one will be dropped) to pass the course. +/- grading will be used. Please turn mobile phones & pagers to silent-mode/vibrate during class, statistical activities, quizzes & exams. Text messaging is not permitted during class. Failure to follow the above with regard to electronic devices may result in devices being confiscated & returned at the end of class.

Tentative Schedule for Spring 2012

<table>
<thead>
<tr>
<th>Mon.</th>
<th>Jan. 9</th>
<th>Introduction &amp; Review of Syllabus</th>
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<tbody>
<tr>
<td>Mon.</td>
<td>Jan. 16</td>
<td>MARTIN LUTHER KING HOLIDAY – NO CLASS</td>
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</tbody>
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| Mon.  | Jan. 23   | Hypothesis Tests  
|        |           | - Ch. 9; CGS Ch. 1-8 |
| Mon.  | Jan. 30   | Statistical Inference About Means & Proportions with Two Populations  
|        |           | - Ch. 10; CGS Ch. 9 |
| Mon.  | Feb. 6    | Statistical Inference About Means & Proportions with Two Populations (cont’d)  
|        |           | - Ch. 10; CGS Ch. 9 |
| Mon.  | Feb. 13   | Inferences About Population Variances  
|        |           | - Ch. 11 |
| Mon.  | Feb. 20   | Tests of Goodness of Fit & Independence  
|        |           | - Ch. 12 |
| Sun. | Feb. 26 | Help Session (time to be determined by class vote) |
| Mon. | Feb. 27 | EXAM #1  
- Covers Ch. 9-12  
- MANDATORY ATTENDANCE (No Exceptions!) |

| Mon. | Mar. 5 | SPRING BREAK – NO CLASS |
| Mon. | Mar. 12 | Statistical Methods for Quality  
- Chapter 20 & Class Handouts  
- MANDATORY ATTENDANCE |
- Class Handouts  
- MANDATORY ATTENDANCE |
| Mon. | Mar. 26 | Data Stratification & Correlation Analysis  
- Ch. 14 (14.3); CGS Ch. 7-9, 11 |
| Mon. | Apr. 2 | Linear Regression  
- Ch. 14 (14.1-14.7); CGS Ch. 11 |
| Mon. | Apr. 9 | Regression Diagnostics (EASTER BREAK but Mon. once-a-week classes meet)  
- Ch. 14 (14.1-14.7); CGS Ch. 11 |
| Mon. | Apr. 16 | Residual Analysis  
- Ch. 14 (14.8); CGS Ch. 11  
- MANDATORY ATTENDANCE (No Exceptions!) |
| Mon. | Apr. 23 | Multiple Regression  
- Ch. 15 (15.1, 15.2, 15.3, 15.4, 15.5, 15.6); CGS Ch. 10-12  
- MANDATORY ATTENDANCE (No Exceptions!) |

| Sun. | Apr. 29 | Help Session (time to be determined by class vote) |
| Mon. | Apr. 30 | EXAM #2 (TAKE-HOME & IN-CLASS)  
- MANDATORY ATTENDANCE (No Exceptions!)  
- Covers Ch. 14, 15, 20 |

**Quizzes & Exams:**
1. In-class quizzes will be true/false, multiple choice &/or short answer.
2. Quizzes, homework assignments & exams are to be completed individually. You should not consult with prior Stat 200/211/500/801 students, classmates, resources in the Math Lab or outside resources.

**Optional Problems From Textbook:** Answers to Even-Numbered Exercises in Appendix D

**Homework:** A major component of the course is the use of statistical tools & computer software to analyze data. A new software tool, Aplia, is available as a tool to enhance student effort & engagement in the course. You will need to complete homework assignments using Excel individually outside of class.

**Extra Credit:** You may submit one summary of an appropriate journal (i.e., Harvard Business Review or Quality Progress) article that is relevant to what we’re discussing in class. Your summary must be typed & cannot exceed four pages in length. The summary must include a brief discussion of what you learned & specific examples of how it would be applied to a business situation. Please include a copy of the article with your summary. **All papers must be submitted in class (no email) by end of class on April 23. In addition, please send me an electronic copy of your article.**

**Extra Credit:** You may read the book *How to Lie with Statistics* by Darrell Huff & compose a brief, concise summary of the author’s key points. In addition, you must rewrite one chapter using more relevant & current examples. Both your summary & rewritten chapter must be typed & submitted in class (no email) by end of class on April 23.

**Extra Credit:** You may submit up to two papers about the television show *Numb3rs*. Papers must be typed & cannot exceed three pages in length. In your paper, you should explain what you learned & how you can apply what you learned to a business situation. Be as specific as possible. Papers that just tell what happened during the show will not be accepted; you must explain how you will apply what you have learned & give examples not covered in the show. **All papers must be submitted in class (no email) by end of class on April 23.**
Operating Principles:

1. Statistics = Fun!
   This will be a different & unique approach to learning statistics. We will be serious & have fun.

2. Attendance & Conducive Environment = Learning
   In order to maximize your learning, you need to be in class & participate. Please take care of your
   personal needs at break versus disrupting lectures, discussion or in-class activities. Your attendance*
   will be graded as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Perfect attendance</td>
</tr>
<tr>
<td>A-</td>
<td>Miss one non-mandatory class</td>
</tr>
<tr>
<td>B+</td>
<td>Miss one mandatory class (provided absence is approved in advance)</td>
</tr>
<tr>
<td>B</td>
<td>Miss two non-mandatory classes</td>
</tr>
<tr>
<td>C</td>
<td>Miss one non-mandatory class &amp; one mandatory class (provided mandatory class is approved in advance)</td>
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* does not apply to the last two classes of the course

3. Professor = Reigning Expert
   As in the business world, experts disagree. In cases where the textbook, guest speakers, students &
   other materials disagree, the professor rules.

4. Academic Honesty
   You are expected to adhere to Xavier University’s School of Business code of academic honesty. Any
   form of academic dishonesty will not be tolerated & will be dealt with immediately.

5. Breaks = Rejuvenation
   We will take 1 break per class. Please use the time to relax & visit with your classmates but be back in
   the classroom ready to go at the designated time.

6. In-Class Collaboration = Experience Sharing + Stimulating Discussion + Undivided Attention
   Each of you brings varying knowledge of statistics & business experiences to this course. I encourage
   you to share your experiences & participate to the fullest. Please avoid side conversations during
   lectures & discussions; you may be asked to leave if you are disruptive.

7. Communication = Relationship Building
   This will be a very interactive experience. My role is to help you learn how to apply statistics to
   business, share examples & be a catalyst for your own personal higher learning. You need to give me
   your feedback as we get to know each other. Please keep the lines of communication open.

8. Grades = Participation + Understanding + Application + Professor Discretion
   The grade you receive on your work reflects your ability 1) to convey your understanding, 2) to apply
   what you’ve learned & 3) to take your learning to the next level. A simple way to approach grades is as
   follows: A (Wow!), B (Good) & C (Average). +/- grading will be used. Your final grade will be
   computed as outlined on the syllabus. The professor reserves the right to adjust grades as appropriate.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>A (Wow!)</td>
<td>Exhibits thorough/excellent understanding of the material as presented in class</td>
</tr>
<tr>
<td></td>
<td>Consistent &amp; correct business application</td>
</tr>
<tr>
<td></td>
<td>Accurate execution of material – process &amp; final answer</td>
</tr>
<tr>
<td>B (Good)</td>
<td>Exhibits good understanding of the material as presented in class</td>
</tr>
<tr>
<td></td>
<td>Correct business application</td>
</tr>
<tr>
<td></td>
<td>Variable execution of material – process &amp; final answer</td>
</tr>
<tr>
<td>C (Average)</td>
<td>Exhibits average understanding of the material as presented in class – omits key components</td>
</tr>
<tr>
<td></td>
<td>Incorrect &amp;/or inconsistent business application</td>
</tr>
<tr>
<td></td>
<td>Inaccurate &amp;/or inconsistency in execution of material – process &amp; final answer</td>
</tr>
<tr>
<td>D (Below Average)</td>
<td>Exhibits poor understanding of the material as presented in class – omits key components</td>
</tr>
<tr>
<td></td>
<td>Incorrect &amp;/or inconsistent business application</td>
</tr>
<tr>
<td></td>
<td>Inaccurate &amp;/or inconsistency in execution of material – process &amp; final answer</td>
</tr>
<tr>
<td>F (Poor)</td>
<td>Exhibits extremely poor understanding of the material as presented in class</td>
</tr>
<tr>
<td></td>
<td>Inaccurate execution of material – process &amp; final answer</td>
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<tr>
<td></td>
<td>Fails to complete course requirements</td>
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