1. Course information

Course title: Fundamentals of Business Statistics

Course number: MBA 5X03 N

Credit hours: 3                      Semester : Spring 2017

Prerequisites: Calculus and Linear Algebra

Room: Malloy Hall 022     Days & hours: Saturdays 8:00-11:45am

2. Instructor Information

Name: Ravi Saxena, Ph.D.

Office hours: by appointment, M thru F

Email: saxenar@stthom.edu

3. Course catalog description

MBA 5X03      3 Credit Hours

This course provides an introduction to probability and statistics with applications for students without an introductory undergraduate course in statistics. It is not a course in mathematical statistics, but provides a balance between statistical theory and application. Topics include: descriptive statistics; basic probability models; random variables; discrete and continuous probability distributions; statistical estimation and testing; confidence intervals and an introduction to linear regression.

4. Program Goals and Objectives

The Masters of Business Administration program has six goals for students who complete the MBA degree at the University of St. Thomas:

Goal 1. They will be effective communicators.
   • Objective 1: Graduates will deliver a compelling oral presentation.
   • Objective 2: Graduates will write professional quality documents.

Goal 2. They will be effective team members.
   • Objective 1: Graduates will demonstrate appropriate group techniques to participate in team task that results in effective performance.
   • Objective 2: Graduates will demonstrate effective leadership skills in a group project.

Goal 3. They will be ethical decision makers.
5. Course learning objectives

This course will introduce concepts and techniques for summarizing and analyzing data. The course provides definitions of statistical terms and types of data, techniques for describing data, and methods of estimation and testing hypotheses.

Upon completion of the course, the student will be able to:

- Identify different types of data/variables and the appropriate summary statistic for describing each
- Create tables/graphs describing data sets and variables
- Identify random variables and probability distributions
- Construct and interpret confidence intervals
- Conduct hypothesis tests
- Fit and interpret linear regression models
- Use excel as appropriate

6. Textbook

Textbook: Introductory Statistics by Illowsky & Dean
OpenStax College 2013

7. Instructional methods

This course will combine lectures, demonstrations, guided practice, exercises, and independent projects.

8. Technology
1) Students will use Microsoft Excel to complete some assignments.
2) Students are expected to access their UST email accounts. Email communications from the professor will be via the UST class roster email list which sends emails to the UST email account of each student. If you do not regularly access this account, it is imperative that you have your email forwarded to the account which you regularly use.

### 9. Course schedule

The schedule and topics below are tentative; they may change based on the progress we make in class.

<table>
<thead>
<tr>
<th>TOPICS</th>
<th>DATES (Saturdays)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data and descriptive statistics (Ch 1-2)</td>
<td>1-21, 1-28</td>
</tr>
<tr>
<td>• Type of data</td>
<td></td>
</tr>
<tr>
<td>• Population</td>
<td></td>
</tr>
<tr>
<td>• Sample</td>
<td></td>
</tr>
<tr>
<td>• Parameter</td>
<td></td>
</tr>
<tr>
<td>• Frequency Tables</td>
<td></td>
</tr>
<tr>
<td>• Pie charts, bar charts, Pareto charts</td>
<td></td>
</tr>
<tr>
<td>• Measure of center</td>
<td></td>
</tr>
<tr>
<td>• Measure of spread</td>
<td></td>
</tr>
<tr>
<td>• Measure of shape and relative location</td>
<td></td>
</tr>
<tr>
<td>Probability, random variables, sampling distributions and central limit theorem (Ch 3-7)</td>
<td>2-4, 2-11,2-18</td>
</tr>
<tr>
<td>• Set theory, probability</td>
<td></td>
</tr>
<tr>
<td>• Discrete random variables</td>
<td></td>
</tr>
<tr>
<td>• The binomial distribution</td>
<td></td>
</tr>
<tr>
<td>• Continuous random variables</td>
<td></td>
</tr>
<tr>
<td>• The Normal distribution</td>
<td></td>
</tr>
<tr>
<td>• CLT</td>
<td></td>
</tr>
<tr>
<td>Interval estimation (Ch 8)</td>
<td>3-25,4-1</td>
</tr>
<tr>
<td>• Confidence intervals</td>
<td></td>
</tr>
<tr>
<td>• Estimation $\mu$</td>
<td></td>
</tr>
<tr>
<td>• The $t$ distribution</td>
<td></td>
</tr>
<tr>
<td>• Estimating $p$</td>
<td></td>
</tr>
<tr>
<td>• Sample size determination</td>
<td></td>
</tr>
<tr>
<td>Hypothesis testing (Ch 9-11)</td>
<td>4-8,4-22,4-29</td>
</tr>
<tr>
<td>• Introduction</td>
<td></td>
</tr>
<tr>
<td>• One sample tests – means and proportions</td>
<td></td>
</tr>
</tbody>
</table>
• Two sample tests - means and proportions
• Chi square test

Linear regression and correlation (Ch 12)
• Simple linear regression
• Correlation
• Coefficient of determination

4-8,4-22,4-29

Course Review
Open

Final Exam
May 13, 2017, 8:00 – 10:30 AM

10. Course Policies

• Attendance will be taken in every class
• Your class participation will be evaluated on punctuality, attendance, in-class work, classroom questions.
• Assignments are due as Hard Copy in a Clean Format and Stapled on the due date. The solution will be discussed immediately thereafter therefore late assignments will not be accepted.
• I will be emailing the lecture slides, Home Work etc. one week in advance for you to review the forthcoming lecture and work on the homework based on the previous lecture.
• There will be two quizzes and six homeworks.
• Course review date before the finals will be decided as per needed basis.

11. Grading

Home work 30%
Quizzes* 30%
Final Exam 30%
Participation** 10%

*Missed in-class quizzes cannot be made up
**You will lose participation grade with 2 absences.

Important Note: A grade of “B” or better is required in order to enroll in higher level core courses.

12. Available support services
Students needing extra assistance with course concepts are advised to take advantage of the tutorial services offered by the Department of Mathematics, Computer Science and Cooperative Engineering, The Cameron School of Business or visit the Tutorial Services Center.

The Cameron School of Business at University of St. Thomas

MISSION STATEMENT
Inspired by the Basilian Fathers’ motto of Goodness, Discipline and Knowledge, the Cameron School of Business provides a comprehensive, high quality, ethically oriented business education to a diverse student body enabling graduates to serve as leaders of faith and character in a global economy.

**Academic honesty**

Ethical conduct is essential to a community of scholars and students searching for truth. Anything less than total commitment to honesty and honorable conduct undermines the efforts of the entire community. Academic integrity lies at the very heart of any institution of higher learning. In the Cameron School of Business, students and faculty are expected to commit to a code that exemplifies each individual’s honor and integrity. Any conduct that violates this standard and betrays the respect of others is a matter of grave concern and, accordingly, is deemed unacceptable.

**Accommodations**

The University of St. Thomas abides by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, which stipulates that no student shall be denied the benefits of an education “solely by reason of a disability.” If you have a documented disability that may impact your performance in this class and for which you may require accommodations, you must be registered with and provide documentation of your disability to Counseling and Disability Services which is located on the second floor of Crooker Center. Contact Debby Jones or Rose Signorello at 713-525-6953 or 713-525-3162.

Policy on Academic Dishonesty
(Taken from the CSB Graduate Student Handbook, Fall 2013)

**Policy/Procedure**

Every offence against academic honesty seriously undermines the teaching-learning process for which the University exists and such offences will be dealt with expeditiously according to the following criteria.

**Definition**

Academic dishonesty includes but is not limited to:
1. Cheating on an examination or test; for example, by copying from another’s work or using unauthorized materials before or during the test, including the use of electronic devices;
2. Plagiarism, which represents as one’s own the work of another, whether published or not, without acknowledging the precise source;
3. Participation in the academic dishonesty of another student, even though one’s own work is not directly affected.
4. Any conduct which would be recognized as dishonest in an academic setting.

**Penalty**

University of St. Thomas
Cameron School of Business
5 of 6
The penalty for an incident of academic dishonesty is, at the discretion of the faculty member, either a mark of zero for the work in question or a grade of F for the course.

**DROPPING THE COURSE**

*If you decide you do not wish to continue the course, it is your responsibility to go through the proper channels and officially drop the course. Always consult with your advisor and instructor before dropping the course.*