Basic Statistics (Spring, 2016)

Professor: Dr. B. Joon Kim, Ph.D.
Office:
Office Hours: Monday 2:00~ 3:00 pm and by appointment

Course Description:

The primary goal of this course is to give students an opportunity to learn how to analyze and interpret quantitative data. Students will be challenged to select data & information and to organize facts into logical models for public administration and public policy (PAPP) situations. Real case studies of basic statistical techniques and applications to PAPP analysis problems have been included to help students achieve the course goals. Upon completion of the course, students should have:

1) Internalized the "problem solving" mindset of basic statistics & research methods;
2) Been introduced to a broad range of the concepts, models and techniques of statistical analysis tools;
3) Acquired an introductory working knowledge of several quantitative models and techniques (including computer applications such as SPSS and SAS; and
4) Practiced the application of these models and techniques to real world PAPP problems.

Required Text: TBA

Grading:

The course grade is based on the points received on each of the activities given the weights as shown below.

Weekly Homework Problems:	12% (1% for each)
Project Paper & Presentation:	16% (10% + 6%)
Attendance & Class Participation:	12% (6% for Attendance + 6% for Participation)
Two Examinations:	60% (30% for Midterm + 30% for Final)
Total:	100%

Academic Misconduct:

Academic misconduct includes such things as cheating, inventing false information or citations, plagiarism, and helping someone else commit an act of academic dishonesty: 1) **Cheating** is "intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term 'academic exercise' includes all forms of work submitted for credit or hours". 2) **Plagiarism (including Recycling)** is "the adoption or reproduction of ideas or statements of another person as one's own without acknowledgment". The instructor adheres to all university stands including attendance, testing, cheating/plagiarism, withdrawals, incompletes, and other published university practices. Students are expected to be familiar with these standards of practice.

Classroom Rules of Conduct:

1) Do not converse with others during lecture time or while other are speaking.
2) Turn off (or place on vibrate) cell phones and pagers. Do not text messaging during class.
3) Food and beverage are not permitted in the classroom.
4) Take care of personal business before class starts, do not leave the room and return during class time.
5) If you must arrive after class has begun or leave once class has started, please do so quietly.

Course Requirements:

I. Weekly Homework Problems 12%

Problems are assigned for each chapter and complete solutions will be given in class. Student should work out problems before class and be prepared to present them in class for a grade. Students are expected to have read all assigned chapters before class and have gotten ready for class discussion.
Details will be discussed in class.
Study group: Students have found that they do better if they work with a study group on all course materials. Study groups can help each other only about "how to" but not with the "answers" to the homework problems and project. ***All assignments should be completed independently and submitted separately*** without any similar outputs with study group members' works. In other words, a strict plagiarism rule will be applied. ***No late assignments*** will be accepted.

II. Project Paper & Presentation 16%

Students will select one problem involving a quantitative method case with instructor's approval, will be required to write one project paper and do a presentation (5 minute/ 20 slides: ignite format) (c.f. http://igniteshow.com). The project paper & presentation portion will be 16% of final grade (**10% for Project Paper and 6% for Presentation**). Project Paper is to be **double-spaced 6 pages (a hard copy & a soft copy of the paper and slides, one-inch margins, Time New Roman font, 12 pt. font size, & around 1800 words, excluding a reference section)**. Professional quality is expected. The paper must include citations and a reference section (use **APA (6th Edition)** style). If the paper does not follow these rules, it will not be accepted. The paper and presentation slides should be submitted as attachments in Microsoft Office Word and PowerPoint format.

III. Attendance & Class Participation 12%

"[The researchers] recommended that professors ask students to write a 'one-minute paper' at the end of each teaching session describing 'the big point you learn today' and 'the main unanswered question you still have.' Such an exercise helps the students focus on the central themes of the course… (*The New York Times*)." Students will be asked to write the one-minute paper at the end of each class from 2nd week of class until 15th week. It will be counted as students' **attendance scores (6%)**. Thus, full attendance is expected. If a student is unable to attend class for health or emergency reasons, it is expected that the instructor will be notified of the absence prior to the evening of the class meeting. ***You are responsible*** for the course content during the time that you missed. **Two or more absences will be reflected on your final grade negatively** (e.g., ***resulting in lowering your final grade by one level***). In addition, active class participation is crucial for this course. Thus, **class participation will be graded as 6%** of total grade.

IV. Two Examinations: 60% (30% for each)

There will be two examinations. The exams will be in-class. The exams will consist of problem-solving questions, multiple choice, true & false questions and short answer questions. **Make up exams will not be given and will be only be excused for reasons of illness or other emergencies. For the purpose of equity, written validation must be presented. All alternative arrangements will be administered at the discretion of instructor.**

***Course Schedule*:**

Week	**Specific Days and Topics**	**Reading Assignments**	**Due Date or Notice**
1st Week (3/3)	Introduction and Syllabus Overview		
2nd Week (3/10)	What Is Statistics? Descriptive Statistics I (Organizing Data)	#1 Reading material on Cyber Campus	(Supplementary Teaching Topic: University Study Skills for English course)
3rd Week (3/17)	Descriptive Statistics II (Average and Variation)	#2 Reading material on Cyber Campus	
4th Week (3/24)	Correlation and Regression I (Scatter Diagram & Linear Correlation)	#3 Reading material on Cyber Campus	
5th Week (3/31)	Correlation and Regression II (Linear Regression & the Coefficient of Determination)	#4 Reading material on Cyber Campus	(4/2) Supplementary Session
6th Week (4/7)	Elementary of Probability Theory & The Binominal Probability Distribution	#5 Reading material on Cyber Campus	
7th Week (4/14)	Normal Probability Distributions & Related Topics	#6 Reading material on Cyber Campus	Review for preparing Midterm Exam
8th Week (4/21)	**Midterm Exam**	1st week ~ 7th week	
9th Week (4/28)	Estimation & Hypothesis Testing	#7 Reading material on Cyber Campus	
10th Week (5/5)	**No class (Children's Day)**		
11th Week (5/12)	T-Test & ANOVA (Inferences about Differences Using the T Distribution & the F Distribution)	#8 Reading material on Cyber Campus	
12th Week (5/19)	Inferences Using the Chi-Square Distribution (Cross Tabulation Analysis)	#9 Reading material on Cyber Campus	
13th Week (5/26)	Multiple Regression	#10 Reading material on Cyber Campus	Measures of Reliability
14th Week (6/2)	Wrap-ups: How to Report Statistical Analysis Outcomes	#11 Reading material on Cyber Campus	How to present the final project effectively
15th Week (6/9)	**Final Project Presentations**		Review for preparing Final Exam
16th Week (6/16)	**Final Exam**		

This syllabus is a guide for the course and is subject to change.