

Maxine Goodman Levin College of Urban Affairs
Cleveland State University
Applied Quantitative Reasoning I
UST/PAD/PDD/NAL 601

Syllabus

Spring Semester 2009
Thursday 6:00 pm – 9:50 pm
Room: UR 107 & Dively Room

Instructor: Dwayne Keeney
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Office Hours: By appointment

Course Description:

UST 601 prepares students to apply quantitative reasoning to public administration, planning, and policy design decisions. This course presents the logic of quantitative analysis. Introduction to basic techniques for data description and presentation to lay audiences using computer technology, including spreadsheets, presentation packages, and the Internet; and using a computer package for statistical decisions in the context of public administration and planning. Students learn to identify problems that lend themselves to quantitative analysis; ask questions that can be answered through quantitative reasoning; formulate hypotheses and identify the means to test them; carry out analyses and explorations, understand the meaning of results, and reapply results to the initial or similar problems; present and clarify results for specified audiences; evaluate results of quantitative analyses carried out and reported by others; and apply the new knowledge to decision making.

As an active participant in this course, you will:

- ◆ Identify types of problems that lend themselves to quantitative analysis; ask questions that can be answered through quantitative reasoning; formulate hypotheses to be explored quantitatively;
- ◆ Identify the means to test the hypotheses;
- ◆ Perform analyses, understand the meaning of results, and apply results to the initial or similar problems;
- ◆ Present the results to a specific audience;
- ◆ Evaluate the results of research carried out and reported by others;
- ◆ Apply this knowledge to decision making.

Required Text:

Sam Kash Kachigan, *Statistical Analysis: An Interdisciplinary Introduction to Univariate & Multivariate Methods*. Radius Press:1986.

Course Design:

The course will use a series of in-class exercises, homework assignments and take-home projects to help you build skills in analytical reasoning. Three exams during the semester will test your understanding of the concepts covered in class.

You should prepare for each class by reading the chapter assignments **in advance** and identifying those elements that may require additional clarification. As the course progresses understanding the lectures without having read the chapter in advance will become more difficult.

Always feel free to raise questions as a means of making sure you understand the material. Never feel that you are the only one with a question. It's rarely, if ever the case.

Expectations:

1) Time Required - This course will require a significant time commitment on your part. If the general understanding is that Master's level college courses will require 2 to 3 hours of time for each credit hour of instruction, then you should anticipate spending 12 hours each week in preparation for class, homework completion and studying for exams. Some weeks will require more, some less. But this course does require a significant time commitment in order to succeed.

2) Required Skills - You will be expected to complete some assignments and elements of the exams using Excel and SPSS. Basic instruction in SPSS will be provided, as well as an introduction to Excel. If you do not have experience using Excel or some other spreadsheet application, you need to make plans immediately for learning some of the basic skills required. The program tutorial is a good place to start. Numerous texts are available from the library or bookstores that provide excellent Excel training. If you do not know where to start, please ask and I will refer you to some effective resources.

3) Academic Misconduct – Academic misconduct (plagiarism, cheating or in any other form) will result in a final course grade of “**F**”. Obviously the **in-class exercises** require group participation. I encourage you to study together, and you can work through homework problems in groups if you find doing so helpful. But each student must turn in his or her own original **homework** for grading. **Excel and SPSS exercises** must be completed individually and not as part of a collaborative effort. No collaboration, sharing of resources or notes is acceptable during the taking of any **exam** component or **quiz**. If you ever have questions as to what is acceptable, please just ask.

4) Exam Scheduling – Exams for this course are scheduled in advance and dates are clearly noted in the syllabus. Make-up exams are given only in emergency cases, with proof required. If necessary we will work through the College staff to document cases of illness or legitimate emergency. Vacations are not emergencies.

Grading:

Course Element	Date	Value
Homework assignments	As scheduled	15%
Class exercises	As scheduled	10%
Quizzes	My discretion	5%
Excel Project	Feb. 26	5%
SPSS Project	Apr. 30	5%
Exam I	Feb. 26	20%
Exam II	Apr. 9	20%
Exam III	May 14	20%

- ◆ All homework assignments have strict due dates associated with them. Late submissions **will not** be accepted, since we go over the questions and answers during class. If you must miss a class, make arrangements to submit your homework assignment before the scheduled meeting time for credit.
- ◆ Grading of homework assignments is based on the accuracy of the work, the soundness of analytical thinking, effectiveness of interpretation, and the communication of results.
- ◆ Homework assignments must include a typed cover sheet listing each question number and your final answer. You may either type or write the solutions, but please ensure legibility. If I can't read it, I can't grade it. Many students prefer to type as much of the assignment as possible. It will require extra effort, but it will prove useful in preparing for the exams. It is highly recommended that you bring two copies of each homework assignment to class. Remember that both the answer sheet and the solutions must be included.
- ◆ Class exercises are completed as group activities at the end of select classes. These cannot be submitted independently. You must be in class to participate.
- ◆ Quizzes will be incorporated periodically. These will primarily be used to assess your knowledge of the readings assigned for each class. When calculating the average for this component, the lowest quiz score will be discarded. Quizzes cannot be made up if a class is missed.
- ◆ Excel and SPSS projects are to be completed independently, following the presentation demonstrating the techniques and skills required. More information will be provided during the semester.
- ◆ All exams will test accumulated knowledge as well as new problems. The nature of the material requires using early concepts throughout the semester. In preparation for exams, review all material. Do not fall behind in the readings or exercises.
- ◆ Attendance at exams is required. Make-up exams will be given only in emergency cases (proof required; vacation arrangements are not emergencies) and with advance notice.

Attendance:

Attendance and participation at each class are expected. Lectures will provide the basis for exam material and showcase skills needed for the completion of the weekly assignments. If you miss a class, it is **your** responsibility to obtain notes and necessary course materials from someone in class in order to complete the next assignment on time.

Tutors:

During most semesters, the College sponsors a tutor to help students enrolled in all sections of 601. Once this person has been named, I will forward his or her name and contact information. I can also provide a list of former students who may be interested in working with you as a private tutor. You and the tutor are responsible for reaching agreement on terms.

Reaching Me:

As a part time instructor, I do not have an office on campus, nor do I keep regular office hours. I am however available as needed. Please call or email me with questions throughout the week. I try to arrive before the start of class each week and usually am available afterwards. I am always willing to make an appointment to discuss issues requiring more in depth discussion.

Special Needs:

If you require special accommodations in this course, either for homework assignments, taking exams, or to in any way be able to completely actively take part in class, please let me know as soon as possible.

Course Policies:

- ◆ Refer to the CSU Bulletin for add, drop, and withdrawal procedures.
 - The last day to drop this course is January 30, 2009.
 - The last day to withdraw from this course is April 3, 2009.
- ◆ Please turn off ringers to all phones and pagers before class begins.
- ◆ Elements of the course schedule and homework schedule are subject to change, with notice, if circumstances in the course warrant.

Course Schedule:**Course date followed by material to be covered**

Jan. 22	Kachigan ch. 1 & Kachigan ch. 2
Jan. 29	Kachigan ch. 3 & Kachigan ch. 4
Feb. 5	Kachigan ch. 5
Feb. 12	Kachigan ch. 6
Feb. 19	Excel Labs & Exam Review
Feb. 26	Exam I
Mar. 5	Kachigan ch. 7
Mar. 12	Kachigan ch. 8
Mar. 19	Spring Recess – No Class
Mar. 26	Kachigan ch. 9
Apr. 2	Kachigan ch. 10 & Exam Review
Apr. 9	Exam II
Apr. 16	Kachigan ch. 11
Apr. 23	SPSS Lab
Apr. 30	Kachigan ch. 12 & Kachigan ch. 13 & Special Topics
May 7	Kachigan ch. 12 & Kachigan ch. 13 & Special Topics & Exam Review
May 14	Final Exams
Note:	This schedule may change as needed. Notice of changes will be given as far in advance as possible.

Homework Schedule: Due date followed by assignments due

Jan. 29	HW - 1.1, 1.5, 1.6, 1.7, 1.8, 1.11, <u>2.1</u> , 2.2, <u>2.6</u> , 2.11, 2.12, 2.13, 2.15, 2.18, 2.19, 2.20
Feb. 5	HW - 3.1, 3.2, 3.3, 3.4, 3.5, 3.9, <u>3.10</u> , 3.11, 3.12, 3.14, 3.15, 4.1, 4.2, 4.3, 4.4, 4.5, 4.9, 4.10, 4.11, 4.13, 4.15, 4.16, 4.17, 4.19, 4.23, 4.25
Feb. 12	HW - 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.9, 5.10, 5.12, 5.13, 5.14, 5.15, 5.17, 5.21, 5.23, 5.25, <u>5.27</u> , 5.30, 5.31, 5.32
Feb. 19	HW - 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 6.14, 6.17, 6.18, 6.19, 6.27, 6.33
Feb. 26	Excel Project Due
Mar. 12	HW - 7.3, 7.4, 7.5, 7.6, <u>7.7</u> , 7.11, 7.12, 7.16, 7.18, 7.22, <u>7.23</u> , 7.24, 7.25, 7.26, <u>7.35</u> , 7.40
Mar. 26	HW - 8.4, <u>8.5</u> , 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.17, 8.18, 8.19, 8.20, 8.21, 8.22
Apr. 2	HW- 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 9.10, 9.17, 9.18, <u>9.19</u> , 9.20, 9.22, 9.25, 9.29
Apr. 16	HW -10.1, 10.2, 10.4, 10.5, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12, 10.13, 10.14, 10.15, 10.19, 10.20, 10.21, 10.22,
Apr. 23	HW - 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.10, 11.11, 11.13, 11.16, 11.18, 11.19, 11.21, 11.25, 11.28
Apr. 30	SPSS Project Due
May 7	HW - 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8, 12.10, 12.12
May 14	HW - 13.3, 13.4, 13.5, 13.6, 13.7, 13.10, 13.11, 13.12, 13.13, 13.16,, 13.18, 13.19, 13.20
Note:	This schedule represents most of the textbook based assignments. Additional exercises, drawn from the text and outside resources will be assigned occasionally as well.