Syllabus
Urban Studies 601
Applied Quantitative Reasoning I
Spring Semester 2011

Professor: Dr. William M. Bowen
Class: Mondays, 6-9:50PM
Office hours: Mondays, 3:30 – 5:30 or by appointment
Office: Maxine Goodman Levin College of Urban Affairs, Room 219
Phone: 216-687-9226 Email: w.bowen@csuohio.edu

Course Description

Decision making for planning, policy, and management relies increasingly on quantitative reasoning, which entails the collection, analysis and interpretation of quantitative data. “Applied Quantitative Research I” provides some key tools for quantitative reasoning. This course is designed to introduce students to quantitative principles and techniques that can support decision making and to their application in planning, public administration, and nonprofit management.

The course presents the logic of quantitative analysis; it introduces basic techniques for data description and presentation to lay audiences, using computer technology, including spreadsheets, and analysis, modeling, and presentation software; and, it expands the student's ability to reason quantitatively in the context of planning and public administration. Students will learn to:

- 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 (logic, procedure, data);
- carry out analyses, understand the meaning of results and reapply results to the initial or similar problems;
- use spreadsheets;
- present the results to specified audiences;
- evaluate results of research carried out and reported by others;
- apply the new knowledge to decision making.

Course Method

The course consists of:

- lectures on quantitative methods and procedures for data description, analysis and presentation;
- class discussions of homework solutions;
- group exercises;
- computer lab work using Excel
⇒ Students are expected to: attend all classes; participate actively in discussions and group exercises, asking clarifying questions; use the computer (as frequently as possible) for solving homework sets and (always) for text editing.

⇒ Homework sets and project outputs should be handed in on time (using word processing where possible.) Since homework serves the goal of sharpening communication skills that complement the analytic ones, pay attention to completeness, clarity and aspect. Grading is based on soundness of the analytical thinking, effectiveness of interpretation, and communication of results.

⇒ Prepare for class sessions by reading text assignments and identifying topics that need clarification in class. Feel free to raise questions (even if you suspect you are the only one who does not know the answer) to ensure that you thoroughly understand and are able to apply discussed procedures in contexts outside the classroom.

Course Requirements


Access: Predictable and reliable use of Excel, internet and email

Prerequisite: Successful completion of UST501

Effort: As for all college and university courses, you should plan on a minimum of three hours outside of class for each credit hour (see CSU’s Hints on Planning a Better Time Schedule). Since this is a four hour course that meets twice per week, some quick math reveals that this class will require approximately 12 hours of work outside of class every week. You should anticipate using all 12 of them – some weeks you might need more, some weeks you might need less.

Other useful readings:

(a) On the Web:

(b) Hard copy:


**Course Method**

**Readings:** Prepare for each class by reading the assigned materials in advance of the lecture and identifying topics that may need additional clarification in class. This will constitute your first exposure to the course content. Make full use of this reading time by taking notes and forming questions to ask during lecture. Additional readings will be assigned periodically.

**Lectures and Discussions:** Students are expected to: prepare for and attend all classes, participate actively in discussions, ask clarifying questions, be prepared at all times to answer questions in class about the readings. Lectures and discussions serve to discuss and review the content of the assigned readings, not to introduce it. Lectures and discussions will constitute your second exposure to the course material. Feel free to raise questions to ensure that you thoroughly understand the material. Lectures will be the most valuable (and least stress-inducing to you) if you have done the assigned readings first.

**Examinations:** The course will include two midterm exams and a final. Exams are cumulative, and closed book. They will cover the material in the assigned readings as well as the lectures and discussions; copies of lecture notes other than those handed out in class will not be provided. As a rule, make up exams will not be offered.

**Homework:** Assignments will be given during each class period, and will be due at the beginning of the following class meeting.

**Class evaluations:** Each component of class contributes to your final grade as follows:

- Participation and attendance: 10%
- Homework: 20%
- Midterm Exam I: 15%
- Midterm Exam II: 25%
- Final Exam: 30%

Your participation grade is comprised of your physical attendance and your meaningful participation.

Your exam scores can be improved by bonus quizzes. These are short (surprise!) quizzes given at the beginning of any class, covering only the previous class’s lecture material and the reading material for that day. You will always have the opportunity to ask questions before a bonus quiz. These quizzes will be comprised of one or two short questions, each graded in an “all or nothing” fashion. Any points earned on your bonus quizzes will be added to your next exam score. Bonus quizzes, if given, will take place at the beginning of class; if you arrive after the quiz has been handed out, you’ve earned a zero. If you are absent that day, you’ve earned a zero.
Final grade determination will depend upon the earned percentage of the total class points offered. You must earn at least 93 to get an A, 90 to get an A-, 87 to get a B+, 83 to get a B, 80 to get a B-, 77 to get a C+, 70 to get a C, and 60 to get a D. There is no “rounding up”. For instance, if you earned 82.8% of the total class points, you have earned a B-.

**Class Policies**

**Extra credit:** There is no “extra credit” in this class. No extra homework, reports, exam re-writes, or any such “bail me out at the end of the semester so I can get the grade I want” opportunities. Please do not bother asking.

**Missed exams and quizzes:** Only in cases of extreme and documented circumstances or documented illness will make-up exams be given. You must make these arrangements in advance of the exam. This is your responsibility: I will not seek you out to take a make-up exam. The make up will vary in form, content, and length from that given in class. Except in rare circumstances, students will earn a score of zero on missed exams. No make-up bonus quizzes will be given.

**Late assignments and incompletes:** Unless extenuating circumstances require otherwise and I agree beforehand to accept a late assignment, late work will not be accepted. Unless arranged in advance, you must be present in class to turn in your class project. A grade of “Incomplete” will not, as a rule, be assigned at the end of class.

**Cell phones, computer chat programs and other classroom interruptions:** Please be sure to turn your cell phone and computer off before entering the classroom. Texting, chatting or otherwise paying attention to a cell phone or computer during class is disrespectful to everyone in the class, and will not be tolerated. Also, please be sure to notify me if you must leave class in the middle of the period. Each violation of these two rules will cost you up to ten points on your next exam.

**Attendance:** Attendance is expected. Attendance will be taken at the beginning of every class period. An excused absence has three characteristics: (a) extreme events, (b) documentation that can be verified, (c) the instructor is notified in advance of the absence you hope to be excused. If

It is strongly recommended that you attend every class in its entirety, for the following reasons:

- Arriving on time allows you to ask questions and participate in the discussion;
- Arriving on time allows you to hear the lecture;
- Attending class provides you with an additional presentation of the material;
- Exam material will be drawn from the text and lecture material, and all lecture material does not originate from the text;
• Common problems and issues relating to course material and homework will be discussed;
• You are responsible for changes to this syllabus announced in class.

Late arrivals to class: If you are not present when attendance is taken, you are marked absent. If you stay after class, I will change “absent” to “late.” Being late twice is equivalent to being absent once.

University Policies

Academic Misconduct: Any form of academic misconduct will potentially earn an immediate grade of F for the course. In addition, your name will be forwarded to the Academic Misconduct Review Committee, for a hearing concerning your suspension from the University. You should familiarize yourself with the various forms of academic misconduct in section 3.1.2 of the CSU Student Handbook, available at http://www.csuohio.edu/studentlife/StudentCodeOfConduct.pdf

The most common academic misconduct infraction arises out of a failure to reference your information sources. When you use a piece of information in your writing that you learned from another source then that source must be cited. Information taken verbatim must be quoted to give the original author credit: information that is paraphrased must be referenced.

When writing in material to submit in class, students often find it difficult to distinguish between “helping out” a fellow student, or “working together” on a project and academic misconduct. These guidelines may be helpful:

• Never share any of your written or electronic materials with another student. This includes your homework, data, tables, files, etc. This is academic misconduct.

• Work only at your own computer. Do not sit in front of a classmate’s computer and “take control” by using the mouse, typing on the keyboard, etc. By doing so, you are actually doing the work that your classmate will hand in and take credit for.

• Analyze and write independently. Usually, each of the questions and statistical analyses assigned in this course has one and only one correct answer – and billions of incorrect answers. This makes the probability that two students will get the same incorrect answer for any given question infinitesimally small. If two students repeatedly get the same incorrect answer, this constitutes prima facie evidence of academic misconduct. Do your own work. If you must make mistakes, make your own mistakes; not someone else’s. When assignments are graded, errors that are duplicated, or even highly similar, one more than one question and in more than one assignment are blatantly obvious. Doing your
own analyses and writing up your own answers without consultation avoids this situation.

- Reference your information sources. When you use a piece of information in your write up that you learned from another source (for example, your text book), that source must be referenced. Information taken verbatim must be quoted (to give the original author credit) and information that is paraphrased must be referenced. Failing to reference your sources is academic misconduct.

All the work that you hand in must represent your own independent and unique work. It should be distinct from that of every other student in the class. If you have questions about this, please ask – it is best to resolve these issues in advance.

The Grade of “Incomplete”: In accordance with university policy:

“The grade of Incomplete (I) is given when the work in a course has been generally passing, but when some specifically required task has not been completed through no fault of the student (Cleveland State Student Handbook, http://www.csuohio.edu/studentlife/StudentCodeOfConduct.pdf)

To be clear, an Incomplete is not a way of avoiding a bad grade on your record, or lightening your academic workload after having missed the last drop date. An Incomplete will be granted only in those cases that fit the above guidelines.

Important Registration Information:

- Check the CSU Registrar’s website for the last date for dropping this course.
- Check with the Urban College’s Student Services office (687-3884) to see how dropping a course might impact your financial aid, assistantship, or scholarship.

Cancellation of Class Due to Weather: Class will not be cancelled due to weather unless the university is closed. CSU determines if evening classes will be held by 2pm daily. Check the CSU website (http://www.csuohio.edu) for the most up-to-date information. If CSU is open, class will proceed as scheduled, including any exams or deadlines that are scheduled for that class.

Students with Special Needs: Educational access includes the provision of classroom accommodations, auxiliary aids and services to ensure equal educational opportunities for all students regardless of their disability. Any student who feels he or she may need an accommodation based upon the impact of a disability should immediately contact the Office of Disability Services at 216-687-2015. The office is located in MC147. Accommodations need to be requested in advance and will not be granted retroactively.

Affirmative Action: Cleveland State University is committed to social justice: the university does not discriminate on the basis of race, sex, age, disability, veteran status,
religion, sexual orientation, color or national origin. The instructor fully concurs with that commitment and expects to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. Personal attacks of any form will not be tolerated.

**Tentative Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 17</td>
<td>Martin Luther King Day (No class)</td>
</tr>
<tr>
<td>January 24</td>
<td>Foundations of Quantitative Analysis</td>
</tr>
<tr>
<td>January 31</td>
<td>Frequency Distributions</td>
</tr>
<tr>
<td>February 7</td>
<td>Measures of Central Tendency</td>
</tr>
<tr>
<td>February 14</td>
<td>Measures of Dispersion</td>
</tr>
<tr>
<td>February 21</td>
<td>Presidents Day (No class)</td>
</tr>
<tr>
<td>February 28</td>
<td>Introduction to Probability and Exam 1</td>
</tr>
<tr>
<td>March 7</td>
<td>Normal, Binomial and Other Probability Distributions</td>
</tr>
<tr>
<td>March 14</td>
<td>Spring Break (No class)</td>
</tr>
<tr>
<td>March 21</td>
<td>Introduction to Inference</td>
</tr>
<tr>
<td>March 28</td>
<td>Hypothesis Testing</td>
</tr>
<tr>
<td>April 4</td>
<td>Estimating Population Proportions and Exam II</td>
</tr>
<tr>
<td>April 11</td>
<td>Testing Differences between Two Groups</td>
</tr>
<tr>
<td>April 18</td>
<td>Analysis of Nominal and Ordinal Data</td>
</tr>
<tr>
<td>April 25</td>
<td>Introduction to Regression Analysis</td>
</tr>
<tr>
<td>May 2</td>
<td>Decision Theory</td>
</tr>
<tr>
<td>May 9</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>