

**APPLIED QUANTITATIVE REASONING I
NAL/PAD/PDD/UST 601 51
FALL 2009
SYLLABUS**

General Information

Instructor: Dr. Joel A. Elvery
Meeting Time: Wednesdays, 6:00 to 9:50 pm
Location: UR 107
Course web page: See CSU's Blackboard system
Email: j.elvery(usual)csuohio.edu (This is the best way to reach me.)
Phone: 216-687-2259
Office hours: Wednesdays, 4:45 to 5:30 PM and by appointment.
Office: UR 313
Mailbox: UR 105

Required Materials

1. Berman, Evan M.. *Essential Statistics for Public Managers and Policy Analysts, 2nd Edition*.
2. Berman, Evan M.. *Exercising Essential Statistics, 2nd Edition*. Workbook and CD-ROM.
3. Six university exam blue-books (Small format, please).
4. Access to your @csuohio.edu e-mail address (you can have it automatically forward to another email account).

Class Objectives and Description

The overarching goal of this class is for you to learn how to answer questions using data. Decision making for planning, policy, and management relies increasingly on quantitative reasoning, which entails the collection, analysis, and interpretation of quantitative data. *Applied Quantitative Reasoning I* provides some key tools for quantitative reasoning. This course is designed to introduce students to quantitative principles and techniques of quantitative decision-making and to their application in a variety of settings. The course presents the logic of quantitative analysis. It introduces basic techniques for data description, univariate and multivariate analysis. 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 tested quantitatively;
- Identify the means to test the hypotheses;
- Carry out analyses, understand the meaning of results and reapply results to the initial or similar problems;
- Evaluate results of research carried out and reported by others;
- Apply the new knowledge to decision-making.

As for all college courses, you should plan on a minimum of 3 hours out of class for each credit hour (see CSU's *Hints on Planning a Better Time Schedule*). Using this rule of thumb, this class will require a minimum of 12 hours of work outside of class every week. You should anticipate using all 12 of them – some weeks you will need more, some weeks you might need less.

Class Structure

This course is organized into four equally important components:

1. Readings

Prepare for each class session by reading text assignments and identifying topics that may need additional clarification in class. Your first exposure to the material should be in this initial reading of the assigned chapter. Make full use of this reading time by taking notes and forming questions to ask during lecture. Most students find they get the most out of the textbook by reading it twice. The textbook is concise, so reading it twice will be easy.

2. Lectures

Lectures serve to discuss and review material in the assigned readings, not to introduce it. Lecture should be your second exposure to the assigned material. Feel free to raise questions to ensure that you thoroughly understand and are able to apply discussed procedures in contexts outside the classroom. Lectures will be most valuable (and least stress-inducing to you) if you have done the assigned reading first.

3. Homework

You will need to review your notes and the text to complete your homework. This will be your third exposure to the course material. You will be assigned homework from *Exercising Essential Statistics* every week. This homework will be graded for completeness, not correctness. To begin every class, students will be selected to work through and explain their answers to homework problems.

There will also be supplemental questions given out each week. Every student needs to do one supplemental question every four weeks, for a total of three throughout the semester. The questions will be targeted at students in different disciplines and I recommend that you do the questions best suited to your discipline. These supplemental questions will be graded for both completeness and correctness.

4. Exams

Each exam will test accumulated knowledge as well as the ability to respond to new problems. While focusing on the most recent topics, exams will cover concepts covered earlier, both implicitly and explicitly. Reviewing class notes, re-reading the text, and re-doing your homework assignments in preparation for an exam will be your fourth exposure to the class material. All exams are designed to test your knowledge of the techniques, your ability to appropriately apply them, and your ability in interpreting and communicating their results. All exams are in-class and “closed book.” These will include a formula sheet and the necessary statistical tables. You will get a copy of the formula sheet in advance and will be allowed to make notes on the printed sides of the formula sheet.

Laptop use is prohibited during class time!

Class Evaluation

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

20%	Homework and Participation
25%	Exam I
25%	Exam II
30%	Final Exam

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

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. The student must schedule the make-up exam within 7 days of the in-class exam. This is the responsibility of the student – I will not hunt you down to take a make-up. The make-up exam will vary in form, content, and length from that given in class. Except in these rare circumstances, students earn a score of zero on missed exams.

Late Work

Late work is not accepted in class. If you have a problem completing assignments on time, you should strongly consider taking another class. In the absence of extreme and documented circumstances or documented illness, due dates and times are final.

Since homework solutions will be discussed at the beginning of class, late homework is not accepted. You earn a grade of zero for all homework not available for grading at the start of class. You must be present in class for your homework to be graded. If you have to miss class, make arrangements to submit your homework before the beginning of the class at which it is due.

Summary: Unless some catastrophic and documented event occurs, you can't miss an exam or hand in late work in this class.

Expectations of Written Work

Use the computer as frequently as possible for solving homework sets and always for text editing. Spell-check and proofread everything you hand in (note that these are different). Critically evaluate all of your output for correctness, completeness and clarity. Work in this class earning the grade of "A" is error-free in terms of all three of these. If you have difficulty expressing yourself in writing, you are strongly encouraged to seek the assistance of a professional editor prior to turning in your written materials. Cleveland State's Writing Center may also be of assistance in this regard.

All work must be handed in as a “hard-copy”. No e-mail, e-mail attachments, faxes, etc.

Attendance

I take attendance, and it counts towards your participation grade. I strongly recommended that you attend every class in its entirety, for the following reasons:

- Arriving on time allows you to participate in the homework discussion, including your turn at presenting (missing your turn earns you a zero);
- Arriving on time allows your homework to be graded;
- Attending class provides you with an additional presentation of the material;
- Exam material will be drawn from the text and lecture material, and not all lecture material is in the text (and not all text material is in the lecture);
- Common problems and issues relating to course material and homework will be discussed;
- You are responsible for changes to this syllabus announced in class.

UNIVERSITY POLICIES

Academic Misconduct

Any form of academic misconduct will earn an immediate grade of **F** for the course. To be clear, I consider any form of academic misconduct to be a major infraction. You should familiarize yourself with the various forms of academic misconduct in CSU's Code of Student Conduct: <http://www.csuohio.edu/studentlife/conduct/acadregs.html>

When dealing with homework or assignments completed in a lab setting, 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 homeworks, 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. This is academic misconduct.
- Write independently. When assignments are graded, sentences that are duplicated, or even highly similar, in more than one assignment are blatantly obvious. Writing up your answers without consultation avoids this situation. Handing in an assignment containing verbatim passages from another student's work is academic misconduct.
- 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.
[In keeping with this policy, I must note that this syllabus is very similar to Dr. Brian Mikelbank's syllabus for 601 in Spring 2006.]

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 CSU’s Code of Student Conduct

(<http://www.csuohio.edu/studentlife/conduct/acadregs.html>):

“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.”

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: <http://www.csuohio.edu/registrar/calendar.html> .
- 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. Thus, on snowy days after 2pm, you should check www.csuohio.edu/csu_snow/ to see if class will be held that evening. If CSU is open, class will proceed as scheduled, including any exams or deadlines that are scheduled for that class.

Educational Access

Educational access is 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 on the impact of a disability should contact the Office of Disability Services at (216)687-2015. The Office is located in MC 147. Accommodations need to be requested in advance and will not be granted retroactively.

TENTATIVE CLASS SCHEDULE*

Date	Week	Lecture Topic(s) & Reading Assignments
26-Aug	1	Why statistics? (1) Research design (Research methods intro and Ch. 2 through page 30)
2-Sep	2	Research design (Rest of 2) Conceptualization and measurement (3)
9-Sep	3	Measuring performance (4) Data collection (5)
16-Sep	4	Central tendency (6)
23-Sep	5	Exam I
30-Sep	6	Measures of dispersion (7)
3-Oct		Introduction to SPSS - Urban Computer Lab
7-Oct	7	Contingency tables (8)
14-Oct	8	Hypothesis testing with chi-square (9)
21-Oct	9	Measures of association (10)
28-Oct	10	The T-test (11)
4-Nov	11	Simple regression (12)
11-Nov	12	Exam II
18-Nov	13	Multiple regression (13)
25-Nov	14	Multiple regression (13)
2-Dec	15	Wrap up semester
9-Dec	16	Final Exam

* Chapter numbers are in parentheses, and refer to Berman. Read the appropriate chapter before class each week. For example, you should come to class on September 2nd having already read chapters 2 and 3.