

# CEP 932 Quantitative Methods in Educational Research I

## Fall 2004

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Class time: TuTh 4:10 – 5:30  
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### Teaching Assistants:

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132 EH

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132 EH

### Course Content

This course provides an introduction to data analysis and statistical inference. Students learn to describe data (quantitatively and graphically), to select and compute statistical estimates and hypothesis tests, to use computer packages to accomplish these tasks, and to interpret and write about the results of the estimates and tests. Knowledge of basic algebra (e.g., as measured by the required pretest) is needed. Higher mathematics (e.g., trigonometry, calculus) is not used.

### Grading

Grades are criterion-referenced. That is, grades will be assigned based on the percent of the total possible points that you receive on the examinations and the assignments [4.0 > 90%, 3.5 > 80%, 3.0 > 70%, 2.5 > 65%, 2.0 > 60%]. The scores for exams and assignments are weighted as follows:

Quizzes/Group Work	30%
Homework Assignments	50%
Final	20%

The quizzes/group work will either be computation problems, or short answer problems. Quizzes are open-book and open-note, and you may use calculators. All quizzes should be completed on-line via the ANGEL website—you are expected to work individually on the quizzes. Make-up quizzes will only be permitted at the discretion of the instructor. The homework will contain tasks and questions that you will complete outside of class; for some assignments, you will be using computer software (SAS Enterprise) that is available on MSU microlab computers. You may work in groups of three or less on your homework assignments—teams of students should turn in single copies of the group homework with all names listed. Except in extreme circumstances and at the discretion of the instructor, assignments must be submitted on the day that they are due. You should plan on coming to class having read the book and notes.

### Textbooks

**Required:** Ott, R.L. and Longnecker, M. (2001). *An Introduction to Statistical Methods and Data Analysis* (5<sup>th</sup> ed.). Pacific Grove, CA: Duxbury. [This book is denoted O in the readings list below.]

**Recommended:** Delwiche, L. D., & Slaughter, S. J. (2004). *The Little SAS Book* (3<sup>rd</sup> ed.). Cary, NC: SAS Institute.

*Please note: MSU seeks to ensure that its programs are accessible to all persons. Students in need of special assistance or an accommodation regarding any of the course requirements as outlined in the syllabus and discussed in class are advised to notify me immediately. We will meet privately to discuss a resolution of your issue, which may or may not include an appropriate referral. Confidentiality will be maintained regarding your special needs.*

**TENTATIVE SCHEDULE FOR CLASSES & READINGS**

<b>Dates</b>	<b>Topic</b>	<b>Readings</b>	<b>Overheads</b>	<b>Due Dates</b>
8/31 9/2	Introduction Collecting Data	O1, 2, 20	c1.pdf	Quiz #1
9/7	SAS Enterprise		SAS Tutorial.pdf	
9/9 9/14 9/16	Descriptive Statistics	O3	c3.pdf	Assignment #1  Quiz #2
9/21 9/23 9/28	Probability Probability Distributions	O4	c4.pdf	Assignment #2  Quiz#3
9/30 10/5 10/7 10/12	Comparing means: z-tests and t-tests	O5, 6	c56.pdf	Assignment #3  Quiz #4
10/14 10/19 10/21	Comparing variances: Chi-square and F-statistics	O7	c7.pdf	Assignment #4  Quiz #5
10/26 10/28 11/2	Categorical Data: Chi-square tests	O10	c10.pdf	Assignment #5  Quiz #6
11/4 11/9 11/11 11/16 11/18	Correlation & Regression	O11	c11.pdf	Assignment #6  Quiz #7
11/23 11/30 12/2 12/7	ANOVA	O8, 9	c89.pdf	Assignment #7  Quiz #8
12/9	<b>Review for Final</b>			Assignment #8
12/15	<b>FINAL 5:45 – 7:45pm</b>			