

Youngstown State University

Department of Mathematics and Statistics

Course Outline for Statistics 6949/Statistics 5895

Course Title: Design Analysis Experiments

Text: Douglas C. Montgomery (2012). *Design and Analysis of Experiments*. 8th edition.

Publisher: Wiley.

Course Credit: 3 s.h.

Course Prerequisite: STAT 4817 or STAT 6940 or equivalent

Course Description: A basic course in designing experiment and analyzing the resulting data. Topics covered will include: introduction to experiments, completely randomized designs, factorial designs, blocking designs, and full factorial designs with two levels.

Course Objectives: After this course you should be able to

1. Identify completely randomized designs, factorial designs, and complete block designs.
2. Plan, design and conduct experiments efficiently and effectively.
3. Assess model fit and validity of assumptions.
4. Perform appropriate analysis of data and draw conclusions.

Course Assignments:

Chapter	Topics
1	Introduction
2	Simple Comparative Experiments
3	Experiments with a Single Factor: ANOVA
4	Randomized Complete Block Design
5	Introduction to Factorial Design
6	The 2^k Factorial Design
13	Experiments with Random Factors
14	Nested and Split-plot Designs

This course will use SPSS or R or statistical software determined by the instructor.

Grading: Your grade will be determined by your performance on exams, a comprehensive final and homework assignments that include a written project. The written reports will account for at least 30% of the grade for the course.

General Education Requirement: Please note that this course satisfies the critical thinking requirement of the General Education Program.

Note: Theft or misuse of information technology (including the downloading of pornography or visiting pornographic web sites) is a violation of “The Code of Student Rights, Responsibilities, and Conduct.” Violating “The Code” will result in disciplinary action, which may include suspension or expulsion from the university.

Students with Disabilities: In accordance with University procedure, if you have a documented disability and require accommodations to obtain equal access in this course, please contact the Office of Equal Opportunity and Disability Services at the beginning of the semester or when given an assignment for which an accommodation is required. Students with disabilities must verify their eligibility through the Office of Disability Service at 275 Fifth Avenue (330-941-1372) intake procedure.

Non-Discrimination Policy: Youngstown State University does not discriminate on the basis of race, color, national origin, sex, sexual orientation, gender identity and/or expression, disability, age, religion or veteran/military status in its programs or activities. Please visit www.yzu.edu/ada-accessibility for contact information for persons designated to handle questions about this policy.

Class Cancellation Notice: If this class is being cancelled for any one day because of instructor illness, or other reasons, a message will be sent to the student address <...@student.yzu.edu> as soon as possible.

Mathematics Assistance Center (MAC): For all your mathematics needs:

- Tutoring
- Solutions Manuals
- Computers
- Study Area

Location: Lincoln Building Room 408

Website: <http://web.yzu.edu/stem/math> (under “Services”)

E-mail: mathassist@yzu.edu

Phone: 330-941-3274