

# LINEAR MODELS AND DECISIONS EDP384.4

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THIS COURSE WILL APPROACH THE AREA OF STATISTICAL METHODS VIA THE UNIFYING FRAMEWORK OF LINEAR MODELS, AND WILL LOCATE THE METHODS OF LINEAR MODELS WITHIN THE GENERAL FRAMEWORK OF DECISION THEORY. THE GOAL IS TO PRESENT A METHODOLOGICALLY COHERENT PERSPECTIVE ON STATISTICAL METHODS VIA LINEAR MODELS, AND A FUNCTIONALLY COHERENT PERSPECTIVE ON STATISTICS VIA DECISION THEORY.

THE MAJOR TOPICS OF THE COURSE WILL PROCEED IN THE FOLLOWING SEQUENCE:

LINEAR ALGEBRA

PROBABILITY (PRIMARY REVIEW)

DECISION THEORY

LINEAR MODELS

DATA COLLECTION DESIGNS AND STRATEGIES (PRIMARY REVIEW)

SPECIAL ESTIMATION PROCEDURES

INTRODUCTION TO MULTIVARIATE STATISTICS (A COURSE IN THIS AREA IS REQUIRED ONLY IF TIME REMAINS AT THE END OF THE COURSE)

THE TOPICS WILL BE PRESENTED VIA LECTURES, HANDOUTS, AND TEXTBOOKS.

THE PRIMARY TEXTBOOKS ARE:

THE DESIGN AND ANALYSIS OF EXPERIMENTS

W. MENDENHALL WADSWORTH

MULTIVARIATE STATISTICAL METHODS IN PSYCHOLOGICAL RESEARCH

R.D. GILL MCGRAW

THERE WILL BE TWO EXAMS: THE FIRST ROUGHLY IN THE MIDDLE OF THE COURSE, AND THE SECOND DURING THE LAST CLASS PERIOD. A COURSE EVALUATION WILL BE COLLECTED WITH THE LAST EXAMINATION.