

TENNESSEE STATE UNIVERSITY
DEPARTMENT OF EDUCATIONAL ADMINISTRATION

Prefix and Number: EDAD 718

Title: Computer Applications for Research

Instructor: Roger W. Wiemers, Ed.D., Assistant Professor

Office and Hours: Room 216, Clay Education Building
Monday 1:00pm – 4:30pm
Tuesday 12:00 – 2:00pm
Wednesday 1:00pm – 4:30pm
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Professional Education Theme: Competent and Caring Professionals: Facilitators of Learning with Multicultural Perspectives.

Catalog Description: “This course emphasizes the use of computers in education, especially in statistical applications. The focus is the use of statistical analysis packages and the application of computers to research and educational problems.”

Prerequisite(s): EDAD 600

Relationship to Knowledge-Base Model/State Guidelines:

To prepare and assure that students will be competent and caring facilitators of learning, adept to teach and model the desired behaviors in a multicultural setting. Students are introduced to a statistical software package that will afford them the opportunity and ability to perform statistical analyses of relevant educational problems. Statistics will be re-learned from a practical and experiential perspective as students use the computer to examine the significance of variables that affect learning in the educational setting.

Relationship to Program(s):

EDAD 718 is an early course in the doctoral program for educational administration or for higher education administration. This course must be taken prior to application for the qualifying examination in the doctoral program. Experiences in

professional studies in which students are challenged to acquire and learn to apply their knowledge include, but are not limited to, the following:

- the use of the StatView statistical software package.
- the creation of datasets which will represent the variables necessary for examination within samples or populations.
- the methods for inputting data into the StatView application for analysis.
- the need for choosing correct tests of significance for different types of problems as represented by the collected data.
- the creation and use of charts, graphs, and other forms of displaying significant data.
- the examination of data/research concerning diverse populations.

Objectives / Learning Outcomes:

- 1) To identify the basic functions of the StatView software package.
- 2) To develop understanding of the practical use of statistical analysis for pertinent educational problems.
- 3) To identify the reasons for choosing particular tests of significance or tests of relationship for different types of educational problems.
- 4) To make research a reality for educators, especially those who have feared the use of statistics in daily practice.
- 5) To identify and analyze approaches to the presentation of data through the use of statistical software.

Methods of Instruction:

The methods of instruction may include, but not limited to, the following:

Lecture	Discussion/Debate	Small group activities
Cooperative Learning	Projects	Media presentations

Field Experiences: Data collection to be used as examples.

Student Requirements:

- 1) Weekly assignments as determined by the instructor:
 - a) Readings in the textbook (with possible quizzes).
 - b) Short writing assignments using the software.
 - c) Data input and analysis.
- 2) Major Project
 - a) Topic – to be discussed individually with the instructor.
 - b) Creation of a dataset, analysis of data using tests of significance.
 - c) Sample size – cases (at least 50) and variables (at least 8).
 - d) Due Date – May 1, 2003 (points deducted for late projects).
 - e) To be turned in – disk with project and paper copy.

- 3) Attendance and Participation in class discussions/activities.
- 4) Evaluation of educational research on diverse populations.
- 5) Final examination

Evaluation of Student:

a.	attendance/participation	=	15%
b.	daily/weekly assignments	=	20%
c.	major project	=	60%
d.	final exam/culminating event	=	<u>05%</u>
	Total	=	100%

Textbook:

StatView 5.0, SAS Inc. (software with two reference books)

Course / Instruction Evaluation:

An end-of-the-semester evaluation will be conducted in accordance with institutional guidelines.

Additional References

- Arhar, J. M., Holly, M. L., and Kasten, W. C., (2001). Action Research for Teachers: Traveling the Yellow Brick Road, Prentice-Hall, Inc., Upper Saddle River, NJ.
- Babbie, E., (2001). The Practice of Social Research, Wadsworth/Thomson Learning, Belmont, CA.
- Bartz, A. E., (1999). Basic Statistical Concepts, Prentice-Hall, Inc., Upper Saddle River, NJ.
- Fraenkel, J., Wallen, N., and Sawin, E. I., (1999). Visual Statistics, Allyn & Bacon, Needham Heights, MA.
- Gall, J. P., Gall, M. D., and Borg, W. R. (1999). Applying Educational Research: A Practical Guide, Addison Wesley Longman, Inc., New York, NY.
- Gay, L. R., and Airasian, P., (2000). Educational Research: Competencies for Analysis And Application, Prentice-Hall, Inc., Upper Saddle River, NJ.
- Huck, S. W., (2000). Reading Statistics and Research, Addison Wesley Longman, Inc., New York, NY.
- Leedy, P. D., and Ormrod, J. E., (2001). Practical Research: Planning and Design, Prentice-Hall, Inc., Upper Saddle River, NJ.
- Mills, G. E., (2000). Action Research: A Guide for the Teacher Researcher, Prentice-Hall, Inc., Upper Saddle River, NJ.
- Pyrczak, F., (1995). Making Sense of Statistics: A Conceptual Overview, Pyrczak Publishing, Los Angeles, CA.
- Sprinthall, R. C., (2000). Basic Statistical Analysis, Allyn & Bacon, Needham Heights, MA.