

University of Maryland, College Park  
Counseling and Personnel Services

Course Number: EDMS 645

Course Title: Quantitative Research Methods

Credit Hours: Three

Term: III (2002/2003) 20 Jan – 14 Mar 2003

Instructor: Dr. Ken J. Kovach  
PSC 37, Box 3414  
APO AE 09459

Availability: After class or  
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Texts: LaFountain, R. M. & Bartos, R. B. (2002). *Research and statistics made meaningful in counseling and student affairs*. Pacific Grove, CA: BROOKS/COLE.

American Psychological Association. (2001). *Publication manual of the American Psychological Association*. (5<sup>th</sup> ed.). Washington, DC: Author.

University of Maryland. (2002, Jun). *Guide to the seminar paper*. CAPS-Europe. Please go to CAPS WebBoard Professional Links to download.

Meetings: Saturdays and Sundays (0900-1600 hrs). Brussels, room TBA.

**Course Description:** Research design and statistical applications in educational research: data representation, descriptive statistics, estimation, and hypothesis testing.

**Prerequisites:** Undergraduate statistics recommended.

**Objectives:** This course will enable students to understand:

1. differences between quantitative and qualitative research,
2. hypothesis formulation,
3. descriptive and inferential statistics,
4. sampling concepts.
5. data collection techniques,
6. statistical concepts essential for data analysis and evaluation,
7. the basic problem skills and application of formulae necessary for the application of statistical concepts,
8. data presentation and analysis, and
9. the APA format used to write research reports.

Class Policies: It is very important that each student read the assigned readings, accomplish designated tasks, and prepare for class discussion for each session. Students missing any class work will be required to complete makeup assignments as determined necessary for class participation. *Good communications* is the key to success! If there are any questions or issues concerning the course, discuss these with your instructor at the earliest (direct e-mail or phone). Academic integrity and positive student attitude towards learning are required. Changes to this syllabus will be determined by the instructor when considered essential for course learning, but in all cases, students will be provided

advanced information. Normal policies regarding punctuality, integrity, personal conduct, and environmental issues will be met.

<b>Grading:</b> Participation - 40 points	A = 90 - 100 points
Midterm exam - 30 "	B = 80 - 89 "
Final exam - <u>30</u> "	C = 70 - 79 "
Total - 100 points	F = below 70 points

Participation: Student participation involves active discussion, positive attitude towards learning, completion of class taskings, and cooperative and communicative efforts. Missed class work requires approved makeup work. Various assignments and class work will be considered in assessing student participation. Assessment will be subjectively made by the instructor based on student effort and work.

Examinations: A midterm and final exam will be administered. Format and content will be discussed prior to each assessment; however, each exam will only include material presented during the course prior to each exam.

### **Class Schedule:**

Week	Topics
1 (25 & 26 Jan)	Orientation & Introductions Research Process Problem definition & selection Research reports Research critiques APA Ethics Literature review Hypotheses

### **Objectives:**

1. Understand the scope and purpose of the course.
2. Comprehend the scientific processes of research.
3. Understand the components of research proposals and projects.
4. Discuss problem statements.
5. Become familiar with the APA.
6. Evaluate research reports.
7. Discuss ethical considerations during research.
8. Develop hypotheses.

**Assignments:** Read text chapters 1-4, review the APA, and read the Guide to the Seminar Paper (Obtain copy from UMUC CAPS). Consider topics for CAPS Seminar Paper.

2 (8 & 9 Feb)	Research plans
Wed & Fri	Research reporting Sampling Descriptive Statistics APA Validity & reliability

Objectives:

1. Describe research methodology and the components of research plans.
2. Understand validity & reliability.
3. Understand the purpose and types of samples.
4. Understand APA requirements.
5. Know descriptive statistics and applications.

Assignments: Read text chapters 1-9 and the APA.

3 ( 22 & 23 Feb)      Midterm exam  
Measuring Instruments  
Descriptive and inferential statistics  
APA  
Data Collection  
Open

Objectives:

1. Identify inferential statistical techniques.
2. Select appropriate statistical tests.
3. Discuss scales of measurements.
4. Discuss facts and constructs.
5. Know useful ways to find information for research.
6. Comprehend test selection.
7. Understand APA requirements.
8. Discuss presentation of Results.

Assignments: Read text chapters 1-11 and the APA.

4 ( 8 & 9 Mar)      Types of Research  
Review  
Final exam

Objectives:

1. Discuss topics and activities presented in class.
2. Understand quantitative and qualitative research processes.
3. Evaluate learning.
4. Discuss different research methods.

Assignments: Read all text chapters and the APA. Prepare for assessment.

Short Biography: Dr. Ken J. Kovach has been teaching for the Maryland in Europe programs since 1993 and for other universities since 1981. He has facilitated student learning in over 450 higher education courses in subjects as management, aviation, statistics, research and others. Ken completed 23 years of service in the U.S. Air Force in duties in logistics, airborne command and staff, aerial delivery, transportation, hospital care, and others-first as an enlisted member then commissioned through the Airman's Education and Commissioning Program. During this time, he gained immeasurable experience in management and education. His research efforts in academic efforts began with Nova University and resulted in the publishing of Corporate Aviation Management and other works. His experience has contributed to helping develop research guides for various schools. His bachelor of science was in business from the University of Tennessee, master of arts in guidance and counseling from Wayne State University, and doctorate of higher education from Nova University (now Nova Southeastern). Ken is a member of the American Counseling Association, American Statistical Association, and Institute of Transportation Administration.