Research Methods (EDFN 500): Syllabus
Western Kentucky University
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(270) 745-3124 (Radcliff)
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Course Overview:

EDFN 500 is an introductory graduate course in methods of educational research. This course develops students’ understanding of the conventions of educational research so that they can understand and use published research. Students learn that research is one source of effective educational practice. Research is presented as a type of data-based scientific inquiry and compared to and contrasted with other methods of non-empirical inquiry.

Students will be exposed to the fundamental concepts, procedures, and techniques of research in the social sciences. Students will develop competence in introductory statistical analysis, principles of both quantitative and qualitative research design, understanding and interpreting research studies, and skills in writing reviews and critiques of the literature.

General Course Objectives:

Objectives of the course include the following:

1. Students will understand and calculate descriptive and inferential statistics used in educational research;
2. Students will develop and demonstrate skills in using library sources;
3. Students will interpret, review, and critique research studies in the preparation of a brief literature review; and
4. Students will learn about the major methods of educational research, including qualitative methods, historical research, survey research, correlational research, experimental methods, and program evaluation.

Content

The course has three major topic areas. The first covers basic statistics: frequency distributions and graphing; measures of central tendency, variability, and relative performance; the normal distribution; confidence intervals and hypothesis testing; correlation; and simple regression. The second explores the methods and procedures used by investigators in education: the design of a study, the ethics of research, measurement of variables, analysis of data, and conclusions based on data analysis. The third is learning to interpret and critique research.
In examining statistics and research methodology, students learn to exercise independent, critical thinking. For example, students are encouraged to judge for themselves the quality of published research, using criteria such as adequacy of sampling and appropriateness of research methodology. Students then communicate their interpretation of these studies in writing.

**Text:**


**Additional resources:**

Statistical Package, adapted from Gordon Ruscoe.

A pocket calculator with a square root key is required.

**Assessment/Grading Criteria:**

1. Three examinations (25% each = 75%)
   a. Descriptive statistics
   b. Inferential statistics
   c. Research design
2. Course paper (review of literature) (25%).

**Criteria for Determination of Grade**

Each assignment is assigned a letter grade. Those letter grades equate to the following numerical values:

- A = 4 points
- B = 3 points
- C = 2 points
- D = 1 point

Final grades are therefore determined as follows:

Convert each assessment (test or paper) grade to the scale above, add the 4 numerical scores, divide by 4, convert back to a letter grade on the original letter-points scale, and round to the nearest whole number.
Test questions will require problem solving and may include multiple choice and matching. Material covered on each exam is specific for that exam only. All tests are open-book, open-note. The grading procedure outlined here may be changed due to extenuating circumstances.

**The Paper**

The student will develop a literature review on a topic of interest to the student and approved by the instructor. The brief review (6-9 pages) must include 4 primary empirical sources, following the Instructor’s guidelines. The review begins with a brief introduction to the topic, including the context of the field. The review summarizes each study by giving the purpose, describing the methods, giving results, and evaluating the quality of the study, tying the different studies together sequentially. Finally the knowledge base of the topic is synthesized, including comparison and contrast across the studies on content, methodological procedures, and quality critique (limitations).
**Grading Rubric:** (30 point assignment)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Exceeds Standards</th>
<th>Meets Standards</th>
<th>Does Not Meet Standards</th>
</tr>
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<tbody>
<tr>
<td>Introduction/Synthesis</td>
<td>(6 points)</td>
<td>(4 points)</td>
<td>(2 points)</td>
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<td>Introduction identifies the context of the topic and explains how the studies address gaps in the research, i.e., the logical connection between topic and research methods. Synthesis provides an overview of the field that compares and contrasts across content, methodological strengths and weaknesses, controversial findings and anomalies, and recommendations for further research.</td>
<td>Introduction identifies the context of the topic and addresses what is distinctive about the issue. Synthesis provides overview of studies reviewed, including content, methodology, controversies in the field, and needed research.</td>
<td>Topic is identified but no rationale is provided for why the issue is relevant. Synthesis summarizes but does not address differences across studies or the state of the field.</td>
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<tr>
<td>Description of Studies</td>
<td>(9 points)</td>
<td>(6 points)</td>
<td>(3 points)</td>
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<td>Each study is described so that purpose is linked to the field, key constructs are identified, methods include logic for design and analysis, findings are developed and related to purpose, and quality of study is evaluated. Studies are linked together by their connection to one another and the field.</td>
<td>Each study is described in terms of purpose, methods, findings, and quality. Studies are linked together.</td>
<td>Each study is described but purpose, methods, findings, or quality are incomplete or not clear. Studies are not well linked.</td>
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<tr>
<td>Quality of Sources</td>
<td>(6 points)</td>
<td>(4 points)</td>
<td>(2 points)</td>
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<td>All studies are primary empirical investigations; sources represent a variety of methodological approaches gathered from reputable journals or research conferences/organizations.</td>
<td>All studies are primary empirical investigations.</td>
<td>Few or no studies are primary empirical investigations.</td>
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<tr>
<th>Quality of Expression</th>
<th>(6 points)</th>
<th>(4 points)</th>
<th>(2 points)</th>
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<tr>
<td>Writing is clear, fluent, and easy to follow. Expression facilitates communication of ideas and content. Correct grammar is used, with very few or no proofreading errors.</td>
<td>Expression of content communicates in a manner that can be understood. Some errors are evident in grammar, punctuation, and proofreading.</td>
<td>Content is difficult to understand because writing is not fluent or clear. Numerous errors are present in grammar and proofreading.</td>
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<thead>
<tr>
<th>APA Format</th>
<th>(3 points)</th>
<th>(2 points)</th>
<th>(1 point)</th>
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<tbody>
<tr>
<td>Text citations and references reflect exceptional understanding of APA style rules. Accuracy level is highly professional and reflects scholarly attention to detail.</td>
<td>Text citations and references reflect basic understanding of APA style rules and accuracy level is adequate.</td>
<td>Text citations and references demonstrate little or no understanding of APA style rules. Accuracy level is unacceptable.</td>
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The rubric has a range of 10-30. Grades are assigned by the following scale:

<table>
<thead>
<tr>
<th>Points</th>
<th>Grade</th>
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<tbody>
<tr>
<td>26-30</td>
<td>A</td>
</tr>
<tr>
<td>20-25</td>
<td>B</td>
</tr>
<tr>
<td>15-19</td>
<td>C</td>
</tr>
<tr>
<td>10-14</td>
<td>D</td>
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**Student Policies:**
The following sections are taken from the 15th Edition of WKU’s Faculty Handbook:

Plagiarism:

To represent ideas or interpretations taken from another source as one's own is plagiarism. Plagiarism is a serious offense. The academic work of a student must be his or her own. One must give the author(s) credit for any source material used. To lift content directly from a source without giving credit is a flagrant act. To present a borrowed passage after having changed a few words, even if the source is referenced, is also plagiarism.

Cheating:

No student shall receive or give assistance not authorized by the instructor in taking an examination or in the preparation of an essay, laboratory report, problem assignment, or other project, which is submitted for purposes of grade determination.

Disposition of Offenses:

Students who commit any act of academic dishonesty may receive from the instructor a failing grade in that portion of the course work in which the act is detected or a failing grade in the course without possibility of withdrawal. The faculty member may also present the case to the University Disciplinary Committee through the Office of the Dean of Student Life for disciplinary sanctions. A student who believes a faculty member has dealt unfairly with him/her in a course involving academic dishonesty may seek relief through the Student Complaint Procedure.

Other Types of Academic Dishonesty:

Other types of academic offenses, such as the theft or sale of tests, should be reported to the Office of the Dean of Student Life for disciplinary action.

Weekly schedule of assignments and activities
Research Methods EDFN 500
Spring 2009

The following is an outline of the class topics and schedule for completion for each section. The syllabus and schedule for this course are subject to change in the event of extenuating circumstances. No change will occur, however, unless proper and prior notice is given to students.

Sec 500, Tuesdays, 5:15-8 PM, WKU Campus, TPH 0424

Jan. 27 Introduction, Why research and statistics, Assign parts of Practice Sets 1, 2, 3

Feb. 3 Introduction to descriptive statistics
  READING: M&S, Ch. 7, pp. 148-158
  Measures of central tendency and variability
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb. 10</td>
<td>Measures of relative performance</td>
<td>M&amp;S, pp. 166-169, 483-485</td>
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<tr>
<td>Feb. 17</td>
<td>Review; Practice Exam 1</td>
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<tr>
<td>Feb. 24</td>
<td>EXAM 1</td>
<td>M&amp;S, Chapters 4 &amp; 5</td>
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<tr>
<td>Mar. 3</td>
<td>Library skills; Discussion of Paper--Empirical studies; Interpreting and evaluating research; APA style</td>
<td>M&amp;S, Chapter 6</td>
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<td>Mar. 10</td>
<td>Spring Break</td>
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<tr>
<td>Mar. 17</td>
<td>Introduction to inferential statistics</td>
<td>M&amp;S, Ch. 11, pp. 287-291</td>
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<tr>
<td></td>
<td>Hypotheses and level of significance</td>
<td>M&amp;S, pp. 291-297</td>
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<tr>
<td>Mar. 24</td>
<td>Zs and t tests; hypothesis testing</td>
<td>M&amp;S, pp. 297-301</td>
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<tr>
<td>Mar. 31</td>
<td>Correlation and regression</td>
<td>M&amp;S, Ch. 7, pp. 169-175</td>
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<tr>
<td>Apr. 7</td>
<td>Review; Practice Exam 2</td>
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<tr>
<td>Apr. 14</td>
<td>EXAM 2</td>
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<tr>
<td></td>
<td>Introduction to research</td>
<td>M&amp;S, Chapters 1-3</td>
</tr>
<tr>
<td>Apr. 21</td>
<td>Descriptive and experimental research</td>
<td>M&amp;S, Chapters 8-10</td>
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<tr>
<td>Apr. 28</td>
<td>Qualitative research</td>
<td>M&amp;S, Chapters 12-14</td>
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<td>May 5</td>
<td>Additional research designs, Analytical, and Evaluation/policy analysis</td>
<td>M&amp;S, Chapters 15-17</td>
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<td><strong>Paper Due</strong></td>
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<tr>
<td>May 12</td>
<td>Exam 3</td>
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</tr>
</tbody>
</table>
Jan. 29 Introduction, Why research and statistics, Assign parts of Practice Sets 1, 2, 3

Feb. 5 Introduction to descriptive statistics
   READING: M&S, Ch. 7, pp. 148-158
   Measures of central tendency and variability
   READING: M&S, pp. 159-165

Feb. 12 Measures of relative performance
   READING: M&S, pp. 166-169, 483-485

Feb. 19 Review; Practice Exam 1

Feb. 26 EXAM 1
   READING: M&S, Chapters 4 & 5

Mar. 5 Library skills; Discussion of Paper--Empirical studies; Interpreting and evaluating research;
   APA style
   READING: M&S, Chapter 6

Mar. 12 Spring Break

Mar. 19 Introduction to inferential statistics
   READING: M&S, Ch. 11, pp. 287-291
   Hypotheses and level of significance
   READING: M&S, pp. 291-297

Mar. 26 Zs and t tests; hypothesis testing
   READING: M&S, pp. 297-301

Apr. 2 Correlation and regression
   READING: M&S, Ch. 7, pp. 169-175

Apr. 9 Review; Practice Exam 2

Apr. 16 EXAM 2
   Introduction to research
   READING: M&S, Chapters 1-3

Apr. 23 Descriptive and experimental research
   READING: M&S, Chapters 8-10

Apr. 30 Qualitative research
   READING: M&S, Chapters 12-14

May 7 Additional research designs, Analytical, and Evaluation/policy analysis
Accommodation of Disabilities:

Students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services, Room 445, Potter Hall. The OFSDS telephone number is (270) 745-5004 V/TDD. Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.

Extra Help:

The instructor will be available as need is indicated. Students are encouraged to discuss any questions or problems with the instructor.

Course Adjustments:

The instructor reserves the right to modify the course requirements, schedule, and syllabus. No change will occur after the beginning of the semester, however, unless proper, timely, and prior notice is given to the students.

Date Prepared and by Whom: