SRM 600: INTRODUCTION TO GRADUATE RESEARCH  
Spring 2015

I. COURSE DESCRIPTION

SRM 600 Introduction to Graduate Research (3 credits). Principles of research, design, and analysis. Read and critique published research. Required of all first year graduate students. [This version of SRM 600 is delivered completely online through UNC’s Blackboard. In several places in this syllabus, the reader is referred to the Course Schedule and Course Documents for additional detailed information. These are available within the course with links to them from the Course Menu].

What this Course is About: Generally, we disseminate new information we have learned about educating learners, teaching, how kids develop, how people learn, how we may deal with people with problems, and the like, through research articles in our professional literature. As professionals in our fields holding advanced degrees, we are usually obligated in our professions to remain current and to keep up with the latest research findings. We need to be able to read the research articles and listen to professional presentations as critical and informed consumers of such information.

This course shows you what good research is, how it is done, and what to look for that helps you understand the results being presented. The skills you acquire in critically analyzing and using the results of research are invaluable. This is particularly so because not all published research is useful nor even well done. Ultimately it is you who must evaluate and use or discard the results of researchers. You need to become capable of critically evaluating the work of others. This course will help you do this.

COURSE OBJECTIVES (from the UNC Graduate School Catalog)  
The primary objective of the course is to equip the student with the necessary skills, concepts, and understanding of research methodology to evaluate and use the research in his/her discipline. Inherent in this broad objective is an ability to do the following:

1. Critique the problem and hypothesis of a research study.
2. Critique the review of literature to determine if it fulfilled the purpose of this phase of the research study.
3. Critique the definition of the population and the sampling procedure including its size to determine if valid conclusions can be drawn.
4. Critique the data-gathering devices and procedures for collecting data with criteria learned from class and readings.
5. Critique the general design of the study to insure that correct conclusions are possible from the statistical analysis.
6. Critique the statistical analysis procedures to establish their valid use in the study.
7. Critique the conclusions and interpretations to insure correctness of each.

ADDITIONAL STATEMENT OF OBJECTIVES: The Ary text contains specific objectives for each chapter. As each chapter is introduced online, I have identified those objectives that merit your greatest attention. These objectives are quite specific. A statement of objectives that I like which is considerably more general is “master everything in this textbook”. One note: Your opportunities to demonstrate your mastery of the 7 objectives above are built into the course’s tests and into an assignment that you will turn in at the end of the course in which you have formally critiqued several research articles of your own choosing. Your critiques are to include evaluative comments regarding the technical and design adequacy of the articles.
II. REQUIRED MATERIALS


SOFTWARE: Microsoft Excel with Data Analysis installed. (It is not necessary that you purchase this, but you will want to have access to it for about three weeks for this course. Microsoft office products may also be included in the free student access software.).

III. OVERVIEW OF CONTENT AND ACTIVITIES

You are expected to:

1) master the material in the first 15 chapters of the Ary textbook;
2) take 2 tests over this material to demonstrate mastery;
3) prepare and turn in a collection of at least 9 research article critiques; and
4) to participate in and contribute to your group’s discussion forums.

Your grade will be determined based on the quality of the work you do in these three activities. What follows here is more detailed information about these activities and their organization into Units in Blackboard.

ACTIVITY 1: UNITS, TEXT, & QUIZZES

UNITS: The course is divided into 8 units. We will keep to a timetable of covering one unit per week or week and a half. See the Course Schedule (in the Course Menu on the left of the screen) for dates and deadlines. In each unit we will cover one or more of the Ary chapters, view one or more mini-lectures about the material, conduct a discussion forum dealing with defined topics and any questions about the Ary chapters.

UNIT 1 Chapters 1, 2, and 3 Introduction & Research Problems
UNIT 2 Chapters 4 and 5 - Reference Sources and Hypotheses
UNIT 3 Chapter 6 - Elementary Descriptive Statistics
UNIT 4 Chapter 7 - Introduction to Hypothesis Testing
UNIT 5 Chapter 8 - Measurement Tools
UNIT 6 Chapter 9 - Validity and Reliability of Measurements
UNIT 7 Chapters 10 and 11 - Experimental Designs
UNIT 8 Chapters 12, 13, 14, and 15 - Other Research Methods

TEXTBOOK CHAPTERS: We will cover and have tests over the first 15 chapters of the Ary textbook. I suggest you take a quick read of the last half of Chapter 17 as well (beginning on p. 512) and also Chapter 21. They will be useful to you in evaluating our articles in the threaded discussions of Units 5 - 8 and as you evaluate the research articles you critique. Also have a quick read of Chapter 20 because it contains important useful information about writing grant proposals, ethical matters, and the like. You might also look at Chapters 16, 18, 19, and the first half of 17 if you find them of interest. However, you will be tested only over Chapters 1 through 15.
**QUIZZES:** Each Unit will have an associated quiz over the material covered. The quizzes will be timed. You will have 45 minutes to complete each quiz. Each test will be comprised of 10 multiple choice questions. The quizzes will be scored and answers provided so you can see what you missed. The quizzes are designed to allow you to check your progress on understanding course material. The format and content of the quiz questions will be very similar to the exam questions. Unlike the exams which are meant to assess your knowledge and used as outcome measures, the quizzes are meant as learning experiences.

**ACTIVITY 2: TESTS AND SAMPLE TESTS**

**TESTS:** There will be 2 tests administered online. They will each consist of 50 multiple-choice items, carefully constructed to tap your knowledge of the important topics in the covered material. Take each test sometime within the 3-day scheduled interval. The test will be scored and the score posted in the online grade book. (To see your score, click on Course Tools and then click on My Grades.)

**Test 1** will cover Units 1 through 4 (which is the material in the first 7 chapters of Aryn). **Test 2** will cover Units 5 through 8 (Chapters 8 through 15). Be sure to see the Test Specifications document in Course Documents. It describes the composition of each test by topics and numbers of items pertaining to those topics.

The tests will be timed. You will have 2 hours to complete each test. The time limit is very generous; please do not exceed it. Be sure to proceed through the whole test in a timely fashion so as not to leave questions at the end that you do not get to. As you prepare for the tests, do so as if they are closed book exams. You must understand ideas and concepts. When you take the exams, you are free to use your notes, your textbook, and the course materials to look things up. You may not use any other source, person(s), or materials. Know the material so well that you don't have to use your reference materials much or you will run out of time. The 2 tests are in Units 4 and 8. Links to the tests are provided at the ends of those units.

The actual tests will be scored and answers provided so that you can see what you missed. These actual tests are designed to be "power" tests that provide me with measures of how much you know. They are for assessing your knowledge of the ideas related to this course, the amount and nature of your knowledge, and how well you can use your knowledge to address new issues, solve problems, and apply it to novel settings. I treat these tests as "power" tests, that is, they give me a measure of how much you know. And I use them in this course as such. I do not think of these tests as learning experiences; they are outcomes measures. I have elaborated a bit on these ideas in a section of Course Documents.

**IMPORTANT:** In an on-line course such as this one, where the actual tests are not proctored, it is important that for this testing procedure to work that the items, indeed the tests, remain absolutely secure. That is to say, that no one talks about tests or items to anyone else -- ever; that no items are written down or copied; that no conversations nor postings in threaded discussions take place about tests or items between any persons; and that information about tests and items is passed on to no one. I expect that you will honor this.
**NOTICE REGARDING INTERNET & BLACKBOARD ACCESS**

You are responsible for making sure you have reliable internet coverage and access during the exams. Please make sure you schedule around any scheduled Blackboard maintenance times. If you are relying on using computer facilities in any of the on campus labs, stay informed of the scheduled open times.

**SAMPLE TESTS:** There are 4 online sample tests available for you to "practice", if you desire, prior to taking the actual tests. Although these sample tests cover the content that the actual tests cover, they are not subject to the same standards of breadth and depth of complete coverage of content as the 50-item actual tests. They are intended for you to understand the format and nature of the actual test and items, and Blackboard’s testing venue itself, and not intended to appear to represent the course material completely. They may also contain an item or two that is slightly more difficult than those on the actual tests. My intent is that the actual tests will be no more difficult than their corresponding sample tests so that if you have performed on a sample test in a manner that you like, there will be a good chance that you will do as well on the corresponding actual test.

The online sample tests may be taken as many times as you wish. These sample tests will be scored and answers will be provided as a means for you to study the material further if you like. You can go into the grade book and look at the scored sample test items. (To see the sample tests, along with the questions and answers, go to My Grades in Course Tools.) These sample test scores are NOT part of your grade. If you have questions about any of the items, ask them in our threaded discussions – answers may be beneficial to others.

**IMPORTANT:** The sample tests are located in Course Units, within the material for Units 2, 4, 6, and 8. You may enter them and retake them as often as you like. The actual tests are located in Units 4 and 8. DO NOT enter them until you are ready to take them - you have only one opportunity to take each one.

**ACTIVITY 3: RESEARCH ARTICLE CRITIQUES**

The intent of this project is to provide you with the opportunity to demonstrate mastery of the covered content by critically evaluating research reports published in journals of your field. While you may have done a fair amount of library work before, plan to spend a substantial amount of time with this project, and use it to further your understanding of the research process as well as your knowledge of your field. The real value of this project is not only what you may learn about the topics addressed in the articles, but what you acquire in the way of experience in critically evaluating the adequacy and technical merits of these presentations. As you will see in our threaded discussions, not all articles are well done - many are seriously flawed and maybe should not have been published (at least not without substantial revisions).

Find research articles in peer reviewed academic journals on any topic or topics that interest you, read them, and write critiques of them. I expect that the articles you select will be research articles (reports of empirical research studies) and that some of them will be from the very recent issues of the journals. All critiqued journal articles must be published from 2005 to present.
For each article, write the bibliographic citation, a summary about the article describing what was done and what was found, and a critique critically evaluating the merits of the research article. When writing about what was done and what was found, resist the temptation to just reproduce the abstract that precedes the article. Instead attempt to capture its essence in your own words. You might wish to personalize your comments, e.g. how the article might affect your own teaching or whether or not you agree with positions the authors took. In your critique, include your own evaluative remarks: was the writing clear, were the measures described well, did the authors overstep their data in your judgment, was the experimental design appropriate, were the statistics used appropriate, was the sampling of subjects appropriate for the design, were the conclusions justified based on the data, were the tables helpful or confusing, were enough details provided that one could replicate the study from the report provided, and the like? (See the Checklist on pages 653 - 655 in Ary, for many other ideas).

We will be assessing the technical merits of articles in the last 4 threaded discussions in our course - you will see clearly there what constitutes a technically well-presented article. Several samples illustrating acceptable critiques are presented in Course Documents. One sample is included below (prepared by a past student in the course) where one can see the summary of the article and then its technical review.

**Five (5) research article critiques are required.** The research article critiques will become due at various points in the semester. For each critique, you will be asked to focus on certain aspects of an article that relate to the course content being covered (see our Course Schedule).

### ACTIVITY 4: PARTICIPATION IN DISCUSSION FORUMS

**GROUPS:** To keep our threaded discussions manageable, the class will be divided into groups. You will get your group assignment early in the course. Each group will have its own set of threaded discussions. You will enter these through the menu item Course Tools, then Group Pages, and finally your group. You may also click Groups in the main menu to get to the Group Pages.

**THREADED DISCUSSIONS:** In each of the 8 units, there is a threaded discussion (sometimes called a discussion board or a discussion forum) that will be active during the time that the unit is assigned. These discussions are our opportunity to deal with the mastery of content together, to help each other out, and to contribute to the group’s greater good. You are expected to participate in, and contribute constructively to, these discussions, and to co-moderate one of them. Use them to help clarify occasional fuzzy ideas by asking your questions no matter how elementary you feel they are and by answering questions posed by others if you think you know the answers, and to gain an understanding of the concepts from each other and from me.

Some of the discussions will begin with questions I will pose or activities I suggest. They will be co-moderated by two or three group members. As the instructor, I will monitor the discussions for accuracy and will participate (not monopolize) in them regularly. Details regarding what constitutes meaningful contributions, suggestions for conducting these discussions smoothly, and guidelines as to what entails sufficient contributions to receive credit are in Course Documents.
**CO-MODERATOR DUTIES:** You are expected to co-moderate one threaded discussion during the course. Assignments will be made on a volunteer basis, so you will be able to make your assignment work for your schedule. Watch for the call for volunteers about the second week of the course. You will moderate your group's discussion with at least one other person. The expectations/duties of a moderator are not difficult. You will coordinate your efforts with you co-moderators. You or a co-moderator will introduce the unit as it begins, summarize it as it ends, check into the discussion daily to keep it moving along and focused if need be, gently prod stragglers, answer questions as you can, and the like. Course Documents contains a slightly more extensive list of duties, but essentially your job will be to facilitate the discussion with your co-moderator(s).

**IV. GRADING PROCEDURES**

Your grade in this course will be determined based on the scores you make on 2 online tests, the quality of your Research Article Critiques of 9 or more articles that you will prepare and turn in near the end of the semester, and on your participation in, and contributions to, the threaded discussions (discussion forums) that are part of each Unit. Your course grade will be determined as follows:

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<tr>
<th>Activity 1: Quizzes</th>
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<tbody>
<tr>
<td>Activity 2a: Exam 1</td>
<td>20%</td>
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<tr>
<td>Activity 2b: Exam 2</td>
<td>20%</td>
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<tr>
<td>Activity 3: Research Critiques</td>
<td>20%</td>
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<td>Activity 4: Discussions</td>
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Letter grades will be assigned as follows*:

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<tr>
<th>A+ = 100 to 97</th>
<th>A = 96 to 93</th>
<th>A- = 92 to 90</th>
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<tbody>
<tr>
<td>B+ = 89 to 87</td>
<td>B = 86 to 83</td>
<td>B- = 82 to 80</td>
</tr>
<tr>
<td>C+ = 79 to 77</td>
<td>C = 76 to 73</td>
<td>C- = 72 to 70</td>
</tr>
<tr>
<td>D+ = 69 to 67</td>
<td>D = 66 to 63</td>
<td>D- = 62 to 60</td>
</tr>
<tr>
<td>F+ = 59 to 57</td>
<td>F = 56 to 53</td>
<td>F- = 52 to 50</td>
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*Numerical grades will be rounded to the nearest whole (Ex: 89.5=90; 89.4 = 89).

**V. LATE POLICY**

This course is not a self-paced online course. Since the course objectives rely heavily on student to student interaction, it is imperative to stay on track with the assigned course schedule. Except in the case of documented extenuating circumstances: exams may only be taken within the scheduled three day window; discussion posts posted after the indicated due date will not be graded, and article critiques will not be accepted after the due date.

**VI. MISCELLANEOUS INFORMATION**

**PARTICIPATION:**
You are expected to visit the course website on a regular basis during the course, navigating your way through the units as you view, read, and interact with course materials and other students in the class. I expect that you will be “in class” regularly and making valuable contributions to your group’s discussions. You are also expected to monitor closely your UNC email account throughout the course and until you have received final confirmation of your course grade.

DOWNLOADING FILES FROM COURSE DOCUMENTS:
To download the files from Course Documents, you must have Adobe Acrobat Reader installed on your computer. If you need the software, go to Adobe’s website: http://www.adobe.com/ and find the Acrobat Reader (free) for your computer system. Download it and install it; then you will be able to open the files.

USING EXCEL:
In Units 3 and 4 (Chapters 6 and 7 of Ary), I ask that you use Microsoft Excel, part of the Microsoft Office Suite, for calculating statistics. Nearly every computer user has Excel available to them for no extra charge and it can do almost any calculation one would need for this course. If you don't have Excel, maybe you can find a lab or somewhere else you can go to do the work for these two units.

If you are a novice at using Excel, there are lots of resources you can use. You could purchase a book such as "Excel 2007 Basic Essentials" ($22 new) or "Excel 2007 for Windows for Dummies" ($21.99). These two books and others can be found at Amazon.com. Used copies are sometimes available too. There are similar texts for other editions of Excel.

Instead of purchasing a book, there are websites that offer free tutorials. One site that I recommend is: http://www.fgcu.edu/support/office2007/excel/basics.html (Florida Gulf Coast University's Excel Basics). This site is written for Excel 2007. However, instructions are very similar for most fairly current versions and for both Macs and PCs.

In addition, Excel has built in help for you: you can read the Excel section in the "Getting Started Book.pdf" that is part of Microsoft Office and you can look in the Help Menu of Excel itself. So if you don't have spreadsheet experience or you don't use Excel often, it will be to your advantage to learn the basics before we get to Units 3 and 4 so that you can make the best use of Excel for statistics. Note also there are handouts in the Course Documents section of this course that walk you through the Excel operations that we will be doing (there are Excel 2010 and Excel 2007 versions).

VII. CONTACTING THE INSTRUCTOR

Contact me at any time during the course via email if you have questions. Also, you may contact me by phone (email is by far the best way, and I prefer it).

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Email: krystal.hinerman@unco.edu
On Campus Office Hours: M & W 10:00-12:00
Online Office Hours: By Appointment

VIII. ACCOMMODATIONS STATEMENT

Students who believe that they may need accommodations in this class are encouraged to contact the Disability Support Services, voice/TTY (970) 351-2289, or fax (970) 351-4166, or visit www.unco.edu/dss as soon as possible to ensure that accommodations are implemented in a timely fashion.

IX. INCLUSIVITY STATEMENT

The College of Education and Behavioral Sciences (CEBS) supports an inclusive learning environment where diversity and individual differences are understood, respected, appreciated, and recognized as a source of strength. We expect that students, faculty, administrators and staff within CEBS will respect differences and demonstrate diligence in understanding how other peoples’ perspectives, behaviors, and worldviews may be different from their own.