KINES 7102: Introduction to Research Methods

Course Syllabus – Fall 2019

This syllabus serves as an outline and guide for the course. The instructor may modify it at any time so long as reasonable notice of the modification is provided. The instructor may also modify the General Course Outline at any time to accommodate the needs of a particular class. If you have any questions or concerns about the syllabus, please contact the instructor for clarification.

COURSE INFORMATION

LOCATION: HPR-North 242
DATE/TIME: Tuesday 7:15 p.m. – 9:45 p.m.
CREDITS: 3 credit hours
PREREQUISITES: Graduate standing at the University of Utah or permission of the instructor

INSTRUCTOR INFORMATION

NAME: Ryan D. Burns, Ph.D.
OFFICE: HPR-North Room 251
OFFICE HOURS: Tuesday 5:00 p.m. – 7:00 p.m.
CELL and TXT (801) 695-5693
EMAIL: ryan.d.burns@utah.edu

TEXT


This text is available in the Campus Bookstore. It is also available in hard copy and as an ebook from amazon.com: http://www.amazon.com/Educational-Research-Conducting-Quantitative-Qualitative/dp/0133831531/ref=dp_ob_title_bk.

SUPPLEMENTARY TEXTS (also on reserve in the Eccles Health Sciences Library)

ADDITIONAL READINGS

Pertinent journal articles for review and other readings will be placed online.

COURSE DESCRIPTION

This course is an introduction to research methods for graduate students in the health sciences who aspire to complete a master’s thesis or doctoral dissertation. It is also appropriate for other graduate students who wish to become better research consumers. Emphasis will be placed on systematic methods of inquiry and the scientific method of problem solving. The course prepares you to find and retrieve research; read, understand and write research; evaluate research; and develop research-related skills for further graduate education. Topics include literature review, problem selection, methodology, statistical issues and types of research related to health.

STUDENT LEARNING OUTCOMES

Upon successful completion of this course you will be able to:

- Define and characterize systematic inquiry
- Identify different ways of “knowing” (epistemology)
- Classify various types of research
- List ethical and IRB (human subjects) issues in research and writing
- Describe and provide examples of research problem statements and hypotheses
- Plan and propose a research project
- Describe the components of a master’s thesis and doctoral dissertation (research reports)
- Demonstrate use of proper terminology related to research design, synthesis and analysis
- Use written and verbal forms of reporting research
- Interpret analytical, descriptive, epidemiological, experimental, qualitative and mixed methods research
- Critically evaluate various types of research
- Apply statistical and measurement concepts in research including statistical descriptions, power, relationships among variables, differences among groups
- Be competent procedures in qualitative and mixed-methods research
- Identify types of variables used in health science research
- List different sampling techniques and sources of error
- Identify the basic steps in data analysis
- Identify basic measurement constructs such as validity, reliability, scales of measurement
- Import data into a statistical package (SPSS) and run descriptive statistics

TEACHING METHODS

This class will use readings, reflection, discussion, online resources, written assignments and interactive blended instruction to deliver content. This course will emphasize the application of content to graduate study using different in-class and online tools, approaches, and resources.
COURSE PHILOSOPHY, REQUIREMENTS AND ORGANIZATION

Producing original research is a requirement in many graduate degree programs (e.g., M.S., Ph.D.). This course is designed as a first graduate-level research methods course. Completing the course will allow you to begin to create a toolbox of techniques that will assist you in completing original research at the graduate level. Applied statistics and measurement theory will be introduced. However, in most cases, students will need additional study in specific research methods (quantitative, qualitative) to successfully complete their thesis or dissertation. In all cases, students must actually conduct original research, including the systematic collection, analysis, interpretation and presentation of information, to achieve competence.

The course is divided into five parts:

Part I: Welcome and Introduction to Course
Part II: Overview of the Research Process
Part III: Types of Research
Part IV: Writing and Presenting a Research Report
Part V: Statistical and Measurement Concepts in Research

COURSE ASSIGNMENTS

The assignments developed to support and assess the course objectives listed above include: exams, in-class quizzes, homework assignments, preparing a research proposal, and writing and presenting a research report. These assignments are described below. Detailed explanations and grading rubrics for each assignment will be presented in class and posted on the Canvas website. For master’s students who are learning the course information for the first time, try to apply what you are learning to a research experience in which you will participate in the near future. For example, it is perfectly acceptable to use the assignments in this course to complete a thesis proposal. Doctoral students have likely been exposed to some of the information presented in this course through the preparation and presentation of a master’s thesis proposal and thesis defense. Please recognize that as you prepare for a career involving research you will be called on to prepare and present research proposals and reports time and time again. Use this course to begin to fine-tune the research skills you have started to develop.

EXAMS

There will be two exams: one Mid-Term and one Final. The Mid-Term will cover Sections II and III with an emphasis on Section III and the Final (NOT comprehensive) will cover Sections IV and V with an emphasis on Section V. The Mid-Term and the Final will both be administered in-class during scheduled class times (see Schedule at the end of this document). The exams will include multiple-choice, short answer, and essay questions. You will have the full 2.5 hours to complete each exam.

QUIZZES

There will be 10 quizzes that cover the reading and discussion material (Parts II – V) during the semester. These quizzes will be delivered in multiple-choice and short answer format during the
beginning of class. The quizzes will be worth 10 points each. Students will have approximately 15 minutes to complete each quiz administered at the beginning of a respective class.

**HOMEWORK ASSIGNMENTS**

Homework assignments will be assigned in-class following each lecture and students will be given the opportunity to complete the assignment in-class (final hour of class time). The instructor will be available to assist students and it is encouraged that students work with each other to complete the assignment. If not completed in-class, the student may complete the assignment out-of-class. Each homework assignment is due the following Tuesday before 7:00 pm and each assignment is required to be submitted online in CANVAS (electronic submission).

**RESEARCH PROPOSAL (Individual Assignment)**

Using research articles (peer-refereed, quantitative/qualitative) relevant to your research interests, you will write a 10-page (double spaced) proposal of a research project that you will be interested in undertaking. Your proposal will contain an introduction, an abbreviated literature review, a statement of the problem and purpose, research hypothesis(es), operational definitions, basic assumptions, limitations, and delimitations, a justification (significance) for the project proposed, and a list of references presented in APA or AMA style format.

**RESEARCH REPORT (Group Assignment)**

Working in groups of 3-4, you will select one of the research proposals created by your group members in the Research Proposal exercise and fabricate a research report (the report is fabricated because data and results will be made up, not actually collected and analyzed. Do not do this in real life!). Each group will appoint a project leader, a data technician, a statistical consultant and a senior editor. Each of these roles will be responsible for completing a specific component of the research report.

**ASSIGNMENT POLICY**

Assignments (except quizzes) must be submitted via Canvas by midnight on the day they are due. Late assignments will not be accepted unless prior arrangements have been made with the instructor.

**COURSE EVALUATION**

<table>
<thead>
<tr>
<th>Assignment Type</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams (2 @ 50 pts./ea.)</td>
<td>100</td>
</tr>
<tr>
<td>Quizzes (10 @ 10 pts./ea.)</td>
<td>100</td>
</tr>
<tr>
<td>Homework Assignments (10 @ 10 pts./ea)</td>
<td>100</td>
</tr>
<tr>
<td>Research Proposal (individual assignment)</td>
<td>50</td>
</tr>
<tr>
<td>Research Report (group assignment)</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

**GRADES** will be based on a percentage of the total points possible:  
- \( \geq 93.0\% = A \), 90.0% - 92.9% = A-, 87.0% - 89.9% = B+, 83.0% - 86.9% = B, 80.0% - 82.9% = B-, 77.0% - 79.9%
= C+, 73.0% - 76.9% = C, 70.0% - 72.9% = C-, 67.0% - 69.9% = D+, 63.0% - 66.0% = D, 60.0% - 62.9% = D-, below 60.0% = E.

TRACKING GRADES and GRADING POLICY

Students are responsible for tracking their own grades throughout the term and for knowing the registration, drop and withdrawal dates for the semester.

COMMUNICATION

**Announcements:** The announcement feature in Canvas will be used to broadcast messages intended for everyone enrolled in the course. You should check for new announcements on a regular basis and whenever you log in to Canvas.

**Discussions:** The discussion board feature in Canvas will be used for online discussions about specific topics; as a place to post questions and answers among students and faculty; and as a place for students to communicate with each other.

**Email:** Please use Canvas email to communicate with the instructor about this course. Other email clients may be used whenever Canvas is not operational on campus or if the topic is not related to the class. Use email (not the discussion board) if a message is private in nature. Check your email frequently since this is the primary means of direct communication. Students should check for new email on a regular basis and whenever they log in to Canvas.

**Responses from the instructor:** Unless otherwise noted you may expect a response from the instructor within 48 hours.

ONLINE GUIDELINES

There are unique responsibilities that come with participating in a course with an online component.

**Electronic or equipment failure:** It is your responsibility to maintain your computer and other equipment needed to participate in online forums. Equipment failures will not be an acceptable excuse for late or absent assignments.

**Classroom equivalency:** Online communications, including e-mail, discussion threads, and chat rooms are equivalent to communication in a physical classroom and are subject to the Student Code of Conduct. Specifically:

- Posting photos or comments that would be off-topic or offensive in a classroom are also off-topic in an online discussion thread.
- Off-color language (swearing) is never appropriate.
- Using angry or abusive language is called "flaming", and is not acceptable.
- Do not use ALL CAPS, except for titles, because it is the equivalent of shouting online. Avoid overuse of certain punctuation marks such as exclamation points (!!!!) and
question marks (?????). Multiple punctuation marks used occasionally for emphasis is acceptable.

- Online communications, including e-mail in Canvas, are University property and subject to GRAMA regulations. Privacy regarding communication in Canvas must not be assumed unless mutually agreed upon in advance.

As with assignments, the instructor will respond to email in a reasonable amount of time (usually with 48 hours). Use the Canvas email address as the preferred means of communication.

**TECHNOLOGY REQUIREMENTS AND ASSISTANCE**

The following Online course guidelines apply:

- It is your responsibility to maintain your computer and related equipment in order to participate in the online component of this course.
- Equipment failures will not be an acceptable excuse for late or absent assignments.
- You are responsible for making sure your assignments, including attachments, are received before the deadline.
- You are responsible for submitting assignments with the required naming convention, correct file extension, and using the software type and version required for the assignment.
- Your instructor may elect to use a plagiarism detection service in this course, in which case you will be required to submit your paper to such a service as part of your assignment.

Resources for technology related questions include:

UOnline: [https://uonline.utah.edu/](https://uonline.utah.edu/)
Email: uonline-admin@lists.utah.edu
Phone: (801) 585-5959

TLT (Teaching and Learning Technologies): [http://tlt.utah.edu/](http://tlt.utah.edu/)
Email: webct-admin@lists.utah.edu
Phone: (801) 585-0536

Email: support@turningtechnologies.com
Phone: (866) 746-3015

**STATEMENT ON ACADEMIC HONESTY**

Cheating will not be tolerated. Any evidence of cheating will be fully investigated and the maximum penalty will be applied under the circumstances. The [Code of Student Rights and Responsibilities](http://www.turningtechnologies.com/) specifies students’ rights and consequences of conduct involving cheating, plagiarism, collusion, fraud, theft, etc.
Wherever the ideas or words of others appear in your work they must be properly cited. Failure to make clear the sources of any outside material that you incorporate in your work constitutes plagiarism and is against University policy.

UNIVERSITY SAFETY STATEMENT

The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

FACULTY AND STUDENT RESPONSIBILITIES

“All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. Students have specific rights in the classroom as detailed in Section II of the Code. The Code also specifies proscribed conduct (Section III) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content.”

“According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee.”

“[Faculty]…must strive in the classroom to maintain a climate conducive to thinking and learning.” http://regulations.utah.edu/academics/6-316.php

“Students have a right to support and assistance from the University in maintaining a climate conducive to thinking and learning.” http://regulations.utah.edu/academics/6-400.php

UNIVERSITY POLICIES

The Americans with Disabilities Act. The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability & Access (CDA; http://disability.utah.edu/; 162 Olpin Union Building; 801-581-5020). CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the CDA. Accommodations can only be made once the student has gone through the application and assessment process and the staff have indicated that an accommodation is warranted.

Addressing Sexual Misconduct. Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age,
status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

The Code of Student Rights and Responsibilities. The code, which specifies student rights as well as conduct involving cheating, plagiarism, collusion, fraud, theft, etc., is provided at http://regulations.utah.edu/academics/6-400.php.

Wellness Statement. Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student’s ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness, http://wellness.utah.edu/; 801-581-7776.

Campus Safety. “The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safedu.utah.edu.”

UNIVERSITY RESOURCES

Veterans Center. If you are a student veteran, I want you to know that the U of Utah has a Veterans Support Center on campus. They are located in Room 418 in the Olpin Union Building. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: http://veteranscenter.utah.edu/. Please also let me know if you need any additional support in this class for any reason.

LGBT Resource Center. If you are a member of the LGBTQ community, I want you to know that my classroom is a safe environment. Additionally, please know that the U of Utah has an LGBT Resource Center on campus. They are located in Room 409 in the Olpin Union Building; their hours are M-F 8-5 pm. You can visit their website to find more information about the support they can offer, a list of events through the center and links to additional resources: http://lgbt.utah.edu/. Please also let me know if there is any additional support you need in this class.

Learners of English as an Additional/Second Language. If you are an English language learner, please be aware of several resources on campus that will support you with your language development and writing. These resources include: the Writing Center (http://writingcenter.utah.edu/); the Writing Program (http://writing-program.utah.edu/); the English Language Institute (http://continue.utah.edu/eli/). Please let me know if there is any additional support you would like to discuss for this class.
**The Center for Disability and Access.** The Center for Disability and Access provides accommodations and services to students at the University of Utah whose condition significantly impacts their ability to function in the academic setting. Specific accommodations that are available to students depend on the documentation of the disability, the essential elements of the course, and the functional limitations created by the student’s disability. In order to qualify for accommodation, students must schedule an appointment with CDA. More information about accommodations and services as well as how to qualify for services can be found on their website: [https://disability.utah.edu](https://disability.utah.edu)
## Tentative Class Schedule

<table>
<thead>
<tr>
<th>Section</th>
<th>Class</th>
<th>Date</th>
<th>Topic</th>
<th>Assignment</th>
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</thead>
<tbody>
<tr>
<td>I</td>
<td>1</td>
<td>August 20</td>
<td>Welcome and Introduction to the Class</td>
<td>First Day Quiz! (non-graded)</td>
</tr>
<tr>
<td>II</td>
<td>2</td>
<td>August 27</td>
<td>Developing Research Problems and Presenting the Problem</td>
<td>Chapters 1,2 *Quiz 1</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>September 3</td>
<td>Research Purpose, Research Questions, and Hypotheses</td>
<td>Chapters 3,4 * Quiz 2 *Homework 1</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>September 10</td>
<td>Data Collection For Quantitative Research</td>
<td>Chapters 5 *Quiz 3 *Homework 2</td>
</tr>
<tr>
<td>III</td>
<td>5</td>
<td>September 17</td>
<td>Descriptive Research and Observational Methods</td>
<td>Chapter 11 *Quiz 4 *Homework 3</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>September 24</td>
<td>Experimental and Quasi-Experimental Methods</td>
<td>Chapter 10 *Quiz 5 *Homework 4</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>October 1</td>
<td>Epidemiological Methods</td>
<td>Read Handout *Quiz 6 *Homework 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>October 8</td>
<td><em><strong>Fall Break – Enjoy!</strong></em></td>
<td></td>
</tr>
<tr>
<td>Section</td>
<td>Class</td>
<td>Date</td>
<td>Topic</td>
<td>Assignment</td>
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<td></td>
<td>8</td>
<td>October 15</td>
<td>Qualitative and Mixed Methods</td>
<td>Chapters 5, 8 *Quiz 7 *Homework 6</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>October 22</td>
<td>MID-TERM EXAM</td>
<td>Sections II and III</td>
</tr>
<tr>
<td>IV</td>
<td>10</td>
<td>October 29</td>
<td>Writing and Presenting a Research Report</td>
<td>Chapter 9</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>November 5</td>
<td><strong>NO In-Class Lecture GROUP WORK</strong></td>
<td>Homework 7</td>
</tr>
<tr>
<td>V</td>
<td>12</td>
<td>November 12</td>
<td>Statistical Concepts in Research</td>
<td>Chapter 6 *Quiz 8 *Homework 8</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>November 19</td>
<td>Correlational Analysis (Pearson r, Spearman’s rho)</td>
<td>Chapter 6 *Quiz 9 *Homework 9</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>November 26</td>
<td>Comparison between 2 Groups (paired and unpaired t-tests)</td>
<td>Chapter 6 *Quiz 10 *Homework 10</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>December 3</td>
<td>FINAL EXAM</td>
<td>SECTIONS IV AND V</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>December 10</td>
<td>FINAL ASSIGNMENTS Due</td>
<td>*Research Report *Research Proposal</td>
</tr>
</tbody>
</table>