I. COURSE PURPOSE

This course is designed to give foundation level graduate students in social work a basic understanding of the research methods and statistical analysis used by social workers and other social scientists. The major goals of the course are to: (a) enhance students’ abilities to be critical consumers of the professional knowledge base, (b) increase students’ competence in research literacy and conduct of research with human subjects, (c) build appreciation of the different ways research development and translation of research findings create evidence for practice and policies that underpin human services with diverse populations, and (d) provide a foundation for more advanced knowledge and skill development during concentration research coursework.

In the first half of the course, students’ critical thinking is fostered by developing the knowledge and skills required to understand and evaluate various stages of the research process used for developing a scientific study, including problem formulation, research questions and hypotheses, variable measurement, design, sampling, and data collection.

During the second half of the course, student competence is further strengthened through building knowledge and skills in data analysis, with an emphasis on understanding the purpose of various statistical techniques and developing the capacity to interpret and identify implications of statistical results.

The course concludes with attention to various approaches to dissemination of research findings in order to better inform social work practice. The overall course content is grounded in the Code of Ethics of the National Association of Social Workers, placing emphasis on the appropriate professional ethical conduct in engaging in research, and on sensitivity to issues of diversity in all phases of the research process.
II. COMPETENCIES AND PRACTICE BEHAVIORS

Practice behaviors that are covered this class are indicated by **bold**. Practice behaviors that are not covered in this class are indicated by *grey*.

<table>
<thead>
<tr>
<th>Core Competency</th>
<th>CSWE Suggested Practice Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 Identify as a professional social worker and conduct oneself accordingly.</td>
<td>1.1 advocate for client access to the services of social work 1.2 practice personal reflection and self-correction to assure continual professional development 1.3 attend to professional roles and boundaries 1.4 demonstrate professional demeanor in behavior, appearance, and communication 1.5 engage in career-long learning 1.6 use supervision and consultation</td>
</tr>
<tr>
<td>2.0 Apply social work ethical principles to guide professional practice.</td>
<td>2.1 recognize and manage personal values in a way that allows professional values to guide practice 2.2 make ethical decisions by applying standards of the NASW Code of Ethics2 and, as applicable, of the International Federation of Social Workers/International Association of Schools of Social Work Ethics in Social Work, Statement of Principles 2.3 tolerate ambiguity in resolving ethical conflicts 2.4 apply strategies of ethical reasoning to arrive at principled decisions</td>
</tr>
<tr>
<td>3.0 Apply critical thinking to inform and communicate professional judgments.</td>
<td>3.1 distinguish, appraise, and integrate multiple sources of knowledge, including research-based knowledge, and practice wisdom 3.2 analyze models of assessment, prevention, intervention, and evaluation 3.3 demonstrate effective oral and written communication in working with individuals, families, groups, organizations, communities, and colleagues</td>
</tr>
<tr>
<td>4.0 Engage diversity and difference in practice.</td>
<td>4.1 recognize the extent to which a culture’s structures and values may oppress, marginalize, alienate, or create or enhance privilege and power 4.2 gain sufficient self-awareness to eliminate the influence of personal biases and values in working with diverse groups 4.3 recognize and communicate their understanding of the importance of difference in shaping life experiences 4.4 view themselves as learners and engage those with whom they work as informants</td>
</tr>
<tr>
<td>5.0 Advance human rights and social and economic justice.</td>
<td>5.1 understand the forms and mechanisms of oppression and discrimination 5.2 advocate for human rights and social and economic justice 5.3 engage in practices that advance social and economic justice</td>
</tr>
</tbody>
</table>

Updated 11.30.16
| 6.0 Engage in research-informed practice and practice-informed research. | 6.1 use practice experience to inform scientific inquiry  
6.2 use research evidence to inform practice |
|---|---|
| 7.0 Apply knowledge of human behavior and the social environment. | 7.1 utilize conceptual frameworks to guide the processes of assessment, intervention, and evaluation  
7.2 critique and apply knowledge to understand person and environment |
| 8.0 Engage in policy practice to advance social and economic well-being and to deliver effective social work services | 8.1 analyze, formulate, and advocate for policies that advance social well-being  
8.2 collaborate with colleagues and clients for effective policy action |
| 9.0 Respond to contexts that shape practice. | 9.1 continuously discover, appraise, and attend to changing locales, populations, scientific and technological developments, and emerging societal trends to provide relevant services  
9.2 provide leadership in promoting sustainable changes in service delivery and practice to improve the quality of social services. |
| 10. Engage, assess, intervene, and evaluate with individuals, families, groups, organizations, and communities. | Engagement  
10.1.1 substantively and affectively prepare for action with individuals, families, groups, organizations, and communities;  
10.1.2 use empathy and other interpersonal skills; and  
10.1.3 develop a mutually agreed-on focus of work and desired outcomes.  
Assessment  
10.2.1 collect, organize, and interpret client data;  
10.2.2 assess client strengths and limitations;  
10.2.3 develop mutually agreed-on intervention goals and objectives; and  
10.2.4 select appropriate intervention strategies.  
Intervention  
10.3.1 initiate actions to achieve organizational goals;  
10.3.2 implement prevention interventions that enhance client capacities;  
10.3.3 help clients resolve problems;  
10.3.4 negotiate, mediate, and advocate for clients; and  
10.3.5 facilitate transitions and endings.  
Evaluation  
10.4.1 social workers critically analyze, monitor, and evaluate interventions. |
III. FURTHER EDUCATIONAL OBJECTIVES

Upon completion of this course, students will be able to:

1. Identify potential ethical and/or diversity issues in each phase of the research process;
2. Articulate the role of research in informing social work practice;
3. Recognize major differences in the research process between quantitative and qualitative studies;
4. Articulate strengths and weaknesses of different study designs based on group-based methodology;
5. Comprehend, read, and interpret statistical results of various types of studies with various common research designs using group-based methodology.

Assignments are structured in ways that upon completion of this course student will be able to:

1. Formulate a research problem pertaining to population in need;
2. Identify conceptual or theoretical perspective underpinning the research problem;
3. Formulate a research question and testable hypothesis;
4. Distinguish between independent (antecedent) and dependent (criterion) variables, and levels of variable measurement;
5. Distinguish between reliability and validity of measures, scales, or instruments;
6. Distinguish probability and non-probability sample selection of study participants;
7. Describe and distinguish between different methodological group-based designs;
8. Identify and critique strengths and weaknesses to internal and external validity in different group-based designs;
9. Recognize and describe ethical issues pertaining to ethical conduct of research with different populations;
10. Recognize and describe ways to protect at-risk and vulnerable populations when conducting research;
11. Recognize and distinguish common statistical techniques used for investigating different kinds of research questions;
12. Interpret results of various statistical techniques.

IV. COURSE REQUIREMENTS

A. Required Texts and Readings:

There are two main textbooks for this course: one focuses on research methodology, and the other one focuses on statistics application. You also need an APA-6 manual for scholarly writing.

For methodology, you may have either of the available editions:
(a) Engel, R. J., & Schutt, R. K. (2013). The practice of research in social work (3rd ed.).
(b) Engel, R. J., & Schutt, R. K. (2017). The practice of research in social work (4e ed.).
   Published by Thousand Oaks, CA: Sage

For statistics application, you may have either of the available editions:
   Published by Thousand Oaks, CA: Sage

Updated 11.30.16
For scholarly writing, please have the latest edition of the APA-6 manual:

B. **Recommended Readings**

Additional readings will be available on BB.

C. **Other Recommended Student Resources and Media**

These resources allow student practice of research methods and statistics:

*For methodology:*
(a) Engel, R. J., & Schutt, R. K. (2010). Student study site for The practice of research in social work (3rd ed.): [http://www.sagepub.com/engelprsw3e/study/resources.htm](http://www.sagepub.com/engelprsw3e/study/resources.htm)
(b) Engel, R. J., & Schutt, R. K. (2017). Student study site for The practice of research in social work (4th ed.): [https://edge.sagepub.com/engel4e](https://edge.sagepub.com/engel4e)

*For statistics:

D. **Course Assignments:**

To submit quizzes, exams, and assignments, always access CUA-based Blackboard (BB). Due dates are always by “the end of the day, or 11:59pm” on the specified date unless indicated by the instructor. **Please use only Firefox, Google Chrome, or Safari to access BB!** That also means that when you are working at a computer that shows the “explorer” icon on the desktop – you need to make sure that this icon is specifically for the Firefox, or Google Chrome, or Safari web browser, and not for the general Microsoft explorer (which can compromise the display of BB contents).

1) **Quizzes** – 8 quizzes (5% each, or 40% of total grade). Blackboard (BB) based short quizzes are used to assess students’ progress in research literacy, problem solving, and knowledge of selected research concepts throughout the entire course. **Please use only Firefox, Google Chrome, or Safari to access BB!**

Each quiz can be taken from a student’s personal laptop by using the CUA student login and password, used for BB access. The quizzes are posted on BB under the “Assignments” link, and remain open for 5 days. Please note that the 5-day time frame differs for each section!

**Monday sections get Tuesday through Saturday. Thursday section gets Friday through Tuesday.** The quiz dates are provided further on the syllabus. Once the quiz is accessed and opened, it must be completed within one sitting, or 90 minutes. Students get two attempts for each quiz, and the higher score gets recorded. Please avoid taking breaks during the quiz as that may interrupt your quiz and count as “one attempt.” Students get to see all the questions on the entire quiz at once. The

Updated: 11.30.2016
questions are randomized on each try.

2) **Midterm Exam** – (20% of total grade). This comprehensive midterm exam focuses on the knowledge of contents and skills acquired during the first half of the course. **Please use only Firefox, Google Chrome, or Safari to access BB!** Typically, it covers contents from first eight classes that focus on methodology of research. Some of the questions may also be drawn from the previous quizzes.

**All sections have access to the midterm on BB during the same time frame:** Saturday, 3/3/17 – Friday, 3/17/17. The exam is timed for 2 hours, with 2 attempts, and a higher score gets recorded. Please note that this time students get to see only one question at a time, and questions are randomized on each try.

3) **Competence in Research Ethics** – (5% of the total grade). To support students’ competencies in being able to conduct research with human subjects, all students are required to complete CITI certificate-based online training in research ethics. The online training requires reading of different kinds of case examples pertaining to research with human subjects in the domain of social and behavioral sciences, and completing very short quizzes in different sections of the training. Students’ individual online training is self-paced and can be interrupted and saved until the whole training is completed.

**A step-by-step guide on how to complete the CITI training is provided for you on BB under “Assignments” link into which you can also upload your complete (saved) certificate.** The whole training can be accomplished in around 2-3 hours. When short quizzes are taken, 80% is required to achieve a competency in a selected area, and students can retake the quizzes to achieve their competency. When all areas of the ethics training are completed along with respective quizzes, the training provides you with an online certificate that can be **saved on your computer and then uploaded to BB by Sunday 3/5/17**.

4) **Student Research Proposal Paper** – (25% of the total grade). Students work as an individual or as a small team (up to 3 individuals for one team), and develop a scholarly research proposal for a quantitative research study that focuses primarily on the introductory parts of the study. That is, students select, define, and provide research information on a specific identifiable population in need, social concern, or problem that is relevant for social work investigation, develop a literature review of the research evidence that pertains to the selected problem in such a way as to justify the purpose of the study, the proposed research question and hypothesis, and the measurement of the selected variables.

Within this research proposal, students also provide a theoretical rationale for their study. They identify and define major study variables, and explain the measurement of the variables in relation to instruments being used for their measurement. The research question and hypothesis are expected to include at least two variables that can be distinguished as independent and dependent variables. At least one variable needs to be measured at interval or ratio level of measurement, and be able to be measured by a tool/scale/instrument for which information on reliability and validity can be provided. The paper concludes with discussion on the ethical conduct that would be used in carrying out the proposed study.

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(a) Each individual/team will upload their completed paper to BB on the date of the last class.

(b) A guide for this research proposal paper will be posted on BB under “Assignments” link into which you will submit the paper!

(d) This scholarly paper is expected to have around 8-10 pages of substantive contents (excluding title page and minimum of 12 references), be typed and organized in a scholarly (formal) manner, double spaced, referenced, and adhere to APA (6th ed.) style.

(e) To assure appropriate level of engagement and progress on the project, students provide 4 brief progress notes during the semester (that count as part of their grade on class engagement):

   **Progress Note 1 – Class 3:** Upload to BB: One page that provides (a) brief explanation/summary of the problem area, (b) its relevance to social work, (c) the targeted population in the context of this problem, and (d) at least 2 different sources (references) that were used to document information on the prevalence and/or severity of the problem area.

   **Progress Note 2 – Class 6:** Upload to BB: One page that provides information on (a) the selected research question for the targeted population, and (b) key variables in the study.

   **Progress Note 3 – Class 8:** Upload to BB: One page that provides (a) short review of 4 research studies that are relevant to your selected problem area and to the variables that you selected for your study, and (b) the theory or theoretical underpinning for your study that gives a very brief sense as to why this theory is relevant to your study.

   **Progress Note 4 – Class 11:** Upload to BB: One page that identifies at least one numeric variable, and its measurement tool, with at least one reference on this tool.

5) **Student Research Proposal Presentation** – (5% of the total grade). Students present their proposals on the university allotted day for final exams. Class based professional presentations should be around 10-15 minutes and may use any medium including power-point. Please note that students are expected to submit either a 1-page summary or their ppt presentation to the instructor on the day of their presentation. Specific guide is provided later in the semester.

E. **Grading Policy**

The university grading system will be utilized (see policy in bulletin). The grade will be based upon the extent to which the student meets the course objectives as demonstrated by class participation and the two NCSSS required papers.

   - CITI Research Ethics Certification 5%
   - Quizzes (8 at 5% each) 40%

Updated: 11.30.2016
Midterm 20%
Research Proposal Paper 25%
Research Paper Presentation 5%
Class Participation 5%
Total Grade 100%

**Note:** CUA Research Day (4/20/17) – participation and grade credit options:

If you attend and:

a. Have an abstract accepted for a poster session presentation: 5 points can be added to any lowest grade of your choosing on a quiz or a midterm. Abstracts are due 1/27/17 by 5pm at: [http://researchday.cua.edu](http://researchday.cua.edu); or

b. Provide an in-depth 1-page summary of a poster presentation that you attended: 2 points can be added to any lowest quiz grade, or

c. Provide an in-depth summary for 2 poster sessions attended (1-page each): 2 points can be added to any two lowest quiz grades.

**F. Attendance and Participation**

*Attendance:* Students are expected to attend all class sessions, to arrive on time, and to conduct themselves in an ethical, scholarly, and professional manner. In the event that it is necessary for a student to miss a class session or come late, s/he is expected to notify the instructor in advance. For any planned or unplanned absences, please make sure that you apprise the instructor in writing (email) and/or in person of your circumstances as soon as possible. *Please be aware* that more than one absence jeopardizes your ability to successfully complete this course. *Please be also aware* that “unexpected” absence due to work or employment (paid or unpaid) related tasks or travel *is not considered an acceptable excuse* and may also jeopardize your course participation. More than three unexcused absences will result in a grade of F. Students are individually responsible for obtaining any class notes or other class materials distributed when they are absent.

*Use of electronic devices:* Laptops, tablets, or other devices should be used in such a manner that they *do not disturb or distract* other students. Phones must be silenced at all times. Recording devices should only be used with the expressed permission of the instructor and should be turned off at the request of the instructor or class participants when requested in the event that personal or confidential information is being discussed.

*Class participation:* Students are expected to read all required readings for each class session and be prepared to participate in classroom discussions and exercises. The course combines the formats of didactic lectures and participatory seminars. Students and the instructor will endeavor to draw on their own experience including professional practice experience, relevant literature and analytic thinking about the course content. Each student is expected to participate actively in class discussions and to come prepared to share current knowledge, ideas, and relevant experiences as appropriate. Students and the instructor will view each other as resource persons.

Updated: 11.30.2016
Confidentiality: Each student is expected to adhere to the Confidentiality Agreement that is signed at the beginning of every semester. This agreement covers discussion and presentations of “practice materials” in classes, supervisory sessions, case conferences, seminars, and other educational settings within the NCSSS MSW programs that are for professional learning purposes only, and are subject to strict professional standards of confidentiality. These same standards of confidentiality also extend to various forms of written communication and peer consultation. Adherence to these standards means all students refrain from communicating beyond the classroom setting about practice material that is presented in class. Students will also refrain from using social media outlets (blogs, twitter, Facebook, etc.) or email to discuss or post information on course or practice settings, program responsibilities, and projects with individuals who are not in teaching or supervision roles directly related to the situation.

G. Course and Instructor Evaluation:

NCSSS requires electronic evaluation of this course and the instructor. At the end of the semester, the evaluation form may be accessed at http://evaluations.cua.edu/evaluations using your CUA username and password. Additional informal written or verbal feedback to the instructor during the semester is encouraged and attempts will be made to respond to special requests. These evaluations will serve as a basis for ongoing course revisions.

V. CLASS EXPECTATIONS

Scholastic Expectations:

Please refer to NCSSS Announcements, or appropriate Program Handbook for Academic Requirements, including scholastic and behavioral requirements. All written work should demonstrate communication ability consistent with graduate level performance, reflect the original thinking of the writer, cite references where material is quoted or adapted from existing sources, adhere to APA-6 style format, and be carefully proofread by the student before submission to the instructor for grading.

CUA Writing Center Support:
Pryzbyla 213 (Main Location): Mondays to Thursdays, 10am-8pm, and Fridays, 10am-5pm.
Mullen Library (Satellite, Walk-in only: Wednesday 5-8pm, and Saturdays, 11am-2pm).
Leahy Hall 100 (Satellite, Walk-in only): Sundays, 6-9pm.
For appointment: https://cua.mywconline.com/

Academic Honesty:

Joining the community of scholars at CUA entails accepting the standards, living by those standards, and upholding them. Please refer to University Policy and Appropriate Program Handbooks.

Accommodations:

Updated: 11.30.2016
Students with physical, learning, psychological or other challenges wishing to request accommodations must identify themselves with the Disability Support Services (DSS) and submit documentation of a disability. Once you have documented a disability, DSS will establish whether any accommodations or academic adjustments are required. Please be aware that you are expected to present written DSS documentation for accommodation to your instructor and arrange a meeting as soon as possible to discuss these accommodations.

**Blackboard (BB):**

For support with CUA Blackboard, contact CUA Help desk at 202-319-4357. All materials pertaining to course content will be placed on CUA Blackboard.

On BB - Please notice that on the left of your BB display “Documents” will contain relevant information for class contents in separated class folders, and “Assignments” will include information on all assignments. Please also note that you are expected to electronically upload to BB all assignments by “the end of the day or 11:59pm” unless specified by the instructor.

### SSS 590 COURSE CLASS SCHEDULE

**CLASS 1  INTRODUCTION TO RESEARCH IN SOCIAL WORK PRACTICE**

**Mo: 1-09** Syllabus and overview of the course, textbooks, assignments, and Blackboard use Sources of knowledge and errors in reasoning

**Th: 1-12** Scientific approach and components of a quantitative scientific study Social work research and evidence-based practice Types of social work research: descriptive, exploratory, explanatory, and evaluative Validity in a study: measurement validity, causal design validity, and sample Basic structure of qualitative study and quantitative study Levels of research evidence in a study used for evidence-based practice

**Required Reading:**
Engel & Schutt: Chapter 1 - Science, society, and social work research

**Articles:**


**Class Exercise:** Differentiating types of studies

Updated: 11.30.2016
NOTE: Monday Sections: No Class on Monday, 1/16/17, Rev. Martin Luther King, Jr., Day

CLASS 2 PROBLEM FORMULATIONS AND BEGINNING RESEARCH

Mo: 1-23 Who to study, what to study, and how to study the “social issue”
Components of a scientific study
Th: 1-19 Research questions: Feasibility, social importance, scientific relevance, and population diversity, and how to write them
Finding information, doing literature review, and synthesizing information
Role of theory in inductive and deductive approach to research
From research questions to hypotheses (null, non-directional, and directional)
Variables in a study: independent and dependent variables
Direction of a relationship between two variables

Required Reading:
Engel & Schutt: Chapter 2 - The process and problem of social work research
Salkind: Chapter 7 - Hypotheticals and you, testing your questions

Articles:

Class Exercise: Practicing research questions, hypotheses, and identification of independent and dependent variables

Quiz 1: BB Opens 8am – Closes 11:59pm
Monday Section 1-24 to 1-28 (Tuesday – Saturday)
Thursday Section 1-20 to 1-24 (Friday – Tuesday)

Note: CUA-Research Day Abstracts are due on Friday, 1-27-17 by 5pm!

CLASS 3 ETHICAL CONDUCT WITH HUMAN SUBJECTS IN RESEARCH

Mo: 1-30 Ethical principles: Respect for persons, Beneficence, Justice
Application of ethical principles: Informed consent (assent), assessment of risk and benefit, and selection of participants
Th: 1-26 Protection of participants from harm: vulnerable and diverse populations
Differentiating privacy and confidentiality
Function of Institutional Review Boards (IRB)
Guidelines for social work research

Updated: 11.30.2016
**Required Reading:**
Engel & Schutt: Chapter 3 - Ethical and scientific guidelines for social work research.

**Articles:**


**Class Exercise:** Differentiating components of *Informed Consent*.

**Student Project - Progress Note 1 – post on BB**

*** Reminder: CITI ethics training – due by Sunday, 3/5/17

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**CLASS 4  MEASUREMENT AND INSTRUMENTATION**

**Mo: 2-6**
- Functions of measurement and measurement error
- Conceptualization and operationalization of variables

**Th: 2-02**
- Levels of variable measurement
- Data gathering: self-reports, obtrusive and unobtrusive observations
- Type of instruments and evaluating their validity and reliability
- Standardized measurement instruments and normative information
- Translation of instruments with diverse populations
- Data collection: pencil and paper, and electronic media
- Measurement error
- Implications for evidence-based practice

**Required Reading:**
Engel & Schutt: Chapter 4 – Measurement; Chapter 9 – Section on Translating instruments only

**Recommended Readings:**
Salkind: Chapter 6 – Just the truth, an introduction to understanding reliability and validity (and how they are typically computed)


**Articles:**

Updated: 11.30.2016
measurement validity. *Educational and Psychological Measurement, 64*(5), 802-812. (Example of study on reporting practices of reliability and validity)


**Class Exercise:** Differentiating levels of variable measurement, and reliability and validity of instruments

<table>
<thead>
<tr>
<th>Quiz 2:</th>
<th>BB Opens 8am – Closes 11:59pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday Section:</td>
<td>2-7 to 2-11 (Tuesday – Saturday)</td>
</tr>
<tr>
<td>Thursday Section:</td>
<td>2-3 to 2-7 (Friday to Tuesday)</td>
</tr>
</tbody>
</table>

**CLASS 5  SAMPLING STRATEGIES FOR PARTICIPANT SELECTION**

**Mo: 2-13** Sample vs. population
Components of a sample

**Th: 2-09** Sampling frame and sample size
Selection strategies and generalizability
Probability sampling selection
Non-probability sampling selection
Recruitment strategies with diverse populations
Implications for evidence-based practice

**Required Reading:**
Engel & Schutt (2013): Chapter 5 – Sampling

**Articles:**

**Class Exercise:** Sample components and differentiating sampling strategies

<table>
<thead>
<tr>
<th>Quiz 3:</th>
<th>BB Opens 8am – Closes 11:59pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday Section:</td>
<td>2-14 to 2-18 (Tuesday to Saturday)</td>
</tr>
<tr>
<td>Thursday Section:</td>
<td>2-10 to 2-14 (Friday to Tuesday)</td>
</tr>
</tbody>
</table>

**CLASS 6  CAUSALITY AND RESEARCH DESIGNS I**

**Mo: 2-13** Causal nomothetic and idiographic explanations
Criteria for causal explanation: association, time-order, spuriousness

**Th: 2-16** Criteria for causal explanation in group-based research designs

Updated: 11.30.2016
Cross-sectional and longitudinal trend, panel, cohort studies
Units of observation and errors in reasoning
Implications for evidence-based practice

**Required Reading:**
Engel & Schutt (2013): Chapter 6 - Causation and research design

**Articles:**


**Class Exercise:** Differentiating units of observations

**Student Project - Progress Note 2 - post on BB**

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**CLASS 7 GROUP BASED DESIGNS AND STRENGTHS AND WEAKNESSES**

*Note: Monday Section meets on Tuesday, 2-21 for university “Administrative Monday.”*

Tu: 2-21*  
Non-experiments: Ex post facto survey and one pre-post group designs  
Two non-equivalent quasi-experimental groups

Th: 2-23  
Classic experiment - experimental and control groups  
Other types of true experiments and Solomon’s 4  
Randomization and pre-post-testing  
Advantages and threats in different designs  
Threats to internal and external validity  
Ethical issues in experiments: random assignment, deception, and selective distribution of benefits

**Required Reading:**
Engel & Schutt: Chapter 7 – Group experimental designs

**Articles:**

Updated: 11.30.2016

**Class Exercise:** Differentiating designs and recognizing their strengths and weaknesses

**Quiz 4:** BB Opens 8am – Closes 11:59pm

Monday Section: 2-22 to 2-26 (Note change: Wednesday to Sunday)
Thursday Section: 2-24 to 2-28 (Friday to Tuesday)

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**CLASS 8 SURVEYS AND QUALITATIVE METHODS**

- **Mo: 2-27** Surveys: mail, group administered, telephone, in-person interview, web-based
- **Th: 3-02** Measurement errors associated with surveys and their questions
  - Fundamentals of qualitative studies
  - Participant observations, intensive interviewing, focus groups

**Required Reading:**
Engel & Schutt: Chapter 9 – Survey research; Chapter 10 – Qualitative methods: Observing, participating, listening

**Articles:**


**Class Exercise:** Differentiating survey questions

**Student Project - Progress Note 3 – post on BB**

*** Reminder: Midterm needs to be completed by the end of the day on Friday, 3/17/17

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**SPRING BREAK RECESS: 3-06-17 TO 3-10-17**

**REMINDERS:**

* CITI RESEARCH ETHICS CERTIFICATION is due by the end of the day on Sunday 3/5/17.

Updated: 11.30.2016
** MIDTERM: You can take your midterm on BB (online) any time between Friday, 3/03/17 to Friday, 3/17/2017.

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**CLASS 9  DESCRIPTIVE STATISTICS**

**Mo: 3-13**  Descriptive statistics, application, interpretation  
Measures of central tendency: mean, median, mode

**Th: 3-16**  Measures of variability: range, variance, standard deviation  
Basic graphs: Bar chart, histogram, pie chart, line graph

**Required Reading:**
Salkind: Chapter 1 – Statistics vs. sadistics? (including 1a and 1b); Chapter 2 – Means to an end: Computing and understanding averages; Chapter 3 – Vive la difference: Understanding variability; Chapter 4 – A picture really is worth a thousand words

**Article:**

**Class Exercise:** Practicing descriptive statistics

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**CLASS 10  RULES OF NORMAL DISTRIBUTION FOR SAMPLE INFERENCE**

**Mo: 3-20**  Probability and normal distribution of scores – why it matters  
Proportions of bell curve and how to use them for understanding sample scores

**Th: 3-23**  Z-scores for understanding sample distribution scores  
Figuring out percentiles using rules of normal distribution or z-scores

**Required Reading:**
Salkind: Chapter 8 – Are your curves normal? Probability and why it counts

**Articles:**


**Class Exercise:** Application of normal distribution concepts, figuring out percentiles, and using zscores.

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Updated: 11.30.2016
CLASS 11  HYPOTHESIS TESTING, STATISTICAL SIGNIFICANCE, AND COMPARING A SAMPLE MEAN WITH POPULATION MEAN

Mo: 3-27  Principles of hypothesis testing: null hypothesis and type 1 and 2 errors
Statistical significance and the p-value
Th: 3-30  Understanding p < 0.05 using principles for comparing obtained test values and critical table values
Z-test: the hypothesis process, testing analysis, and comparing sample and population means, obtaining results at p-value, interpreting statistical significance, and drawing substantive study conclusions
One-sample t-test, and its use and interpretation

Required Reading:
Salkind: Chapter 9 – Significantly significant: What it means for you and me; Chapter 10 – Only the lonely: The one sample z-test

Class Exercise: Differentiating results using the Ztest and one sample t-test, including statistical significance, and types of errors.

Quiz 5:   BB Opens 8am – Closes 11:59pm
Monday Section: 3-28 to 4-01 (Tuesday to Saturday)
Thursday Section: 3-31 to 4-04 (Friday to Tuesday)

** Student Project - Progress Note 4 – post on BB

CLASS 12  COMPARING 2 OR 3 OR MORE GROUP MEANS

Mo: 4-03  Two independent samples t-test
Two dependent (repeated) samples t-test
Th: 4-06  Logic of analysis of variance (ANOVA) tests and interpretation
Logic of repeated measures in ANOVA and interpretation

Required Reading:
Salkind: Chapter 11 – T(ea) for two: Tests between the means of different groups; Chapter 12 - T(ea) for two (again): Tests between the means of related groups; Chapter 13 – Two groups too many? Try analysis of variance; Chapter 14 – Two too many factors: Factorial analysis of variance - Brief introduction.

Articles:

Updated: 11.30.2016


**Class Exercise:** Problem solving and interpreting t-tests and various analysis of variance results.

**Quiz 6:** BB Opens 8am – Closes 11:59pm
- **Monday Section:** 4-04 to 4-08 (Tuesday to Saturday)
- **Thursday Section:** 4-07 to 4-11 (Friday to Tuesday)

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**Note 1:** No Class on Holy Thursday 4-13-17, followed by Easter until 4-17-17
Classes resume on Tuesday 4-18-17

**Note 2:** CUA Research Day (4-20-17) takes place all day until 3:30pm. Thursday evening classes are in session on that day.

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**CLASS 13  PRINCIPLES OF CORRELATION, REGRESSION, AND ODDS**

- **Mo:** 4-10 Linear relationship in bivariate correlations and interpretation of p-value, direction, common language meaning, magnitude, r-square and shared variance
- **Th:** 4-20 Pearson and Spearman correlation coefficients
  Logic of prediction and simple regression, and interpretation
  Reading results from multiple regression analysis (MRA)
  Reading results from logistic regression (LR) and interpreting odds ratios

**Required Reading:**
Salkind: Chapter 5 - Ice cream and crime: Correlation coefficients; Chapter 15 - Cousins or just good friends? Testing relationships using the correlation coefficient; Chapter 16 - Predicting who'll win the super bowl: Using linear regression; Chapter 18 – Some other (important) statistical procedures you should know about.

**Articles:**

Updated: 11.30.2016


Class Exercise: Interpreting results from Pearson correlation, and understanding studies that use prediction or odds analysis.

Quiz 7: BB Opens 8am – Closes 11:59pm
Monday Section: 4-11 to 4-15 (Tuesday to Saturday)
Thursday Section: 4-21 to 4-25 (Friday to Tuesday)

CLASS 14 TESTING FOR FREQUENCY BIVARIATE ASSOCIATION

Mo: 4-24 Last class - Logic of the chi-square test
Reading cross-break tables and percentages
Th: 4-27 Interpreting Pearson Chi-square test results
Magnitude of association

Required Reading:
Salkind: Chapter 17 – What to do when you’re not normal: Chi-square and some other nonparametric tests

Article:

Class Practice: Interpreting chi-square results

Quiz 8: BB Opens 8am – Closes 11:59pm
Monday Section: 4-25 to 4-29 (Tuesday to Saturday)
Thursday Section: 4-28 to 5-02 (Friday to Tuesday)

** DUE: Student Project Research Proposal – Upload scholarly paper to BB

Updated: 11.30.2016
FINAL EXAM WEEK (Tuesday, 5/2 through Saturday, 5/6)

** Student Project – Paper Presentations - Final Exam Week (Please note that the date will be provided by the University)

THE END. THANK YOU. ................HAVE A GOOD SUMMER.