ICT 610 Research Methods for ICTs
Section 401
Wednesdays 6:00-9:00 P.M.

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COURSE DESCRIPTION

Information and Communication Technologies (ICTs) are embedded in our increasingly global society. This course will provide students with a sophisticated understanding of the philosophy, theory, design, and analysis of qualitative and quantitative research in ICT.

This course is intended for graduate students interested in conducting empirical research. It is designed to prepare them to develop and conduct their own research in applied settings. Students will create, evaluate, and critique methodologically sophisticated research design by creating a research manual and a mixed-methods research prospectus throughout the semester.

This seminar will start exploring contemporary debates in the philosophy of science. Then students will learn how theory and methods inform each other. They will also study the techniques, uses, strengths, and limitations of various research methods while exploring alternative research designs and reading research examples from different foundational disciplines. While the research process includes research design, data collection, analysis, and discussion; this course will mostly focus on research design. We will briefly discuss the other elements.

In sum, students will learn the language of research and plan methodologically sound studies that have the potential to yield new insights and contribute to the existing body of literature.

TEACHING APPROACH

This class is designed using a constructivist approach, meaning that students have an active role in their learning. They will participate in setting goals, contextualizing theories using their own experiences, collaborating in classroom activities and projects. Please note that since I adapt my teaching techniques based on the course content, delivery method, and individual student learning styles, this syllabus might be subject to change. Whenever it does, the new version will be posted on CANVAS.

COURSE FORMAT AND STRUCTURE

We will rely on the Flipped Classroom methodology as it allows for the application of conceptual knowledge rather than factual recall. Thus, students are expected to prepare before class by familiarizing with the learning material (i.e., readings, videos, etc.). We will use class time for in-depth discussion, problem-solving, peer reviews, collaborations, and workshops. Students should choose a research topic before the first day of class, as they will start working on it right away.

The course is designed as a seminar with heavy in-class graded work. It is essential for students to read and reflect on the material before class so that they can participate meaningfully in discussion and perform the in-class activities.

The course content is structured in several parts through which students will develop their own personalized research manual and prospectus.

1. **Philosophical Foundations**
    We will start the course with an overview of the philosophy of science. While exploring this basic epistemological groundwork, the seminar will examine some of the important core issues in research design (e.g., triangulation and validity).
2. **The Research Question and Problem Statement**
    In this section, we'll learn to describe the problem and to ask the right questions

correctly. We will learn about the importance of context as well as the research obstacles like data availability, time or resources, etc.

3. **The Role of Theory and the Literature**

    Students will learn to select and critique relevant literature, what are their deficiencies and how they contribute to understanding the researched problem. They will also discern and evaluate theories and conceptual frameworks' limitations and contributions.

4. **Ethics in Research**

    We will examine ethical issues when people and ICTs are involved in research. Students will weigh the potential research benefits versus their costs. We will place particular emphasis on internet research ethics issues such as consent, data privacy, confidentiality, security and integrity of data, and intellectual property.

5. **Survey of Methods**

    Students will learn the basics of a variety of research methods and will critique examples of research selected based on students' interests.

6. **Research Design**

    Students will develop a strategy for doing research. They will learn to configure mixed-method design approaches that complement each other and answer their research question.

7. **Constructs, Operational Definitions, and Measurement**

    Students will learn to employ methodological tools to observe, describe, and measure social phenomena. They will define and operationalize constructs as well as to identify units of and levels of analysis, the degree of error, and replicability.

8. **Data Collection**

    Students will be exposed to a variety of data collection techniques and instruments and determine the best way to collect data for their study. They will establish how to choose participants or events to study as well as the possible hurdles to data collection. They will formulate mechanisms to protect participants from harm.

9. **Data Analysis**

    Students will determine a data analysis plan including schedule and software.

STUDENT LEARNING OUTCOMES

After taking this course, students will be able to:

- Compare and discern quantitative and qualitative methodologies

- Demonstrate understanding of research ethics

- Conceptualize a study from beginning to end including research questions, rationale, research design, recruitment, and data analysis

- Conduct rigorous data analysis.

- Write, review, and present scholarly research

REQUIRED MATERIAL

Textbook and Readings: Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach*. (Any of the last three editions is acceptable). While we will use a textbook, there will be additional readings. They will be available on the Readings list on Canvas. Students should read the assigned material before class.

Technology: All students should have access to a computer with a secure Internet connection. Adobe Acrobat Reader, and word processing software that allows them to save files as. DOCX, preferably, but also .doc, .odt, or .rtf files. Microsoft Office and other software is available from https://download.uky.edu/

Students should bring their computers to class. Communicate with me if you are having technical issues. For more assistance, contact the following:

- Information Technology Customer Service Center (UKIT): 859-257-1300

- Help Desk: 218-HELP (4357)

- Center for the Enhancement of Teaching and Learning: 257-8272

ASSIGNMENTS

The constructivist and flipped methodologies require students to engage in reflections, discussion, peer reviews and the creation of tools where they apply learned theoretical concepts. The same way, the research process is creative, reiterative, reflective, and peer-reviewed.

Thus, students will create a Research Manual and a Prospectus Poster. They will start on the first week of class and develop them over the course of the semester. They will build these two projects in series of installments and through a variety of in-class activities. Thus, class attendance is imperative.

1. Research methods manual: Students will write and evaluate a personalized research manual using the material provided and material they researched. They will write the manual so it will help them design research in the future. The manual will be submitted for peer-review in several installments through the semester. Instructions will be provided on Canvas.

2. Prospectus poster: Students will present it at a poster session at the end of the semester (date TBD). The prospectus should include a mixed methodology (i.e., at least two divergent data collection designs) and should carefully document, justify, and harmonize different methods.

3. In-Class Activities include but are not limited to:
   - Peer-reviews
   - Presentations
   - Discussions and debates
   - Workshops

   Detailed instructions for assignments will be provided through Canvas, the same way all assignments should be submitted to Canvas

ASSESSMENT AND EVALUATION

Students will be evaluated through class participation, peer-evaluations, and tangible deliverables. Each type of assignment has its own rubric; however, overall, students must apply the theoretical principles learned in class in each assignment. Grades will be roughly distributed as follows:

	Approximate Value
In-class exercises and assignments	50 %
Prospectus Poster Presentation	15 %
Participation (includes attendance)	10 %
Research Manual	25 %
TOTAL	100 %

The total number of points may change, but the percentages will remain the same. Note that achieving an A in this course requires a minimum of 95% of the available points. As a result, only the highest performing students will attain an A for the semester. I cannot offer extra credit projects, extra credit for attendance, good citizenship, or related reasons because these evaluation components already appear in the grading system.

Minimum Percent	Letter Grade	
95%	A	Exceptional work, outstanding effort, great attention to detail.
90%	A-	
85%	B+	Good work. As expected.
80%	B	
75%	B-	
70%	C+	Needs substantial improvement

65%	C	
60%	C-	
<60%	F	Unable to meet the expectations of the program.

COURSE POLICIES

ICT610 is a graduate level class in a professional master's program. Thus students should approach with professionalism. This implies attending class on time, preparing to participate actively in every class, and presenting high-quality writing work. Not meeting this class' expectations means not receiving full credit. Hence, make sure you do the readings and prepare to discuss them in class every week, submit well-written assignments, be on time and maintain an open, yet respectful, and engaged classroom environment. The respect should extend to those who are in the classroom (e.g., instructor, other students) as well as those who are not a typical classroom member (e.g., other professors, guest speakers). A respectful and engaging environment is one where electronic devices are put away and side conversations do not occur. This policy on behavior must also extend to the electronic classroom on Canvas, or appropriate behaviors otherwise known as netiquette. Interactions should remain professional and focused on learning without resorting to personal attacks, unsupported claims, or irrelevant conversations.

Attendance

Assignments, final project and in-class exercises are tied to each other. Thus, it is crucial to attend every class. Given we will meet only about 14 times, there should be NO unexcused absences. It is expected for students to be on time and stay for the entire time during each class period. Students may have two excused absences. If you choose to use the excused absences you should give advanced notice and complete an additional assignment related to the readings for that day.

Participation

To achieve our learning outcomes students must read all the assigned readings before coming to class. Class discussions will extend the information covered in the assigned readings. Students are responsible for familiarizing with the material, so they engage in meaningful debate and demonstrate knowledge and understanding. Student participation in the classroom is valued and benefits the entire class.

Written Work

This course requires students to have strong writing skills, willingness to receive criticism and a positive attitude towards improving their writing skills.

Graduate students are expected to have a strong foundation in writing. All papers must follow APA 6th edition. The writing style, mechanics, and content are equally important.

Oral Presentations

The same way, graduate students are expected to have developed a strong foundation in verbal communication skills. Throughout the course, students will have multiple opportunities to demonstrate their oral communication competencies (e.g., classroom discussion, presentations). Oral presentations should consider the purpose, topic, audience, and message to create shared meaning in a clear and concise manner. Presentations should adhere to the time allotted. During group presentations, all members of the group are expected to answer questions. Likewise, all members should present approximately equal amounts of time and content. PowerPoints should have a minimal amount of text while including graphs, figures, charts and diagrams to illustrate your point. Provide detailed notes (with citations) for each slide in the notes section of the PowerPoint presentation. Include a slide with your APA style references at the end.

Assignment Submission

All assignments should be submitted via Canvas. The assignment should be attached as a word file (.doc or .docx only). You MUST confirm that the assignment was sent and that it will open. Any file that is attached, but unable to be opened, will be treated as if it were not submitted. All assignments will be due before class begins unless otherwise noted.

Late/ Makeup Work

Late work will NOT be accepted. Any work turned in late will receive ZERO points. Work may only be made up if the absence is pre-approved by the instructor (at least 48 hours' notice). Due dates will not be arranged around due dates in other courses.

TurnitIn

This class may use the plagiarism detection and prevention system Turnitin (through Canvas). papers to TurnitIn compares submitted documents against documents on the Internet and student papers submitted to Turnitin at UK and other colleges and universities. Students will have the option to submit papers to Turnitin early to check that all sources have been properly acknowledged and cited. I will take your knowledge of the subject matter of this course and your writing level and style into account in interpreting the originality report. Keep in mind that all papers submitted for this class will become part of the Turnitin.com reference database solely to detect plagiarism of such papers.

Inclusion and Diversity

My teaching has been shaped by my experience as a minority instructor in the multicultural classrooms of the United States. Thus, I embrace and foster the creation of an intellectual community enriched and enhanced by diversity along many dimensions, including race, ethnicity and national origins, gender and gender identity, sexuality, class, and religion.

Acknowledging the multiple dimensions of diversity in the classroom means implementing diverse measures for student participation, learning, and evaluation. I plan my courses so that students from diverse backgrounds and perspectives be well- served, that students' learning needs be addressed both in and out of class and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. I intend to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. Also, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements. I am especially committed to increasing the

representation of those populations that have been historically excluded from participation in U.S. higher education Thus, in my classes, students are safe, open, and will encounter new experiences.

Plagiarism

Part II of Student Rights and Responsibilities (6.3.1; online at http://www.uky.edu/StudentAffairs/Code/part2.html) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self–expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission. When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work, whether it is published article, chapter of a book, a paper from a friend or some file, or another source, including the Internet. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be. Plagiarism also includes using someone else's work during an oral presentation without adequately citing that work in the form of a verbal footnote.

Whenever you use outside sources or information, you must carefully acknowledge precisely what, where and how you have employed them. If the words of someone else are used, you must put quotation marks around the passage in question and add an appropriate indication of its origin. Plagiarism also includes making simple changes while leaving the organization, content and phraseology intact. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain.

Couse Schedule

Assigned readings are indicated in the course schedule. Readings should be done before class. They are the basis for in-class discussion. Note: the course schedule and readings are subject to change; it is a plan rather than a contract.

No.	Date	Topic	Readings
1.	Jan 10	Course Introduction.	Asynchronous class Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch 1. The Selection of a Research Approach. P.1-24
2.	Jan 17	Introduction: What is Science	(Cont.)Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch 1. The Selection of a Research Approach. P.1-24
3.	Jan 24	Philosophy of Science Perspectives	Diesing, P. (1991). How Does Social Science Work? Reflections on Practice. Pitts- burgh, PA: University of Pittsburgh. ISBN 0-8229-5475-3 Chapters: 1. Logic empiricism, 1922–1970 2. Popper and his followers 3. Kuhn and Stegmü̈ller 4. Pragmatism S3. The process and problems of social research
4.	Jan 31	The Role of Theory in Research/Theories of ICT and Society	Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch. 3. The Use of Theory P.51-76 Bijker, W. E., Hughes, T. P., & Pinch, T. (2089). *The social construction of technological systems: New directions in the sociology and history of technology*. Cambridge, Mass: MIT Press. Ch. 1 pp. 17-50

			Sismondo, S. (2004). *An introduction to science and technology studies*. Malden, MA: Wiley-Blackwell. Ch. 13 Feminist ST&S and its Extension Pp. 128-140
	Feb 7	The Literature Review	Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch. 2. Review of the Literature P.25-49 Ridley Ch. 2 The Multiple Purposes of a Literature Review pp.16-28
	Feb 14	Research Ethics IRB Tutorial	Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch. 4. Writing Strategies and Ethical Considerations Zimmer & Kinder-Kurlanda (2017) Introduction to Internet Research Ethics Ch. 21
	Feb 21	The Research Problem and Context	Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch. 5. The Introduction
	Feb 28	Research Motivation and Implications	Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch. 6. The Purpose Statement
	Mar 7	Operationalization, Concepts, and Measurements	Schutt, Russell K. (2006). Investigating the Social World: The Process and Practice of Research (5th ed). Thousand Oaks: Sage. ISBN 14129–2734–X (1999) Ch. 3 pp. 63-104

	Mar 21	The Research Question and Concepts	Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch.7 Research Questions and Hypothesis
	Mar 28	Quantitative Methods (Analysis?)	Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch.8 Quantitative Methods
	Apr 4	Qualitative Methods	Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch.9 Qualitative Methods
	Apr 11	Mixed-Methods	Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (Any of the last three editions is acceptable) Ch. 10 Mixed Methods Procedures Sloan & Quan-Haase (2017) pp. 13-26
	Apr 18	Poster Session?	
	Apr 25	Last day of classes	
	May 2	Research Manual Due	