RESEARCH METHODS IN SUSTAINABLE DESIGN

Course  Architecture 620
Term  Fall 2013
Instructor  Alison G. Kwok PhD, AIA, LEED AP, FASES, CHPC
            (akwok@uoregon.edu; 541-346-2126; Case Study Lab 100 Pacific)
Credits  4 credits (PhD and MS students); 2 or 4 credits (M.Arch. students)
Time  Tuesdays 1300-1550 and as noted

Course Description
This course provides an overview of research theory and introductory qualitative and quantitative design methods. This overview consists of understanding the preliminary considerations that go into selecting a qualitative, quantitative, or mixed methods research design. These include knowing the definition for these different approaches, considering philosophical worldviews, reviewing the literature, understanding the use of theory, anticipating ethical issues, and developing writing strategies. We will discuss the process of research as it relates to each approach. This process includes writing an introduction, specifying a purpose statement, and developing research questions and/or hypotheses. This course will also discuss the methods and procedures for quantitative, qualitative, and mixed methods studies, developing a literature review and a dissertation proposal or master’s prospectus. The common goal is to provide a stimulating environment that encourages progress on the development of a research method appropriate to sustainable design.

Course Objectives
• Develop an understanding of the basic characteristics of qualitative, quantitative, and mixed methods research and the differences among these approaches
• Discuss the major philosophical worldviews related to research
• Define the major strategies of inquiry used in qualitative, quantitative, and mixed methods research
• Learn how to search the research literature on a topic of interest
• Understand the role of literature and theory in qualitative, quantitative, and mixed methods research
• Develop writing strategies for qualitative, quantitative, and mixed methods research proposals and reports
• Anticipate ethical issues related to research
• Understand the elements that comprise a good introduction to research
• Write a purpose statement for qualitative, quantitative, and mixed methods research
• Develop research questions and/or hypotheses for qualitative, quantitative, and mixed methods research
• Understand the procedures involved in developing quantitative, qualitative, and mixed methods plans
• Develop a thesis prospectus or proposal for a research study
• Present information about research in a scholarly manner

Required Texts
Williams, Joseph, Style: Toward Clarity and Grace, University of Chicago Press, 1995
Optional Texts

Course Grading
Grading will be based on successful completion of all assignments. The assignments will help students to understand the role of the Master’s Thesis or Dissertation in graduate education, to begin recognizing researchable questions, to define and clarify one’s own question of interest. In-class discussions, individual assignments and discussions with the instructor and guests are the principal means used to provide progress checks to students. The following are all necessary to receive a passing grade:

- Attendance (attendance, participation, leading discussion, exercises) 35%
- Survey development and Human Subjects clearance 5%
- Assignment 1 What is a Dissertation/Thesis 10%
- Assignment 2 Article Review 10%
- Assignment 3 Abstract and Literature Review 15%
- Assignment 4 Research Prospectus 25%

No late assignments are accepted (reasonable exceptions will be made for emergencies and specific prior arrangement with the instructor). Students must successfully complete all assignments. Incompletes will be given ONLY for medical emergencies and requires written pre-approval from the instructor. The instructor reserves the right to withhold a final course grade if any equipment on loan is not returned in working order by the last week of classes. Requests for extra-credit or compensatory work to make up for missing assignments or quizzes will not be considered. There will be no final exam.

Course Structure
The course meets once a week. Research design and methodologies are explored through various learning modes: peer-discussions, readings, writing assignments, and individual projects. Students will seek and use new information resources. Invited scholars, AAA faculty and/or graduate students may be invited to the class to discuss their research and the role of research in their professional development. Doctoral students may request permission from the course instructor to enroll for one or two additional credits for a maximum of six credits if the scope of their independent work requires additional time. The scope of this additional work will be defined in consultation with the instructor and, when appropriate, the student’s major advisor. M.Arch students taking the course for 2 credits will have modified assignments and meeting times commensurate with the credits taken (see below).

Expectations for PhD Students
This course occurs in the first term the Ph.D. student’s time in the Department. At the conclusion of the course, the Ph.D. student will have begun their literature review as a result of additional readings (2-3 readings a week) that will explore contextual, theoretical, and methodological approaches used by others who are conducting research aligned with your dissertation interests. Students shall critique at least four distinct methodological approaches related to their topic, and identify content areas that are necessary components of their Course of Ph.D. Study, which must be submitted to the Department for approval at the conclusion of their first year in the program.

Students with Disabilities
Students with a documented disability and anticipate accommodations in this course must arrange to meet with the instructor by the end of the first week of classes and provide documentation from UO Disability Services to verify your disability.
Course Activities and Assignments
The course has a broad series of activities and assignments that will introduce students to resources, references, and analytical approaches. When required, all papers will be prepared double-spaced using 11-point font with 1 inch margins.

• Participation (35%)
  You are expected to attend and actively participate in the class discussions and activities. Participation also includes reading the assigned texts and materials in advance of each class, reviewing related materials, and sharing your ideas during class discussions and/or activities. You may be asked to bring materials to class, react to other students’ work, or turn in your own work for comments as part of the participation grade. Other than a signed medical excuse from a physician, no absences will be accepted. One unauthorized absence will result in 0 points for participation.

• Complete Human Subjects Research training (5%)
  Completion due by Nov 25, send confirmation to Instructor NLT 5pm
  Each student is expected to understand the research process and ethical issues that are pertinent to conducting research with human subjects. Completion of the institution's training (Collaborative Institutional Training Initiative—CITI) in the Research Compliance Services, (for protection of human research subjects) will help to facilitate a greater understanding of these issues. See: http://orcr.uoregon.edu/index.cfm?action=citi [M.Arch optional]

• Assignment 1: What is a Dissertation/Thesis? (10%) 1 week
  Due: Oct 7 to Instructor via email NLT 5pm
  This assignment asks you to search for and select a dissertation or thesis (library, online, read and report on what is about: author background, the overall idea/problem, the hypothesis, methods, results, and bibliography (what kinds of sources). Provide 5 slides summarizing your findings. You will have approximately 5 minutes to present your findings.

• Assignment 2: Article Review (10%) 1 week
  Due: Oct 14 via email to instructor NLT 5pm
  This assignment involves identifying three published studies that use the same research design and strategy of inquiry that you plan to use in your proposed project. For each study, write a two-page review (6 pages total) that briefly addresses how the study illustrates: (a) the characteristics of the qualitative, quantitative, or mixed methods research design; (b) the specific strategy of inquiry; and (c) your overall critique of the research design. You should submit copies of each article with the review and prepare 5 ppt slides summarizing your findings. You will have 5 minutes to present your findings. [M.Arch 1 article]

• Assignment 3: Abstract and Literature Review (15%) 2 weeks
  Due: Oct 28 via email to instructor NLT 5pm
  Conduct an abstract review of 20 research sources (books, journal articles priority) that are related to a topic or sub topic area of interest to you within your discipline. Include one or two “popular” articles, if pertinent to your topic. Submit your citations and annotation/summaries. [M.Arch 10 sources]

Next, you will expand your review and dig into specific articles. This project may form part of your research proposal. Collect, organize, analyze, and critique 5 research sources (books, journal articles priority) that are related to a topic or sub topic area of interest to you within your discipline. Include one or two “popular” articles.
1. Write an introduction to your topic and the overall problem you are addressing.
2. Literature Review (3 to 5 pages): using the models provided in Creswell.
4. Definition of Terms (1 page as needed): glossary of terms, with citations
5. Literature Map: Create a literature map with your literature review, as discussed in Creswell, page 35.

6. 3-slide presentation + title slide: Convey the major aspects of your thesis.
   A) Topic/subtopic, B) major themes/findings found in literature, C) summary slide of literature sources (by theme/category and the number and kinds of resources for each). You will have 5 minutes to present your findings.

• Assignment 4: Research Prospectus (25%) 4 weeks

Due: Nov 11 via email to instructor NLT 5pm

Prospectus Outline: Prepare an outline presentation using 9 ppt slides. Each student will have 10 minutes to present their outline in class followed by a 5 minute Q/A. The slides shall consist of the following:

1. Title slide: with title that reflects the content focus of the study, the population, and the research approach
2. Introduction: provides a problem statement, identifies deficiencies in knowledge, and suggests audiences for the research
3. Literature review: reviews literature and/or theories relevant to the study. You may include the literature review from assignment 3, if applicable.
4. Purpose statement with research questions, hypotheses, and assumptions defined
5. Methods: section that discusses procedures, equipment, and analysis appropriate to your purpose and research approach.
6. Discussion: of anticipated outcomes, analysis, any ethical issues
7. Anticipated Results: "storyboard" graphs, charts, images of potential comparisons and outcome that you hope to investigate and find
9. Appendices: project timeline, copies of instruments or protocols, visual diagrams, and a proposed budget

Due: Nov 25 via email to instructor NLT 5pm

Prospectus: You will prepare a proposal describing the research study that you plan to complete. This proposal should reflect the proposal outlines suggested by Creswell (2009). For formatting, use the UO Thesis and Dissertation Style and Policy Manual (online and BB). You should share a copy of this assignment to your faculty advisor and allow them some time to comment. In addition, each student will prepare a 20 minute ppt presentation (20) that tells your research story in a compelling and concise manner. This presentation will be delivered in class during week 9. The proposal should include (but not be limited to) the following points and be approximately 15 pages:

1. Title page: with title that reflects the content focus of the study, the population, and the research approach
2. Introduction: provides a problem statement, identifies deficiencies in knowledge, and suggests audiences for the research
3. Literature review: reviews literature and/or theories relevant to the study. You may include the literature review from assignment 3, if applicable.
4. Purpose statement with research questions, hypotheses, and assumptions defined
5. Methods: section that discusses procedures, equipment, and analysis appropriate to your purpose and research approach.
6. Discussion: of anticipated outcomes, analysis, any ethical issues
7. Anticipated Results: "storyboard" graphs, charts, images of potential comparisons and outcome that you hope to investigate and find
9. Appendices: project timeline, copies of instruments or protocols, visual diagrams, and a proposed budget
Schedule of Sessions:

**Week 1**  Oct 1

**INTRODUCTION TO DESIGN RESEARCH**

*Discussion:* What is a thesis/dissertation, proposal, committee, committee chair, minor concentrations, key questions, timelines and schedules, definitions of sustainability, research interests

*Activity.* Applying Research

*Assignment Review:* None

Assignment 1: What is a Dissertation/Thesis?

*Reading Review:* None

**Week 2**  Oct 8

**CULTURE OF DESIGN RESEARCH**

*Discussion:* How is a project selected; what roles do researchers play; how is literature accessed

*Activity.* Interviews, IRB

*Assignment Review due:* Assignment 1: What is a Dissertation/Thesis?

Assignment 2: Article Review

*Reading Review:* Booth: Prologue, Ch. 1 (Why), Ch. 2 (Roles); GSH: Ch. 1-3; Creswell: Ch. 1 (Selection), 3 (Theory)

Student Discussion Lead 1: __________________________________________

Student Discussion Lead 2: ________________________________________

**Week 3**  Oct 15

**COMPELLING ARTICLES**

*Discussion:* How is a project selected; what roles do researchers play; how is literature accessed

*Activity.* Interviews

*Assignment Review due:* Assignment 2: Article Review

Assignment 3: Abstract and Literature Review

*Reading Review:* Booth: Ch. 3, 4 (Questions); GSH: 3 strategies of your choice; Creswell: Ch. 5-7 (Intro, Purpose, Questions)

Student Discussion Lead 1: __________________________________________

Student Discussion Lead 2: ________________________________________

**Week 4**  Oct 22

**RESOURCES IN DESIGN RESEARCH**

*Discussion:* What makes a researchable question; how can research succeed; what presentation approaches work for what research methods; what role does writing play in the research process

*Activity.* Mining for ideas

*Assignment Review:* None

*Reading Review:* Booth: Ch. 5, 6 (Sources); Creswell: Ch 2 (Literature); GSH: 3 strategies of your choice;

Student Discussion Lead 1: __________________________________________

Student Discussion Lead 2: ________________________________________

**Week 5**  Oct 29

**QUALITATIVE AND QUANTITATIVE METHODS**

*Discussion:* Selecting research methods – qualitative quantitative, and mixed.

*Activity.* Methods Debate

*Assignment Review due:* Assignment 3: Abstract and Literature Review

Assignment: Activity 4: Prospectus

*Reading Review:* Creswell: Ch 8, 9 (Quantitative, Qualitative); Strunk: Ch 1-5 (Introduction-Spelling);

Student Discussion Lead 1: __________________________________________

Student Discussion Lead 2: ________________________________________
| Week 6  | Nov 5 | **CASE STUDY RESEARCH**  
Discussion:  
**Activity.** Case Study critique  
Assignment Review: None  
Reading Review: Booth: Ch 7-9 (arguments, claims, evidence);  
Student Discussion Lead 1: ____________________________  
Student Discussion Lead 2: ____________________________ |
|---------|-------|-------------------------------------------------------------------|
| Week 7  | Nov 12| **NAVIGATING ACADEMIA**  
Discussion: The role of research and creative practice, scholarship, teaching, and service  
**Activity.** Creating a Successful CV  
Assignment Review: Assignment 4: Prospectus Outline  
Reading Review: Gillem: Part III (Outposts Under Construction – Chs. 6-8), Conclusion; or Davis: Living Over the Store; or SWL; or Kwok: 3 case studies |
| Week 8  | Nov 19| **RESEARCH REVIEW**  
Discussion: What constitutes a solid thesis; how do methods align with the research question; who is involved in a compelling thesis  
**Activity.** Research Case Study Analysis  
Assignment Review: None  
Reading Review: None |
| Week 9  | Nov 26| **PROSPECTUS PRESENTATIONS**  
Discussion: None  
**Activity.** Prospectus Presentations.  
Assignment Review: Assignment 4: Research Prospectus  
Reading Review: None |
| Week 10 | Varies| **STUDIO REVIEWS**  
Discussion: None  
**Activity.** Participate in 2 studio reviews as a guest reviewer  
Assignment: None  
Reading Review: None |

**Acknowledgment**
The Instructor would like to thank Professor Mark Gillem for developing the structure of the second offering of this course in Fall 2012 and Professors Erin Cunningham and GZ Brown for teaching the Advanced Methods in Sustainable Design. These courses have formed the basis for this offering.