

# RESEARCH METHODS IN SUSTAINABLE DESIGN

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Course	Architecture 620   CRN: 10641
Term	Fall 2017
Instructor	Alison G. Kwok PhD, AIA, LEED AP, FASES, CHPC <a href="mailto:akwok@uoregon.edu">akwok@uoregon.edu</a> ; 541-346-2126; 405A LA
Credits	4 credits (PhD and MS students); 2 or 4 credits (MARCH or MS students)
Time	Tuesdays 8:00am – 10:50am

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## 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

Booth, Wayne, Gregory Colomb and Joseph Williams, *The Craft of Research*, (3<sup>rd</sup> ed.). University of Chicago Press, 2008

Creswell, J. W. *Research Design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications, 2014

Yin, Robert, *Case Study Research: Design and Methods*, 5<sup>th</sup> edition, Sage Publications, 2013

## Optional Texts

Babbie, Earl, *Survey Research Methods*, (2nd ed.). Cengage Learning, 1990

Booth, Wayne, *A Manual for Writers of Research Papers, Theses, and Dissertations*, 8<sup>th</sup> edition, 2013

Brown, GZ and Mark DeKay, *Sun Wind & Light*, Wiley, 2014

Davis, Howard, *Living Over the Store*, Routledge, 2012

Gage, John T. *The Shape of Reason: Argumentative Writing in College*, (4<sup>th</sup> ed.). Longman, 2005

- Gillem, Mark. *America Town: Building the Outposts of Empire*. University of Minnesota Press, 2007  
 Hacker, Diana and Nancy Sommers, *Rules for Writers*, (6<sup>th</sup> ed.). Bedford/St. Martin's, 2011  
 Kwok, Alison and Walter Grondzik, *The Green Studio Handbook*, (2<sup>nd</sup> ed.). Routledge, 2011  
 Luker, Kristin. 2008. *Salsa Dancing into the Social Sciences: Research in the Age of Info-Glut*. Harvard University Press.  
 Strunk, William and E.B. White, *The Elements of Style*, (4<sup>th</sup> ed.), Longman, 1999  
 Williams, Joseph, *Style: Toward Clarity and Grace*, University of Chicago Press, 1995  
 Zeisel, John, John Eberhard, *Inquiry by Design: Environment/Behavior/Neuroscience in Architecture, Interiors, Landscape, and Planning*, W. W. Norton, 2006

#### **Course Grading: Grading option: Graded/Pass No Pass**

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 1a Journal Report	5%
Assignment 1b Electronic Database Report	5%
Assignment 2 Article(s) Review	10%
Assignment 3 Abstract and Literature Review	15%
Assignment 4 Research Prospectus or Grant Proposal	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/MS Students**

This course occurs in the first term the PhD/MS student's time in the Department. At the conclusion of the course, you will have begun your 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. You will understand and critique at least four distinct methodological approaches related to your topic, and identify content areas that are necessary components of your course of study.

#### **Expectations for MARCH Students (2 credits)**

This course may be taken at any time during a student's time in the Department. Typically students who are interested in understanding the context of design and how some of the decisions are made

**Labeling convention for Canvas:** 2016\_10\_06\_Assignment1\_LASTNAME; max 5 mb

## **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, actively participate, and lead 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 21, upload to 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. Got to this page: <http://rcs.uoregon.edu/content/human-subjects-education-requirement>, click on CITI Collaborative Institutional Training Initiative, take basic Social Behavioral-Educational Research modules [2 cr course optional]

- **Assignment 1a: Journal Report (5%)**

Due: October 3 to course Canvas NLT 8pm

This assignment is to select a journal and report back objectively to the following questions (but is not limited to): when did the journal come about, who is the editor in chief, where is it based, publication cycle, submittal and review process, impact factor, topics covered. Define any unknown terms.

Prepare a brief summary of your findings (1 page handout for each person in the class). You will have approximately 5 minutes to present your findings.

- **Assignment 1b: Electronic Database Report (5%)**

• Due: October 10 to course Canvas NLT 8pm

This assignment asks you to carefully critique an online database resource through the UO library. Each report describes the following (but is not limited to) the database content, who produces that content, what organization is the vendor, (e.g. Avery Index to Architectural Periodicals is available through CSA, but who produces the index?), the process to get into the database, the scope, coverage, years of indexing/abstracting/full text, selectively indexed or cover to cover. Prepare a brief summary of your findings (1 page handout for each person in the class). You will have approximately 5 minutes to present your findings.

- **Assignment 2: Review three articles (10%)**

Due: Oct 17 to course Canvas NLT 8pm

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. You will have 5 minutes to present your findings. [2 cr course 1 article, minimum]

- **Assignment 3: Abstract and Literature Review (15%) 2 weeks**

Due: Oct 31 to course Canvas NLT 8pm

This project is intended to form part of your research proposal. 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. [2 cr course 10 sources]

Next, you will expand your review and dig into specific articles—this comprises the literature review. 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.
3. References and Annotation Summaries (1 page as needed): specify style manual used and follow UO Thesis and Dissertation Style and Policy Manual.
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. Convey the major aspects of your thesis/research topic.  
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/Grant Proposal/other approved (25%) 3 weeks**

Due: Nov 21 to Canvas 8pm

- You will prepare a proposal describing the research study that you plan to complete. This proposal should reflect the proposal outlines suggested by Creswell. The proposal should include (but not be limited to) the following points and be approximately 10 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
  8. **References:** specify style manual and follow end-of-text references.
  9. **Appendices (optional):** project timeline, copies of instruments or protocols, visual diagrams, and a proposed budget

Use 11-point font, Times or serif font permitted by Graduate School and see UO Thesis and Dissertation Style and Policy Manual (online, Graduate School). You should share a copy of this assignment with your faculty advisor and allow them some time to comment.

**Presentation:** prepare ppt/pdf/prezi: 5 minute oral presentation, appx 6 slides (title slide, context, research questions/hypothesis, methodology, anticipated outcomes, resources). 3 minute question period.

#### **Acknowledgments**

I taught the first offering of this course in Fall 2011. I would like to thank Professor Mark Gillem for continuing to develop 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.