COURSE DESCRIPTION

Principles and procedures of conducting and reporting research are discussed. Topics to be examined in detail include research problem identification, literature review, research question formulation, major research methods in information management, development and justification of research methodology, and report of research. Students will design and evaluate research by following the normal practices in the field.

COURSE OBJECTIVES

• To identify and translate ideas into a problem statement which permits productive scholarship;
• To critically review pertinent research published in the chosen topic area;
• To derive research question(s) from the problem statement and formulate testable hypotheses, if appropriate;
• To get familiar with major data collection and analysis techniques, including their advantages and limitations, in information management;
• To develop a methodology for the research study;
• To report and evaluate research.

COURSE OUTLINE AND SCHEDULE (including readings†)

Class 1, Wednesday, April 5 – 2-5pm

• Topics
  o Introduction and overview
  o Research problem identification & statement
  o Literature search and review

• Readings

† All the readings as well as method examples are available electronically from the course website.
Class 2, Thursday, April 6 – 2-5pm

• Topics
  o Research question/hypothesis formulation
  o Levels of measurement
  o Research scope
  o Population and sampling

• Readings
    ▪ Chapter 8. The logic of sampling
    ▪ Chapter 3. Constructs, variables and definitions
    ▪ Chapter I. Introduction

Class 3, Friday, April 7 – 2-5pm

• Topics
  o Research method basics
  o Major data collection techniques I
    ▪ Questionnaire – *Case study* (Questionnaire in Niu, et al., 2010)
    ▪ Interview - Practice

• Readings

• Method examples
o Hara, et al. (2003). An emerging view of scientific collaboration: Scientists’ perspectives on collaboration and factors that impact collaboration. JASIST, 54(10), 952-965. [Interview]

o Head, Alison J. (2007). How Do Humanities and Social Science Majors Conduct Course-Related Research? Moraga, CA: Saint Mary’s College of California [Questionnaire]

  § Faculty questionnaire (including question rationale)
  § Student questionnaire (including question rationale)


Class 4, Monday, April 10 – 6:30-9:30pm
- Topics
  o Major data collection techniques II
    § Focus groups - Practice
    § Experiment
    § Observation - Practice

- Readings

- Method examples

**Class 5, Tuesday, April 11 – 6:30-9:30pm**

- **Topics**
  - Major data collection techniques III
    - Bibliometrics, webometrics, and altmetrics
    - Ethnography/Fieldwork
    - Historical research
    - Delphi study - Practice

- **Readings**

- **Method examples**
  - Delcore, Henry D. et al. (2009). The library study at Fresno State. Fresno, CA: Institute of Public Anthropology, California State University, Fresno. [Ethnography, including field study, observation, & more]


**Class 6, Wednesday, April 12 – 2-5pm**

- **Topics**
  - Major data collection techniques IV
    - Think aloud protocol, transaction log analysis, research diary
    - Other methods
      - Content analysis, secondary analysis, discourse analysis
      - Theoretical approach, …
  - Data preparation
  - Quantitative research vs. qualitative research
  - Major quantitative data analysis techniques
    - Descriptive statistics
    - Inferential statistics & Big Data analytics

- **Readings**
    - Chapter II. Graphing distribution
    - Chapter III. Summarizing distributions
    - Chapter IV. Describing bivariate data
    - Chapter VII. Normal distributions
    - Chapter IX. Sampling distributions
    - Chapter X. Estimation
    - Chapter XI. Logic of hypothesis testing
    - Chapter XIV. Regression
    - Chapter 10. What is a margin of error

- **Method examples**
Class 7, Thursday, April 13 – 8:30-11:30pm

- Topics
  - Overview of qualitative research
  - Major qualitative data analysis techniques
    - Qualitative coding - Practice
    - Content analysis, comparison, …
    - Software for qualitative data analysis

- Readings

Class 8, Friday, April 14 – 8:30-11:30am

- Topics
  - Research design
    - Methods selection, development & justification
    - Research design case studies – Practice/Group discussion
  - Research report and presentation
  - Research manuscript preparation and submission
  - Wrap-up
  - Q&A on the Research Design Project
ASSIGNMENT - Research Design Project

Information Management, as a field, features interdisciplinarity and is composed of many contributing domains. Yet, no consensus has been reached regarding what actually constitutes the discipline. Design a study to explore the composition of Information Management in terms of contributing domains and disciplines.

You should consider the quantitative as well as qualitative aspects in your research design. Specifically:

1) State your research problem.
2) Prepare a literature review (文献述评而不是文献综述) of at least 10 research articles obtained after searching in scholarly databases. This includes conducting a literature search and showing your strategy used in locating related research articles. The literature review should be organized by content rather than by author’s name or publication year.
3) Formulate research questions and, if appropriate, testable hypotheses.
4) Identify concepts and variables involved in the study. Also provide operational definitions for those variables if needed.
5) Describe your research design, including techniques for data collection and analysis.
6) Justify the methodology you have developed for your study.
7) Discuss how to ensure validity and reliability of your research design. (Note: Don’t calculate any reliability score for a data collection instrument.)

Submit your draft for 1) – 4) by **Wednesday, April 19** for initial feedback from the instructor. This draft is for the instructor to make sure that you are on the right track before you set out to complete this assignment. So it does not have to be in great detail but should cover the following:

1) State the research problem in a statement.
2) List the scholarly databases and search strategies used for your literature search. Briefly describe the articles you decide to include in your literature review. The literature review section of this project can be prepared later when you begin completing the assignment.
3) List your research question(s) for this study. If a hypothesis can be formulated for any
research question you have, do so accordingly.

4) Look at your research questions to identify the concepts and variables involved. If any of the variables you identify cannot be observed or measured with an establish method, describe how you would measure it or provide an operational definition for it in your study.

Your complete research design project in Chinese, along with a two-page extended abstract in English, is due by Sunday, May 7, 2017.

**COURSE EVALUATION**
- Research design project 80%
- Practices, participation & attendance 20%

**TEXTBOOK**
- None

**READINGS**
- See above Course Outline and Schedule for details.

**RELEVANT WEBSITES**
- They are both linked from the class homepage and posted at http://myweb.liu.edu/~hchu/NJUST2017/RelevantSites.htm.

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