FA14 & SP15 SPH Q698: MPH Culminating Experience

Biostatistics Concentration

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Fall 2014
Spring 2015
Monthly in fall, as scheduled in spring

Full 698 cohort meetings will convene on specified Fridays in Ballantine Hall, Room 347, 11:45 a.m. – 1:45 p.m.

Biostatistics-concentration cohort meetings will convene on specified Fridays in PH 110, 11:45 a.m. – 1:45 p.m.

Office Hours by appointment

Culminating Experience Faculty by Concentration
Biostatistics – Dr. Zhongxue Chen
Behavioral, Social and Community Health – Dr. Susan Middlestadt
Environmental Health – Dr. Barbara Hocevar
Epidemiology – Dr. M. Aaron Sayegh (Culminating Experience Coordinator)
Family Health- Dr. Jonathon Beckmeyer
Physical Activity- Dr. Jeanne Johnston
Professional Health Education- Dr. Nancy Ellis
Public Health Administration – Dr. Michael Hendryx

Prerequisite Courses
Students must be in their final year of the MPH program to enroll in the FA14 698 courses. Specifically, students must complete all core and required courses for the MPH degree by the end of the FA14 semester of the 2014-2015 academic year to register for the 698 courses. Enrollment in the Spring 698 courses requires successful completion (passing grade) of the FA14 698 courses. During their final years of the MPH program, students must enroll in the appropriate section of 698 for 1-credit for the FA14 semester and enroll in the appropriate section of 698 for 1 credit for the SP15 semester.

Course Description
The Culminating Experience (Q698) requires that students to synthesize and to integrate knowledge acquired in coursework and other learning experiences; and to apply theory and principles to situations that approximate aspects of Public Health professional practice.

Methods of Instruction, Teaching, and Learning
The Culminating Experience relies on a variety of instructional methods, including lectures, discussions, small-group work, peer-feedback, and self-reflection. The faculty members of the 698 courses will provide students with coaching and teaching in regards to the 698 assignments. Students should consult with any and/or all 698 faculty members throughout their participation in Culminating Experience courses. The Culminating Experience Coordinator (FA14 and SP15 698) and/or concentration-specific faculty member will post readings and review materials on the 698 workspace in Canvas and/or on the specific 698-section Canvas website.
Learning Objectives
Students demonstrate their mastery of the body of knowledge acquired from MPH program coursework and demonstrate proficiency in the required Public Health core competencies through the application of theory and principles to situations that approximate the “real world” of Public Health practice. The assignments required of the Culminating Experience contribute to competency demonstration. By the end of the 698 courses, students should be able to demonstrate the attainment of the PH core and concentration-specific competencies through the development of concentration-specific synthesis projects and core competency portfolios.

Learning Assessment
The evaluation of student performance for the Culminating Experience course relies on 3 assignments:

1. Synthesis Project - for concentration specific competencies
2. Poster Presentation of Synthesis Project – for concentration-specific competencies
3. MPH Competency Portfolio – for MPH Core competencies

Required Course Meetings
Entire MPH Culminating Experience Cohort
Students meet as the full MPH cohort and as concentration-specific cohorts during the FA14 semester of the Culminating Experience course. The full MPH cohort meetings will convene on specified Fridays (below) in Ballantine Hall, Room 347, 11:45 a.m. – 1:45 p.m., unless otherwise noted.

The dates of the full MPH cohort meetings are:

Fall 2014
- Friday, August 29, 2014- Introductions & Overview
- Friday, September 19, 2014- MPH Portfolio
- Friday, November 14, 2014- Portfolio Revisions and Resubmits

During the SP15 semester, students meet 1 time as the full MPH cohort: the appropriate faculty member determines the number of concentration-specific cohort meetings.

Spring 2015
- Synthesis Project Poster Session- Friday, April 24, 2015: 9:00 a.m.-12:00 p.m. (location TBD)

Biostatistics concentration cohort meetings will convene on specified Fridays (below) in PH 110, 11:45 am – 1:45 p.m., unless otherwise noted.

The dates of the concentration specific cohort meetings are:

Fall 2014
- Friday, September 05, 2014
- Friday, October 03, 2014
- Friday, October 24, 2014
- Friday, November 21, 2014

Required Course Assignments

**Late assignments will NOT be accepted**

Fall Semester 2014:
- Synthesis Project Plan (Friday, September 26, 2014)
- MPH Competency Portfolio (Friday, October 31, 2014)
- MPH Competency Portfolio: Revisions and Resubmits (Friday, November 21, 2014)
- Synthesis Project: Introduction and Initial sections (Friday, December 05, 2014)

Spring Semester 2015:
Description of Assignments/Learning Assessments

Synthesis Project

Students will select projects to serve as focal points for the synthesis of their concentration-specific competencies. The student chooses the topic and design of the Synthesis Project choice in consultation with the concentration-specific faculty member, here, Dr. Chen in his capacity as the biostatistics concentration (FA14 and SP15 E968) faculty member. Portions of the synthesis are due throughout the academic year (i.e. FA14 and SP15) in order to help students plan for and remain focused on the final Synthesis Projects. The Synthesis Project is a demonstration of a student’s mastery of his/her concentration-specific competencies, here, MPH competencies for biostatistics. To complete the MPH program, biostatistics students must synthesize their understandings of the biostatistics -specific competencies (below) and apply what they have learned to public health issues. Dr. Chen, in his capacity as biostatistics -concentration faculty member must approve Synthesis Project proposals.

Biostatistics Competencies:
1. Describe the roles biostatistics serves in the discipline of public health. (core competency)
2. Apply descriptive and inferential methodologies according to the type of study data and/or study design (in public health) for answering a particular research question. (core competency)
3. Interpret results of statistical analyses for/in public health studies. (core competency)
4. Use information technology to access, evaluate, and interpret public health data.
5. Explain general principles of study design in attempting to identify risk factors for disease, isolate targets for prevention, and assess the effectiveness of public health interventions.
6. Distinguish among the different data categories and the implications for selection of statistical methods based on these categories.
7. Describe Bayesian approaches to data analysis and correctly interpret results of Bayesian analyses.
8. Apply statistical methods to check assumptions of, and conduct analyses using, major multivariate techniques.
9. Explain when and how the major multivariate techniques can be used to answer common quantitative research questions in public health.
10. Apply descriptive and inferential statistical methods that are appropriate to longitudinal study designs.
11. Formulate and produce graphical displays of quantitative information that effectively communicate analytic findings.

Biostatistics Synthesis Project: Research study utilizing a number of methods of applied Biostatistics onto a public health issue
Select a public health issue that is important to the state of Indiana, the USA and/or outside the USA. Consider the selection carefully, as it must allow for full analysis using at least two methods based on the Biostatistics competencies. Besides the data analyses, students should write a 10-20 pages research report, which is similar to a research article and include the following sections: introduction, study design/data collection, data analysis, findings/results, and discussion and conclusion. The report should be turned in by the due date, which is two weeks before the poster presentation.

Issue Description:
Describe the issue in public health/scientific terms. (At minimum, the description should answer these questions: Why is this significant issue related to public health? What is the evidence demonstrating the importance of this issue?) Students should present public health data and scientific literature to make the case for the issue.

Research analysis:
Based on the roles biostatistics serves in the discipline of public health, analyzing data and interpreting the results will be the focus of your research analysis.
Synthesis Project Plan (Due Friday, September 26, 2014)
Students will submit a plan for the completion of the synthesis project. The contents of the synthesis project plan will be finalized by concentration faculty for maximum application, but at minimum will contain the following:

- Project topic and focus
- Literature for consideration and review
- Plan of analysis/method development or comparison
- Time line for project execution and submission

Synthesis Project Introduction and Initial Sections (Due Friday, December 05, 2014)
By the end of the FA14 semester, students will submit the initial sections of their Synthesis Projects for evaluation by concentration-specific faculty. These initial sections demonstrate student progress on the Synthesis Projects and their readiness to continue as part of the Q698 biostatistics cohort for the SP15 semester.

These initial sections include:

- Specific Study Question/s, Aims or Objectives
- Introduction
- Background
- Literature Review
- Outline of Methodology
- References

Synthesis Project: All Sections (Due Friday, April 04, 2015)
See above for Synthesis Project requirements.

Format: 20 pages maximum; approximately 5,000 words double-spaced, 12 font excluding references, & AJPH citation style.

Recommended outline is:

**Abstract**

- 300 words describing the project, purpose and/or objectives, findings and/or proposal methodology, and recommendations and/or significance.

**Introduction**

- Describe the health issue.
- Introduce the reader to the problem, frame the issue in public health terms, and describe how the reader should understand the problem.
- Provide history and context for this health issue.

**Literature Review:** Describe the basic information about the issues that are relevant to the objectives

- The introduction/ initial sections may need to include a “background” section that provides more detail about the history and context of the issue.

**Methods**

- Describe the study design that is appropriate to answering your research question/s.
- Describe the concepts, the derived variables, and the methods for measurement.
- State your hypothesis/es
- Describe the study population from whom you will collect the data.
- Describe the sampling method appropriate to the study question in the target population.
- Provide details about any instruments for data collection (references, validity, reliability, etc.)
- Describe the structure of the data or the data sources or procedures.
- Describe the analytic methods appropriate the research question, derived hypotheses and to the data.

**Results**

- Describe the demographics of the participants.
- Describe the frequency and univariate analysis of exposure/risk variables and the outcome variables.
• Describe any multivariable analysis results or the analytic plan to testing the hypotheses and sample size/power considerations for those analytic techniques.

Conclusions/Implications
• Draw appropriate conclusions from the results or describe the dissemination plan of study results.
• Interpret the meaning of the data for the reader or describe the public health import.
• Describe limitations and their potential impact on the findings or potential barriers to conducting the study.
• Describe future studies based on the findings or other project expansions based on your research proposal.
• Conclude with the implication of the findings or the potential findings for the practice of public health.

Poster Presentation Session of Synthesis Project (Due Friday, April 24, 2015)
Students will present posters summarizing their Synthesis Projects for review by MPH faculty and students on the morning of Friday, April 24, 2015 from 8:00 a.m. to 12:00 p.m., in Location TBA. We will discuss the preparation of the posters and their evaluations during the SP15 semester. Presentations should include project description with outcomes, competencies addressed and evidence of synthesis across concentration competencies. Evaluation criteria of the poster include the following:
• Evidence of concentration competency
• Mastery of public health skills and knowledge
• Presentation quality

Poster Competition: Students will also have the opportunity to submit their posters for award consideration. Students must submit their posters for the awards competition to Dr. M. Aaron Sayegh via Canvas on Monday April 20, 2015 by 12:00 PM (Noon). Details about the poster competition will be available via Canvas as the Poster Presentation session approaches.

MPH Competency Portfolio (Due Friday, October 31, 2014)
Throughout the MPH program, students will gather and document evidences of attainment of core MPH competencies. During the Culminating Experience, every student will submit an MPH Competency Portfolio that provides evidence of core MPH competency attainment. Details about the MPH Portfolio are the topic of discussion during the full MPH cohort meeting on Friday, September 19, 2014, and with subsequent discussion in the concentration-specific cohort meetings. Evaluation of the MPH Portfolio relies on the student’s ability to articulate the meaning of the competency, the selection, provide a “real-world” example, and describe the evidences of attainment. See Canvas for MPH Core Competencies.
Required elements include:
• MPH Core Competencies Summary
  ○ Format: 1 page single spaced text uploads through Canvas for each MPH Core Competency

Competency Portfolio Revisions and Resubmits (Due Friday, November 21, 2014)
Concentration specific faculty will review and score the sections of the MPH Competency Portfolio specific to their areas. Faculty score the Portfolio based on Articulation, Attainment & Evidence, and Professional Communication. A score of 7 or less requires revisions and resubmission. The concentration-specific faculty member assesses the overall quality of the Portfolios for the students in his/her concentration area. Students must revise and resubmit the MPH Portfolios in their entireties according to their concentration-specific faculty member or by sections according to the other concentration-specific faculty members.

Course Grading
Evidence of attainment of core and concentration-specific competencies will earn students passing marks for the class. Students who have not sufficiently demonstrated mastery of core and/or concentration-specific competencies will receive incompletes (i.e. “I”). Students receiving incompletes must respond to the concentration-specific faculty member with a negotiated time to assure completion of course requirements. Per university policy, those students who do not complete the requirements within the negotiated time will fail (i.e. receive “F’s”) for the FA14 semester of the...
698 course, and therefore will not be able to register/enroll in the SP15 698 course. Failure to complete the SP15 698 course precludes the graduation from the MPH program.

Academic Integrity
We are part of an academic community that values both personal and academic integrity. The Code of Student Rights, Responsibilities, and Conduct defines academic and personal misconduct by students and specifies the procedures to deal with such situations (see http://www.iu.edu/~code/code/index.shtml). Additional information about academic integrity will be available on the course website for review. All students should review and understand the Indiana University policy and strive toward academic integrity throughout their studies. The IU SPH-Bloomington has no tolerance for violations and no warnings because, at this stage of the graduate program, students should know how to write with academic integrity. Papers submitted with evidence of plagiarism will receive a failing mark of “0” points, and Dr. Sayegh and related faculty members will proceed with the appropriate communications at university level. Students must submit all written assignments via Turnitin for originality confirmation.

Proper Citation and Referencing
Students should document ALL assignments are expected to be properly with references from the professional literature (e.g., books, journal articles, web-based documents, etc.) using the concentration approved reference style (e.g. AJPH). Any papers submitted without proper documentation and referencing will automatically receive an F mark of “0” points. All papers must contain proper citations within the texts as well as a properly formatted reference lists. Students must submit the assignments via the Canvas.

Course Evaluation
The policy of the IU School of Public Health- Bloomington is to evaluate all its courses. We will conduct final student course evaluations in a manner that maintains the integrity of the process and the anonymity of evaluators. Evaluation of the Culminating Experience relies on a form developed specifically developed to capture the unique structure of the course.

Students with Special Needs
Any student with a special need (e.g. vision impairment, hearing impairment, dyslexia, etc.) should discuss this privately with Dr. Sayegh and the concentration-specific faculty member during the first weeks of the FA14 and SP15 semesters in order to ensure reasonable accommodations. The Office of Disability Student Services is an excellent resource. The following is the contact information for this office:

Disability Services for Students,
Franklin Hall Room 006,
601 East Kirkwood Ave.
(812) 855-7578
www.dsa.indiana.edu

Religious Observation
In accordance with the Office of the Vice Provost for Faculty and Academic Affairs, any student who wishes to receive an excused absence from class must submit an Accommodation Request form available from the Vice Provost for Faculty and Academic Affairs for each religious observation. The student must present this form to Dr. Sayegh and the concentration-specific faculty member by the end of the second weeks of the FA14 and SP15 semesters. Dr. Sayegh and/or the concentration-specific faculty member professor must sign the form, make a copy of the form, and return the original to the student. Students may find more information about the policy on religious observation and the request form at the following website: http://www.indiana.edu/~vpfaa/holidays.shtml.
Official Calendar- Bloomington Campus
For information regarding the official Bloomington campus calendar, go to the following URL: