

SYLLABUS

STAT 8410: Capstone Applications (3 credit hours) Autumn Semester 2014

Instructor

Professor Kate Calder
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Office Hours: by appointment

Course Description

Intensive, project-based investigation of applied and/or interdisciplinary statistical problems, suitable for advanced PhD students in Statistics and Biostatistics.

Prerequisites

STAT 7302 (821), 7410 (742), and 7540 (832), and grad standing in Statistics or Biostatistics; or permission of instructor.

Class Meetings MWF 10:20-11:15am in 228 Cockins Hall

Class meetings will consist of a mix of informal and formal presentations by students and discussion. ***Students are expected to attend all lectures and actively participate in discussions.***

Class Format and Assessment

During the first few weeks of semester, we will discuss applied statistical research generally and study several example papers in detail. Then students will be split into two groups to work on capstone projects for the remainder of the course. The instructor will pick the area of application for both projects and provide some background information. Students will ultimately be responsible carrying out the projects by acquiring relevant data, determining appropriate statistical methodology, carrying out sophisticated analyses, and presenting the findings. Each week, the groups will give informal presentations updating the class on their projects and getting feedback from the instructor and other students. ***While the instructor will actively participate in these discussions, it is the responsibility of the students to organize and lead the discussions.*** Throughout the semester, there will be several formal assignments, some completed individually and some completed as a group.

A tentative course schedule with deadlines is available on the last two pages of this syllabus.

Students will be assessed based on the following:

- **Journal Article Presentation/Discussion** (10% of final grade) – completed in groups
- **Referee Report** (10% of final grade) – completed individually
- **Individual Written Report** (25% of final grade) – completed individually
- **Oral Presentation** (20% of final grade) – completed in groups
- **Poster Presentation** (10% of final grade) – completed in groups
- **Participation** (25% of final grade)
Participation in this course includes being actively engaged with the group projects both within and outside class. In addition, regular class attendance and participation in discussions is required. In order to participate fully in class discussions, reading and other assignments will be distributed regularly.

Some Expectations

- Be actively engaged in class discussions and participate regularly. Come to class prepared. Arrive early if you need to set up a laptop to present.
- Be creative and resourceful. Be a team player in your group and in the class.
- Create professional products (graphs, tables, documents, presentations). Use LaTeX for all documents and presentations.
- Document and archive your work. Keep all course materials on the course Box folder.

Special Accommodations

If you need any accommodations based on the impact of a documented disability contact the instructors privately to discuss your specific needs. You should also contact the Office of Disability Services to coordinate special accommodations.

Academic Misconduct

Academic misconduct *will not be tolerated* and will be dealt with procedurally in accordance with university policy. Please see the Committee on Academic Misconducts website for details: <http://oaa.osu.edu/coam.html>

Class Schedule

WEEK	DATE		ACTIVITY
1	Wed Aug 27	Calder	Course overview
	Fri Aug 29	Calder	Statistics journals + applied statistics papers
2	Mon Sep 1	Labor Day	NO CLASS
	Wed Sep 3	Group 1	Paper #1 presentation
	Fri Sep 5	All	Paper #1 discussion
3	Mon Sep 8	All	Paper #1 discussion cont. + Paper #2 presentation
	Wed Sep 10	Group 2	Paper #2 presentation
	Fri Sep 12	---	NO CLASS
4	Mon Sep 15	All	Paper #2 discussion
	Wed Sep 17	Group 3	Paper #3 presentation
	Fri Sep 19	All	Paper #3 discussion
5	Mon Sep 22	Calder	Project A introduction
	Wed Sep 24	Calder	Project B introduction + Referee report due
	Fri Sep 26	All	Referee report discussion
6	Mon Sep 29	All	Group meetings
	Wed Oct 1	Group A	Informal presentation
	Fri Oct 3	Group B	Informal presentation
7	Mon Oct 6	All	Group meetings
	Wed Oct 8	Group A	Informal presentation
	Fri Oct 10	Group B	Informal presentation
8	Mon Oct 13	All	Group meetings
	Wed Oct 15	Group A	Informal presentation
	Fri Oct 17	Group B	Informal presentation
9	Mon Oct 20	All	Group meetings
	Wed Oct 22	Group A	Informal presentation
	Fri Oct 24	Group B	Informal presentation
10	Mon Oct 27	All	Group meetings
	Wed Oct 29	Group A	Informal presentation
	Fri Oct 31	Group B	Informal presentation
11	Mon Nov 3	All	Draft individual reports due + group meetings
	Wed Nov 5	Group A	Individual reports discussion
	Fri Nov 7	Group B	Individual reports discussion
12	Mon Nov 10	All	Final individual reports due + Group meeting
	Wed Nov 12	Group A	Informal presentation
	Fri Nov 14	Group B	Informal presentation
13	Mon Nov 17	All	Group meetings
	Wed Nov 19	Group A	Informal presentation

	Fri Nov 21	Group B	Informal presentation
14	Mon Nov 24	All	Draft presentation due + feedback
	Wed Nov 26	Thanksgiving	NO CLASS
	Fri Nov 28	Thanksgiving	NO CLASS
15	Mon Dec 1	Group A	Final oral presentation
	Wed Dec 3	Group B	Final oral presentation
	Fri Dec 5	All	Poster preparation
16	Mon Dec 8	All	Poster drafts due + feedback
	Wed Dec 10	All	Posters due + class viewing