

Syllabus
STAT 549, Applied Sampling
Fall 2016, MWF 1:00-1:50pm in Math 305

Course Information:

- **Instructor:** Jon Graham, Math 204, 243-2561, jgraham@mso.umt.edu.
- **Textbook:** Sampling, 3rd ed. By Steven Thompson (2nd ed. OK)
- **Office Hours:** To be announced, By appointment
- **Course Webpage:** Accessed through Moodle
- **Grading:** Homework: 30% Exams 1,2: 40% Final Project: 30%
- **Prerequisites:** One year of statistical methods or consent of instructor

Homework

Homework will be assigned approximately every two weeks. The intent is that you will work on homework assignments throughout the period they are assigned. **NO LATE HOMEWORK WILL BE ACCEPTED FOR ANY REASON**, and the lowest homework grade will be dropped. Homework is not only a fairly substantial portion of your grade, but is vital to your success in this class. Working with other students on homework is encouraged, as long as you hand in your own work, and do not simply copy someone else's work. Solutions to all problems will be provided.

Exams

The 1st exam will be cumulative and closed book. The 2nd exam may be closed book or an open-note take-home exam, to be decided later. More about the exams, including the exact dates will be given later. If you cannot make it to an exam, you must let me know **BEFORE** the exam is given.

Final Project

The **final project** consists of both a written and oral component. The oral presentations (likely given in a poster session) will be made during the final exam time slot (1:10-3:10pm, Friday, 12/16), and the written portion reports are due at the time of the poster session on December 16. The projects should be of one of the following types:

1. Presentation and an application (carried out by you) of a sampling methodology which has not been discussed in class. A good source of papers discussing new sampling techniques particularly in biology, is the journal *Biometrics*.
2. Development of a sampling design for a project (e.g.: thesis) which you will be carrying out. You must be very specific and have enough information to develop an effective design.

3. Evaluation of a sampling method or comparison of two or more sampling methods in a small-scale field test to see how theory translates into reality. This will involve several replications of each method.

Course Material and Objectives

This course provides both the theory and application of methodology for selecting samples from populations to efficiently estimate parameters of interest. Some sampling methods covered are simple random, systematic, cluster, stratified, multistage, line transect, distance, adaptive, and spatial sampling. The focus of the course will be jointly on the application of these sampling techniques and the theory governing them. The software package **R** will be used throughout the course both in class and on homework assignments. Questions are strongly encouraged, both during class and at office hours. If you are lost and confused, please let me know.

Important Dates

Monday, September 5: Labor Day holiday

Wednesday, September 7: last day to add courses by Cyberbear.

Monday, September 19: Last day to drop courses/change grading option in Cyberbear.

Monday, October 31: Last day to drop courses. Paper form must be signed by advisor & instructor. A W will appear on your transcript. Dean's signature required after this date.

Tuesday, November 8: Election Day holiday

Friday, November 11: Veterans' Day holiday

Wednesday - Friday, November 23-25: Thanksgiving holiday

Monday, December 12: Last day of class. Last day to change grading option (letter grade to CR/NCR or vice-versa). Requires paper form signed by advisor and instructor.

Disability Services

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommasson 154. We will work with you and DSS to provide an appropriate accommodation.

Academic Honesty

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary action by the University. All students need to be familiar with the Student Conduct Code. You can find it in the A-Z index on the UM home page.