



Stat 6910 (Autumn 2019): Applied Statistics I

Lecturer

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Office hours in 427 Cockins Hall: Monday 11-noon, Thu 1.30-2.30pm, or by appointment.

Grader

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Lectures

Tue and Thu, 9.35–11.25 am in [Cockins Hall \(CH\) 240](#)

There are no classes on Thu Oct 10 and Thu Nov 28.

Please download notes from the class website at <https://osu.instructure.com/courses/60597/>

Lectures may not be recorded.

Class Attendance Policy

You are expected to attend all lectures.

Course Description

Statistics 6910 is a course on applied statistics. It will quickly cover material on descriptive statistics and on the basic techniques of inference (hypothesis tests and confidence intervals), including techniques appropriate for samples from normal distributions, techniques based on randomization theory, and techniques for simple, tabular data. Following the introductory material, we will move on to experimental design. We will cover the basic principles of design and the techniques used to analyze experiments that follow standard experimental designs. Specific designs to be covered include one-way analysis of variance (ANOVA), two-and-higher-way ANOVA, factorial designs, mixed effect models, and block designs.

Upon successful completion of the course, students will be able to:

1. Grasp the basics of descriptive and inferential statistics from an applied perspective;
2. Appreciate the importance of the assumptions that the models are based on;
3. Make sound decisions for an analysis;
4. Understand and use appropriate statistical notation and terminology;
5. Implement formal techniques flawlessly;
6. Summarize an analysis appropriately.

Prerequisites: Statistics 6801 (may be taken concurrently), or permission of instructor.

Textbook

A. M. Dean, D. Voss, and D. Draguljic (2017),

Design and Analysis of Experiments, 2nd Edition, Springer, NY.

Download the eBook from

<https://link-springer-com.proxy.lib.ohio-state.edu/book/10.1007%2F978-3-319-52250-0>

Errata and datasets available from <http://www.wright.edu/~dan.voss/DeanVossDraguljic.html>

I will highlight other useful references as the course progresses.

Computing

This class requires you to use the statistical software packages R and RStudio.

More details will be given in class and on the class web site.

Evaluation

Homework	Midterm 1	Midterm 2	Final exam
15%	25%	25%	35%

Grades will be recorded on [Carmen](#)

Homework will be due at the **beginning** of class on the day it is due. **No** late homework will be accepted. You are encouraged to work together on the homework, but **do not** copy any part of a homework. Each student must produce his/her own homework to be handed in. Electronic submissions are **not** permitted. Feel free to ask me for help after you have made an attempt of the questions. The grader for the course does not have the time to provide detailed explanations on each question that is graded. To make up for this, I will endeavor to make homework solutions detailed enough to allow you to understand how the question could be approached.

Homework preparation rules: Put your name and the homework assignment number on the top right-hand corner of every page. All homework must be submitted on letter format paper. Staple the pages together. We are not responsible for lost pages. Submit the problems in order, making sure that the computer output and discussion is placed together (do not put the computer output at the end of homework). Raw computer output is not acceptable. Make it clear what parts of the output are relevant and show how they answer the questions posed in the homework.

Exams: There will be **two midterms** and **one final exam**:

Midterm 1	Thu Sep 26	in class
Midterm 2	Thu Oct 31	in class
Final	Fri Dec 6	8.00–9.45 am

All exams are closed book/closed notes. There will be **no make-up** exams.

A basic calculator is allowed – tablets, laptops, cellphones, and other communication devices are not.

The first midterm covers the material up to and including Tue Sep 24.

The second midterm covers the material up to and including Tue Oct 29.

The final will cover all the material for the course.

Academic misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct (<http://studentaffairs.osu.edu/csc/>).

Disability Statement

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.osu.edu/>.

Disclaimer

This syllabus should be taken as a fairly reliable guide for the course content. However, you cannot claim any rights from it and in particular I reserve the right to change due dates or the methods of assessment. Official announcements will ALWAYS be those made in class.