

Professor: Dr. Thomas Fisher

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Office Hours: MW 11:00-11:30 & 2:00-3:00 (after class)
TuTh 10:30-11:30 and by appointment

Personal Website: <http://www.users.miamioh.edu/fishert4/>
and *Nihka* site

Class Materials: Notes. Occasionally your textbook, calculator or laptop will be handy

Textbook: Mathematical Statistics with Applications, (Miami edition) by Wackerly, Mendenhall, Scheaffer

References: [Introduction to Probability and Statistics Using R](#) (free pdf) by Kerns
[Foundations and Applications of Statistics: An Introduction Using R](#) by Pruim

Bulletin Description: A study of estimation and hypothesis testing including a development of related probability ideas. Topics include derivation of the distribution of functions of random variables, point estimation methods, properties of point estimators, derivation of confidence interval formulas, and derivation of test statistics and critical regions for testing hypotheses.

Topic Outline: Brief review of probability, methods of transformation, sampling distributions, point estimators and properties, interval estimation, methods of estimation and properties, hypothesis testing for means and variance, properties of hypothesis tests.

Exams: Two exams will be given in the class (each worth 15%) and a cumulative final exam (worth 20%). Tentative Dates:

Exam 1 - Wednesday, October 1

Exam 2 - Wednesday, November 12

Final - Monday, December 8, 12:45--2:45

Homework: Homework will be given throughout the semester and will count for a substantial part of your final grade (35%). I will give regularly graded homework assignments (at least once a week). A few of the assignments may require some light computation different from the computing assignments discussed below. You may and are encouraged to discuss homework problems with other students; however, the final work must be your own! Late homework will not be accepted.

Computing Assignments: Modern Probability and Statistics are performed using computer software. As such, 5 smaller dedicated computer lab assignments (each worth 2%) will be given during the semester that will complement the material in class (and your intro stats class) and prepare you for a computing project towards the end of the class (worth 5%). The small project will attempt to connect the material from the class to a real-world setting.

Attendance: The pace of this class is such that it will not be advisable to miss any sessions. If you know you will be absent, please inform me in advance. When you are absent, it will be your responsibility to contact another student for the notes and announcements. While attendance does not factor into your grade, I may take

attendance for my own records. You are expected to be an active participant for the entire 55-minute class. Indications that this is not happening include sleeping, surfing the web or instant messaging on your laptop, text-messaging on your cell-phone, studying for another class, etc. Please turn your cell phone to silent before class. Students are expected to wait quietly for 15 minutes after class is scheduled to begin. If I have not yet appeared the students are free to leave.

Letters of Accommodation: If you have a letter stating specific testing accommodations to which you are entitled, please come by my office to discuss the accommodations that you will need and to give me a copy of the letter. Even if you do not anticipate using any accommodations, it is a good idea to turn in the letter as soon as possible. Please note that unless I have at least one week's notice I will be unable to provide any accommodation on an exam

Prerequisites: [STA 401/501](#) and [Calculus III](#)

Student Code of Conduct: Any violations of Academic Integrity within the Student Handbook will not be tolerated. This includes cheating, plagiarism, storing information in a calculator, sabotage of another's work and disrupting class. See the [Handbook](#) for a complete listing of the student code of conduct. All violations will be handled in accordance with established procedures and policies concerning student academic responsibility. See the [Bulletin](#) for additional details:

<http://miamioh.edu/academics/bulletin/>

<http://www.miamioh.edu/handbook>

Final Grades: At the conclusion of the semester, final grades will be compiled using:

Source	Amounts
Homework	35%
Computing	15%
Midterms	30%
Final Exam	20%
Total	100%

Grades will be assigned based on:

[98, 100)	A+	[92, 98)	A	[90, 92)	A-
[88, 90)	B+	[82, 88)	B	[80, 82)	B-
[78, 80)	C+	[72, 78)	C	[70, 72)	C-
[68, 70)	D+	[62, 68)	D	[60, 62)	D-
		[0, 60)	F		