

Introduction to Statistics and Biostatistics

Text: *Introduction to the Practice of Statistics* 8th edn., by D.S. Moore, G.P. McCabe, and B.A. Craig (W.H. Freeman, 2014).

Course Web Site: <http://math.arizona.edu/~piegorsch/263/MATH263.Spring16.html>

Instructor: Professor Walter Piegorsch, office: 241 Keating Bldg. (check in at Room 102); phone: 621-2357.

Office Hours: Tu 2:00 – 3:15 pm
Th 2:00 – 3:15 pm
or by appointment.

Attendance: Students are expected to attend class. If important circumstances prevent this, it is the student's responsibility to find out what was covered in class, what was assigned for reading or homework, and what special announcements (if any) were made. "Excessive absence" in this class will be construed to be absence from more than 10 percent of the scheduled class sessions, whether excused or unexcused, and will be subject to Administrative Drop as per University policies.

Grading:	Quiz 1	(during week of Feb. 9)	25 points
	Mid-Term Exam	Thursday, Mar. 10	100 points
	Quiz 2	(during week of Apr. 5)	25 points
	Homeworks (WebAssign points are translated proportionally)		150 points
	Final Exam (Comprehensive)		
		Wednesday, May 11 (1:00 pm – 3:00 pm)	100 points
	Total		400 points
	A = 360–400		
	B = 320–359		
	C = 280–319		
	D = 240–279		
	E = 0–234		

Homework: Required. Due as assigned. No exceptions. Conducted online via **WebAssign**. Instructions for WebAssign: To create an account for this class go to <http://webassign.net>, click on the **Log-In** button, then click on the **'I Have a Class Key'** button. Our Class Key is: **arizona 8708 8439**

Make-Up Exams: Not available unless due to a medical emergency. Documentation from a registered M.D. must be provided.

The regulations in the **Student Code of Conduct** and **Code of Academic Integrity** prohibit all forms of student academic dishonesty, including but not limited to cheating, fabrication, and plagiarism. Violations can result in serious penalties, including expulsion from the University. Students should turn off all electronic devices during class unless prior arrangements are made with the instructor. This includes, but is not limited to cell phones, tablets, recording devices of *any kind*, mp3 players, PDAs, and computers. Information on these Codes is available at <http://deanofstudents.arizona.edu/codeofacademicintegrity> and <http://deanofstudents.arizona.edu/policiesandcodes/studentcodeofconduct/>. It is assumed that all students are familiar with and will abide by these Codes.

Note: the Student Code of Conduct (5-308.F.11) dictates that no person or organization may interfere with University-sponsored classroom activities. This policy will be enforced as necessary.

GENERAL ADVICE:

- Read the sections of the text to be covered prior to the class session.
- Attend class regularly. Arrive on time.
- Ask questions if you don't understand an issue. (See me after class if time is short.)
- Attempt to do all assigned homework. (Come to Office Hours if encountering difficulty.)

Course Syllabus for MATH 263

December 2015

Description:	Introduction to Statistics and Biostatistics (3 units) – Organizing data, measures of center and spread, scatterplots, nonlinear models and transformations, correlation, regression. Design of experiments: models from probability, discrete and continuous random variables, normal distributions, sampling distributions, the central limit theorem. Statistical inference; confidence intervals and test of significance, t procedures, inference for count data, two-way tables and chi-square procedures, inference for regression, analysis of variance.
Prerequisite(s):	Appropriate Math Placement Level or Proctored/Prep for College Algebra 88+ or Proctored/Prep for Calculus 65+, or MATH 109C, 110, 112, 113, 116, 120R, 122B, 124, 125 or 129.
Current Textbook:	Moore, D.S., McCabe, G.P., and Craig, B.A. (2014). <i>Introduction to the Practice of Statistics</i> , 8th edn. New York: W. H. Freeman & Co.

Topics:	Book Sections
Data Summary, Data Visualization	1.1 – 1.3
Density Curves, The Normal Distribution	1.4
Scatterplots, Regression, Correlation	2.1 – 2.5, 2.7
Experimental Design, Sampling Design	3.1 – 3.3
Probability, Conditional Probability, Random Variables, Population Mean and Variance	4.1 – 4.5
Sampling Distributions, Concepts of Statistical Inference	3.4, 5.1 – 5.2
Confidence Intervals	6.1
Tests of Significance	6.2
One-Sample Inferences on Means	7.1
Two-Sample Inferences on Means	7.2
One-Sample Inferences on Proportions	8.1
Two-Sample Inferences on Proportions	8.2
R×C tables, χ^2 Tests	9.1
Inferences in Regression	10.1
Multi-Sample Inferences/ANOVA	12.1 – 12.2