

Syllabus for Math 240B
Introduction to Statistics
Edmonds Community College
Spring 2008 • 5 credits

Meets: MTWThF 10:30a–11:20a, SQL 202

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About This Course: It is expected that you will read this syllabus thoroughly, refer to it throughout the quarter, and ask about anything that is not clear; any changes will be announced in class. Math 240 is an introduction to statistical methods and applications, including: organization and graphical representation of data, regression and correlation, sampling methods, probability, confidence intervals and hypothesis testing. A complete list of course objectives may be found at: <http://tinyurl.com/38jfg2>

Prerequisite: The prerequisite for Math 240 is a 2.0 (or better) in EdCC Math 90 (Intermediate Algebra). You may also satisfy the prerequisite by: receiving a 2.0 or better in a college-level math course (at or above the level of EdCC Math 131); receiving a 2.0 or better in an Intermediate Algebra course (equivalent to EdCC Math 90) at another local community college (e.g. Shoreline, Everett or Bellevue); or placing into Math 240 via the Accuplacer placement test. Please note that Accuplacer results are valid for two years; grades in previous math courses are valid for placement purposes for five years. High school transcripts are not accepted for placement purposes.

I will ask to speak with any student about whom I lack information regarding their prerequisite status; those students must demonstrate that they have satisfied the prerequisite for the course by the third lecture (Wednesday, April 9) or they will be automatically dropped from the course. E-mail me or talk to me after class right away if you have concerns about your prerequisite status, but please be aware that I am not permitted to make exceptions to the EdCC prerequisite policy for this course.

While Math 90 is the only official prerequisite, you will need to be able to read and write at the college level in order to do well in this course; thus, **placement into English 105 is strongly recommended.**

Text: We will use the second edition of *Intro Stats* by Richard D. De Veaux, Paul F. Velleman and David E. Bock. We will study the entire text (all 27 chapters), although one chapter will be optional and we will not cover the two additional chapters on the CD that comes with the textbook. This is the only required textbook for this course.

Each book comes with a CD that includes an interactive tutorial program called ActivStats, a statistical analysis program called Data Desk, and data sets from the textbook; please check that you have the CD and the ActivStats access code that comes with the CD (which should be on a small slip of paper in the envelope containing the CD). If you do not, return your book to the bookstore and exchange it for one that does, or contact me right away.

A *Student's Solutions Manual* by William B. Craine III is sold in the bookstore; many students find it useful, but it is not required. Copies of the solutions manual, as well as a *TI-83/84 Plus and TI-89 Manual* by Patricia Humphrey, are on reserve in the EdCC Library and the EdCC Tutoring Center.

Calculator: A graphing calculator is required. Calculators will be allowed on all exams, but you must use your own calculator; you will not be allowed to share calculators during an exam. If you do not already have a graphing calculator, you should get one as soon as possible. The TI-83 (or TI-83 Plus or TI-84 Plus) is strongly recommended; other calculators are not as suitable for this course and will require much additional work on your part. Instruction in the use of the TI-83 and TI-84 calculators will be provided. A limited number of TI-83 calculators are available for rental (for a \$20 fee) through EdCC Student Programs; see me before or after class if you wish to rent a calculator.

Attendance: If you do not attend class by the third lecture (Wednesday, April 9) or contact me by phone or e-mail to let me know that you cannot do so, you will be automatically dropped from the course for non-attendance.

Resources: For most chapters I will post a document on my Web site that contains additional notes about the material in the chapter, instructions for using technology (usually the TI-84 and Data Desk), assigned HW exercises, textbook errata, recommended ActivStats lessons and useful Web links.

Homework: It is expected that you will attempt to solve all assigned problems, and ask questions in class or during office hours about problems you do not completely understand. You may choose to do unassigned problems as well—and in fact are encouraged to do so. Assigned HW exercises will not be turned in for credit.

Activities: Two or three times a week, a “Class Activity” (CA) will be assigned. These CAs may take the form of an in-class quiz, an in-class worksheet, a take-home quiz, or some combination of these. In order to receive credit, you must be present for any in-class work and must turn in any take-home work by the deadline (usually the beginning of the next lecture). Each CA is worth 5 points; your top 20 scores will be used to compute your course grade, for a possible total of 100 points.

Project: A course project will be assigned during the last two weeks of the quarter and is due by the time of the final exam. The project is worth 50 points and will replace your lowest midterm score. If you are satisfied with your midterm scores, then you need not submit a project (although I encourage you to do so, as it should help you prepare for the final exam).

Exams: There will be four midterm exams during the quarter. The first (on Friday, April 18) will cover material from Chapters 1-6; the second (on Wednesday, April 30) will cover material from Chapters 7-13; the third (on Friday, May 23) will cover material from Chapters 14-21; and the fourth (on Friday, June 6) will cover material from Chapters 22-25. Each midterm is worth 50 points.

The final exam (on Friday, June 20, 9:30a–11:30a) will be comprehensive but will concentrate on material from the latter part of the course (including Chapters 26 and 27). The final exam will be worth 100 points.

You will be allowed to use a page of notes (8.5" × 11" hand-written, both sides) for each exam, as well as your own graphing calculator (no sharing during exams). Make-up exams will not be given.

Grading: A total of 400 points are possible. If you receive 95% or more of the possible points, your grade will be 4.0; if you receive 70%, your grade will be 2.0; if you receive 54%, your grade will be 0.7; if you receive 53% or less of the possible points, your grade will be 0.0. Grades between 0.7 and 4.0 will be assigned using a linear scale (e.g. 82.5% will correspond to a 3.0).

The V (instructor-initiated withdrawal) and I (incomplete) grades are given only in cases of extreme hardship and only when satisfactory progress is maintained up until the withdrawal deadline (Tuesday, May 27) and an unforeseen hardship befalls the student between that date and the final. If you are not passing the class as of May 27, I cannot assign a V or I grade; even if you are passing the class, it is extremely unlikely that I will be able to assign you a V or I grade. It is your responsibility to withdraw by May 27 if you do not wish to receive a numerical grade for the course. Please contact me at any time if you have any concerns about your grade.

Academic Dishonesty: Unless otherwise specified, you are required to do your own work on all activities, exams and projects, and follow the exam policies outlined above. Any student found to be cheating will be reported to the Senior Associate Dean for Student Success and Retention, and appropriate measures will be taken, which may include assigning a grade of 0.0 to the offending student.

Support First and foremost, I encourage you to ask questions in class and during office hours. The Learning Support Center provides free drop-in tutoring in MUK 113 on the EdCC campus. Their hours of operation for Spring Quarter are: MTh 8:30a-4:00p, TW 8:30a-6:00p and F 8:30a-12:30p. Contact them (tutoring@edcc.edu or 425-640-1750) or drop by to find out when Statistics tutors will be available.

Disability Accommodations: If you require an accommodation for a disability, please contact Services for Students with Disabilities (425-640-1320, ssdmail@edcc.edu).

Emergency Closure: In case of inclement weather, visit <http://schoolreport.org> or call 425-640-1459.

Disclaimer: The information in this document is subject to change; changes will be announced in class. John Williams has received 45 Academy Award nominations, more than any other living person. The preceding sentence has been included to determine if you actually read the entire syllabus; remember it and you will be rewarded.

How to Do Well in This Course

Read the book. You spent \$112 plus tax if you purchased a new textbook, so why shouldn't you get your money's worth? The *Intro Stats* text was chosen because it is very readable and it is expected that you will read all of it.

Set aside enough time for this class. This class will take a lot of time, perhaps more than any other math class you have taken previously. Make sure you have enough time built into your schedule to read the book, work HW problems and attend class. If you are working 40 hours a week, taking four classes and coaching soccer on the weekends, now isn't the best time for you to take this course.

Keep on schedule. Do the best you can to keep up with the rest of the class. There's a lot of material to cover and each topic builds on the ones that preceded it; it's not possible to cram right before an exam and do well.

Do the homework. I know, there are quite a few assigned problems. Do I really expect you to do them all? Yes! The only way to learn Statistics is to do Statistics. Do I expect that you will be able to do all of the problems perfectly on your first try? Of course not, but how will you know which questions to ask if you don't do the HW?

Ask questions. In class, during office hours, at the Learning Support Center, in study groups...but most importantly, of yourself as you read the text and work the problems.

Lecture Schedule

We will try to stick close to the schedule below, but it is subject to change.

week	1	2	3	4	5	6	7	8	9	10	11
M	1,2	5,6	7	12,13	14,15	16	20	NC	24	26	R
T	3	6	8	R	15	17	20	22	24	26	NC
W	3	6	8	E	16	17,18	21	22,18	25	27	NC
Th	4	R	9,10	14	16	19	R	23	R	27	NC
F	5	E	11	NC	NC	19	E	23	E	R	E

Key: NC = no class, R = review, E = exam

Assigned HW Exercises

The exercises listed below represent the *minimum* that you should work in order to learn the material.

Ch	exercises	Ch	exercises
2	3, 9, 21, 25	15	3, 7, 9, 11, 13, 19, 23, 27, 29, 33, 39, 41, 43
3	7, 19, 21, 23, 31	16	1, 3, 9, 11, 15, 21, 23, 25, 29, 33, 35
4	5, 7, 9, 13, 15, 17, 23, 25, 27, 29	17	1-17odd, 25, 27, 33
5	11, 15, 21, 25, 27, 29, 33, 39, 45	18	1, 3, 5, 7, 11, 13, 17; 25, 27, 35, 37, 39
6	1, 3, 5, 9, 11, 13, 19, 21, 29, 31, 33, 35, 37, 41, 43	19	3, 5, 7, 13, 17, 19, 25, 27, 31, 33
7	5, 11, 13, 17, 19, 21	20	1, 3, 7, 11, 15, 19, 23, 27
8	3, 7, 9, 11, 13, 15, 17, 19, 23, 31, 33, 35, 37, 41	21	1, 3, 9, 13, 15, 19, 21, 23, 25
9	1, 3, 5, 7, 9, 11, 13, 15, 23, 27	22	1, 5, 9, 11, 13, 17, 23, 29
10	9, 21, 25	23	1, 5, 9, 11, 13, 15, 17, 21, 23, 27, 33, 35
11	5, 11, 19, 33	24	1, 3, 7, 9, 13, 15, 17, 25, 29
12	3, 9, 15, 21, 23, 27	25	5, 9, 13, 17, 21, 23, 25
13	3, 9, 11, 19, 25, 33, 37	26	1, 3, 5, 11, 17, 19, 21, 23
14	7-33 odd	27	1, 9, 11, 13, 15, 17, 25, 27

Chicken Data

The following article appeared in the December 5, 2006 issue of *USA Today*; it refers to an article (“Dirty Birds,” <http://tinyurl.com/36hdx>) published in the January 2007 issue of *Consumer Reports*.

Bacteria found in 83% of chickens

Updated 12/5/2006 7:21 AM ET

By Elizabeth Weise, *USA Today*

Cook your chicken to 165 degrees and wash up with soap and hot water afterward. That’s the take-home message of a report released Monday by *Consumer Reports*. It found that 83% of 525 chickens it tested were infected with either campylobacter or salmonella bacteria or both.

The chickens were purchased from supermarkets, bulk retailers, gourmet shops and natural food stores in 23 states. Both bacteria can cause diarrhea, cramping, fever, nausea and vomiting, and life-threatening infections in the elderly, babies and people with impaired immune systems.

Government agencies must act if consumers are to trust the chicken supply, says Geoffrey Martin, the magazine’s director of consumer science.

Those figures are “greatly exaggerated,” counters Richard Lobb of the National Chicken Council. And Richard Raymond of the U.S. Department of Agriculture notes that the number of chickens tested was very small. “That’s 500 samples out of 9 billion chickens slaughtered a year,” he says.

The report’s salmonella rate was 15%. That’s in line with USDA figures showing a 16.3% rate in 2005, Raymond says.

But *Consumer Reports* found campylobacter in a whopping 81% of the chickens it tested, up from 42% in a 2003 test. USDA does not yet test for the bacteria, although Raymond says it is researching a testing protocol.

Federal regulation is “beyond overdue,” says Jean Halloran of the Consumers Union, which publishes the magazine. “They may criticize our testing methodology but they’re not doing any testing at all.”

Earlier studies have yielded very different findings. A 2005 study by the USDA and National Chicken Council found only 26% of 4,200 broiler carcasses tested were infected with the bacteria. A 2004 study by the Food and Drug Administration found campylobacter in 60% of chicken breasts. Each used different scientific methods.

The Centers for Disease Control and Prevention estimates that campylobacter and salmonella from all sources sickens more than 3.4 million Americans each year and kills more than 700. But rates of the campylobacteriosis infection are down 30% since 1998, the CDC says, to 12.6 infections per 100,000 people.

Campylobacter is easily destroyed, the CDC’s Robert Tauxe says. Soap, hot water, cooking or freezing kills it readily. “You leave salmonella out overnight on the counter and it grows. You leave campylobacter out and it dies.”

House Data

Data about single-family residences on a street in Edmonds was obtained from the Web site of the Snohomish County Assessor on October 3, 2006, including the house number, size (in square feet), 2007 assessed value (in thousands of dollars), 2006 taxes (in dollars) and number of stories for each house.

house	size	assess	taxes	stories	house	size	assess	taxes	stories
20911	1561	304.0	2604	1	21003	1095	279.0	2321	1
20912	1038	297.6	280	1	21006	2011	319.5	2663	2
20918	1224	289.5	2353	1	21015	1366	289.3	2415	1
20921	1232	292.8	756	1	21018	1292	301.4	2477	1
20924	1995	314.6	2620	2	21023	1458	314.3	1386	1
20927	1714	322.7	2632	1	21028	2031	320.9	2676	2
20930	1832	336.1	2779	2	21105	1366	304.0	2473	1

Textbook Data

The following information about 14 popular statistics textbooks was retrieved on April 3, 2008 from Amazon.com: author, title, edition, ISBN, number of pages, weight (in pounds) and list price (in dollars).

author	title	ed.	ISBN	pages	weight	price
De Veaux	<i>Intro Stats</i>	3	0321500458	864	4.4	129.33
Agresti	<i>Statistics: The Art and Science...</i>	2	0135131995	848	4.2	129.33
Triola	<i>Elementary Statistics</i>	10	0321331834	912	4.1	129.33
McClave	<i>Statistics</i>	11	0132069512	864	4.4	129.33
Moore	<i>Intro. to the Practice of Statistics</i>	6	1429216220	709	3.8	140.60
Moore	<i>Basic Practice of Statistics</i>	4	071677478X	728	3.7	114.95
Freund	<i>Modern Elementary Statistics</i>	12	013187439X	576	2.2	128.00
Bluman	<i>Elementary Statistics</i>	6	007330543X	799	4.0	131.25
Utts	<i>Mind on Statistics</i>	3	053499864X	800	3.5	128.95
Johnson	<i>Elementary Statistics</i>	10	0495017639	832	3.9	132.95
Freedman	<i>Statistics</i>	4	0393929728	578	2.9	106.95
Mendenhall	<i>Intro. to Probability and Statistics</i>	13	0495389536	768	3.4	146.95
Larson	<i>Elementary Statistics</i>	4	0495389536	792	4.2	120.67
Sullivan	<i>Statistics: Informed Decisions Using Data</i>	2	0131871498	928	4.7	128.00