Syllabus for: Elementary Statistics

Semester & Year:	Spring 2013
Course ID and Section Number:	MATH 15 V2705
Number of Credits/Units:	4
Day/Time: **Location:**	T-TH 6:05-7:35 PM Online via CCC-Confer
Instructor's Name:	Michael Butler
Contact Information:	Office location and hours: PS119a T-TH 5:30-6:05 Phone: 476-4234 Email: Michael-butler@redwoods.edu

Course Description:

The study of statistical methods as applied to descriptive statistics and inferential statistics. An emphasis on the meaning and use of statistical significance will be central to the course. Students will use frequency distributions, graphs, measures of relative standing, measures of central tendency, measures of variability, correlation, and linear regression to explore descriptive statistics. Students will use the laws of probability and statistical tests (t-tests, chi-square, ANOVA, and regression analysis) to make decisions via hypothesis testing and estimate parameters using confidence intervals.

Student Learning Outcomes:

1. Accurately communicate statistical ideas using correct statistical notation, graphs, and vocabulary.
2. Use descriptive and inferential statistics to solve real-world problems.
3. Demonstrate appropriate use of technology in making decisions based upon real-world data.
4. Read and interpret information that contains statistical analysis and be able to communicate these results.
5. Judge the validity of research reported in the mass media and peer reviewed journals.

Special accommodations: College of the Redwoods complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request at least one week before the first test so that necessary arrangements can be made. No last-minute arrangements or post-test adjustments will be made. If you have a disability or believe you might benefit from disability related services and may need accommodations, please see me or contact Disabled Students Programs and Services. Students may make requests for alternative media by contacting DSPS.

Academic Misconduct: Cheating, plagiarism, collusion, abuse of resource materials, computer misuse, fabrication or falsification, multiple submissions, complicity in academic misconduct, and/ or bearing false witness will not be tolerated. Violations will be dealt with according to the procedures and sanctions proscribed by the College of the Redwoods. Students caught plagiarizing or cheating on exams will receive an "F" in the course.

The student code of conduct is available on the College of the Redwoods website at:

http://redwoods.edu/District/Board/New/Chapter5/AP%205500%20Conduct%20Code%20final%2002-07-2012.pdf

Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the college catalog and on the College of the Redwoods homepage.

College of the Redwoods is committed to equal opportunity in employment, admission to the college, and in the conduct of all of its programs and activities.

MATHEMATICS 15 ONLINE: ELEMENTARY STATISTICS, Spring 2013
INSTRUCTOR: Michael Butler
Office: PS 119A Eureka Campus
Voice: 476-4234 (message only)
email: michael-butler@redwoods.edu or use the Mailtool in MyCR

WEBSITE: MyCR

ONLINE COURSE MEETINGS: The course meets twice a week via CCC-Confer. You need to make sure your browser is setup to access this required part of the class by first going to the CCC-Confer Support page. The online class sessions will be on Tuesday and Thursday Evenings from 6:05-7:35 PM. Additional hours can be scheduled based on demand. See the Course Meetings link in MyCR for more information.

TEXT: Interactive Statistics 3ed. **Authors:** Aliaga/Gunderson ISBN: 0-13-149756-1 (you can find it used on the web for a reasonable price)

OBJECTIVE: This is an introductory course to the science of statistics. Statistics is all about making sense out of data. At the most basic level statistics is how to organize data. At the other end of the spectrum is inferential statistics where you make decisions/inferences based upon the data. There are two primary goals for this course: (1) properly collect and analyze a set of data, (2) critically exam statistical information (presented in the media/journals) and decide if the conclusions are valid. **Official Course Description:** The study of statistical methods as applied to descriptive statistics and inferential statistics. An emphasis on the meaning and use of statistical significance will be central to the course. Students will use frequency distributions, graphs, measures of relative standing, measures of central tendency, measures of variability, correlation, and linear regression to explore descriptive statistics. Students will use the laws of probability and statistical tests (t-tests, chi-square, ANOVA, and regression analysis) to make decisions via hypothesis testing and estimate parameters using confidence intervals.
Students will:
1. Accurately communicate statistical ideas using correct statistical notation, graphs, and vocabulary;
2. Use descriptive and inferential statistics to solve real-world problems;
3. Demonstrate appropriate use of technology in making decisions based upon real world data;
4. Read and interpret information that contains statistical analysis and be able to communicate these results;
5. Judge the validity of research reported in the mass media and peer reviewed journals.

MATERIALS: Besides the mentioned text, you will need to obtain the following for this class:
a) A TI-83+ or TI-84 graphing calculator (required)
b) A computer with access to the Internet, high-speed strongly recommended. The ability to watch video delivered from the Internet is a necessary part of course. You will need to be proficient with a computer and how to use the Internet.
c) An email account.
d) A word processing program such as Microsoft Word.
e) Some form of graphing software. R is one option. There are links posted in MyCR for others. The TI-84 will also work just fine if you use the USB cable and TI Connect software.
f) A composition book to keep cumulative course notes in.

CLASSROOM ENVIRONMENT: It is expected that everyone involved in this class, teachers and students alike, will act in a manner conducive to providing a comfortable environment for learning, a place where students feel free to ask and answer questions without fear of embarrassment or ridicule. It is important to stay on task. Hence, posts to MyCR that do not pertain to the subject at hand will be removed. If you have an issue with another student's posts, please direct those concerns to me. It is essential for student success to maintain a good environment in our virtual classroom. If you have any difficulties with the learning environment, please visit me in office hours or send an email with your phone number with a time to contact you. The official **Student Code of Conduct (AP5500)** can be read at: http://www.redwoods.edu/District/Board/New/Chapter5/Ap5500.pdf
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VIDEO LECTURES: There are a series of short videos that you are to access via MyCR. The videos are an essential part of the course and you are expected to watch them. The suggested method is: (1) read the text until you reach an assigned Let's Do It (LDI) problem. At this point, refer to MyCR and select the correct video that covers the material you are about to work on. Watch the video and work through the Let's Do It problem. There are supplemental videos that cover key concepts that you should also watch. The videos are laid out in order and if you watch them in sequence, you'll be good to go. I also take requests. If there are examples or problems from the text you would like to see worked, post a request to MyCR (and send a follow-up email) and I'll get a video response posted as soon as possible (usually within 48 hours).

ONLINE COURSE MEETINGS: There will be two online class sessions per week using CCC-Confer. These sessions are invaluable in your quest to understand statistics. If you have to miss a class session, there will be an archive posted on the CCC-Confer website that you can watch at a later time. I strongly encourage you to attend all online class sessions; it can make the difference between a passing grade and an unacceptable one. To incentivize these class sessions, a short quiz will be included as part of the evenings festivities. There will be no make ups offered for these quizzes. If your schedule doesn't allow you to attend these class sessions, then you are in the wrong class.

HOMEWORK: The Course Schedule (which includes the due dates for the homework) can be found on MyCR. It is preferred that you type your homework and submit your file as either a "rtf" (Rich Text Format) file or a pdf. You can also do your homework using paper and erasable pen (neatly!) and scan it in to submit to MyCR as a jpeg or a pdf. You are allowed to drop your lowest homework score from your final grade calculation. Homework is an essential part of this course and if you want to succeed, you need to make a commitment now to staying up with the homework. Please always put your name and assignment number on each assignment. There will be a fair amount of graphing in this course. You have the option of either doing your graphs with R or other software (some free software is available from the course site) or on graph paper using a straight edge. If you chose to do graphs by hand on graph paper, you may scan your homework and submit it to MyCR. All homework will be submitted through MyCR.

WRITING ASSIGNMENTS:: There will be writing assignments assigned during the semester. Some of these assignments will ask you to read and evaluate (from a statistical point of view) an article from the mass media that references a peer-reviewed study (that used statistics). Some will ask you to read and analyze a peer reviewd journal article. You will also be asked to analyze a set of data and present it in the format of a research document. The material from these assignments will come from currently published works.

QUIZZES/ACTIVITIES: There will be a short quiz at each class session that will come from the homework that has been assigned. The quizzes will generally be five questions and should be pretty easy if you have been staying up with the homework. No make up quizzes are allowed without prior arrangements.

ATTENDANCE: Mathematics Department Policy Regarding "Faculty Withdrawal" of Students after Census Day: A student who is absent from class for the amount of time equal to two weeks of classes, will be withdrawn from the course, unless there are extenuating circumstances that are communicated to the instructor in a timely manner. This "faculty withdrawal" can occur between Week 4 and Week 10 of the semester.

EXAMS: There will be two exams in this course that need to be proctored. You can take them at the CR testing site or arrange for an external proctor. If you cannot come to the CR testing site on the Eureka Main Campus, then you will need to submit the **External Proctor Request Form** **prior** to the first exam. Instructions and the "Proctor Request Form" can be found on the MyCR site under Course Documents. The Testing Center on the Eureka Main Campus will be open Mondays-Thursdays from 8am-5pm and closed on Fridays. If you need accommodations, be sure and call ahead and reserve a room. Please call the Academic Support Center at 707.476.4106 if you have any

sure and call ahead and reserve a room. Please call the Academic Support Center at 707.476.4106 if you have any questions. Contact Person: Tina Vaughan x4106. If you are going to use the CR testing facilities at the Fort Bragg or Crescent City campuses, you will need to contact the respective campus to make arrangements. Crescent City: 883 W. Washington Blvd Crescent City, CA 95531 707-464-7457, Fort Bragg: 1211 Del Mar Drive Fort Bragg, CA 95437 707-962-2600

COMPOSITION BOOK: You will be keeping a summary notebook during the course that you will find invaluable during the quizzes and exams. Please buy a comp book to keep summary notes in. No other style of book will be allowed without prior approval. The first 4 pages are your table of contents. You need to put page numbers in the book and keep track of the concepts that you are summarizing in the table of contents. No Xeroxed material is allowed in the book, everything in your book has to be in your handwriting. Again, you'll find this extremely helpful for the chapter quizzes and the exams. You are allowed to use the book on all quizzes and the two exams (midterm and final). Full details on how the comp book works can be found in Course Documents.

GRADE SYSTEM: Your final grade will be approximately determined as follows

Homework	200 points
Writing Assignments	150 points
Quizzes/Activities	200 points
Exams	200 points

I will be using the plus/minus grade system approved at CR. The break down is as follows

A	93-100%	C	**72**-76.9%
A-	90-92.9%	D	60-71.9%
B+	87-89.9%	F	0-59.9%
B	83-86.9%		
B-	80-82.9%		
C+	77-79.9%		

Please note that a C- is not an option. Hence you will need 72% to pass the course with a C.

MyCR: We will be doing most of our communication through MyCR. Knowing how to work your way around MyCR is an essential part of the course. One of your first tasks is to make sure that your email address is up to date in MyCR and that you are receiving emails from me.

HOW TO SUCCEED IN AN ONLINE COURSE: High motivation and time management skills are required to complete distant education courses. The day-to-day contact with teachers and other students is typically lacking. Distant students may be balancing many responsibilities including employment and raising children. Often their involvement in distance education is unknown to those they work with and ignored by family members. Student performance is enhanced if learners set aside time for their instructional activities and if they receive family support in their academic endeavors. It is extremely important that you set regular times in your schedule to study the material and do the assigned work. This course requires a large amount of independent study time.

Time management is crucial for your success. Sitting in a classroom with a professor asking questions is a powerful inducement to be prepared. Sitting alone with a pile of assignments--and no professor in sight--affords the temptation to put off doing the work. You need to schedule this class into your life just as if it were a traditional on campus course. The amount of time per week needed in addition to the online class sessions is between 10 to 13 hours. Students have reported needing even more time to devote to this course.

Other critical skills are the ability to read and follow instructions. It is incumbent on the online student to read the assignment instructions and emails sent out by the instructor. Be sure and ask for any clarification on the requirements prior to an assignment being due. Our online class sessions will facilitate this.

If you are concerned about the ability to succeed in this class at anytime during the semester, please do not hesitate to send me an email. If I don't reply right away, send another.

INSTRUCTOR: Michael Butler
email: michael-butler@redwoods.edu