Syllabus for Introduction to Statistics – Online		
Semester & Year	Fall 2018	
Course ID and Section #	Math 15 V6795	
Instructor's Name	Michelle Moreno	
Day/Time	Online	
Location	Canvas	
Number of Credits/Units	4	
Contact Information	*Office Location*	Online
	Office hours	By appointment
	Email address	moreno.cr.math@gmail.com
		michelle-moreno@redwoods.edu
Textbook Information	*Title & Edition*	Interactive Statistics, 3rd ed.
	Author	Aliaga & Gunderson
	ISBN	0-13-149756-1

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 probability techniques to make decisions via hypothesis testing and will estimate parameters using confidence intervals. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance, chi-square and t-tests; and application of technology for statistical analysis including the interpretation of the relevance of the statistical findings. The course includes applications using data from disciplines including business, social sciences, psychology, life science, health science, and education.

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 at 707-476-4280.

Academic Support

Academic support is available at Counseling and Advising and includes academic advising and educational planning, Academic Support Center for tutoring and proctored tests, and Extended Opportunity Programs & Services, for eligible students, with advising, assistance, tutoring, and more.

Academic Honesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the

student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (AP 5500) is available on the College of the Redwoods website at: www.redwoods.edu/district/board/new/chapter5/documents/AP5500StudentConductCodeandDisciplinaryProcedure srev1.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 website.

Disruptive Classroom Behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process a disruptive student may be temporarily removed from class. In addition, he or she may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (AP 5500) is available on the College of the Redwoods website at: www.redwoods.edu/district/board/new/chapter5/documents/AP5500StudentConductCodeandDisciplinaryProcedure srev1.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 website.

Emergency Procedures for the <u>Eureka</u> campus:

Please review the campus evacuation sites, including the closest site to this classroom (posted by the exit of each room). The Eureka **campus emergency map** is available at: (http://www.redwoods.edu/Eureka/campus-maps/EurekaMap_emergency.pdf). For more information on Public Safety, go to http://redwoods.edu/safety/ In an emergency that requires an evacuation of the building:
- Be aware of all marked exits from your area and building.
- Once outside, move to the nearest evacuation point outside your building:
- Keep streets and walkways clear for emergency vehicles and personnel.
- Do not leave campus, unless it has been deemed safe by the Incident Commander or campus authorities. (CR's lower parking lot and Tompkins Hill Rd are within the Tsunami Zone.)

    RAVE – College of the Redwoods has implemented an emergency alert system. In the event of an emergency on campus you can receive an alert through your personal email and/or phones at your home, office, and cell. Registration is necessary in order to receive emergency alerts. Please go to https://www.GetRave.com/login/Redwoods and use the "Register" button on the top right portion of the registration page to create an account. During the registration process you can elect to add additional information, such as office phone, home phone, cell phone, and personal email. Please use your CR email address as your primary Registration Email. Your CR email address ends with "redwoods.edu." Please contact Public Safety at 707-476-4112 or security@redwoods.edu if you have any questions.

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.

Instructor: Michelle Moreno

Contact Info: Canvas message, michelle-moreno@redwoods.edu or
                      moreno.cr.math@gmail.com

Time & Location: Online via Canvas: http://redwoods.intructure.com

Prerequisite: Math 120, Math 194, or Math 102 (with a grade of C or better) or satisfactory
                   performance on math placement exam.

Required Materials: Interactive Statistics, 3rd ed. by Aliaga & Gunderson ISBN: 0-13-149756-1
                   TI-83/84 Calculator (no other calculator will be supported) or Microsoft
                   Excel

Couse Objectives: This is an introductory course to the science of statistics. Statistics is 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 examine statistical information presented both in the media
    and in peer-reviewed journals.

Course Structure: This course runs for 16 weeks, from August 20 to December 10 and will
                   operate fully online.

**To be successful in this class, you must be present! That means,
participating in discussions, keeping up with assignments, and asking
questions.**

Discussion Forum – There will be a minimum of two discussion forums
each week, one for the **Topic of the Week** the other for **Homework
Questions**.

You are **required to participate, each week**, in a meaningful and
respectful way in both forums. If you do not have Homework Questions,
then you should assist your classmates with their questions. When
assisting with homework questions, do NOT just provide answers. In order
to receive participation credit, you must provide detailed explanations. You
should not be in this class, or any class, to just punch your card. It is my
goal, and hopefully yours as well, for you to truly learn these concepts that
are applicable to your everyday life, the premier concept being critical
thinking.

Topic of the Week Discussions must be well thought out and researched
and references must be provided. While I will sometimes ask for your
opinion on a topic, typically I am looking for you to show ability to research

and provide unbiased feedback. Media, Wikipedia, etc. are not good sources for unbiased information. We will explore that concept in one of the major assignments for this course. Anyone can find "research" to back their own opinions. True research / critical thinking attempts to look at all angles, even if the results go against our own opinions.

Lecture Videos – There is a lecture video for each chapter in which I go over the Let's Do It (LDI) problems from the textbook. In the lecture videos I will teach you both the concepts and how to use your calculator. However, I will also provide an Excel spreadsheet (once we get to Chapter 4) so that you can also learn to utilize Excel to make graphs and calculations. You may use Excel or your calculator. While there are better statistics software packages, Excel is the tool widely used in the business realm.

If something in the videos or Excel spreadsheets is unclear to you, please post those questions in the discussion forum for that week.

Homework – After going through the lecture video, do the assigned homework. As you are working through the problems, post any questions you may have in the discussion forum. Do not rely on the back of the book, particularly this book. It is far more important that you learn than just get the right answers. Do NOT get behind on the homework – it will **NOT be accepted late**. Allowing you to get behind is setting you up for failure.

Solutions will be posted after the due date and it is imperative that you go through those solutions and make sure you understand anything you might have missed. However, if you are using the discussion forum properly, you should get all of the questions right. **Homework will be due in Canvas on Sundays at 11:59pm.**

Exams – There will be 3 Exams including the final.

> **Exam 1** – You will be given detailed instructions including an article from the media and the actual scientific study the media was written about. Your job will be to do an analysis of the media vs. the science. You will have several weeks to work on this. **Due on Sunday Sept. 2 in Canvas by 11:59pm.** *If you don't want your Labor Day weekend disrupted, turn it in early!* <u>If you do not do this exam, I will assume that you do not want to take this class and will drop you on census day Sept. 4.</u> **LATE SUMBISSIONS ARE NOT ACCEPTED!**

> **Exam 2** – You will design a research study, collect data, analyze the data, and write a scientific style paper that includes an explanation of the research, data analysis, and results. You will have several weeks to work on this. **Due on Sunday October 28 in Canvas at 11:59pm. LATE SUMBISSIONS ARE NOT ACCEPTED!**

Final Exam - The final will be given in Canvas. It will be open from Monday Dec. 10 at 5am until 11:59pm. Once you start the final the 3 hour clock will start. Therefore, do not open the final if you are not ready to sit down and take it in its entirety. It will only be open during the above time frame so plan accordingly. The final will consist of essay type questions as well as problems in which you must make calculations. The best way to prepare for this is to do and make sure you understand the homework.

Grading: Discussion Forum   20%
            Homework   15%
            Exam 1   15%
            Exam 2   20%
            Final Exam   30%

Final Letter Grade:

>92% A   87-89 B+   77-79 C+   60-69 D   <60 F

90-92 A-   83-86 B   70-76 C

           80-82 B-