STAT 300 — LOS RIOS/CRC
INTRODUCTION TO PROBABILITY AND STATISTICS — SPRING 2017
4 UNITS — SECTION # 15279

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Instructor: Ivan Zaigralin ZaigraI@crc.losrios.edu
melikamp@melikamp.com
Email is the primary and the most reliable way of contacting the instructor. Either address should work. When emailing, please always specify your real name (the same one as in the roster) and which class you are taking.

Office: LRC 150, MTWTF 12 - 1 pm, (916) 691-7086. Please let the instructor know if these hours do not work for you, and we can try to set up an appointment (allow 2 business days for reply).

Class Meetings: EGA 202, MW 2:00 pm - 4:05 pm.

Required Materials: *Elementary Statistics*, 2nd edition, by Navidi. Online portion is not required, so you may be able to get the correct edition at a steeply discounted price, if you buy used. **The students are responsible for reading every section covered in class.**

Catalog Description: This course is an introduction to probability and statistics. Topics include: elementary principles and applications of descriptive statistics, elementary probability principles, probability distributions, estimation of parameters, hypothesis testing, linear regression and correlation, and ANOVA. Scientific calculators with two-variable statistics capabilities may be required.

Prerequisites: MATH 120 (Intermediate Algebra) or 125 (Intermediate Algebra with Applications) with a grade of "C" or better, or equivalent skills demonstrated through the assessment process.

Methods of Instruction: Class meetings will feature a mix of lecture, discussion, short quizzes, and group assignments. Several in-class tests will be given.

Attendance: To succeed in this course, it is crucial that you come to class every day, alert and prepared to learn. Roll will be taken at the beginning of each class session. If you arrive after the class has started, please enter the room quietly and get on the roster at the end of the class. **If you miss more than a half of a class session, you will be considered absent for that day. If you miss the first class meeting without notifying me or the division administrator in advance, you will be dropped from the class. If you miss the total of 6% of instruction any time during the semester, you may be dropped from the class. These absences need not to be consecutive. Exceptions will be made at the instructor's discretion for documented cases of grave illness and/or family emergency.**
https://www.crc.losrios.edu/catalog/geninfo/regulations

Written Assignments: All written assignments, including but not limited to the homework, tests, quizzes, and the final, should be done in **dark pencil or pen**; black, dark gray, dark blue, and deep purple are preferred. Fancy colors such as green or red can only be used for graphs and illustrations.

Homework: Homework serves as practice and will prepare you to do your best on quizzes and tests. Late homework will be accepted for 50% credit if it is less than 1 week late, and for 25% credit otherwise. About 20% of the lowest homework grades will be dropped. Homework is crucial for learning the material as well as for succeeding in this class. Doing all homework is probably the most effective way to raise your test grades. You are welcome to work in groups while solving the homework, but you must submit your own work.

The title page should list the homework name. Solutions should be presented in the order they are assigned, with page breaks between textbook sections.

what the homework could look like

HW 4 ← HW name your name → Simpson, Lisa

(4.5) ← textbook section number

15. $1+2=3$
17. $(2x^2)' = 4x$

page ends here

(4.6) ← textbook section number

1. $(x+1)^2 = x^2+2x+1$
2. $(-0.5x^{-2}y^{-1})^{-3} = -8x^6y^3$

⋮

Quizzes: Short quizzes will be given at the beginning of some class sessions. **No make-up quizzes will be given for any reason.** 20% or so of the lowest quiz scores will be dropped, and the highest scores together will be worth 10% of the class grade.

Tests: There will be several tests. Together they will be worth 60% of the class grade. **No make-up tests will be given for any reason.** If you miss a test due to a documented case of grave illness and/or family emergency, you will have an option to use your final exam grade to replace that zero, but only at the instructor's discretion.

Final: The 2 hour comprehensive final exam will be given Wednesday, May 17 at 12:45 pm and will be worth 20% of the class grade. **You must earn at least** 60% **on the final in order to pass this class. There is no make-up final exam.**

Grading:

Grades versus %	
A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	0 – 59%

Grade Breakdown	
Tests	60%
Homework	10%
Quizzes	10%
Final	20%

Extra Credit: Get some extra credit during the first 4 weeks of instruction by

(1) responding to an email the instructor has sent via the college email system.
(2) visiting the instructor's office hours.

Getting Help: If you have a question or a concern not addressed in this syllabus, please contact your instructor via email (allow 2 business days for reply). Moreover, the campus provides some resources to help you study:
`https://www.crc.losrios.edu/services`

Tutoring: The CRC Tutoring Center provides academic support services to CRC students. The Center facilitates drop-in tutoring, study skills coaching, study groups, and more.

https://www.crc.losrios.edu/services/tutoring

Additional tutors are available at the Math Center, which helps students to develop confidence and proficiency in their math skills. You must enroll in a variable unit course in order to use the Math Center.
https://www.crc.losrios.edu/services/mathctr

Cell Phones, Computers: Cell phones are prohibited. The use of computers and tablets during regular class meetings is OK as long as they are used for class work and are completely silent. While taking quizzes, tests, and the final, only non-networked calculators and/or computers running approved software will be allowed.

As the only exception, you are welcome to use whatever device to surf the net after you are done with a quiz, while you are waiting for your classmates to finish.

Accommodations: Disability Support Programs & Services (DSP&S) provides equal educational opportunity for students with physical, psychological, or learning disabilities. Counseling, support services, and academic accommodations are provided to students who are eligible for the program.

The Cosumnes River College Learning Disabilities Program can provide support services and academic accommodations to students who have documentation of a specific learning disability from another school or professional. In addition, Diagnostic Assessment may be available for appropriately referred students who come to the DSP&S program for an orientation appointment.

If you have a learning disability, a physical disability, or other special needs, please let the instructor know as soon as possible if you need special accommodations.

Students have the right to request reasonable modifications to college requirements, services, facilities or programs if their documented disability imposes a functional educational limitation or impedes access to such requirements, services, facilities, or programs. A student with a disability who will be requesting modification, accommodation, or access to an auxiliary aid is required and responsible for identifying himself/herself to the instructor and, if desired, to the Disabled Students Programs and Services (DSP&S office). In either event, the student is responsible for providing appropriate documentation of his/her disability. Students who consult or request assistance from the DSP&S office regarding specific modifications, accommodations or use of auxiliary aid will be required to meet timelines and procedural requirements established by the DSP&S office.
https://www.crc.losrios.edu/services/dsps

Academic Honesty: Any instance of plagiarism and/or cheating will result in the score of zero for that homework, quiz, or test, and will be reported to the Vice President's office.
https://www.crc.losrios.edu/catalog/geninfo/integrity

Meta: The instructor reserves the right to make changes to this syllabus throughout the semester. All changes will be announced in class, and an updated version of the syllabus will be published online. Students are responsible for keeping up with these changes.

Student Learning Outcomes: Upon successful completion of this course, the student will be able to

- ORGANIZE, DISPLAY, DESCRIBE AND COMPARE REAL DATA SETS.
  - Recognize data types and data sources: develop basic statistical terminology including population parameters & sample statistics; identify common sampling methods used for obtaining data and identify advantages & disadvantages of each; recognize bias in sampling; compare principles of good experimental design.
  - Organize and display data appropriately by preparing tables and graphs.
  - Analyze data by computing measures of central tendency, measures of dispersion, and measures of position.
  - Analyze bivariate data for linear trends using the least-squares regression model and the correlation coefficient.
- DISTINGUISH BETWEEN PROBABILITY MODELS APPROPRIATE TO DIFFERENT CHANCE EVENTS AND CALCULATE PROBABILITY ACCORDING TO THESE METHODS.
  - Compute probabilities using sample spaces, the addition & multiplication rules, conditional probability, and complements.
  - Develop and apply probability distributions for discrete random variables; compute probabilities and expected value.
  - Analyze both discrete and continuous probability distributions by considering areas under the graph of a function or a histogram.
  - Use the normal and binomial probability distributions to compute probabilities.
- APPLY INFERENTIAL STATISTICAL METHODS TO MAKE PREDICTIONS, DRAW CONCLUSIONS ABOUT HYPOTHESES AND COMPARE POPULATIONS.
  - Create and interpret confidence interval estimates for population mean and population proportion based on appropriate probability models.
  - Select the appropriate hypothesis test, perform the necessary computations and comparisons to test hypotheses about on one population mean or one population proportion and explain the conclusion of the test.
  - Create and interpret confidence interval estimates for the difference in two population means (independent and dependent sampling) or two population proportions.
  - Select the appropriate hypothesis test, perform the necessary computations and comparisons to test hypotheses about two-population means (independent & dependent sampling), more than two population means, and two or more population proportions and explain the conclusion of the test.
  - Test significance of correlation and make predictions based on linear trends using the least-squares regression model.
- USE APPROPRIATE STATISTICAL TECHNIQUES TO ANALYZE AND INTERPRET APPLICATIONS OF DATA including all of the following: business, economics, social sciences, psychology, life science, health science and education.