

Course Syllabus

[Jump to Today](#)[Edit](#)[Frequently Asked Questions](#) [.\(http://www.santarosa.edu/~ylin/Math15/Hybrid_Math15_FAQ.htm\)](http://www.santarosa.edu/~ylin/Math15/Hybrid_Math15_FAQ.htm)

Course Information: Elementary Statistics

Course Number: Math 15

Section Code / Class Meeting Times: (5116) Tuesdays 1:30-3:30pm

Instructor: Dr. Ying Lin

Instructor's webpage: <http://www.santarosa.edu/~ylin> [.\(http://www.santarosa.edu/%7Eylin\)](http://www.santarosa.edu/%7Eylin)

Office: Shuhaw 1702

Phone/Voicemail: (707)521-6912

Office hours: see the calendar on the instructor's webpage.

E-mail: ylin@santarosa.edu

You can email me at the above address (for a faster response) or within the Canvas course website. However, some activities in the course require you to send me a message in Canvas . You can find the messaging tool by looking under the Message block on the right side of the Canvas page.

Key dates for the traditional 18-week semester:

- Classes begin January 15

- Drop/Refund deadline is January 27

- Last day to withdraw without "W" is February 3

- Last day to withdraw with a "W" is April 21

Final exam date: May 21, Time TBA

Course Description:

Exploration of concepts in statistics, descriptive statistics, probability theory (including but not limited to the uniform, binomial, Poisson, normal, chi-square and t distributions), Central Limit Theorem, estimation of population parameters from a sample, hypothesis testing (including parametric and nonparametric methods), correlation and linear regression, introduction to analysis of variance, computer simulations.

Course Objectives:

1. Create and use graphic displays of data and frequency distributions.
2. Define mean, median, mode, percentiles, variability and standard deviation and compute each for sets of data.
3. Use laws of probability and find conditional probability.
4. Define and apply combinations, permutations, sample space, and probability distributions.
5. Apply Central Limit Theorem.
6. Calculate sampling distributions of means, proportions and standard error.
7. Compute confidence intervals and required sample size.
8. Perform hypothesis testing for mean, proportion and variance.
9. Implement goodness of fit test, the test for independence, and Analysis of Variance.
10. Discuss linear regression and correlation, and use technology to compute regression equations.
11. Use statistics software package for evaluation of data and inference.

Prerequisites:

Completion of MATH 155 or higher.

Textbook:



Introductory Statistics, by Illowsky and Dean, 2014.

This is an [open source eBook](http://cnx.org/contents/30189442-6998-4686-ac05-ed152b91b9de) [.\(http://cnx.org/contents/30189442-6998-4686-ac05-ed152b91b9de\)](http://cnx.org/contents/30189442-6998-4686-ac05-ed152b91b9de) that can be freely viewed online and downloaded in a variety of formats. A low-cost hard copy is also available through the SRJC Bookstore at Santa Rosa campus. If you plan to print out a large number of pages from the book, I recommend that you obtain a hard copy .

Class website in Canvas:

There is a separate course website hosted by the college. You must have access to the course website in order to read the announcements and participate in online discussions. Additional problem sets, handouts and files will also be distributed through the course website. The class website is linked to the instructor's webpage, and you can log into your Canvas course using your SRJC ID number and PIN code. You can also directly access the login page through <https://santarosajc.instructure.com/>. If you experience problems with logging in, please read the information for students at the [Canvas login page](https://portal.santarosa.edu/SRWeb/SR_HelpPin.aspx). (https://portal.santarosa.edu/SRWeb/SR_HelpPin.aspx)

It is recommended that you use the Group Forum in Canvas to collaborate with your teammates on team assignments outside the classroom. Group Forum will also be used to evaluate your contribution towards the Team Project.

Technology Requirement:

You must have regular access to a computer with an internet connection. The minimum technology requirements include access to internet, a web browser that is supported by Canvas (see [basic computer specifications](https://guides.instructure.com/m/4152/82542?data-resolve-url=true&data-manual-id=4152)) (<https://guides.instructure.com/m/4152/82542?data-resolve-url=true&data-manual-id=4152>), and software that is capable of opening MS Office files (for alternatives to Microsoft Office, you may consider Google Drive and [OpenOffice](http://www.openoffice.org/) (<http://www.openoffice.org/>)) and PDF files (such as [Adobe Acrobat Reader](http://get.adobe.com/reader/) (<http://get.adobe.com/reader/>)).

You will have the option of either using a TI-83/84 graphing calculator, or a free software ([GeoGebra](http://www.geogebra.org/cms/en/) (<http://www.geogebra.org/cms/en/>)) for this course. The GeoGebra software will be installed in classroom computers and can also be downloaded to your own computers.

Course Delivery: this class is considered a "hybrid" class, since it combines a weekly meeting in the classroom with 8-12 hours of online learning activities. Instead of attending lectures in the classroom, you will study the materials posted online, participate in online discussions, and complete a portion of the weekly assignments before each classroom session. When you come to the class, you will then be directed to work in small groups on a set of problems on the same topic, and receive feedback from the instructor in person. All tests will be proctored, and given only during the classroom meetings on the pre-determined dates indicated in the syllabus. The instructor is unable to accommodate requests from individual students to reschedule the tests, or offer any makeup tests.

Orientation Assignment

Visit the Orientation Assignment section in the Canvas page to find the assignment. It is must be completed by the due date. **Failure to start the assignment by the due date may result in you being withdrawn from the course.**

Weekly Workload

The work for each week consists of:

- Self-study of the textbook, additional readings, and videos.
- Weekly reading assignments, to be submitted in Canvas.
- Regular meaningful posts to the weekly discussion forums in Canvas
- A written team homework assignment for each face-to-face class meeting.
- Weekly quizzes, to be taken individually in Canvas. Occasionally there may be in-class quizzes.

Reading Assignments

Each week, you will complete a reading assignment related to concepts of that week. It is recommended that you read the Supplemental Notes for each chapter before completing the reading assignment.

Discussion Posts

You are required to participate in the weekly discussion forums hosted in the Canvas page (there will be one forum for each week). Regular participation in these forums is a central component of the course and is crucial to your success. You must participate in these forums at least once per week before the due date indicated in the schedule. Discussion posts that lack substance or posted past the due date may receive a zero. **Note that you may not make up points lost for lack of participation during the discussions, regardless of circumstances.**

Team Homework

Team Homework will be worked on and submitted by teams of up to 4 members. Team members may be reassigned after each test. Team homework must be written neatly on separate sheets of paper, with the problems clearly labeled. You must show all work to receive full credit. Each team should make copies of the graded team homework as study material for the tests. Copies of graded team homework with proper signatures must be presented as proof for each participating team member to receive credit. All team members are required to contribute to each assignment and complete periodic peer evaluations of other members. Non-participating members of any team may be demoted or fired from the team. That team member may be required to turn in his/her own team assignment or will receive reduced or zero points for that assignment. To promote diversity in group learning, the teams may be recombined during the semester at the instructor's discretion.

If you have to miss a class, in order to receive credit for team homework, you must contribute to the team homework via the Group Forum and authorize your teammates to sign the cover sheet for you. Otherwise, you will receive zero for the team homework.

Quizzes

You are also required to complete weekly online quizzes, hosted in the course website on Canvas, SRJC's online course delivery platform. There may be also some short quizzes given in class based on the content of the team homework. Please save all of your written work for the quiz, in the event that your work is not saved by the computer. You must present your written work in order to request extra time for the quiz.

Term Project

A term project, worth 70 points, will be based on techniques of the course and data of interest to you. The term project can be completed individually or as a team. Students who wish to pursue individual projects must inform the instructor before the prelim report is due. The following are required for the term project:

- A preliminary report (5 pts)
- Data used for your project (5 pts)
- A presentation based on your project (50 pts, including both a team score and an individual score)
- Discussion and comments on other students' posters (10 pts)

The due dates are indicated in the course schedule. Your group will need to meet with the instructor (either in class or during office hours) after turning in the preliminary report. Instructions for the preliminary report as well as the presentation will be distributed in class.

Class Attendance

Attendance is required for all face-to-face meetings. **Missing the first orientation session will result in you being withdrawn from the course to allow other students to enroll.** 2 points will be deducted from your participation score for each missed class. If you are absent, arrive late to class or leave early during three meetings of the classes, you may be withdrawn from the course. Students are responsible for officially withdrawing from the course if they stop attending.

Exams

There will be three midterm exams and a comprehensive final exam. All tests will be proctored, and given only during the classroom meetings on the pre-determined dates indicated in the syllabus. The instructor is unable to accommodate requests from individual students to reschedule the tests, or offer any makeup tests.

Midterm Exam 1 covers Chapters 1 – 4 of the textbook.

Midterm Exam 2 covers Chapters 5 – 9 of the textbook.

Midterm Exam 3 covers Chapters 10 – 13 of the textbook.

Final Exam: The final exam will be a comprehensive exam. It is **not** optional and must be taken during the time determined by the college. Please make your travel plans accordingly. The final exam replaces your lowest test score (or a missed test), if the percentage is higher.

- Example 1: you have scored 80 in all 3 tests, and 95 in your final. Then you total test/final scores will be $80+80+95+95=350$ out of 400 points.
- Example 2: you have scored 80 in all 3 tests, and 75 in your final. Then you total test/final scores will be $80+80+80+75=315$ out of 400 points.

If you receive less than 60% in the Final Exam, your final letter grade will be lowered by one full letter grade (e.g. from C to a D).

Extra Credit

You can earn up to 10 points of extra credit for doing additional explorations related to your project. Extra credit can only be awarded to individual students. Students interested in extra credit should discuss their plans with the instructor prior to starting their work.

Final Grade

All graded coursework has a total of **points** to be earned. The points to be earned are broken down as follows:

Assignment Mode	Points
Orientation Assignment	10
Written work for quizzes	20
Discussion Posts	30
Reading Assignments	20
Team Homework	50
Term Project	70
Quizzes	100
Midterms	300

Final Exam	100
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Your grade will be determined by the following numbers as a percentage of the total points:

Percentage	Points Needed	Grade
90 - 100	630 – 700	A
80 - 89	560 – 629	B
70 - 79	490 – 559	C
60 - 69	420 – 489	D
0 - 59	0 – 419	F

Help

- Your questions are welcomed both in and out of class. If you cannot resolve your questions in class, I strongly recommend you coming to see me during office hours.
- My previous experience has shown that participating in study groups can greatly benefit all students at this level, no matter whether you are an "A" student or someone who struggles with Math.
- Assistance can be found in the Mathematics Computer Lab, the MESA center, and the Tutorial Center in the Library.
- The Math Department office has a list of private tutors. This list can also be found on the Math Department web site at www.santarosa.edu/mathematics (<http://www.santarosa.edu/mathematics>).

Student Conduct

We will conduct ourselves in a manner which reflects our awareness of common standards of decency and the rights of others. All students are expected to know the Student Conduct Code (http://www.santarosa.edu/for_students/rules-regulations/scs/section1.shtml) (http://www.santarosa.edu/for_students/rules-regulations/scs/section1.shtml) and adhere to it both in the classroom and during online activities. Students who violate the code may be suspended from 2 classes and referred to Vice President of Student Services for discipline.

Respect

The best way to learn is through active participation; therefore, we respect others when talking by being on-time, listening actively, and by being polite even when we disagree with another's viewpoint. Please turn off all electronic devices. If you use a laptop for note taking, please sit in the front row with the sound off. No food in class please.

Academic Integrity

All written work is to be original; plagiarism of any kind will result in a failing grade on that assignment. Students who plagiarize or cheat may be suspended [for one or two class meetings by the instructor] and referred to the Vice President of Student Services for discipline sanction, in cases of egregious violation. Please read the college policy/procedure on academic integrity at: <http://www.santarosa.edu/polman/3acadpro/3.11P.pdf> (<http://www.santarosa.edu/polman/3acadpro/3.11P.pdf>)

Emergency Evacuation Plan

In the event of an emergency during class that requires evacuation of the building, please leave the class immediately, but calmly. Our class will meet on the lawn in front of Shuhaw to make sure everyone got out of the building safely and to receive further instructions. (If the class is on a second or higher floor, provide clear directions to the stairs). If you are a student with a disability who may need assistance in an evacuation, please see me during my office hours as soon as possible so we can discuss an evacuation plan.

ADA Compliance Statement:

If you need disability related accommodations for this class, such as a note taker, test taking services, special furniture, use of service animal, etc., please provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to me as soon as possible. You may also speak with me privately during office hours about your accommodations. If you have not received authorization from DRD, it is recommended that you contact them directly. DRD is located in Analay Village on the Santa Rosa campus (527-4278), and Petaluma Village on the Petaluma Campus (778-2491). You can also visit the [DRD page here](http://online.santarosa.edu/presentation/74928). (<http://online.santarosa.edu/presentation/74928>)

Accessibility of Course Material Per ADA

The following materials in Canvas can be made available in alternative formats upon request: Powerpoint slides, videos hosted in Screencast.com, Java applets, and answer keys to homework assignments.

Caveat

The instructor reserves the right to make changes to the syllabus and will notify students of those changes in class.

Course Summary:

Date	Details
	 General Q&A (https://santarosajc.instructure.com/courses/36220/assignments/306539)