Mission Statement

El Camino College offers quality, comprehensive educational programs and services to ensure the educational success of the students from our diverse community.

Course Information

Instructor: Dr. Jose M. Villalobos, Ph.D.
Class: Math 150
Section: 9803
Course Dates: August 22, 2015 - December 5, 2015
Location: MS-210
Days/Time: Saturday 9:30am - 11:20am
Office: MS-224 Phone: (310)900-1600x2424
Email: jvillalobos@elcamino.edu
Website: http://www.compton.edu/facultystaff/jvillalobos/index.html
Office hours: Monday 11:30am - 12:30pm, Wednesday 10:30am - 12:30pm

Tuesday/Thursday 6:30pm - 7:00pm
Saturday 9:00am - 9:30am, 11:25am - 11:55am or by appointment

Course Materials

Required

- Math 150 Workbook by Jose Villalobos

- Graphing Calculator (Ti-83/84). Your cell-phone will NOT be allowed in exams/quizzes.

Optional

- Elementary Statistics, 12th ed. by M. Triola

Prerequisite

Mathematics 70, Mathematics 67 or Mathematics 73 with a minimum grade of C or qualification by testing (El Camino College Mathematics Placement Test) and assessment.
Course Description

The focus of this course is the basic practice of statistics, including descriptive statistics, inferential statistics, and the role probability plays in statistical analysis. Students calculate and interpret statistical parameters using graphing calculators with statistical testing capabilities and statistical software, as well as by hand. Major topics include methods of data collection and simulation; measures of central tendency, variability, and relative position; graphical summaries of data; linear regression and correlation; distributions, including normal and binomial distributions; probability theory; and inferential statistical methods. Students choose, justify, use, and interpret the results of inferential techniques, such as confidence intervals, hypothesis tests, goodness of fit, analysis of variance, and nonparametric tests.

(CAN STAT 2); UC/IND/CSU area B4; IGETC area 2.

Course Objectives

1. Describe the various types of data and sampling techniques. How to obtain or generate data.
2. Draw histograms, frequency distributions, stem and leaf plots and pie charts to graphically describe data. Use the graphs to interpret, analyze data, and answer the question of interest. Is a given graph sufficient to answer the question of interest? Write conclusions in meaningful statistical sentences.
3. Assess the validity of a statistical argument by considering the means through which data were collected, the quality of data, and the appropriateness of the statistical methods used in the argument.
4. Calculate the measures of central tendency, variation and position from a given set of data.
5. Interpret numerical summaries and graphic displays of data to answer questions and to check conditions for statistical procedures. Write meaningful statistical conclusions in sentences.
6. Calculate the probability of a given event, find a probability distribution, use the binomial distribution, and normal distribution. Solve problems, interpret answers for application problems and write meaningful statistical conclusions in sentences.
7. Apply the central limit theorem, solve problems and interpret results.
8. Find confidence interval estimates of various parameters, check and analyze the conditions, solve problems and interpret results in meaningful statistical terminology and sentences.
9. Perform parametric and non-parametric hypothesis tests using the classical and probability (P-value) methods. Check for the required conditions, solve the problem, interpret the results, and write meaningful conclusions.
10. Calculate the regression line and correlation coefficient for a given set of bivariate data. Solve problems, interpret results and write meaningful statistical conclusions in sentences.
11. Perform selected tasks (corresponding to #1 through #10 above) using statistical software, and graphic calculators.
12. Work on projects and carry out sampling, generating data, summarizing data, displaying data graphically, interpreting numerical summaries, or conducting tasks outlined in the objectives # 1 to # 11.
Methods of Evaluation

1. Writing statistical reports that include analysis and critical thinking is included in lectures, homework assignments and projects.
   
   i. The course primarily involves skill demonstrations or problem solving.

   ii. The student needs to explain in writing the statistical procedure, the required conditions, and interpret the solutions.

2. Computational or non-computational problem-solving demonstrations, including:

   i. Exam

   ii. Quizzes

   iii. Homework/Class work Problems

   iv. Projects

Attendance

Attendance will be taken every class session. Students with two consecutive absences will be dropped from the class. Any student who misses two exams will be dropped from the class. Students are responsible for any material/announcements missed in class regardless of their presence including being aware of your status in the class. You are expected to be present on time at all class meetings and to actively participate. Taken this class seriously is the first step to your success.

Withdrawal from the class through the Admissions Office is the student’s responsibility. If you have any concerns regarding your attendance, please contact me immediately via email, telephone or during my office hours.

Academy Integrity

El Camino College places a high value on the integrity of its student scholars. When an instructor determines that there is evidence of dishonesty in any academic work (including, but not limited to cheating, plagiarism, or theft of exam materials), disciplinary action appropriate to the misconduct as defined in BP 5500 may be taken. A failing grade on an assignment in which academic dishonesty has occurred and suspension from class are among the disciplinary actions for academic dishonesty (AP 5520). Students with any questions about the Academic Honesty or discipline policies are encouraged to speak with their instructor in advance. Cheating will not be tolerated.
Methods of Assessment

Exams

There will be three, 60 minutes exams (100pts each) and a comprehensive final exam (200pts). No make-up exams will be given but your final exam will replace a missed exam. Contact me immediately if you miss an exam. Students who miss more than one exam will be dropped from the class. Tentative exam dates are noted on the Class Schedule at the end of this syllabus.

Quizzes

There will be 10 quizzes (10pts each). Six quizzes will be online (etudes), four will be on class.

Homework

Success in any mathematics class is dependent upon completing and understanding all assignments. The homework will be due the following class meeting. The homework is worth a total of 50pts. The homework will be completed on the workbook.

Note: Some homework may have to be completed online.

Class-work/Participation

You will often be given class work (individual or group) and it may be collected at any time during class. No makeup work is possible for missed class work. Participation will include class-work as well as active engagement in the DISCUSSION BOARD. The class-work/participation is worth a total of 50pts.

Project

There will be two computer (Excel) projects. More details will be given as the semester progress.

Students with special needs

It is the policy of the El Camino Community College District to encourage full inclusion of people with disabilities in all programs and services. Students with disabilities who believe they may need accommodations in this class should contact the campus Special Resource Center as soon as possible. This will ensure that students are able to fully participate. As well one may contact the instructor privately to discuss your specific needs. The Special Resource Center is located in the southeast wing of the Student Services Center, (310) 660-3295. More guidelines for students with disabilities may be found on page 27 of 2014-2015 College Catalog or may visit their website at www.elcamino.edu/academics/src.
Grading

Grade Distribution

<table>
<thead>
<tr>
<th>Points</th>
<th>Final Exam</th>
<th>Exams (3)</th>
<th>Quizzes</th>
<th>Homework</th>
<th>Participation</th>
<th>Project(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>300</td>
<td>100</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>20</td>
</tr>
</tbody>
</table>

Grading Scale

<table>
<thead>
<tr>
<th>Percent</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
</tr>
<tr>
<td>80 - 89</td>
<td>B</td>
</tr>
<tr>
<td>70 - 79</td>
<td>C</td>
</tr>
<tr>
<td>60 - 69</td>
<td>D</td>
</tr>
<tr>
<td>0 - 59</td>
<td>F</td>
</tr>
</tbody>
</table>

Key to success

It is expected that students spend a minimum of at least two hours outside of class for each hour spent in class. Spending more time on material from class and explaining concepts to other students in class is an excellent way of achieving success. Active participation is very important. Ask questions, answer questions, talk to other students in class, form study groups outside of class, and always remember to ponder beyond what we discuss in class. Next, remember to keep an open mind. A big part of learning and understanding mathematics is believing that you are capable of succeeding. Always remember to have fun!

Students will be assessed through class participation, their performance on exams, quizzes, and assignments. The completion of the assignments will prepare you for each quiz/exam. You are expected to complete each assignment by the next class meeting so that you are ready to ask questions in class. You should see me for assistance as soon as an exercise is not understood, but not without first seriously attempting to do the problem on your own. It is highly recommended that you also take advantage of the various tutoring services offered on campus. It is your own responsibility to have an interest in your education!

Important Dates

• Labor Day Holiday (Campus Closed) Monday, September 7, 2015
• Last Day to Add (Full Semester Classes) Friday, September 4, 2015
• Last Day to Drop and be Eligible for Enrollment Fees Friday, September 4, 2015
• Last Day to Drop Without Notation on Permanent Record Friday, September 4, 2015
• Veteran’s Day Holiday (Campus Closed) Wednesday, November 11, 2015
• Thanksgiving, Thursday November 26 - Sunday, November 29, 2015
• Last Day to Drop with a 'W' Friday, November 13, 2015

**Student Learning Outcomes**

Upon successful completion of the course, students will be able to:

- From data or bivariate data, compute statistics and develop displays of the data that illustrate the measures of central tendency, variation, relative position, and correlation. Interpret the displays in context.
- Compute probability of an event by applying the basic assumption in classical probability and using addition rule and multiplication rule for contingency tables.
- Use the Central Limit Theorem to compute probabilities concerning the distribution of the sample means and comparing these to the probabilities of the related random variable.
- Compute the confidence intervals and conduct hypothesis testing for a variety of parameters, and perform nonparametric hypothesis testing.

---

### Tentative Schedule

**Math 150 - Fall 2015**

<table>
<thead>
<tr>
<th>Week</th>
<th>Sections/Tests/Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/22/15</td>
<td>Intro, Ch1 - Ch 2</td>
</tr>
<tr>
<td>08/29/15</td>
<td>3.1 - 3.3</td>
</tr>
<tr>
<td>09/05/15</td>
<td>4.1 - 4.2,Q1</td>
</tr>
<tr>
<td>09/12/15</td>
<td>4.3 - 4.5/Review</td>
</tr>
<tr>
<td>09/19/15</td>
<td>Test 1, 5.1</td>
</tr>
<tr>
<td>09/26/15</td>
<td>5.2,6.1 - 6.2</td>
</tr>
<tr>
<td>10/03/15</td>
<td>6.3,7.1-7.2</td>
</tr>
<tr>
<td>10/10/15</td>
<td>7.3 - 7.4, Q2</td>
</tr>
<tr>
<td>10/17/15</td>
<td>8.1 /Review, P1</td>
</tr>
<tr>
<td>10/24/15</td>
<td>Test 2, 8.2</td>
</tr>
<tr>
<td>10/31/15</td>
<td>8.3-8.4,9.1</td>
</tr>
<tr>
<td>11/07/15</td>
<td>9.2 - 9.4,Q3</td>
</tr>
<tr>
<td>11/14/15</td>
<td>10.1 - 10.3, Review</td>
</tr>
<tr>
<td>11/21/15</td>
<td>Test 3, 10.4,P2</td>
</tr>
<tr>
<td>11/26/15</td>
<td>Thanksgiving</td>
</tr>
<tr>
<td>12/05/15</td>
<td>Review/Final</td>
</tr>
</tbody>
</table>

**Note:** This syllabus is tentative and may be modified at any time.