Kaua'i Community College
Sample PROPOSED Course Syllabus
MATH 115 - Statistics (3.0 credits)

Instructor	Ryan Girard		**Office**	NSCI 109
Email	Ryan.Girard@hawaii.edu		**Phone**	245-8353

Webpage:

Course Homepage is accessible though Laulima

Catalog Course Description:

This course offers study of methods of presenting or describing data, methods of making decisions or predictions in the face of uncertainty, rules of probability, drawing inferences and making generalizations from samples, and testing hypotheses.

Co-requisites:

None

Prerequisites:

"C" or higher in MATH 25 or equivalent or acceptable math placement score

Textbooks and other Resources:

- Introductory Statistics: Exploring the World Through Data by Robert Gould
- MyMablLab Access Code. This code comes with the purchase of a *new* textbook from the bookstore. The Course ID for this class is: **girard20895**
- A scientific or graphing Calculator:

Course Objectives: To provide the student with a basic working knowledge of the methods of statistical inference, and how these methods can be applied to "real life" situations. In particular, the formation and testing hypotheses is emphasized.

Course Specific Learning Objectives:

Students will

- Apply formal rules of algorithms in probability and statistics.
- Correctly classify data and variables.
- Create and interpret various graphs.
- Calculate and interpret descriptive statistics, including the mean, median, mode, and standard deviation of single-variable data and the correlation and regression coefficients of paired-variable data.
- Calculate and interpret probabilities for an event in a probability experiment.
- Construct and interpret point and interval estimates.
- Choose appropriate symbolic mathematical techniques and employ them to solve and interpret statistical hypothesis tests.
- Select and correctly utilize precise mathematical language and symbols to effectively communicate procedures and results.

Grading Policy:

- Homework (28 @ 10 points = **280** points)
  Homework will be conducted on MyMathLab (MML) and will generally be due at 11:59pm on Wednesdays or Sundays (see MML for actual due dates). You will be able to work each homework problem three times. I **highly recommend** keeping your MML work in a notebook or binder. This way, you can refer to your work when taking quizzes since each quiz is a subset of homework problems.
- Quizzes (10 @ 20 points = **200 points**)
  Quizzes will be given online through MyMathLab and will generally be due at 11:59pm on Sundays or Wednesdays (see MML for actual due dates). This quizzes will be timed (generally 60 minutes) and you will be able to take each quiz twice.
- Exams (3 @ 150 points = **450 points**)
  Each exam consists of two parts. The first part is worth 100 points and is completed in class. The second part is worth 50 points and is completed outside of class. If you miss the in-class part of the exam, you are still expected to complete the out-of-class portion. The class schedule shows exam topics and dates.
- Cumulative Final Exam (**200 points**)
  See the class schedule for date and time.

Grading Scale (the percentage of points you earn will determine your final class grade):

89.5% and above A

79.5% to < 89.5% B

69.5% to < 79.5% C

59.5% to < 69.5% D

Below 59.5% F

Make Ups:

None. However, most homework can be completed late for a penalty.. In addition, your **Final Exam** will replace your lowest **in class** exam score if it is to your benefit. Finally, you will have the chance to earn up to 36 additional points by utilizing campus resources and participating in campus events.

Student Conduct Code:

It is a privilege to be a member of the University of Hawaii ohana at Kaua'i Community College. This privilege provides students with the opportunity to learn and to participate in the many programs and services offered on campus. Along with this privilege, students are expected to be responsible in relationships with others, to respect the interests of the institution, and to minimize classroom behaviors that interfere with the learning of others. In this spirit, please be ready to begin class on time and to stay until class is officially over. Students who habitually arrive late to class or leave early will be asked to attend another section with a different instructor.

Cell-Phones:

Upon entering the classroom please turn your phone off or switch to silent, non-vibrate setting and **store it out of sight**. I understand this will be a challenge for many of you, but in order to get the most out of your classroom experience, you need to have as few distractions as possible. If your cell phone rings in class, it will be 5 point deduction from your overall point total unless you have spoken with me first.

Important Dates:

Last Day to Drop with a 100% Refund: Friday, January 13, 2012

Last Day to Drop with a 50% Refund: Monday, January 30, 2012

Last Day to Withdraw (no refund): Monday, April 2, 2012

Student with Disabilities Statement:

If you have a disability and have not voluntarily disclosed the nature of your disability and the support that you need, you are invited to contact the Student Services Office, 245-8314 or 245-8212 as soon as possible. This is to ensure that such accommodations are implemented in a timely fashion.

Occasionally the need may arise to modify the syllabus. If this happens, the syllabus will be amended after the class has been notified by email.

Tentative Schedule of Topics

1. Ex 1.1 #1 – 4, 6, 9, 10, 11, 12, 13 (What is Statistics)
2. Ex 1.2 #1 – 6, 9, 11, 13, 15, 16 (Random Samples)
3. Ex 1.3 #1 -3, 6, 7 (Intro to Experimental Design)
4. Ex 2.1 #1 - 6, 9, 10, 13, 15 (Frequency Distributions, Histograms)
5. Ex 2.2 #1 – 4, 7, 9, 10, 11 (Bar, Pie, time-Series Graphs)
6. Ex 2.3 #1 - 3, 6, 10 (Stem and Leaf Displays)
7. Ex 3.1 #1 – 6, 9, 11, 12, 14 (Measures of Center)
8. Ex 3.2 #1 – 8, 10, 14, 16 (Measures of Variation)
9. Ex 3.3 #1 - 5, 8, 9, 10 (Percentiles and Box and Whisker Plots)
10. Ex 4.1 #1 - 10, 12, 13, 17, 18, 19, 20 (Scatter Diagram and Linear Correlation)
11. Ex 4.2 #1 - 6, 8, 9, 11, 15, 16 (Linear Regression and Coefficient of Determination)

Exam 1

12. Ex 5.1 #1 – 6, 9, 10, 13 , (What is Probability?)
13. Ex 5.2 #1 - 6, 7, 10, 12, 13, 17, 18, 20, 22 (Compound Events)
14. Ex 5.3 #1 - 4, 6, 9, 13 -20, 22, 25, 27 (Tree Diagrams and Counting Techniques)
15. Ex 6.1 #1 - 5, 8, 10, 14 (Random Variables and Probability Distribution)
16. Ex 6.2 #1 - 8, 10, 13, 17, 18 (Binomial Probabilities)
17. Ex 6.3 #1 4, 6, 8, 12, 14 (Additional Properties of Binomial Distribution)
18. Ex 7.1 #1 - 8, 10, (Graphs of Normal Probability Distributions)
19. Ex 7.2 #1 - 6, 8, 10, 15 - 18, 23 - 26 (Standard Normal Distribution
20. Ex 7.3 #1 - 4, 7 - 10, 15 - 22, 28, 31, 34 (Areas under any Normal Curve)
21. Ex 7.4 #1 – 9 (Sampling Distribution)
22. Ex 7.5 #1 - 10, 13, 17 (Normal Curves and Sampling Distribution)
23. Ex 7.6 #1 - 4, 6, 9, 13 (Normal Approximation to Binomial)

Exam 2

24. Ex 8.1 #1 - 10, 12, 13, 19 (Estimate μ when σ is known)
28. Ex 8.2 #1 - 10, 15, 17, 18, 21 (Estimate μ when σ is Unknown)
29. Ex 8.3 #1 - 4, 7, 9, 15, 17 (Estimate p in the Binomial Distribution)
30. Ex 9.1 #1 – 4, 5, 7, 10, 13, 14 (Introduction to Statistical Tests)
31. Ex 9.2 #1 - 6, 7, 10, 15, 18, 21, 23, 24 (Test Claim about Mean, μ)
32. Ex 9.3 #1 - 5, 7, 8, 12, 17, 20, (Testing a Proportion, p)
33. Ex 10.1 #1 - 6, 9, 12, 15, 16 (Inferences from Matched Pairs, Dependent Samples)
34. Ex 10.2 #1 - 6, 7, 8, 12, 14 (Inferences about the Difference of Two Means;.μ1- μ2.
35. Ex 10.3 #1 - 4, 5, 7, 11, 13, 18 (Inferences about the Difference of Two Proportions p1-p2)
36. Ex 11.1 #1 - 5, 9, 10, 13 (Chi Square: Test of Independence)
37. Ex 11.2 #1 - 6, 9, 13, 14 (Chi Square: Goodness of Fit)
38. Ex 11.3 #1 - 2, 5, 7, 8, 10, 11 (Testing a Variance or Standard Deviation)
39. Ex 11.4 #1 - 6, 9, 10, 13 (Inferences for Correlation and Regression)