

CRN 62123 MATH 115

3 Credits

Fall 2009 T-TH 9:45 - 11:30

INSTRUCTOR: Judith Dill
OFFICE: Mana'opono 107
OFFICE HOURS: TTH 2:45 – 3:45; TH 8:30 – 9:30
TELEPHONE: 236-9280
EMAIL: judithd@hawaii.edu
EFFECTIVE DATE: Fall 2009

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

CATALOG DESCRIPTION

An introduction to topics in statistics, with a brief look at probability. This is a valuable course for business, natural sciences, social science, health science and computer science majors.

PREREQUISITE: A grade of "C" or better in Math 25 or equivalent, satisfactory placement test score, or consent of instructor.

Activities Required at Times Other Than Scheduled Class Times

Homework, projects, and/or Math Lab (Mana'opono 103)

STUDENT LEARNING OUTCOMES

1. Demonstrate proficiency in graphing statistical data, calculating measures of central tendency, measures of variation, percentiles, correlation coefficients, and regression line.
2. Interpret statistical information provided in graphs, in summary measures (central tendency, dispersion, percentile), and in the correlation coefficient.
3. Solve probability problems involving compound events, independent events, mutually exclusive events, and conditional probability.
4. Calculate and interpret probabilities for normal or binomial distributions, including the use of the Central Limit Theorem.
5. Demonstrate the use of inferential statistics.
6. Utilize appropriate statistical terminology and mathematical symbols to effectively communicate mathematics in written and/or oral form.

COURSE COMPETENCIES

Students will be able to:

1. graph qualitative and quantitative data using bar charts, histograms, stem and leaf plots, dot plots, box-and-whisker plots and scatter plots.
2. describe the strength, direction and type of correlation between two numerical variables, evaluate and interpret the correlation coefficient, find the equation of the Least Squares Regression Line and plot the LSRL.
3. compute simple and compound probabilities using the basic laws of probability, and use two-way tables to solve problems involving conditional probabilities.
4. distinguish between observational studies and experiments, and design a randomized controlled experiment.
5. identify and use appropriate random sampling methods.
6. estimate means and proportions using confidence intervals.
7. perform hypothesis tests for both means and proportions, drawing appropriate conclusions.
8. use the Chi-Square distribution for Tests of Independence and Goodness of Fit.

COURSE TASKS AND GRADING INFORMATION

Students will demonstrate mastery of course objectives through assignments, in-class activities, computer work, quizzes, unit exams and the final exam covering the concepts and skills presented during the entire course. All assignments, quizzes and exams must be completed and submitted to the instructor at the dates and times specified by the instructor. Quizzes are usually announced during the class preceding the date of the quiz. Some quizzes may be completed outside of class time.

In order to achieve a passing grade and receive credit for this course, **students must earn a semester average of 60%.**

The course final grade will be evaluated as follows:

Homework/in-class activities/quizzes/projects	approximately 25% of total grade
Three unit exams	approximately 55% of total grade
Final exam	approximately 20% of total grade

Each letter grade will be assigned according to the level of achievement provided in the table below:

<u>Letter Grade</u>	<u>Definition</u>
A	90%-100% of the cumulative points possible
B	80%-89% of the cumulative points possible
C	70%-79% of the cumulative points possible
D	60%-69% of the cumulative points possible
Cr	70%-100% of the cumulative points possible
NC	Less than 70% of the cumulative points possible
W	Official Withdrawal
I	Incomplete - given when a student has failed to complete a <u>small</u> part of the course due to circumstances beyond his/her control.

Note: Cr/NC grades require written instructor consent. Students must apply for Cr/NC grading option at the Admissions office by the 10th week of classes. If a student does not apply for Cr/NC grading option at the Admissions Office by the required deadline and if s/he does not withdraw, a letter grade (A, B, C, D, F) will be assigned.

Note: W grade is given only when the student officially withdraws from the course at the Admissions Office by the 10th week of classes.

LEARNING RESOURCES

Required Text: **Fundamentals of Statistics, Second Edition** by Michael Sullivan, III

Optional Material: **Student Solutions Manual and Technology Manual**

Required Technology: TI83, TI83+, TI84 or TI84+ graphing calculator

ADDITIONAL INFORMATION AND STUDENT RESPONSIBILITIES

HOMEWORK AND CLASSWORK:

Students will benefit greatly from reading through sections to be covered in class prior to the class meeting. Homework problems are specifically chosen to help students comprehend the concepts covered. Careful reading of the text and attempting practice problems are essential for successfully completing an assignment. Class sessions will include review of concepts recently covered, investigative group work, lecture, and web demonstrations.

It is recommended that students keep a list of statistical terms and their definitions, along with examples. Occasionally students will be asked to collect data outside of class, and/or retrieve data from the media and submit their findings with a written summary. As time permits, students may conduct their own statistical studies submitted as projects.

It is essential to set aside sufficient time to read the text, review concepts presented in class and do homework assignments thoroughly in order to become familiar with statistical concepts. A minimum of three hours of study time for each class meeting is expected.

Students are expected to consult their UH email and Lulima accounts regularly for announcements. Students may register online for MyMathLab using Course ID# dill94073.

ATTENDANCE:

Each class meeting is a vitally important part of the course. You are expected to attend every class. If it is absolutely necessary for you to miss a class, you are still responsible for the topics, activities and examples discussed on the day of your absence, as well as any quizzes or assignments given during the class you missed. If you are absent frequently or for an extended period of time, contact the instructor as soon as possible to assess your situation. Frequent absences will negatively affect your grade.

TESTING:

- If it is absolutely necessary that you be absent on a test day, discuss your situation with the instructor as soon as possible before the exam day. It may be possible for you to take the exam earlier than the specified date. If you unexpectedly must be absent on an exam day, notify the instructor by voicemail at least one hour prior to the exam. Be sure to state the reason for your absence. **If no notification is received prior to the exam date, or if the reason for absence is not justified, you will receive a score of zero for the exam and no make-up will be allowed.** If the absence is justified, then a make-up test will be scheduled as soon as you return to class. The instructor has the right to require documentation of the student absence and determine if the absence is justified. **No more than one make-up exam per student is permitted during the semester. There are no make-up opportunities for missed graded assignments, graded in-class activities or other graded course activities.**
- There are no retests for this course.
- The final exam is cumulative.

CELL PHONES, ELECTRONIC DEVICES: All electronic devices must be silenced during class.

SUCCESS IN THIS COURSE WILL BE ENHANCED BY:

1. A positive, inquiring approach toward mathematics;
2. Setting aside adequate time for studying, completing all assignments, and careful assimilation of the material;
3. Reading the text carefully and making use of other learning materials whenever necessary;
4. Seeking assistance from the instructor and the Math Lab whenever necessary;
5. **Being on time and prepared for every class.**

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale 'Akoakoa 213 for more information.

TENTATIVE SCHEDULE - MATH 115

CRN # 62123

FALL 2009 - DILL

TTH 9:45-11:00 Mana'opono 113

TUESDAY		THURSDAY	
AUG 25	<i>Welcome and Orientation</i> 1.1, 1.2	AUG 27	1.3, 1.4, 1.5 <i>Add/Drop period ends; last day for 100% refund - 8/28.</i>
SEPT 1	2.1, 2.2	SEPT 3	2.2, 2.3, 3.1
SEPT 8	3.2, 3.3	SEPT 10	3.4, 3.5 <i>Last day of Erase and 50% refund - 9/14.</i>
SEPT 15	4.1	SEPT 17	4.2, 4.3
SEPT 22	Review for Exam #1	SEPT 24	EXAM #1 Chapters 1 – 4 5.1
SEPT 29	5.1, 5.2	OCT 1	5.3, 5.4a
OCT 6	5.4, 6.1	OCT 8	6.2
OCT 13	6.2, 7.1	OCT 15	7.2, 7.3
OCT 20	7.4, 7.5	OCT 22	Review 8.1
OCT 27	EXAM #2 Chapters 5, 6, 7 <i>Last Day of Official Withdrawal, CR/NC Deadline - 10/27</i>	OCT 29	8.1, 8.2
NOV 3	9.1, 9.2	NOV 5	9.3, 9.4
NOV 10	10.1	NOV 12	10.2, 10.3
NOV 17	10.4, 10.5	NOV 19	Review
NOV 24	EXAM #3 Chapters 8, 9, 10	NOV 26	<i>Holiday - Thanksgiving Day</i>
DEC 1	12.1	DEC 3	12.2
DEC 8	Review	DEC 10	Review
DEC 15		DEC 17	FINAL EXAM <i>9:30 - 11:20 a.m.</i>

