



MATH 115 Introduction to Statistics and Probability (3 cr)
Online Course CRN 63034

INSTRUCTOR: Matthew Radio
OFFICE: Hale Mana'opono 110A
OFFICE HOURS: Email me to arrange a phone call or video conference.
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EFFECTIVE DATE: July 2 – August 10, Summer 2018
MyStatLab Course ID: radio05615

Windward Community College Mission Statement

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O'ahu's Ko'olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

Catalog Description

Utilizes basic statistical topics including measures of central tendency and dispersion, classification of variables, sampling techniques, elementary probability, normal and binomial probability distributions, tests of hypothesis, linear regression and correlation in order to solve problems. (3 hours lecture)

Pre-Requisite(s): Grade of C or better in Math 25, 26, 28, 29, 75X or higher or equivalent, satisfactory math placement test score, or consent of instructor.

Learning Resources and Materials

Textbook: Sullivan. 2018. Fundamentals of Statistics, Informed Decisions Using Data, 5th ed., Pearson.

- Option 1: Buy the printed textbook from the bookstore with an Access Code included.
- Option 2: Buy the Access Code to MyStatLab directly online and get the e-book included.
<https://www.pearsonmylabandmastering.com/northamerica/mymathlab/students/get-registered/index.html>
- The "Access Code" must be bought and gives access to the Pearson website. The "Course ID" (radio05615) is a free code that gives you access to our specific course page within MyStatLab.

Required Technology: Student must have access to statistical software such as Microsoft Excel, Pearson Statcrunch, OR purchase a graphing calculator, such as the TI-83, TI-84, or TI-84+.

MATH LAB: La'akea 220 – free drop-in tutorial assistance at WCC

Brainfuse Online Tutorial Assistance: <https://windward.hawaii.edu/brainfuse/>

OLA (UH online tutoring program): <https://manoa.hawaii.edu/ola/>

TRiO Student Support Services: https://windward.hawaii.edu/trio/Student_Support_Services.php

Khan Academy Videos: <https://www.khanacademy.org/math>

Normal Distribution Calculator: http://davidmlane.com/hyperstat/z_table.html

Excel Tutorials: <http://www.brucesimmons.com/excel244.html>

This course syllabus is subject to change.

STUDENT LEARNING OUTCOMES

Upon completion of the course, the student will be able to:

- Calculate and interpret statistical information.
- Calculate and interpret probabilities for binomial or normal distributions, including the use of the Central Limit Theorem.
- Demonstrate the use of inferential statistics.
- Utilize appropriate statistical terminology and mathematical symbols to effectively communicate mathematics in written and/or oral form.

Note: All SLOs assessments are embedded in class activities, homework, quizzes, or Exams.

COURSE CONTENT

Concepts or Topics (*What students should know or understand*)

- Data collection
- Descriptive statistics
- Probability
- Discrete probability distributions
- The normal probability distribution
- Sampling distributions
- Estimating the value of a parameter
- Hypothesis tests regarding a parameter
- Inferences on categorical data

Skills or Competencies (*What students should be able to do in order to complete the student learning outcomes*)

- Have a positive, inquiring attitude towards learning mathematics;
- Be able to set aside adequate time for studying and working on problems;
- Read the text carefully and make use of other learning materials whenever necessary;
- Seek assistance from the instructor and the Math Lab personnel whenever necessary;
- Complete assignments by the designated date;
- Attend class regularly, participate and maintain accurate class notes.

Course Tasks

This course focuses on problem solving, logical reasoning, and analytical thinking. The student will apply information to text book problem sets using an online interface. The goal is not simply to get the correct answer but to explain how to obtain the solution and why the solution is correct.

The course runs on a weekly calendar that begins on Monday morning and ends on Sunday at 11:59 pm, except for the final week which ends on Friday, August, 10.

The student will demonstrate competency in the objectives by participating in class activities, by completing and submitting homework assignments, by taking midterm exams, and by taking a cumulative final exam. Class activities and homework are to be submitted in the appropriate forum in Laulima. The midterm exams and the final exam are to be proctored in a testing.

- **Online Participation in Laulima.** You will be expected to participate in discussion threads posted each week in Laulima. Each week you must participate by posting three substantive messages total and you must post on at least two different days during the week. If you fulfill these requirements, you will earn 2 participation points for the week. Partial participation will be worth 1 point. **There will be no make-up for missed participation.**

Details on what constitutes a substantive message will be posted during the first day of class. Basically, a substantive message will be one that adds to the educational value of the class for all students. Messages may include, but are not limited to:

- Questions about the reading
 - Questions about the homework problems
 - Examples relating to the course material
 - Responses to questions posted by the instructor
 - Responses to questions posted by your classmates.
- **Homework.** Homework will be assigned weekly in MyStatLab. The assigned sections will be due Sundays at 11:59 pm, Hawaii time. **No late homework will be accepted.**
 - **Weekly Exams.** There will be five weekly exams each covering specific chapters of the textbook (i.e., these exams will not be cumulative). The exams will be posted on Saturday and due on Tuesday. The exams must be completed at home in your own writing, scanned using an app like Scannable or Office Lens, and emailed to me. Exam problems will be based on the homework problems for the week and will focus on the most important course objectives.
 - **Project.** You will be required to complete a course-long statistics project. The project will be given in stages with part due each week on FRIDAY at 11:59pm. **No late work will be accepted.** However each part of the project must be completed in order to finish the next week's work
 - **Final Exam.** There will be one cumulative exam at the end of the course. Final Exam will be proctored at a local testing center of your choice and must be taken during the days specified (see calendar). (<http://www.hawaii.edu/dl/testcenters>.) The student is responsible for providing the contact information for their chosen testing center by August 1, 2018.

- **Make-up.** Make-up opportunity for a weekly exam or final exam will be possible only upon a timely presentation of a serious and justified explanation of the student's absence from the class test. The instructor has the right to request documentation of the student's absence from the class test and to determine if the absence from the class test is justified. A make-up test must be taken by the deadline set by the instructor.

Notes:

- For each student, no more than one make-up exam may be granted.
- The Final Exam **MUST** be completed on time.

- **Evaluation:**

Participation	12%
Homework	12%
Project	24%
Five Weekly Exams	30%
Comprehensive Final Exam (Proctored)	22%

- **Course Grade:**

Letter Grade	Definition
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
F	Less than 60% of the cumulative points possible
CR	70% or above of the cumulative points possible
NC	Less than 70% of the cumulative points possible
W	Official Withdrawal
I	See below

- The N grade will not be given in this course.
- CR/NC grades require written instructor consent. Students must apply for CR/NC grading option at the Admissions Office by the posted deadline. 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, or F) will be assigned for the course.
- The W grade is given only when the student officially withdraws from the course by the posted deadline.
- *The I grade is a temporary grade given at the instructor's option when a student has failed to complete a small part of a course because of circumstances beyond his or her control. A student may qualify for the I grade if (a) they are unable to take the final exam and (b) taking the final exam could possibly raise their course grade. The I grade is given only after a student's request and the instructor's approval.*

Additional Information

- **Grading on Homework, Activities, Midterm Exams, and Final Exam.** To receive full marks for problems done on any graded course work, you must show mathematical steps neatly and completely as well as provide clear written explanations, in full sentences, when it is asked for. Partial credit may be awarded.
- **Student Expectations.** You need to work on the course at least 3 times each week and spend about 30 hours per week on the course. Homework, exams, and project activities must be turned in on time. Students are expected to initiate a conversation with the instructor about topics that require additional clarification.
- **Practice.** For each chapter, as you read through each section, it is recommended that you write down the words, phrase or math symbols and their meanings, formulas, and properties/rules that are important for each activity. It is important for you to know these.

After you read and study each textbook section, try the odd-numbered problems in Exercise Set at the end of the section. The answers to these selected problems are available in the back of the textbook. Then do as many other problems in the same section as you feel is necessary to help you learn and understand the material and become comfortable with the concepts and/or properties. **I encourage you to reach out to me for additional assistance.**

- **Laulima.** All instructions, including discussions, exams, and class activities, will be posted in Laulima each week. The syllabus, course calendar, homework schedule, grades, etc. are all viewable through Laulima. Check Laulima every day to stay up to date. I'll be logging in at least once a day Monday through Friday.
- **Communication.** It is your responsibility to stay in communication with the instructor. The instructor may need to contact you throughout the semester and will do so via email and/or phone. It is your responsibility to check your UH email on a regular basis.
- **Electronic Devices.** The usage of electronic devices, including two-way communications devices such as cell phones, is prohibited during any proctored tests. (Cell phones must be silenced and put away when entering the testing room.)
- **MyStatLab (MSL).** You are strongly recommended to utilize the online resources provided by Pearson (<https://www.pearsonmylabandmastering.com/northamerica/>). To register for a MSL account, you must have an access code (accompanying the printed textbook or purchase solely) and a course ID. See the course banner at the top of this document for MSL course ID.
- **Academic dishonesty will not be tolerated.** All suspected cases will be investigated and reported to the Dean. Punishments will vary, but may include failure to the course. See <http://windward.hawaii.edu/Policies/> for more information on the UH system-wide student conduct code.
- **Title IX.** Visit https://windward.hawaii.edu/Title_IX/ to read more about Title IX.
- **Testing Center.** The Windward Community College Testing Center is located in Hale La'akea 228. (Visit <https://windward.hawaii.edu/kapiko/testing/> for more information.) The website <http://www.hawaii.edu/dl/testcenters> provides information on all available testing sites in Hawai'i. Please notify me the location and contact information of the proctor of your testing center by the end of the first week.

- **MySuccess.** At Windward community college, we want every student to be successful. MySuccess is a system wide effort that seeks to support students early in the semester when they first experience difficulty in class. If I feel that you are having difficulty in this course within the first few weeks of the semester (e.g. missing class, missing assignments, or low test scores) and that you would really benefit from being connected to resources outside of the classroom, I may refer you to your assigned counselor. Once referred, MySuccess will:
 - Call you and send an email to your Hawaii.edu account to let you know about my referral; and
 - Have the MySuccess team follow up with you by phone or email to find out what kinds of help you might need and connect you with the necessary resources to help you devise a strategy for success.

If I refer you to your assigned counselor, please know that I am doing so in an effort to connect you with all of the help you may need to do well this course Please be advised that your success in this course is important to me.

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 (subject to change)

Week Of	Discussions, Activities, and Assignments (All times are Hawaii Standard Time; MSL=MyStatLab; HW=Homework)
July 2	Read Chapters 1 and 2 <ul style="list-style-type: none">• Project Part 1 due Friday, July 6, 2018 at 11:59pm.• HW in MSL due Sunday, July 8, 2018 at 11:59pm.• Exam 1 due Tuesday, July 10, 2018 at 11:59pm.
July 9	Read Chapters 3 and 4 <ul style="list-style-type: none">• Project Part 2 due Friday, July 13, 2018 at 11:59pm.• HW in MSL due Sunday, July 15, 2018 at 11:59pm.• Exam 2 due Tuesday, July 17, 2018 at 11:59pm.
July 16	Read Chapters 5, 6, and 7 <ul style="list-style-type: none">• Project Part 3 due Friday, July 20, 2018 at 11:59pm.• HW in MSL due Sunday, July 22, 2018 at 11:59pm.• Exam 3 due Tuesday, July 24, 2018 at 11:59pm.
July 23	Read Chapters 8 and 9 <ul style="list-style-type: none">• Project Part 4 due Friday, July 27, 2018 at 11:59pm.• HW in MSL due Sunday, July 29, 2018 at 11:59pm.• Exam 4 due Tuesday, July 31, 2018 at 11:59pm.
July 30	Read Chapter 10 <ul style="list-style-type: none">• Project Part 5 due Friday, August 3, 2018 at 11:59pm.• HW in MSL due Sunday, August 5, 2018 at 11:59pm.• Exam 5 due Tuesday, August 7, 2018 at 11:59pm.
August 6	Read Chapter 12, sections 1 and 2 only <ul style="list-style-type: none">• Project Part 6 due Friday, August 10, 2018 at 11:59pm.• HW in MSL due FRIDAY, August 10, 2018 at 11:59pm.• FINAL EXAM (Proctored at an approved testing center; must be taken on 8/8/18 - 8/11/18)