Math 115 Intro to Stats and Probability
CRN: 61094
(3 Credits)
Asynchronous except for Exam Days

INSTRUCTOR: Tiffany W. Hayler
OFFICE HOURS: Email Instructor to set up online office meeting time
TELEPHONE: N/A EMAIL: haylert@hawaii.edu
EFFECTIVE DATE: Spring 2022

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 the Ko‘olau region of O‘ahu 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.
WCC: FQ

ABOUT THE INSTRUCTOR
My name is Tiffany Hayler, and I am the instructor for this course. I started my own college journey at Windward Community College, then went on to receive my degree(s) from the University of Hawaii at Manoa. I took my own Math 103 course at Windward Community College and I am excited to work with you during this semester!

CONTACTING INSTRUCTOR
If you have any questions about the course or if you wish to set up a meeting time to go over course material. please send me an email. When sending an email, please include the following in the subject line:
Math 115 (Then reason for email)
Please allow for a minimum of 48 hours to pass before sending a follow up email.
FOUNDATIONS QUANTITATIVE REASONING HALLMARKS

Math 115 also fulfills 3 credits of the General education requirements (Foundations Quantitative Reasoning) for both an A.A. degree at WCC and a Bachelor’s degree at 4 year UH institutions. Consequently, it meets the following hallmarks of the Quantitative Reasoning requirement:

1. Provide students with theoretical justifications for, and limitations of, mathematical or statistical methods, and the formulas, tools, or approaches used in the course.

2. Include application of abstract or theoretical ideas and information to the solution of practical quantitative reasoning problems arising in pure and applied research in specific disciplines, professional settings, and/or daily and civic life.

3. Provide opportunities for practice and feedback that are designed to help students evaluate and improve quantitative reasoning skills by including a course component at least once per week with a maximum 30:1 student-to-teacher ratio.

4. Be designed so that students will be able to
   a. Identify and convert relevant quantitative information into various forms such as equations, graphs, diagrams, tables, and/or words;
   b. Select appropriate techniques or formulas, and articulate and evaluate assumptions of the selected approaches.
   c. Apply mathematical tools and perform calculations (including correct manipulation of formulas);
   d. Make judgments, create logical arguments, and/or draw appropriate conclusions based on the quantitative analysis of data, the assumptions made, the limitations of the analysis, and/or the reasonableness of results; and
   e. Effectively communicate those results in a variety of appropriate formats.

STUDENT LEARNING OUTCOMES

As a result of taking this course, students can expect to attain the following outcomes:

1. Calculate and interpret statistical information.

2. Calculate and interpret probabilities for binomial or normal distributions, including the use of the Central Limit Theorem.

3. Demonstrate the use of inferential statistics.

4. 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, or Exams.

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## COURSE CONCEPTS AND SKILLS

<table>
<thead>
<tr>
<th>Concepts or Topics (What students should know or understand after successful completion of the course)</th>
<th>Skills or Competencies (What students should be able to do to complete the student learning outcomes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Data Collection</td>
<td>1. Hold a positive, inquiring attitude towards learning mathematics</td>
</tr>
<tr>
<td>• Descriptive Statistics</td>
<td>2. Set aside adequate time for studying and working of problems</td>
</tr>
<tr>
<td>• Probability</td>
<td>3. Thoroughly read the textbook and make use of other resources as needed</td>
</tr>
<tr>
<td>• Discrete Probability Distributions</td>
<td>4. Seek assistance from the instructor, fellow students, or tutoring personnel whenever necessary.</td>
</tr>
<tr>
<td>• The Normal Probability Distribution</td>
<td>5. Complete assignments by the designated date and participate in any class activities as assigned by the instructor</td>
</tr>
<tr>
<td>• Sampling Distributions</td>
<td></td>
</tr>
<tr>
<td>• Estimating the Value of a Parameter</td>
<td></td>
</tr>
<tr>
<td>• Hypothesis Tests Regarding a Parameter</td>
<td></td>
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<tr>
<td>• Inferences on Categorical Data</td>
<td></td>
</tr>
</tbody>
</table>

## COMMUNICATION

As this course is online, it is important to check in with class content **daily**.

You are responsible for checking your UH email regularly for important announcements. The math course homepage at the Laulima website is how you will turn in lecture notes via Dropbox, as well as view important resources for the course. You will also have weekly homework assignments posted to MyLabMath.

If you are ever falling behind in the course, reach out to the instructor! Communicate any needs or concerns and the instructor will work with you to find a solution!

## OFFICE HOURS (All Virtual Office Hours)

Set office hours TBA on Laulima. If you would like to set up an office hour outside the specified times, email the instructor 24hrs prior to when you would like to set up the office hour and a time to meet will be determined.

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COURSE WORK

Once a week, students will be expected to:

1. **Read the assigned sections for each week.**
   We will be covering multiple sections each week.

2. **Watch the lecture videos for each week.**
   Lecture videos are on YouTube, a link for them will be provided on the main page of your Math 140 Laulima website.

3. **Fill out and turn in lecture notes** while watching the lectures then upload to Dropbox on Laulima as a pdf. Blank lecture notes for each section are provided in Laulima under “Resources.” Neatly written and completed notes are worth 5 points each. Upload completed notes to your Laulima Dropbox by 11:59pm on Fridays for each week’s sections.

4. **Complete weekly WebAssign homework.**
   Each section has its own set of problems that you will need to complete on MyLabMath.

5. **Take any exams that are posted for that week.**
   There are four exams in this course and one final exam.
   The final exam is cumulative and will need to be printed as it will be proctored via Zoom. The other three exams do not need to be printed if the student has access to a writing tablet, otherwise they will still need to be printed.

6. **Upload your exams pdf to Dropbox**
   The exam will be available in Laulima as a pdf at the time stated on the Laulima overview page. You have 1 hr and 15 minutes to take the exam from the time it is posted, plus an additional 30 minute grace period for printing and uploading, as needed. Make sure to show your work for each of the problems on your exams.
   Once you complete your exam you have 30 minutes to upload your exam work to Laulima. This written work is necessary for your grade as points are awarded for work shown, not just the correct answer. Late notes are deducted 5% every 15 minutes extra to the designated turn in time. **Once a 5hrs have passed the exam will receive a score of 0% unless the student has contacted the instructor and made prior arrangements.**

It is expected that students spend, at the minimum, **9 hours per week** outside of class time studying, attending the Math Lab and/or SI sessions for extra help, and doing homework and readings for this class.

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COURSE TASKS AND POINT WORTH

Grades for this course are based on the following course tasks:

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points</th>
<th>Percentage Approx.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 course exams @100pts each</td>
<td>300 pts</td>
<td>46%</td>
</tr>
<tr>
<td>Course Activities (Total percent earned) (125) = pts for CA</td>
<td>225 pts</td>
<td>35%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>125 pts</td>
<td>19%</td>
</tr>
<tr>
<td>Total</td>
<td>650</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Course Activities** may include but are not limited to: Lecture Notes, WebAssign homework problems, Quizzes or any other assignments outside of the course exams and the final exam.

The total percent correct will be multiplied by 225 and will be rounded to the nearest ½ point to obtain your score for the course activities portion of your grade. The **maximum** score for the course activities portion of your grade is 225 points.

FINAL GRADES

Each letter grade for the course will be assigned according to the level of achievement as provided in the table following:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90% - 100% of the cumulative points possible</td>
</tr>
<tr>
<td>B</td>
<td>80% - 89% of the cumulative points possible</td>
</tr>
<tr>
<td>C</td>
<td>70% - 79% of the cumulative points possible</td>
</tr>
<tr>
<td>D</td>
<td>60% - 69% of the cumulative points possible</td>
</tr>
<tr>
<td>F</td>
<td>Less than 60% of the cumulative points possible</td>
</tr>
<tr>
<td>CR</td>
<td>70% - 100% of the cumulative points possible</td>
</tr>
<tr>
<td>NC</td>
<td>Less than 70% of the cumulative point’s possible Official Withdrawal</td>
</tr>
<tr>
<td>W</td>
<td>Official Withdrawal</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete - given when a student has failed to complete a SMALL part of the course due to circumstances beyond his/her control.</td>
</tr>
</tbody>
</table>

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SPECIAL GRADING

Note: To receive a CR/NC you need written instructor consent. Students MUST apply to at the Admissions Office by the deadline on the UH academic calendar for the current semester to receive this option.

Note: To receive a W grade a student must officially withdraw from the course before the posted deadline on the UH academic calendar for the current semester.

Note: The I grade is a temporary grade given at the instructor’s discretion 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 grad 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 by student request and must be approved by the instructor.

REQUIRED RESOURCES


Required Technology Tools: Two-variable statistical calculator. (TI-84)

Required Technology: Computer and scientific calculator.

Required Online Tool: Pearson MyLab Math online access.

Required Internet Connection: Students need access to a strong internet connection.

Access to a Printer: Final Exam needs to be printed and will be proctored via Zoom.

Access to a Webcam: Final Exam will be proctored via Zoom.

Required Scanning Ability or Smartphone/Tablet Use: Students need to be able to upload their notes from class lectures to Laulima Dropbox. Students may also choose to take their notes online by writing on a pdf with a tablet of some kind if they do not have access to a scanner or would prefer to use this method. However, students will not be allowed to use a device capable of access in the internet for the Final Exam. The final will be proctored via Zoom and must be printed out.

Access to Final Exam Space: The final exam will be proctored via Zoom. Students need to have a desk space large enough to allow their computer screen view to be in front of them and to include both the students head, hands, test and calculator in the camera view at all times.

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**Final Exam Etiquette:** If a student’s head and/or hands leave the camera view, or the student is looking off screen, the student will receive a verbal reminder to have head and hands viewable on screen and/or eyes on their test. After 2 verbal reminders, if a student violates this requirement a third time, the student’s exam will receive a score of 0%. There are no retests for the final exam.

A student is allowed one 5-minute bathroom break during the exam. They must obtain permission from the instructor before leaving the screen.

If you have another method for turning in a document as a pdf, that is perfectly acceptable. As long as your work is legible and on a single pdf per assignment.

**LEARNING RESOURCES**

Khan Academy Videos: [https://www.khanacademy.org/math](https://www.khanacademy.org/math)  
Ka Piko is WCC’s academic support hub. Please visit: [https://windward.hawaii.edu/kapiko](https://windward.hawaii.edu/kapiko)  
OLA (UH online tutoring program): [https://manoa.hawaii.edu/ola](https://manoa.hawaii.edu/ola)  
Tutor.com Online Tutorial Assistance: [https://windward.hawaii.edu/tudor.com/](https://windward.hawaii.edu/tudor.com/)  
Wolfram Alpha: [http://www.wolframalpha.com](http://www.wolframalpha.com)

**STUDENT EXPECTATIONS Email and Laulima Website**

**Student Expectations.** You need to login to Laulima at minimum of 2 times each week and spend at least 9 hours per week on the course. This includes any MLS work, written homework and any exams or quizzes in each week.

Homework must be turned in on time and exams taken during the days specified.

**Practice:** Practice and more practice! While reading each section it it recommended that you write down any formulas or properties and rules that are mentioned in each section— either on notecards or in a notebook.

A student will often need to practice more problems than assigned to fully understand a problem. Do as many other problems in the same activity as you feel is necessary to help you learn and understand the material in order to become comfortable with the concepts and/or properties. If you have difficulty solving problems, review the section and examples carefully. After you have spent time checking these sources and trying to find your mistakes, contact your instructor for additional assistance. You are also encouraged to discuss problems with your fellow students. You can do this via the email or discussion tabs on Laulima.

Mathematics is not a spectator sport. To succeed in mathematics, you must put in the practice and often work through multiple problems to understand the material.

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LEARNING RESOURCES

Math lab: La’akea 220 – free drop-in tutorial assistance online via Zoom

WCC Testing Center: La’akea (Library Learning Commons) rm 228 – phone number 235-7498

UH Manoa Online Learning Academy: http://manoa.hawaii.edu/ola/

Brainfuse: http://windward.hawaii.edu/Brainfuse/ Free online tutorial assistance accessed via the MyUH portal.

Khan Academy: https://www.khanacademy.org/ Free online lessons and practice.

RESPONSIBILITIES OF THE STUDENT
Success in this course will be enhanced by:

1. A positive, inquiring attitude toward mathematics;
2. Setting aside adequate time for studying, working on problems, and careful cogitation 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. Participating in weekly lecture videos and homework and, notifying the instructor of an absence or emergency and responsibly obtaining and completing assignments by the designated date.

*If a student feels an assignment has been unfairly graded, or that there are any other concerns about the course or the material, it is up to the student to bring this to the attention of the instructor, as soon as possible, to fairly discuss and communicate any concerns!

WEEKLY LECTURE VIDEOS
Lectures will be given via a Youtube channel. The link is on the course calendar on the Laulima homepage.

You will follow along with the lectures and write down the class notes. Turn in the completed notes via Dropbox at the end of each respective week to receive credit for the notes (Fridays by 11:59pm).

LAULIMA
Laulima is one of the main platforms of communication for this class. Resources for each week, as well as the syllabus and course schedule will be on our Laulima website. You will also upload your lecture notes and final exam in weekly Dropbox folders on Laulima. (Please create 17 weekly folders in Dropbox for this course.)
Please make sure to label your documents as shown below.

Label all documents as: (document title)LastName_FirstName

Assignments that are submitted incorrectly will receive a score of 0%. If the assignment was turned in on time, yet in the wrong format, the student will have the opportunity to resubmit the assignment for full credit within a reasonable timeframe. However, please note that because the assignment was submitted late, it may not be graded as quickly as the other assignments.

MYLAB MATH ---PEARSON

This course will utilize MyLabMath (MLM) for homework and exams. A new textbook purchased from the WCC bookstore is packaged with an access code. If you purchase a used book or the textbook from elsewhere, be sure that it comes with the access code. The MyLabMath access code also provides an e-book so if you prefer, you may purchase just the WebAssign access code online. Before you start using MLM for assignments, be sure to check the system requirements and browser settings.

For MLM homework, a deadline will be given. Homework may be worked on after the deadline, with a 20% point penalty on all problems finished after the original due date.

EXAMS

Exam Times: The exams will open on Laulima on the day(s) and time(s) mentioned in the overview course calendar. Students have 1hr and 15 minutes to take the exam, plus 30 minutes grace period to print and upload the exam.

Make-up Exam: If a student is unable to attend class on an exam day, they are to discuss their situation with the instructor as soon as possible before the exam day. The student may be able to take the exam earlier than the specified day/time. If the student is unexpectedly absent on exam day, notify the instructor by 4:00 pm that day via e-mail. If the notification is promptly received and the reason is justified, then a make-up exam will be scheduled. The instructor reserves the right to request documentation to determine whether the absence is reasonable. For each student, NO MORE THAN ONE make-up exam may be taken.

Re-tests: There are no retests.

Final Exam: The final exam will cover concepts and skills from the entire course. The final exam is 2 hours long and will be the only exam that will be proctored during a Zoom meeting.

Due to the proctoring, a student must have access to a printer on the day of the final exam. If a student does not have access to a printer, they MUST contact the instructor at least 72hrs in advance to request assistance in finding access to a printer.

Tablets and phones are allowed to be used for Lecture Notes and the other three course exams but are NOT allowed to be used for the final exam.

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ACADEMIC HONESTY

You may not consult with any classmates or outside resources while taking quizzes or exams.

You are **not** allowed to tell a classmate the kind of questions on a quiz or exam or help a classmate in any way (e.g. by explaining how to solve the problem). Evidence of cheating will result in a score of 0 for all parties involved. An “F” will be assigned to students involved in cheating and will be reported to the Dean. Please keep in mind that you are being assessed for your own knowledge and understanding of the concepts and strategies.

Any evidence of plagiarism will result in a score of 0 for all parties involved. If plagiarism persists, then an “F” will be assigned to the students involved in plagiarism and will be reported to the Dean. All students are required to follow the Student Conduct Code described at http://www.hawai.edu/policy/?action=viewPolicy&&policySection=ep&policyChapter=7&policyNumber=208

SPECIAL DEADLINES

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/18/2022</td>
<td>Last day to register</td>
</tr>
<tr>
<td>01/18/2022</td>
<td>Last day to receive 100% tuition refund</td>
</tr>
<tr>
<td>02/02/2022</td>
<td>Last day to receive 50% tuition refund</td>
</tr>
<tr>
<td>02/02/2022</td>
<td>Last day to drop (No &quot;W&quot; on transcript)</td>
</tr>
<tr>
<td>03/28/2022</td>
<td>Last day to withdraw from class (&quot;W&quot; on transcript)</td>
</tr>
</tbody>
</table>

ADDITIONAL INFORMATION

- **EMAIL:**
  Be sure to put “Math115” then the nature of the email in the subject line of your email. Please allow for 24 hrs to pass before sending a follow up email.

- **CALCULATOR:**
  TI-84 calculator required, it has more capabilities than a regular scientific calculator.

- **HELP:**
  The course instructor is your main human resource for help when you need help with the course material. There are also online help resources available and the Windward Community College Math Lab, online via Zoom. PLEASE seek help immediately if you are still lost or confused about the material after reading the sections and watching the lectures.
• **GRADEBOOK:**
The gradebook on Laulima will be used for this course, however the class activity portion of your grade will only be updated at the end of the semester.

• **STUDENT ABSENCE**
It is a student’s responsibility to keep up with course work. Even if the student is unable to complete course work for a period of time, he/she is responsible for the missed topics and examples covered in the class. If a student is absent frequently or for an extended period of time, they must contact the instructor as soon as possible to discuss the situation. Frequent or long periods of absence require a professional note justifying the absence. (For WWW courses, absence is when the student has not logged into Laulima or MLM to do any course work)

• **EXTRA CREDIT:**
The opportunity for extra credit opportunities may arise during the course. But the maximum score for exams is 100% and 100 points for the class activities portion.

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**DISABILITIES ACCOMMODATIONS**
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 Accessibility Counselor to discuss reasonable accommodations that will help you succeed in this class. Roy Inouye can be reached at (808) 235-7448, royinouy@hawaii.edu, or you may stop by Hale Kākoʻo 106 for more information.

**SEX DISCRIMINATION AND GENDER-BASED VIOLENCE RESOURCES (TITLE IX)**
Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

- Madoka (Doka) Kumagai, Confidential Advocate
  Phone: (808) 348-0663 (cellular)
  Phone: (808) 956-6084 (office)
  Email: kumagaim@hawaii.edu

- Desrae Kahale, Mental Health Counselor & Confidential Resource
  Phone: (808) 235-7393
  Email: dkahale3@hawaii.edu
  Office: Hale Kākoʻo 101

- Karla K. Silva-Park, Title IX Coordinator
  Phone: (808) 235-7468
  Email: karlas@hawaii.edu
  Office: Hale ʻĀkoakoa 220

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As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

For more information regarding sex discrimination and gender-based violence, the University’s Title IX resources and the University’s Policy, Interim EP 1.204, go to manoa.hawaii.edu/titleix/

ALTERNATE CONTACT INFORMATION

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

☐ Location: Alaka’i 121
☐ Phone: (808) 235-7422