



## SYLLBUS



3140 Waialae Avenue  
Honolulu, Hawai'i 96816-1578

### 1. FACULTY CONTACT INFORMATION

#### MA-331-01\_1 Intro to Probability & Statistics

Pearson portal myLab Statistics, ID = **brownlow98649**

##### Class Schedule:

Dates: January 06, 2024 – May 02, 2025  
Department Name: School of Natural Science & Mathematics (SNSM)  
Course Credits: Three (3)  
Class Schedule: **MWF @09:30 AM – 10:20 PM at SULV 201**

Instructor: Maria Brownlow, Ph.D.  
Management Science, MIS, Business Analytics/Informatics,  
Computer Information Systems (CIS)  
Contact Info: 808-739-8337 (office)  
Office Hours: MWF Noon - 1:00 PM by appointment, Kieffer Room 28  
CUH email: [maria.brownlow@chaminade.edu](mailto:maria.brownlow@chaminade.edu)

SNSM Division Phone #: (808) 440-4204  
SNSM Assistant to the Dean: Faith Chang

#### CHAMINADE UNIVERSITY MISSION STATEMENT

Chaminade University offers its students an education in a collaborative learning environment that prepares them for life, service, and successful careers. Guided by its Catholic, Marianist and liberal arts educational traditions, Chaminade encourages the development of moral character, personal competencies, and a commitment to build a just and peaceful society. The university offers both the civic and church communities of the Pacific region its academic and intellectual resources in the pursuit of common aims.



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DARE TO LEARN. DARE TO CHANGE.

“The future is no longer stable; it has become a moving target. No single “right” projection can be deducted from past behavior. The better approach, I believe, is to accept uncertainty, try to understand it, and make it part of our reasoning. Uncertainty today is not just occasional, temporary deviation from a reasonable predictability; it is a basic structural feature of the business environment.”<sup>1</sup>

## 2. COURSE INTRODUCTION AND OVERVIEW

University Catalog <https://catalog.chaminade.edu/>

### MA 331 Introduction to Probability and Statistics (3)

Samples space, random variables, classical distributions, and the central limit theorem, estimation, testing of hypotheses for parameters, the first and second kinds of errors, correlations, regressions, and analysis of variance. Offered annually. Prerequisites: MA110, equivalent, or placement.

Statistics is used every day in our lives – from buying a car (blue book review) to a new cancer treatment that became available passing medical trial. We make our investment decisions based on the technical analysis of the company stock over the period. Statistics influence and shape the world around us. Statistics using Excel illustrates the relationship between statistics and our world with a variety of decisions we make daily even if we do not realize this fact.

Using every day simple tool like Excel, an abstract theory becomes reality. Added tools such as DDXL and STATDISK enhance students’ learning.

Intro to Probability and Statistics course is designed to understand statistical tools in research and practice. This course places strong emphasis on understanding concepts of statistics. Topics are presented with illustrative examples, identification of required assumptions, and underlying theory is discussed during interactive lectures and videos.

Excel is used for calculations as a technology tool and instructions are provided along with typical displays of results. Results are reviewed and concluded with interpretation. In some cases, such as examples involving formulas and graphs—detailed instructions are presented so that Excel can be used effectively in all applications, instead of those relating only to statistics. Students enter professional careers with a solid knowledge and skills that are required.

The objective of this course is to present the fundamental concepts in a consistent and straightforward way so that students understand the need to master them. Achieving statistical thinking skills has always been an important challenge in mastering statistics. This course puts strong

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<sup>1</sup> Farsighted How We Make the Decisions That Matter the Most by Steven Johnson, New York Times bestselling author.

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emphasis on understanding concepts of statistics and explaining and interpreting results. Without this skill the knowledge of numbers is useless – and it would be right to ask a question “So what?” Instead of blindly accepting and using formulas, we better have some understanding why and how they work, what does it mean?

This course is a building step to acquire knowledge and skills to conduct data modeling. Such vast data analysis is further used in business intelligence to make smart and effective decisions. We live in a projects-oriented economy where strategic modeling to predict behavior leads to efficient use of limited resources, including funds.

What is a critical thinking in statistics so that we avoid “GIGO” (garbage in, garbage out) results? Instead of blindly using formulas and procedures, students must think carefully about the context of the data, the source of the data, the method used in data collection, the conclusions reached, and the practical implications. Common sense to think critically about data and statistics and do not misuse them is one of the goals of this course.

The course topics are organized into five parts, as described in this textbook:

1. **Chapter 1 - 3:** Introduces statistics and describes, explores, and compares data. Summarizing and graphing data correctly “speaks better than words” allowing students to identify bad graphs that might be technically correct but misleading. It is important to understand how graphs are misleading. These chapters explain fundamental tools used in statistical methods.
2. **Chapter 4 - 6:** Introduces and describes concept of probability and probability distributions. A sound understanding concept of probability values constitutes the underlying foundation on which the methods of inferential statistics are built.

Major activities of inferential statistics are:

- use sample data to estimate values of population parameters such as a population proportion or population mean, and
  - test hypotheses or claims made about population parameters.
3. **Chapter 7 - 9:** These chapters focus on the use of sample data to estimate a population parameter and introduce the basic methods for testing claims or hypotheses that have been made about a population parameter.
  4. **Chapter 10:** In this chapter students learn methods for determining whether correlation or association between two variables exists and whether the correlation is linear. For linear correlations, students identify an equation that best fits the data and use that equation to predict the value of one variable given the value of the other variable.

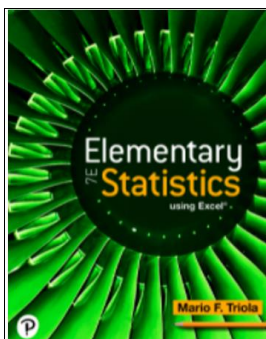
In this chapter, methods for analyzing differences between predicted values and actual values are presented. In addition, methods for identifying linear equations for correlations among

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three or more variables are discussed. In conclusion, basic methods for developing a mathematical model that can be used to describe nonlinear correlations between two variables is presented.

**Chapter 14:** Students will learn that important characteristics of data are changing patterns over time. Statistical process control deals with this issue. The main objective of this chapter is to learn how to construct and interpret control charts that can be used to monitor changing characteristics of data over time. That knowledge will better prepare students for work with businesses trying to improve the quality of their goods and services.

Use of technology for developing conceptual understanding and analyzing data throughout the course is extensive. All assignments are paperless through use of myLab Statistics giving students ability to learn the subjects as they do their assignments (homework, quizzes, tests, and exams) via help tools included in myLab Statistics.<sup>2</sup>



Textbook: **Mario F. Triola** “**Elementary Statistics using Excel**,” *Seventh Edition*, Pearson, Prentice Hall, Inc., Textbook ONLY, (Unbound & Saleable)  
**ISBN-13:** 9780136937432

### 3. INSTITUTIONAL LEARNING OUTCOME

1. Written communication
2. Oral communication
3. Critical thinking
4. Information literacy
5. Quantitative reasoning

### 4. DATA SCIENCE PROGRAM LEARNING OUTCOMES (PLO)

Upon completion of the undergraduate B.S. program in Data Science, Analytics & Visualization, students will be able to:

1. **Source, describe, and curate** large, multimodal data sets (‘Big Data’).
2. **Apply** foundational mathematical and statistical concepts and operations, including the application of up-to-date tools that underlie data sourcing, management, analysis, and interpretation.

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<sup>2</sup> Textbook: **Mario F. Triola** “**Elementary Statistics using Excel**”

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3. **Develop and implement** approaches for effective data translation, dissemination, and communication between domains, stakeholders, and the public.
4. **Apply** basic data modeling, predictive models, and visualizations to support decision-making, independently or in teams.
5. **Integrate** an awareness of ethical issues and collective standards to positively influence the application of data science to service, justice and peace in working towards solutions for societal problems.

### 5. COURSE LEARNING OUTCOMES (CLO).

**At the conclusion of the course, students will be able to:**

1. **Define** and **explain** basic statistical concepts such as mean, median, mode, variance, and standard deviation.
2. **Apply** critical thinking, use of technology and teamwork by participation in collaborative projects and presentations.
3. **Demonstrate** statistical literacy skills to use in practice and research.
4. **Interpret** the Multiplication Rule by computing the probability of some event, given that some other event has already occurred.

### Alignment of Learning Outcomes: PLO, CLO with Marianist, and Hawaiian Values

	CLO 1	CLO 2	CLO 3	CLO4
Marianist Values	2	2	5	5
Native Hawaiian Values	2	2	5	5
Program Learning Outcomes (PLO)	PLO1	PLO3	PLO4	PLO2

### 6. MARIANIST VALUES

An education in the *Marianist Tradition* is marked by five principles, and students should take every opportunity possible to reflect upon the role of these characteristics in the education and own development.

Source: Characteristics of Marianist Universities: Chaminade University of Honolulu, St. Mary's University, University of Dayton, A Resource Paper, published in 1999, Republished in 2006.

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### 1. Educate for formation in faith

*"As higher educational institutions, Marianist universities have kept, along with education in the disciplines, a commitment to the development of the whole person, which includes the dimension of religious faith and its personal appropriation and practice."*

### 2. Provide an integral quality education

*"In the Marianist approach to education, "excellence" includes the whole person, not just the technician or rhetorician. It also includes people with their curricular and extra-curricular experiences, their intellectual and spiritual development, understood and supported best in and through community."*

### 3. Educate in family spirit

*"Marianist educational experience fosters the development of a community characterized by a sense of family spirit that accepts each person with loving respect and draws everyone in the university into the challenge of building community. Community support for scholarship, friendship among faculty, staff and students, and participation in university governance characterize the Marianist University."*

### 4. Educate for service, justice, and peace

*"The Marianist approach to higher education is deeply committed to the common good. The intellectual life itself is undertaken as a form of service in the interest of justice and peace, and the university curriculum is designed to connect the classroom with the wider world. In addition, Marianist universities extend a special concern for the poor and marginalized and promote the dignity, rights, and responsibilities of all peoples."*

### 5. Educate for adaptation and change

*"In the midst of rapid social and technological change, Marianist universities readily adapt and change their methods and structures so that the wisdom of their educational philosophy and spirituality may be transmitted even more fully."*

## 7. NATIVE HAWAIIAN VALUES

Education is an integral value in both Marianist and Native Hawaiian culture. Both recognize the transformative effect of a well-rounded, value-centered education on society, particularly in seeking justice for the marginalized, the forgotten, and the oppressed, always with an eye toward God (Ke Akua). This is reflected in the 'Olelo No'eau (Hawaiian proverbs) and Marianist core beliefs:

1. **Educate for Formation in Faith (Mana)** E ola au i ke akua ('Olelo No'eau 364) [May I live by God.](#)

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2. **Provide an Integral, Quality Education (Na'auao)** Lawe i ka ma'alea a kū'ono'ono ('Ōlelo No'eau 1957) [Acquire skills and make them deep.](#)
3. **Educate in Family Spirit ('Ohana)** 'Ike aku, 'ike mai, kōkua aku kōkua mai; pela iho la ka nohana 'ohana ('Ōlelo No'eau 1200) [Recognize others, be recognized, help others, be helped; such is a family relationship.](#)
4. **Educate for Service, Justice, and Peace (Aloha)** Ka lama kū o ka no'eau ('Ōlelo No'eau 1430) [Education is the standing torch of wisdom and using it has no boundaries.](#)
5. **Educate for Adaptation and Change (Aina)** 'A'ohe pau ka 'ike i ka hālau ho'okahi ('Ōlelo No'eau 203) [All knowledge is not taught in the same school.](#)

### 8. ASSESSMENT AND GRADING

Grades will be based on the following assessment tools to improve and evaluate student learning outcomes through:

1. Homework, quizzes, tests, exams, and projects as assigned.
2. Flow Cart Animation, ending with questions to evaluate comprehension of concepts and definitions.
3. End of Chapter review questions.

### TENTATIVE SCHEDULE

The course schedule will be provided during Day One kick-off meeting. Schedule is subject to change at the discretion of the instructor based on students' progress. Syllabus and Course Schedule is posted on the Pearson myLab Statistics in the Document Sharing folder.

### GRADING

Grading will be based on the following table:

GRADING YOUR ACCOMPLISHMENTS:	GRADE SCALE:
Homework assignments	A = 90% – 100%
Quizzes & tests	B = 80% – 89%
Exams	C = 70% – 79%
Staying on schedule with assignments and class	D = 60% – 69%
participation → <b>Priceless</b>	F* = 50% – 99%

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	<p><b>IF*= Incomplete F gives student 30-days to work on missing assignments. Needs a strong justification. Individually decided by instructor, Program Director, and Dean. Student must initiate a request to the course faculty for the incomplete assignment via email.</b></p>
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Letter grades are given in all courses except those conducted on a credit/no credit basis. Grades are calculated from the student's assignments, class participation, quizzes, tests, term papers, reports, and exams. They are interpreted as follows:

A	Outstanding scholarship and an unusual degree of intellectual initiative.
B	Superior work done in a consistent and intellectual manner.
C	Average grade showing a competent grasp of subject matter.
D	Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work.
F*	Did not grasp the minimum subject matter, no credit given.
W	Withdrawal before published deadline.
I*	The issuance of an "I" grade is not automatic. At the discretion of the faculty member, a grade of "I" may be assigned to a student who completed a few assignments, but unable finished the homework due to unforeseen circumstances.
IP	In progress, primarily used for thesis completion or practicum completion.
AU	Audit.

Learning is never ending process. We learn every day by observing, solving problems, making mistakes and trying not to repeat them. Student responsibility is discovering your own style of learning. Educators' responsibility is to create a learning environment that student flourish.

### What students need to know about my pedagogy, how to succeed in such an environment?

1. Maintain open an honest communication.
2. You have a question, just ask me, or send me email to [maria.brownlow@chaminade.edu](mailto:maria.brownlow@chaminade.edu)
3. This Statistics course resides on the Pearson myLab Statistics portal specifically developed for this textbook.
4. You grade yourself by submitting assignments into myLab Statistics.
5. If you obtained a grade that you did not expect and you want to review incorrect answers and re-do them, you are welcome to do this within the next two weeks. Practice is learning.
6. Exams are scheduled thought the semester when a section of the logical material is completed.



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7. Exams cannot be repeated and must be completed within assigned dates. If unusual circumstances had occurred, and student let me know before the date of the exam, the exam will be rescheduled.

### 9. ACADEMIC HONESTY AND TITLE IX COMPLIANCE

Academic honesty is an essential aspect of all learning, scholarship, and research. It is one of the values regarded most highly by academic communities throughout the world. Violations of the principle of academic honesty are extremely serious and will not be tolerated.

Students are responsible for promoting academic honesty at Chaminade by not participating in any act of dishonesty and by reporting any incidence of academic dishonesty to an instructor or to a University official. Academic dishonesty may include theft of records or examinations, alteration of grades, and plagiarism, in addition to more obvious dishonesty.

Questions of academic dishonesty in a particular class are first reviewed by the instructor, who must make a report with recommendations to the Dean of the Academic Division. Punishment for academic dishonesty will be determined by the instructor and the Dean of Academic Division and may include an "F" grade for the work in question, an "F" grade for the course, suspension or dismissal from the University.

For the most up to date information, please refer to the Academic Honesty Policy <https://catalog.chaminade.edu/generalinformation/academicaffairs/policies/academichonestyon> the Chaminade University Catalog website.

### Nondiscrimination Policy & Notice of Nondiscrimination

Chaminade University of Honolulu does not discriminate on the basis of sex and prohibits sex discrimination in any education program or activity that it operates, as required by Title IX and its regulations, including in admission and employment. Inquiries about Title IX may be referred to the University's Title IX Coordinator, the U.S. Department of Education's Office for Civil Rights, or both and contact information may be found at the Chaminade University Title IX Office Contact Information and Confidential Resources website

<https://chaminade.edu/compliance/contact-information/>.

On-campus Confidential Resources may also be found here at CAMPUS CONFIDENTIAL RESOURCES <https://chaminade.edu/compliance/contact-information/>

The University's Nondiscrimination Policy and Grievance Procedures can be located on the University webpage at:

<https://chaminade.edu/compliance/title-ix-nondiscrimination-policies-procedures/>.

To report information about conduct that may constitute sex discrimination or make a complaint of sex discrimination under Title IX, please refer to the Campus Incident Report form

[https://cm.maxient.com/reportingform.php?ChaminadeUniv&layout\\_id=0](https://cm.maxient.com/reportingform.php?ChaminadeUniv&layout_id=0).

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Chaminade University of Honolulu prohibits sex discrimination in any education program or activity that it operates. The NOTICE of NONDISCRIMINATION can be found here: Notice of Non-discrimination <https://chaminade.edu/compliance/title-ix-nondiscrimination-policy/>

### 10. CREDIT HOUR POLICY

The unit of semester credit is defined as university-level credit that is awarded for the completion of coursework. One credit hour reflects the amount of work represented in the intended learning outcomes and verified by evidence of student achievement for those learning outcomes. Each credit hour earned at Chaminade University should result in a minimum of 45 hours of engagement, regardless of varying credits, duration, modality, or degree level. This equates to one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester. Terms that have alternative lengths, such as 15-weeks terms, should have an equivalent amount of faculty instruction and out-of-class student work to meet each credit hour. Direct instructor engagement and out-of-class work result in total student engagement time of 45 hours for one credit. The number of engagement hours may be higher, as needed to meet specific learning outcomes.

#### *Specific Credit Situations*

The minimum 45 hours of engagement per credit hour can be satisfied in fully online, internship, or other specialized courses through means, including:

- a. [regular online instruction](#) or interaction with the faculty member and fellow students and
- b. [academic engagement](#) through extensive reading, research, online discussion, online quizzes or exams; instruction, collaborative group work, internships, laboratory work, practice, studio work, and preparation of papers, presentations, or other forms of assessment.

This policy is in accordance with federal regulations and regional accrediting agencies.

Assuming a three-credit hour course requires key assessments (there is no essay in this quantitative), mid-term exam, and final exam, the time calculation would be as follows:

- [Seat Time](#):
  - 50 minutes MWF = 150min weekly x 15 weeks = 2,250 minutes or **37.5 hours**
- [Time Spent on Key Assessments](#):
  - [Assignments](#) in myLab Statistics type homework, quizzes, tests, interactive videos, and simulations is 3-times per week X 1.2 hrs. of study X 15 weeks = **54 hours**
  - [Exams](#) = 8 exams scheduled over the semester period X 3 hrs. studying = **20 hours**

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- **Additional time** for volunteering to participate in the community projects = **5 hours** per semester participating in community projects as assigned (reading, researching, compiling data, participating in community initiatives)
- Sub-Total = 37.5 hrs. + 54 hrs. + 20 hrs. + 5 hrs. = 116.5 hours (seat time + key assessments)
- Total required engagement 135 hours - 116.5 hours = **18.5 hours** remaining to fill as contingency
- The 18.5 hrs. divided by 15 weeks = 1 hours of additional time each week (reading, studying, working on homework, volunteering community projects)

This is a three-credit hour course requiring 135 clock hours of student engagement, per the official CUH Credit Hour Policy. Students enrolled in this course anticipated to spend **37.5 hours** in class, **63 hours** on past due assignments and grades improvements, **24** studying for 8 exams and an added **5** hours on community service projects. There will be an additional 18.5 hours of work required beyond what is listed here (course readings, homework assignments, etc.), averaging 1.23 hours each week.

### 11. COURSE POLICIES

Undergraduate Catalog, 2024-2025 Academic Year

<https://catalog.chaminade.edu/>

#### Late Work Policy

Students must stay on schedule. Students cannot be behind schedule more than one week, otherwise they must come to office hours and complete missing assignments. Students must inform instructor on circumstances beyond students control for being late with assignments or absent.

#### Grades to improve.

1. If you obtained a grade that you did not expect and you want to review incorrect answers and re-do them, you are welcome to do this within the next two weeks. Practice is learning.
2. I do not deduct points.

#### Writing Policy

In writing papers, use MLA or APA writing recommendations (preferred MS Word, Calibri #12).

#### Instructor and Student Communication

Questions for this course can be emailed to the instructor at [maria.brownlow@chaminade.edu](mailto:maria.brownlow@chaminade.edu), in-person, and phone conferences can be arranged. Response time to emails will take place up to 24 hours. Office hours are MWF 01:00 – 02:00 PM in Kieffer room #28.

#### Email Guidelines:

- Use your Chaminade email account for communication. CANVAS email is proprietary, internal to CANVAS, and cannot be saved in Gmail and MS OUTLOOK.
- Always include a subject line. Always include your course ID, for example, MA-331-01-1.

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- Remember without facial expressions some comments may be taken the wrong way. Be careful in wording your emails. Use of emoticons might be helpful in some cases.
- Special formatting such as centering, audio messages, tables, html, etc. should be avoided unless necessary to complete an assignment or other communication.

### Cell phones, tablets, and laptops

Out of consideration for your classmates, please set your cell phone to silent mode during class. Students are encouraged to bring laptops or tablets to class as the instructor will assign online activities and readings that will require the use of a laptop or tablet. Laptops and tablets should not be misused, such as checking distracting websites. Use your best judgment and respect your classmates and instructor.

## 12. CHAMINADE UNIVERSITY POLICIES

See <https://catalog.chaminade.edu/> for more detailed information about Chaminade University Policies.



chaminadeint-catalog-1729128468240.pdf

Some of the CUH Policies are noted below.

Student Code of Conduct (page 15).

Student Sexual Harassment, Sexual Misconduct, & Anti-Relations Policies & Procedures Under Title IX for Faculty, Staff, Students, and Third Parties (page 24).

ADA Accommodations (page 66).

Drug free Workplace & Campus (page 68).

### Library:

Supply a link to the Chaminade library, [www.chaminade.edu/library](http://www.chaminade.edu/library)

### Technical Support:

CANVAS Technical Support is **1-877-251-6615**

Technical Assistance for Canvas Users:

Search for help on specific topics at [help.instructure.com](http://help.instructure.com)

[Chat lives with Canvas Support 24/7/365](#)

Watch this [video to get you started](#) with online guides and tutorials.



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Contact the Chaminade IT Helpdesk for technical issues:  
[helpdesk@chaminade.edu](mailto:helpdesk@chaminade.edu) or call 808-735-4855

24-Hour Chaminade University Campus Security (808) 735-4792

Emergency Info Hotline  
(808) 739-7499  
(833) 739-7499

Emergency Assistance  
Dial 911