***Course:***  MA151 Introductory Statistics (3 credits)

***Moodle Enrollment Key:***

**02ma151SP22**

***Semester:***  Fañomnåkan (Spring) 2022

***Meetings:*** Section 02: MW 1245 - 1405

***Room:*** F2F – WB 1 / ONLINE – Big Blue Button via Moodle

***Instructor:***  Dr. Leslie J.C. Aquino

***Office:*** Warehouse B, Room 10 (WB 10)

***Telephone:*** (671) 735-2832

***Email:*** AquinoL8112@triton.uog.edu (best way to contact me)

***Office hours:***  Online via BBB:

Mon. & Wed.: 3:30 – 5:00 PM

Tues & Thurs.: 3:30 – 5:00 PM

*or by appointment*

***Catalog Description:***

This course presents statistical methods as applied to the description and display of data, and to drawing conclusions from statistical data, and introduces the basic probability theory needed to understand and use the techniques of elementary statistics.

***Text:***  *Elementary Statistics, A Step by Step Approach, 10th Edition* by Allan G. Bluman

***Rationale for Course:***

Satisfies general education requirements, and provides students basic skills in quantitative reasoning and analysis of data. Prepares students for next courses in statistics.

***Prerequisites:***

MA084B, MA085 Level II (MA085B) or placement.

***COVID Statement***

The University of Guam is experiencing continued disruption to delivery of instruction during the global coronavirus pandemic. The University will follow executive orders and may be forced to close again, causing more modifications as the semester progresses. All changes will be posted on the UOG website [www.uog.edu](http://www.uog.edu).

* Contact Office of Information Technology at 735-2630 or oit@triton.uog.edu
* Contact the Triton Advising Center at 735 – 2271 or tac@triton.uog.edu
* Contact Uplift Counseling Services at 787-7978 or uplift@westcare.com
* Contact Project Tulaika Mental Health Services at 647-5317; 647-1901; 647-5440; 647-8833/34 or care@gbhwc.guam.gov

In face to face courses, wearing masks and social distancing is required. Anyone who has a fever, or any other symptom, should stay home. If you do not comply with these directions, you will be asked to leave, and if you do not, class will be cancelled. Patience, respect, and cooperation are needed from all of us to persist through these uncomfortable times.

***Attendance:***

Your attendance in class is encouraged and is directly related to your grade (see Evaluation below). Lectures are given live and recorded, not pre-recorded, so you have the opportunity to ask questions during class time unlike watching the recorded lecture later. Please inform the instructor if you will be absent. We will run into occasions when we absolutely cannot make it to class. I am subject to those environmental and familial setbacks too, especially in our current pandemic conditions. However, we must make it a point to attend all class sessions on time.

***Calculator:***

You are required to have a **standalone** scientific calculator, with no connectivity. You may also want to consider a calculator with statistics capabilities, but this is not required. Students are expected to have a working scientific calculator for quizzes and tests, for those (very few) times when a calculator will be allowed. No electronic calculators on tablets, smartphones, or laptops are permitted during testing periods unless specifically stated by the instructor. No calculator swapping is permitted during testing periods, and you are still expected to show all required work to receive full credit. **Note:** There will still be a number of quizzes and tests where no calculator will be allowed, so be sure that you understand how to do each problem with or without a calculator.

***Moodle:***

I will be using Moodle as the primary method of conducting this course. I will post the syllabus and any course documents and handouts on Moodle, we will conduct live lectures via Big Blue Button, and assignments, quizzes and exams will be submitted or done through Moodle. I will also use this as a place where you can see which topics we are covering each week, and to post any announcements made in class (like quiz and test dates). Announcements posted on Moodle are also sent out via email, so pay attention to your automated Moodle messages! **Be sure to create a Moodle account and use an email address that you check regularly so that you will receive notifications of any new posts for our class.** You may need an enrollment key to access the course within Moodle, which will be given out in class, or you can contact me via email to request the enrollment key.

***Evaluation:***

35% Quizzes and assignments

65% Tests

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100% Total percentage

Letter grades will be assigned per the UOG Catalog:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A+ | 98 – 100% |  | B+ | 87 – 89% |  | C+ | 77 – 79% |
| A | 93 – 97% |  | B | 83 – 86% |  | C | 70 – 76% |
| A- | 90 – 92% |  | B- | 80 – 82% |  | D | 60 – 69% |
|  |  |  |  |  |  | F | < 60% |

Tests are given at the end of a group of sections, not necessarily per chapter. Dates for quizzes and tests will be announced in class, and posted to Moodle after class; expect a quiz or homework each week. We will have three to five tests throughout the semester, depending on pace of this course.

Our **last test is cumulative** and will be **on Monday, May 16, from 12:10-14:00 PM.**

DO NOT SCHEDULE ANY OTHER EVENT DURING THIS TIME PERIOD. Every class has its own exam period and there is no reason another instructor’s project or presentation need infringe upon the exam for this class.

**NO MAKE-UPS**. Contact instructor IMMEDIATELY via email/telephone for extenuating circumstances.

***Make-up policy:***

There will be no make-up quizzes or tests unless you contact the instructor IMMEDIATELY for extenuating circumstances. For example, you have to go off-island, you will be hospitalized or under serious medical treatment, deployment, etc.

***Quizzes and Assignments:***

**Quiz problems will look similar to the suggested homework problems and exercises at the end of each section or chapter.** Don’t just read through these problems – try to do them yourself and practice, practice, practice! You’ll get better at these problems, build your intuition, solidify your understanding, and be able to complete them faster on a quiz or test.

Online quizzes will be conducted via Moodle ***outside of our regularly scheduled class time***, and will have ***a limited time for you to complete the quiz***. You will only have one attempt to do each quiz. Be sure to pay attention to when the quiz opens and closes! If you are in the middle of attempting the quiz, your work will be automatically submitted once the quiz closes. If you did not attempt the quiz, then you will receive a zero for that quiz.

You may need to do additional problems from the textbook to fully master a topic, even if those problems were not assigned. You should ask homework questions at all class meetings or during office hours. Keep in mind that quizzes and tests are based on homework problems and other material from the textbook.

**We will also have a few assignments that will be collected and graded.** These will come from our textbook, or be similar to textbook problems, and will give you an opportunity to do more hands-on applications of the topics we cover in class – including computer assignments using Excel. **We will typically have one quiz or assignment per week, and the lowest score will be dropped.**

These assignmentswill be posted on Moodle, and you download/view the problems, work on them on separate paper, and then submit your work by uploading a PDF or Word document of your work. For computer assignments, you would submit your work as an Excel or a PDF file, depending on the assignment requirements.

Note: There are a number of ways to submit your work as a PDF or Word document – you can scan and save as a PDF if you have a scanner; you can take pictures and save them as PDFs using one of the many apps available; you can take pictures and copy them into a Word document. **If you have trouble uploading to Moodle, email me your assignment to make sure it gets submitted on time.**

***Guidance on Alternate Grading Option***

Students have the right to use the alternate grading option this semester, but you should be aware that this option may not be appropriate in all courses. In most courses required for professional certification, or programs requiring specialized accreditation, letter grades are required. Think carefully, and talk through your options with a trusted advisor, before exercising this option.

***Quantitative Literacy and Reasoning Assessment***

If time permits, we will be conducting an assessment of quantitative literacy and reasoning skills of students enrolled in 100-level math courses. This will not be used as part of your grade, but your participation in the assessment will be counted for some extra credit points to be determined later.

***Student Responsibility:***

You are expected to spend 1-1½ hours of outside study for each hour inside the classroom. Do not commit the two cardinal sins in a mathematics course: **falling behind and leaving unanswered questions unanswered**. Both will complicate your life and cause a lot of unnecessary stress.

Remember, in order to succeed in any math class, you will need to put in the appropriate amount of time outside of class. So, read the textbook before class, work as many practice problems as you can, write down questions you have as you read or work problems, and ask your questions in class. You will feel a sense of confidence and accomplishment for all problems you complete and attempt. And, since this is a gateway to upper-level math and science courses, practice is the best way to build your math intuition and ensure you have a solid foundation. **Your grade is a direct reflection of the amount of time you put into this class. This is especially true in an online environment – don’t fall behind!**

The following are some important notes concerning student responsibilities:

* Please do not ask for a copy of my notes for a day on which you were absent. Employ the buddy system to get copies of any notes you might need. It’s probably a good idea to start exchanging phone numbers (or e-mail addresses) with classmates *now* in the event of such a need *later*.
* If you are absent, it is your responsibility to find out what material you missed, either by checking Moodle or contacting me.
* It is your responsibility to keep hold of any supplemental material distributed in class. It is also your responsibility to retain all quizzes, assignments, and tests passed back to you.
* Check Moodle regularly (at least twice a week) to see if there are any announcements you may have missed in class, or to keep track of the topics we are covering each week.
* It is your responsibility to keep an accurate record of your graded work. Again, do not assume I always have my to-the-moment grade sheets ready.
* If you are ill, **STAY HOME** and take care of the more important business of getting yourself well. If you are exhausted, PLEASE get in the needed rest, for coming to class feeling sleepy isn’t going to help you much with the day’s lesson, even if you are at home attending lectures online.
* Lastly, it is your responsibility to keep, read and know the contents of this syllabus.

***Your Math Resources: Office Hours, Math Tutor Lab, TRiO***

There are several campus resources available to you if you need extra help with any of the course material.

* **Your instructor!** Find me via email during scheduled office hours, or email me to set up an appointment to meet at another time if you can’t make my office hours. We can set up an audio or video call as well, to help you with whatever questions you may have.
* **The Math Tutor Lab!** The CNAS Math Tutor Lab is available for online appointments via Zoom. Students can book an appointment at the tutor lab website [uogmathlab.org](http://uogmathlab.org/). For more information, please email [mathtutorlab@triton.uog.edu](mailto:mathtutorlab@triton.uog.edu) or visit the tutor lab website.
* **TRiO!** The TRiO Programs offers tutoring services to students who meet certain eligibility requirements. TRiO will continue with online tutoring services – be sure to check out their website <http://www.uog.edu/trio-programs-home>.

***UOG Disabilities Policy***:

In accordance with the Americans with Disabilities Act (ADA) of 1990 and the Rehabilitation Act of 1973, the University of Guam does not discriminate against students and applicants on the basis of disability in the administration of its educational and other programs. The University offers reasonable accommodations for a student or applicant who is otherwise qualified, if the accommodation is reasonable, effective and will not alter a fundamental aspect of the University's program nor will otherwise impose an undue hardship on the University, and/or there are not equivalent alternatives. Students are expected to make timely requests for accommodation, using the procedure below.

**Disability Support Services (DSS) Office – Accommodation Services**

If you are a student with a disability who will require an accommodation(s) to participate in this course, please contact the Disability Support Services office to discuss your specific accommodation needs confidentially. You will need to provide me with a Faculty Notification letter from the DSS counselor. If you are not registered, you should do so immediately at the Student Center, Rotunda office #6, ph/TTY: 671-735-2460, or [uogdss@triton.uog.edu](mailto:uogdss@triton.uog.edu) to coordinate your accommodation request.

To schedule an appointment on BOOK IT; [https://sssablan.youcanbook.me](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsssablan.youcanbook.me%2F&data=04%7C01%7Caquinol8112%40triton.uog.edu%7C9bb1c9ad79b6425deb9508d9d7e6ae56%7C2a652fdf10c34e4f9e94369090abfd04%7C0%7C0%7C637778208044463198%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=w63%2BiloGr9QnJAOD1r2fRO%2BhI03CVYKufNovTuQsxgk%3D&reserved=0)

Office: Student Center Rotunda Office #6

Office Hours: Monday/Wednesday 9:00–noon and 1:00–3:30; Friday by appointment only

Office Phone Number/TTY: 671-735-2460

Email address: sssablan@triton.uog.edu

***Academic Integrity Policy:***

Academic Integrity is about performing in your role as student in ways that are honest, trustworthy, respectful, responsible, and fair (see [www.academicintegrity.org](http://www.academicintegrity.org) for more information). As a student, you will complete your academic assignments in the manner expected by the instructor. Academic dishonesty, including but not limited to cheating and plagiarism may result in suspension or expulsion from the University. Refer to the UOG Student Handbook and Code of Conduct for more information.

Special note about online courses: I am placing additional trust in all of you to conduct yourselves professionally and ethically since this course is being delivered completely online. I cannot monitor all of you when you do your homework or when you work on online quizzes and tests. I am trusting your own personal sense of integrity and code of ethics to do the right thing, and that you will do your own work during quizzes and tests. Remember that many of you will follow some code of ethics in your future professions; now is the time to treat your work here at UOG as preparing you for working under those codes of ethics. If you are working in a group on homework assignments, your final submitted work should still be your own. As an instructor, it is very easy to determine when two students have similar work, even in mathematics. I will trust you – please do not violate that trust by cheating in this course.

***Notification of Rights Under FERPA:***

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights for students, parents and school officials can be viewed at <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>.

***No Recording******Policy***

Only the instructor may record class sessions. These will be available in Moodle, and are only for students enrolled in this course. Unauthorized recording of online class meetings is not allowed, to include screen shots that include identifiable information of any person in the session. Not only is the delivery of course content the intellectual property of the instructor, but students enrolled in the course have privacy rights. Unauthorized recording and distribution of online courses may violate federal law.

***Tobacco-free/Smoke-free/Vaping-free campus:***

UOG is a tobacco-free/smoke-free, vaping/e-cigarette free campus. Thank you for not using tobacco products or e-cigarettes on campus, for helping to fight cancer, and for helping make UOG a healthy learning and living environment.

***Disclaimer:***

This syllabus is subject to change. By staying registered in this course, you accept the terms of this syllabus.

***Welcome!***

AND FINALLY...Welcome to MA151! This should be fast-paced but fun, so be sure to come prepared, and ask questions if you don’t understand my handwriting or a given topic. 😊

***MA151 – Tentative Schedule for Spring 2022***

The schedule will be posted on Moodle. Note that any schedule is subject to change.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Week 1  1/19 | Introduction |  | Week 10  3/21, 3/23 | SPRING BREAK (No classes) |
| Week 2  1/24, 1/26 | Sec. 1.1 – 1.4 |  | Week 11  3/28, 3/30 | Sec. 4.3  Sec. 5.1 |
| Week 3  1/31, 2/02 | Sec. 2.1 – 2.2 |  | Week 12  4/04, 4/06 | Sec. 5.2 – 5.3 |
| Week 4  2/07, 2/09 | Sec. 2.2 – 2.3 |  | Week 13  4/11, 4/13 | Sec. 5.4  Review Ch. 4-5 |
| Week 5  2/14, 2/16 | Tentative: Test 1 (Ch. 1-2)  Sec. 3.1 |  | Week 14  4/18, 4/20 | Tentative: Test 3 (Ch. 4-5)  Sec. 6.1 – 6.2 |
| Week 6  2/21, 2/23 | Sec. 3.2 – 3.3 |  | Week 15  4/25, 4/27 | Sec. 6.2 – 6.4 |
| Week 7  2/28, 3/02 | Sec. 3.4  Review Ch. 3 |  | Week 16  5/02, 5/04 | Sec. 6.4; Review Ch. 6  Tentative: QLRA (extra credit) |
| Week 8  3/07, 3/09 | HOLIDAY 3/07 (No class)  Tentative: Test 2 (Ch. 3) |  | Week 17  5/09, 5/11 | Tentative: Test 4 (Ch. 6)  Review Ch. 1 – 6 |
| Week 9  3/14, 3/16 | Sec. 4.1 – 4.2 |  | Week 18  5/16 | Final Exam on Monday, 5/16  (Cumulative: Chapters 1 – 6) |

***MA151 – Learning Outcomes and Curriculum Mapping***

**MA151 Course Student Learning Outcomes (SLOs)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course SLOs:** | **Program Learning Outcomes (PLOs)** | **University Learning Outcomes (ILOs)** | **GE QR Learning Outcomes (GLOs)** | **Method of Assessment** |
| Understand the fundamental ideas  of statistics, such as variability,  types of variables, distribution,  association, and sampling. | MA PR-1 | ILO-1  ILO-2  ILO-3 | QR-5 | Questions on assignments, quizzes, and tests. |
| Construct and interpret graphical  summaries of data: histograms, dot  plot, boxplots, bar and pie graphs. | MA PR-1  MA PR-3  MA PR-4 | ILO-1  ILO-2 | QR-1  QR-2 | Questions on assignments, quizzes, and tests. |
| Calculate and interpret the  numerical summaries of data. Use  statistics appropriate to the shape  of the data distribution to compare  center (median, mean, mode) and  spread (interquartile range,  standard deviation) of two or more  different data sets. | MA PR-1  MA PR-3  MA PR-4 | ILO-1  ILO-2 | QR-3  QR-4 | Questions on assignments, quizzes, and tests. |
| Interpret differences in shape,  center, and spread in the context  of the data sets, accounting for  possible effects of outliers. | MA PR-1  MA PR-3  MA PR-4 | ILO-1  ILO-2  ILO-3 | QR-4  QR-5 | Questions on assignments, quizzes, and tests. |
| Define, and apply the concepts of  sample space, events, probability,  random variables and their  distributions to calculate  elementary probabilities. | MA PR-1  MA PR-3  MA PR-5 | ILO-1  ILO-2  ILO-6 | QR-3 | Questions on assignments, quizzes, and tests. |
| Compute conditional probabilities  and use them to determine the  independence of events, apply the  Bayes’ rule. | MA PR-1  MA PR-5  MA PR-6 | ILO-1  ILO-2  ILO-6 | QR-3  QR-4 | Questions on assignments, quizzes, and tests. |
| Use the sampling distribution of  the sample mean to calculate  probabilities. | MA PR-1  MA PR-3 | ILO-1  ILO-2 | QR-3  QR-6 | Questions on assignments, quizzes, and tests. |
| Represent data of two quantitative  variables on a scatter plot,  compute and interpret the  correlation, and describe how the  variables are related. (if time  permits) | MA PR-1  MA PR-2  MA PR-3  MA PR-4 | ILO-1  ILO-2 | QR-1  QR-2  QR-4  QR-6 | Questions on assignments, quizzes, and tests. Computer assignment or project. |
| Compute the linear regression to  make and interpret the model in  the context of the data. Use the  linear regression to make  predictions. (if time permits) | MA PR-1  MA PR-2  MA PR-3  MA PR-4  MA PR-6 | ILO-1  ILO-2  ILO-3 | QR-1  QR-2  QR-4  QR-6 | Questions on assignments, quizzes, and tests. Computer assignment. |

**Math Program Learning Outcomes (PLOs):**

**MA PR-1:**  demonstrate critical thinking, problem solving skills and ability to use mathematical methods by identifying, evaluating, classifying, analyzing, synthesizing data and abstract ideas in various contexts and situations.

**MA PR-2:**  exhibit a sound conceptual understanding of the nature of mathematics, and demonstrate advanced mathematical skills in mathematical analysis, modern algebra and other mathematical discipline(s).

**MA PR-3:**  argue and reason using mathematics, read, create and write down logically correct mathematical proofs, use exact mathematical language and communicate mathematics efficiently orally, in writing and using information technology tools.

**MA PR-4:**  apply abstract thinking, mathematical methods, models and current practices in the sciences, including state-of-the-art mathematical software, to solve problems in theoretical mathematics or in a diverse area of mathematical applications.

**MA PR-5:** show maturity in mathematical knowledge and thinking that prepares and encourages students to pursue graduate studies in mathematics or in related fields.

**MA PR-6:**  demonstrate an appreciation of and enthusiasm for inquiry, learning and creativity in mathematical sciences, a sense of exploration that enables them to pursue lifelong learning and up-to-date professional expertise in their careers through various areas of jobs, including governmental, business or industrial jobs in mathematics, related sciences, education or technology.

**Institutional Expected Student Learning Outcomes (ILOs):**

**UOG Expected Student Learning Outcomes**December 2008

Some of the expected fundamental knowledge, skills, and values that the University of Guam student will have demonstrated upon completion of any degree are:

**ILO1**: Mastery of critical thinking & problem solving

**ILO2**: Mastery of quantitative analysis

**ILO3**: Effective oral and written communication

**ILO4**: Understanding & appreciation of culturally diverse people, ideas & values in a democratic context

**ILO5**: Responsible use of knowledge, natural resources, and technology

**ILO6**: An appreciation of the arts & sciences

**ILO7**: An interest in personal development & lifelong learning

**Quantitative Reasoning (QR) General Education (GE) Learning Outcomes:**

UOG students will be able to apply analytical and QR reasoning to address complex challenges and

everyday problems by:

**QR-1:** Interpreting information presented in a mathematical and graphical form;

**QR-2:** Representing information in a mathematical and graphical form;

**QR-3:** Effectively calculating using quantitative data;

**QR-4:** Analyzing quantitative information in order to scrutinize it and draw appropriate conclusions;

**QR-5:** Evaluating the assumptions used in analyzing quantitative data

**QR-6:** Communicating quantitative information in support or refutation of an argument.