

THE UNIVERSITY OF THE WEST INDIES, MONA CAMPUS
ECON1005: INTRODUCTORY STATISTICS

Course Outline

Semester 1, 2021/2022

3 credit hours

Lecturer Information

Dr Kelly-Ann Dixon Hamil

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Office: 1st Floor, Social Science Block, Rm 15

Office Hours: Mondays 1pm-2pm & Tuesdays 11am-12noon (or by appointment)

Course Website: The course site on OurVLE (<https://ourvle.mona.edu/>)

Tutors: TBA

ALL STUDENTS ARE REQUIRED TO READ THIS DOCUMENT IN FULL
(Ignorance of course structure and/or policy will not be excused)

Course Requisites

Prerequisites: It is assumed that students have mastered the requisite skills covered in at least one of the following:

- CXC CSEC Mathematics – Grade III and above (Grade II and above pre 1998)
- GCE O’Level Mathematics – Grade C or above
- CXC CAPE Mathematics
- GCE A’Level Mathematics
- ECON0001 (Remedial Mathematics)
- GOVT0100 (Statistics & Mathematics for Policy Making)

Anti-requisites: Students may not take this course and any of the following courses and get credit for both:

- SOCI1005 (Introductory Statistics for the Behavioural Sciences)
- STAT1001 (Statistics for the Scientist)

Course Description

Basic statistical analysis is a key tool used for decision and policy making in all disciplines. This course focusses on exposing students to introductory statistical tools for the collection, organisation, presentation and analysis of numerical data. Additionally, the course introduces students to statistical inference, an important technique in statistical analysis.

Mode of Delivery

ECON1005 is delivered as a flipped course. This means that students will be required to:

- Watch pre-recorded lecture videos prior to lecture sessions
- Attend two lecture hours per week where questions related to the concepts taught in the videos are used to concretize statistical ideas
- One tutorial hour per week where students will share answers from given problems sets

Required Texts & Materials

This course will make extensive use of OurVLE. All course materials (skeleton lecture notes, problem sets and announcements) will be posted on the course site on OurVLE. All communication about this course will be made through the OurVLE course site and/or your official email provided to you by the University. Students must therefore access the course site and their UWI email frequently.

Required Text: Mann, Prem S. (8th edition) *Introductory Statistics*. Wiley and Sons Inc.

Required Materials: Blank Notes (on OurVLE), Scientific Calculator

Supplemental Texts: Moore, D. S., McCabe, G. P., & Craig, B. A. (2012). *Introduction to the Practice of Statistics*. WH Freeman.

Newbold, P., Carlson W. L., Thorne, B. M. (2013) *Statistics for Business and Economics*. Pearson Education.

Learning Outcomes

At the end of this course, students should be able to:

1. Identify different types of data and data collection methods
2. Describe a given dataset (numerically and graphically)
3. Use elementary statistical methods to analyse data
4. Draw conclusions from the statistical analyses in (#3)

Assessment

The course will be assessed using the following methods:

- 2 Mid-Semester Exams - 25% each
- 1 Final Exam - 50%

Disclaimer: Students will be informed of any changes to this via email and/or an announcement on OurVLE.

Mid-Semester and Final Exams

There will be two mid-semester exams and one final exam. Their dates and times are to be determined. **For the specific list of topics for each exam**, please view the practice packets posted on OurVLE. Below is critical information about each exam.

	Weight	Date	Duration	Topics	Format	Mode
Midterm #1	25%	TBA	1 hour	Beginning of the course to Numerical Methods for Describing Data	MCQ*	Online
Midterm #2	25%	TBA	1 hour	Probability & Probability Distributions (including Binomial and Normal Distributions)	MCQ	Online
Final	50%	TBA	1 hour	The entire course (60% will cover the material not covered on Mid-Semester #1 or #2)	MCQ	Face to Face ♦

* MCQ = Multiple Choice Questions

♦ This is dependent on the COVID situation

NO MAKE-UP EXAMS WILL BE GIVEN

If you miss a mid-semester exam for a University approved reason (documentation required), your final will be worth (50% + 25%). Otherwise, your final is worth 50%.

Any issues with ONLINE exams must be reported immediately (within 24 hours of the exams). Problems with mid semester exams are reported directly to your lecturer, while issues with your final exam are to be reported to the Exam Section using the email provided in the exam portal.

Note that in the case of face-to-face exams, failure to shade your ID number correctly (includes shading incorrect numbers or shading too lightly or no shading at all) on your MCQ answer sheet will result in a score of 0 being assigned. The same rule applies for failure to write your correct ID number on the required pages on/in your answer booklet.

ALL EXAMS WILL BE SYNCHRONOUS

Course Activities

The course is delivered using both synchronous and asynchronous methods. *Students are expected to watch all pre-recorded lectures prior to class AND attend all lectures and tutorials.* However, all lectures and tutorials will be recorded and posted in the relevant section on OurVLE.

Lectures

It is expected that students will watch the assigned videos prior to attending lectures. The lecture will begin with a basic review of the key concepts for the topic under review. The majority of the time will be spent on the Lecture Exercises which will involve students discussing how to solve the problems, while being guided by the lecturer. At some point during the lecture, there MAY also be a POP QUIZ.

Problem Sets

Each problems set is divided into 2 sections:

- a. Questions for discussion during the tutorial (this will appear first on the sheet)
- b. Extra Questions. Students should use these to practise the concepts they need to learn for that topic. Some of these questions are also taken from your textbook. Answers for most of these can be found in the back of the text.

These will NOT be discussed during the tutorial sessions unless there is extra time AND a student/students has/have specific questions. You may however complete the extra questions for which answers do not exist and send them to your lecturer or tutor for review.

Tutorials

Each tutorial can have up to 2 segments:

- a. A 5-minute key concepts presentation by your tutor.
- b. A discussion session about the tutorial questions. This can include one or more of the following (as determined by your tutor):
 - i. Individual students putting answers to tutorial questions on the board for discussion
 - ii. Small group discussions and the group puts their final answer on the board for discussion
 - iii. Any other appropriate teaching/learning method

STUDENTS ARE REQUIRED TO **ATTEMPT** ALL TUTORIAL QUESTIONS PRIOR TO THE TUTORIAL. Failure to do so will result in the tutorial ending prematurely and the tutor assuming that students are comfortable with the information contained therein.

The role of the tutor is not to do the tutorial questions but to assist students through the tutorial questions. Therefore, an attempt must be made by students prior to the tutorial session.

Please immediately inform your lecturer if your tutor is absent or late to tutorials. Also let your lecturer know if your tutor is not performing within the parameters outlined above. Our aim is to rectify issues as early as possible.

Please note that **you are only allowed to attend a tutorial for which you are registered.** Under absolutely no circumstances are you allowed to go to a tutorial that you are not registered for. If you are unable to attend your tutorial, for whatever reason, you are responsible for getting the information you missed from that tutorial.

Review Sessions

Review sessions are for the benefit of the students. As such, the lecturer and/or tutors **will not** prepare specific questions to go through in these sessions. Students are expected to come with their questions, whether they are from questions done in lectures, tutorials, quizzes, extra questions, exam review packets, past exams and/or the textbook (or other textbooks). Conceptual questions will also be taken during these sessions. **Students are therefore required to prepare questions for the review sessions.**

The Platinum Club

There are additional activities that do not contribute directly to your final grade, however, they are helpful in the review of the topics being taught. They will also help with assessing your understanding of the material. There are two such activities.

Pop Quizzes

During any lecture, there MAY be a pop quiz. These quizzes can cover material related to the topics discussed that day or in the previous week's class. Some of the quiz questions will be taken from past exams and almost all will be exam level questions. Within 24 hours of the quiz, the leader board will be published. Points will also be awarded using the system.

Students will be required to sign up with Quizizz. This is FREE of cost to all students in this course. The necessary links will be provided within the first week of class. Please sign up with the link related to the class you will attend regularly.

Crossword Puzzles

In addition to the syllabus, each unit will have at least one crossword puzzle which has clues related to the material in that unit. Students are to complete the puzzle, save as a pdf and upload to the relevant section. You may use an app such as CamScanner to take a picture to save your puzzle as a pdf. Alternatively, you could just complete it using Adobe Acrobat Reader, save and then upload. The first three persons to complete the puzzle and upload a clear and correct solution will get the points.

6000 – 1st place

4000 – 2nd place

2000 – 3rd place

Although you may not be in the top three, you are encouraged to complete the puzzle as some of the clues include past exam questions.

At the end of the semester, the points will be added and an overall winner will be determined.

Course Policies

Attendance

The course is delivered using both synchronous and asynchronous methods. *Students are expected to watch all pre-recorded lectures prior to class AND attend all lectures and tutorials.* However, all lectures and tutorials will be recorded and posted in the relevant section on OurVLE. If you miss a lecture or tutorial, it is the student's responsibility to get the relevant notes by watching the related recordings. The lecturer and tutors will not be giving completed notes, lecture slides or tutorial answers to any student.

Electronic Material

Lectures, notes and other material presented during the course of the lecture or as part of the course are protected by copyright laws. As such, students are not allowed to post, sell or otherwise barter, reproduce any of the above-mentioned en masse, either to other students or to any commercial concern. To obtain permission to sell or barter notes, the individual wishing to sell or barter the notes must be registered in the course or must be an approved visitor to the class. The lecturer may grant or not grant such permission at their own discretion and may require a review of the notes prior to their being sold or bartered. If they do grant such permission, they may revoke it at any time, if they so choose.

Missed Assessment

As noted above, there will be no make up exams for students who have missed assessments.

Communication

Communication between lecturer/tutors and students and vice versa will be done using official UWI email addresses. If you send an email from another domain, please use a professional email address which uses your name. Emails sent from addresses which do not clearly identify the sender or is not a professional type address will not be answered. All emails must include:

- a relevant subject;
- a proper salutation – includes a greeting and who you are addressing (e.g. Dear Dr Dixon Hamil);
- proper grammar (text language and short-hand type messages are not accepted)
- clear and complete sentences;
- a proper closing – includes a closing and who is sending the email (e.g. Regards, Keisha);

Emails without these key characteristics will be ignored.

Emails sent to lecturers and tutors between Monday and Thursday (8am – 5pm) will be responded to within 48 hours. Emails sent between Friday and Sunday will be responded to as soon as possible. This also applies emails sent during a holiday period.

Students are required to check their UWI assigned email addresses regularly. All correspondence from the UWI will be sent to those addresses. One option is for you to forward your UWI email to an email address that you check regularly.

Reminders about exams or special class activities **will not** be sent out. It is the student's responsibility to follow the course schedule (see Pages 10 - 12). Additionally, it is the student's responsibility to check their UWI email or the News Forum on OurVLE for the exact dates of mid semester and final exams.

Students with Disabilities

Students with disabilities MUST register with The Office of Special Student Services (OSSS) **and** your lecturer so that the necessary accommodations may be made for you. Also see Section II of the Assessment Regulations for First Degrees, Associate Degrees, Undergraduate Diplomas and Certificates 2017-2018 document.

(https://www.mona.uwi.edu/registry/sites/default/files/registry/uploads/Assessment_Regulations_2017-2018_Final.pdf)

Academic Dishonesty

Acts of dishonesty, including cheating, plagiarism, and directly or indirectly aiding and/or abetting persons in committing a dishonest act, will not be tolerated. Students found to be committing an act of dishonesty, will be given a zero for the related assessment and will be reported to the Head of Department who can in turn report it to the Campus Registrar for further action. Please refer to Section IX of the Assessment Regulations for First Degrees, Associate Degrees, Undergraduate Diplomas and Certificates 2017-2018 document (https://www.mona.uwi.edu/registry/sites/default/files/registry/uploads/Assessment_Regulations_2017-2018_Final.pdf). In this section, plagiarism refers to the "presentation of work by a student for evaluation, whether or not for credit, but do[es] not apply to invigilated written examinations".

Please note that collaborating with any other student, faculty, staff member or anyone that does not fall in the previously listed categories while doing an exam is a breach of exam regulations and constitutes cheating. Collaboration includes, but is not limited, to any of the following:

- using any other material than the ones stipulated in the guidelines (you may not use any website, your notes, textbook (hard or soft copy), flash cards, cheat sheets, any other material (hard or soft copy), etc.)
- doing the exam for someone else
- having someone do the exam for you
- asking someone to give you the answer to the question
- asking someone to suggest ways you should do the question
- assisting someone by giving answers to a question
- assisting someone by giving ideas on how to answer a question

- screenshotting questions and sharing the file with others (whether at the time of the exam or any time after the exam)
- sharing answers

How to Succeed in this Course

Success in this course requires you to:

- Focus on understanding and not just swatting the material
- Set aside specific, non-negotiable times to watch the pre-recorded videos and complete tutorials
- Watch the pre-recorded lectures prior to the class
- Print off the lecture notes and fill them in while watching the videos
- Read the required sections in your text prior to attending class
- Write chapter/unit summaries
- Attend classes (lectures and tutorials)
- Engage in classes (lectures and tutorials) – ask questions; answer questions
- Complete tutorials prior to your tutorial time
- Work all extra questions on the problem sets
- Attend office hours (or make an appointment to meet with your lecturer or your tutor) if you need assistance
- Email your lecturer or tutor if you need any assistance with understanding certain concepts or examples
- Keep track of questions you have that may develop in class, tutorials or your personal study and contact either your lecturer or your tutor
- Complete the practice packets for each exam
- Form study groups (no more than 5 persons per group)

Course Website & Other Details

The OurVLE course website is currently divided into 7 main sections.

- II. **Course Information and Admin (Section 1)**: Information on course logistics such as the syllabus and important notices can be found here. The link to join lectures and tutorials is at the top of the section. You will click this link and then select the relevant session that you need to join. The News Forum is also located in this area – check this regularly as notices are sent to students using this medium.

The exercises that will be done in each class can also be found in this section under the heading Lecture Exercises.

- III. **Unit Notes (Sections 2-5)**: There are 4 such divisions – one for each unit. Each will contain the following:

- A list of prerequisite material that you are expected to have mastered
- Pre-recorded lectures & related Fill-in-the blank lecture notes

You are required to watch the pre-recorded videos prior to our lecture time (see syllabus for schedule) along with completing the accompanying fill-in-the blank lecture notes which follow the videos exactly.

- Activities related to each unit. These include
 - Problem sets
 - Crossword puzzles and their upload portal

IV. **Recordings of Live Lecture Sessions & Tutorials (Section 6)**: This section will contain links to the recordings for each lecture session and tutorial. They are arranged according to the weeks of the lecture. Live lectures are posted approximately 24 hours after the lecture/tutorial has ended.

V. **Exam Review (Section 7)**: This section includes 3 folders – one for each exam. Each folder has a practice packet (list of topics to study + practice questions) and their related answer sheets.

The practice packets are designed to give you an idea of the types of questions that MAY be on the exam. Students are encouraged to focus on understanding the concepts taught and not memorizing questions and their answers. The packets, like the exams, will emphasize application and not regurgitation of definitions and facts.

As part of the exam preparation process, students are **strongly** advised to go through all extra questions (from the tutorial sheets) and the exam packet questions.

This section will also have a document with Exam FAQs.

Note: As the semester progresses, there may be the need to include additional sections and/or information.

Course Schedule

*** Disclaimer: this schedule may be adjusted if needed. Students will be informed of any changes via email and/or an announcement on OurVLE

Week	Week Beginning	Lecture Topic	Readings	Tutorial Topic	Videos to Watch Before Class
Week 1	September 6	<ul style="list-style-type: none"> Course Information Introduction to Basic Data Collection 	Chapter 1		
Week 2	September 13	<ul style="list-style-type: none"> Introduction to Basic Data Collection Graphical Methods for Describing Data Frequency Distributions 	Chapter 1 Chapter 2		Unit 1 Unit 2.0 & Unit 2.1 Unit 2.2
Week 3	September 20	<ul style="list-style-type: none"> Numerical Methods for Describing Data (Shape) Numerical Methods for Describing Data (Middle & Spread) 	Chapter 2 Also read the section on summation notation (Section 1.8)	<ul style="list-style-type: none"> Introduction to Basic Data Collection Graphical Methods (Problem Set 1) 	Unit 2.3.1 Unit 2.3.2 Unit 2.3.3

Week	Week Beginning	Lecture Topic	Readings	Tutorial Topic	Videos to Watch Before Class
Week 4	September 27	<ul style="list-style-type: none"> Numerical Methods for Describing Data (Spread & Unusual Points) Probability 	Chapter 3 Chapter 4	<ul style="list-style-type: none"> Frequency Distributions (Problem Set 2) 	Unit 2.3.3 Unit 3.1 Unit 3.2
Week 5	October 4	<ul style="list-style-type: none"> Probability & Probability Distributions 	Chapter 4 + Sec. 5.1 – 5.3 Sec. 5.4	<ul style="list-style-type: none"> Numerical Methods (Problem Set 3) 	Unit 3.3 Unit 3.4
Week 6	October 11	<ul style="list-style-type: none"> Binomial Distribution Normal Distribution 	Sec. 5.4	<ul style="list-style-type: none"> Numerical Methods (Problem Set 4) 	Unit 3.5 Unit 3.6.1
Week 7	October 18 (No class or tutorials on National Heroes' Day)	<ul style="list-style-type: none"> Normal Distribution 	Sec. 6.1 – 6.5 (normal only)	<ul style="list-style-type: none"> Probability & Probability Distributions (Problem Set 5) 	Unit 3.6.2 Unit 3.6.3
Week 8	October 25	<ul style="list-style-type: none"> Normal Distribution Sampling Distributions 	Chapter 7	<ul style="list-style-type: none"> Binomial Distributions (Problem Set 6) 	Unit 3.6.4 Unit 3.7 Unit 4.1

Week	Week Beginning	Lecture Topic	Readings	Tutorial Topic	Videos to Watch Before Class
Week 9	November 1	<ul style="list-style-type: none"> • Sampling Distributions • Inference for Population Means 	Sec. 8.1-8.2 Sec. 9.1-9.2	<ul style="list-style-type: none"> • Normal Distributions (Problem Set 7) 	Unit 4.2 Unit 4.3.1 – Unit 4.3.2
Week 10	November 8	<ul style="list-style-type: none"> • Inference for Population Means • Inference for Population Proportions 	Sec. 9.1-9.2 Sec. 8.4 Sec. 9.4	<ul style="list-style-type: none"> • Sampling Distributions & CLT (Problem Set 8) 	Unit 4.3.3 Unit 4.4 – Videos 1 & 2
Week 11	November 15	<ul style="list-style-type: none"> • Inference for Population Proportions 		<ul style="list-style-type: none"> • Inference for Means (Problem Set 9) 	Unit 4.4 – Videos 3 - 8
Week 12	November 22	<ul style="list-style-type: none"> • Contingency Time & Review (students come with questions) 		<ul style="list-style-type: none"> • Inference for Proportions (Problem Set 10) 	