

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

Course Outline

Semester 1, 2020/2021

3 credit hours

Lecturer Information

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

Office Hours: Tuesdays 4pm-5pm & Wednesdays 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)

Corequisites: Students must also be registered for or have already passed ECON1003 (Mathematics for the Social Sciences) or its equivalent.

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 now being 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. **Communication from non-UWI email addresses will be ignored.** Students must therefore be able to 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
Midterm #1	25%	TBA	1 hour	Beginning of the course to Numerical Methods for Describing Data	MCQ*
Midterm #2	25%	TBA	1 hour	Probability & Probability Distributions (including Binomial and Normal Distributions)	MCQ
Final	50%	TBA	1 hour	The entire course (60% will cover the material not covered on Mid-Semester #1 or #2)	MCQ

* MCQ = Multiple Choice Questions

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. 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.

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.

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.**

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 24 hours. Emails sent between Friday and Sunday will be responded to on the next valid work day. 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 8 - 10). 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”.

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
- 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 8 main sections.

- I. **General Information (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.
- II. **Unit Notes (Sections 2-5)**: There are 4 such divisions – one for each unit. Each will contain the following:
 - Pre-recorded lectures
 - 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 the accompanying fill-in-the blank lecture notes which follow the videos.

- III. **Live Lecture Sessions (Section 6)**: This section will contain links to the recordings for each lecture session. They are arranged according to the weeks of the lecture. Live lectures are posted 24 hours after the lecture has been completed.

- IV. **Problem Sets/Tutorial Sheets (Section 7)**: The question sheets for each tutorial are located here. Each tutorial sheet 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. These will NOT be discussed during the tutorial sessions unless there is extra time AND a student/students has/have specific questions.

Recordings for the live tutorial sessions are also placed here.

- V. **Exam Review (Section 8)**: 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.

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 7	<ul style="list-style-type: none"> Course Information Introduction to Basic Data Collection 	Chapter 1		
Week 2	September 14	<ul style="list-style-type: none"> Introduction to Basic Data Collection Graphical Methods for Describing Data 	Chapter 1 Chapter 2		Unit 1 Unit 2.0 & Unit 2.1
Week 3	September 21	<ul style="list-style-type: none"> Frequency Distributions Numerical Methods for Describing Data (Shape) 	Chapter 2	<ul style="list-style-type: none"> Introduction to Basic Data Collection Graphical Methods (Problem Set 1) 	Unit 2.2 Unit 2.3.1
Week 4	September 28	<ul style="list-style-type: none"> Numerical Methods for Describing Data (Middle & Spread) 	Chapter 3	<ul style="list-style-type: none"> Frequency Distributions (Problem Set 2) 	Unit 2.3.2 Unit 2.3.3
Week 5	October 5	<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"> Numerical Methods (Problem Set 3) 	Unit 3.1 Unit 3.2

Week	Week Beginning	Lecture Topic	Readings	Tutorial Topic	Videos to Watch Before Class
Week 6	October 12	<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 4) 	Unit 3.3 Unit 3.4
Week 7	October 19 (No class or tutorials on National Heroes' Day)	<ul style="list-style-type: none"> Binomial Distribution Normal Distribution 	Sec. 5.4	<ul style="list-style-type: none"> Probability & Probability Distributions (Problem Set 5) 	Unit 3.5 Unit 3.6.1
Week 8	October 26	<ul style="list-style-type: none"> Normal Distribution 	Sec. 6.1 – 6.5 (normal only)	<ul style="list-style-type: none"> Binomial Distributions (Problem Set 6) 	Unit 3.6.2 Unit 3.6.3
Week 9	November 2	<ul style="list-style-type: none"> Normal Distribution Sampling Distributions 	Chapter 7	<ul style="list-style-type: none"> Normal Distributions (Problem Set 7) 	Unit 3.6.4 Unit 3.7 Unit 4.1
Week 10	November 9	<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"> Sampling Distributions & CLT (Problem Set 8) 	Unit 4.2 Unit 4.3.1 – Unit 4.3.2

Week	Week Beginning	Lecture Topic	Readings	Tutorial Topic	Videos to Watch Before Class
Week 11	November 16	<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"> Inference for Means (Problem Set 9) 	Unit 4.3.3 Unit 4.4 – Videos 1 & 2
Week 12	November 23	<ul style="list-style-type: none"> Inference for Population Proportions 		<ul style="list-style-type: none"> Inference for Proportions (Problem Set 10) 	Unit 4.4 – Videos 3 - 8
Week 13	November 30	<ul style="list-style-type: none"> Review (students come with questions) 		<ul style="list-style-type: none"> Review session (students come with questions) 	