

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

Course Outline

Semester 1, 2018/2019

3 credit hours

Lecturer: Dr Kelly-Ann Dixon Hamil
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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

- Two lecture hours per week where basic concepts will be taught and related examples 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.

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.

Other Materials: Scientific Calculator

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:

- | | | |
|-------------------------|---|----------|
| • 5 In-tutorial Quizzes | - | 10% |
| • 2 Mid-Semester Exams | - | 20% each |
| • 1 Final Exam | - | 50% |

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

In-Tutorial Quizzes

The aim of the quizzes is to give regular feedback to students on critical areas that are key to understanding the concepts being tested. There are five (5) in-tutorial quizzes worth a total of 10% and your lowest quiz grade will be dropped. The dates and topics for the quizzes are specified on the course schedule.

Each quiz will be closed book and should be completed within 5-8 minutes (total time allotted will be specified by your tutor at the time of the quiz).

NO MAKE-UP QUIZZES WILL BE GIVEN AND THERE WILL BE NO ADJUSTMENT FOR MISSED QUIZZES

Mid-Semester and Final Exams

There will be two mid-semester exams and one final exam. Their dates and times are to be determined. Below is critical information about each exam.

	Weight	Date	Duration	Topics	Format
Midterm #1	20%	TBA	1 hour	Beginning of the course to Numerical Methods for Describing Data	MCQ*
Midterm #2	20%	TBA	1 hour	Probability & Probability Distributions (including Binomial and Normal Distributions)	MCQ
Final	50%	TBA	2 hours	The entire course (60% will cover the material not covered on Mid-Semester #1 or #2)	Mixture of MCQ & long answer questions

* 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% + 20%). Otherwise, your final is worth 50%.

Note that failure to shade your ID number correctly on your MCQ answer sheet will result in a 10% deduction from your grade. The same deduction is applicable for failure to write your correct ID number on the required pages on/in your answer booklet.

Course Policies

Attendance

Students are expected to attend all lectures and tutorials. If you miss a lecture or tutorial, it is the student's responsibility to get the relevant notes from a classmate. The lecturer and tutors will not be giving completed notes, lecture slides or tutorial answers to any student.

Electronic Material

The recording of lectures and taking pictures of lectures is strictly prohibited (unless required for learning due to a disability approved by The Office of Special Student Services).

Additionally, 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 3 sections:

- 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.

- c. Quizzes. These will not be applicable every week. Please refer to the course schedule for quiz topics and dates. You will be required to show your UWI ID when you take a quiz. **If you do not have a valid ID, your quiz score will not be recorded and you will get a zero for that quiz.**
NO MAKE UP QUIZZES WILL BE GIVEN UNDER ANY CIRCUMSTANCES

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.**

Use of Technology in Classes

(https://www.mona.uwi.edu/socsci/sites/default/files/socsci/forms_documents/CODE_OF_CONDUCT_AND_GUIDELINES_FOR_INSTRUCTIONAL_SESSIONS.pdf)

During lectures and tutorials:

- students may use their laptops or tablets to take notes or for any other uses as directed by your lecturer or tutor. Students found using technological devices for any other reason will be required to leave the classroom.
- all cell phones **MUST** be turned off or put on silent. If your phone rings during class time, you will be required to leave the classroom.
- students are not allowed to answer their cell phones while in the classroom. If there is an emergency, you must take your call (including answering the phone) outside of the classroom with minimal disruption to your fellow classmates and/or your tutor or lecturer. Students failing to do so will be required to leave the classroom.
- the use of earbuds is strictly prohibited.
- Failure to leave will result in the lecturer/tutor leaving the classroom and the material assigned for that day assumed to be taught.

Missed Assessment

As noted above, there will be no make up quizzes or 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. Emails sent from addresses at other domains 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.

Class announcements and/or email reminders **will not** be sent out about quizzes and mid semester exams. It is the student's responsibility to follow the course schedule (see Pages 8 & 9). Additionally, it is the student's responsibility to check the Exam's Notice Board for the exact dates of mid semester and final exams.

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 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](https://www.mona.uwi.edu/registry/sites/default/files/registry/uploads/Assessment%20Regulations%202017-2018%20Final.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:

- Print off the lecture notes and fill them in during class
- Attend classes (lectures and tutorials)
- Engage in classes (lectures and tutorials) – ask questions; answer questions
- Read the required sections in your text prior to attending class
- Complete tutorials prior to your tutorial time
- 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

Course Website & Other Details

In addition to the home page, the OurVLE course website is divided into 3 main sections/folders.

- I. **Course Notes**: This section contains fill-in-the-blanks lecture notes for the entire course. You are required to have these notes in class (whether a hard or soft copy on a device) and complete them while the lecture is progressing (cell phones and tablets with Adobe Reader installed allow students to edit files as necessary). The notes are arranged according to the 4 main units in this course.
- II. **Tutorial Questions**: 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.

- III. **Exams:** This section includes 7 files: a practice packet for each exam (list of topics to study + practice questions); their related answer sheets; and the formula sheet (which is only applicable for the final exam).

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.

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	Quizzes & Other Information
Week 1	September 2	<ul style="list-style-type: none"> Course Information Introduction to Basic Data Collection 	Chapter 1		
Week 2	September 9	<ul style="list-style-type: none"> Graphical Methods for Describing Data Begin Frequency Distributions 	Chapter 2		
Week 3	September 16	<ul style="list-style-type: none"> Frequency Distributions continued 	Chapter 2	<ul style="list-style-type: none"> Introduction to Basic Data Collection Graphical Methods (Problem Set 1) 	
Week 4	September 23	<ul style="list-style-type: none"> Numerical Methods for Describing Data (Means) 	Chapter 3	<ul style="list-style-type: none"> Frequency Distributions (Problem Set 2) 	Quiz #1: Introduction to Basic Data Collection; Graphical Methods & Frequency Distributions
Week 5	September 30	<ul style="list-style-type: none"> Numerical Methods for Describing Data (Variance and Shape) Begin Probability 	Chapter 3 Chapter 4	<ul style="list-style-type: none"> Numerical Methods (Problem Set 3) 	

Week	Week Beginning	Lecture Topic	Readings	Tutorial Topic	Quizzes & Other Information
Week 6	October 7	<ul style="list-style-type: none"> Probability & Probability Distributions Begin Binomial Distribution 	Chapter 4 + Sec. 5.1 – 5.3 Sec. 5.4	<ul style="list-style-type: none"> Numerical Methods (Problem Set 4) 	Quiz #2: Numerical Methods
Week 7	October 14	<ul style="list-style-type: none"> Binomial Distribution 	Sec. 5.4	<ul style="list-style-type: none"> Probability & Probability Distributions (Problem Set 5) 	
Week 8	October 21	<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) 	No Class on Heroes' Day (October 21)
Week 9	October 28	<ul style="list-style-type: none"> Sampling Distributions & Central Limit Theorem (CLT) 	Chapter 7	<ul style="list-style-type: none"> Normal Distributions (Problem Set 7) 	No tutorials on November 1 (Graduation)
Week 10	November 4	<ul style="list-style-type: none"> 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) 	Quiz #3: Probability & Probability Distributions
Week 11	November 11	<ul style="list-style-type: none"> Inference for Population Means Continued 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) 	Quiz #4: Sampling Distributions (identification & probability statement writing)
Week 12	November 18	<ul style="list-style-type: none"> Contingency Time and/or Review 		<ul style="list-style-type: none"> Inference for Proportions (Problem Set 10) 	Quiz #5: Hypothesis Testing
Week 13	November 25	<ul style="list-style-type: none"> Review (students come with questions) 		<ul style="list-style-type: none"> Review session (students come with questions) 	