

EPMATH 235: Statistics

Ourimbah

Semester 1 - 2024



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

The Pathways and Academic Learning Support Centre recognises and respects the unique history and culture of Aboriginal and Torres Strait Islander peoples and their unbroken relationship with the lands and the waters of Australia over millennia. We are dedicated to reconciliation and to offering opportunities for Aboriginal and Torres Strait Islander peoples to access and succeed in higher education. The Centre is committed to providing a culturally safe and inclusive environment for all.

OVERVIEW

Course Description	This course provides a foundation for concepts in statistics and probability and is a good preparation for students wishing to proceed with further study in statistics or to study in field where statistics is an important component.
Academic Progress Requirements	Nil
Requisites	If you are currently enrolled in or have successfully completed EPMATH234, EPMATH302 or EPMATH303 you cannot enrol in this course.
Contact Hours	Lecture Face to Face On Campus 2 hour(s) per week(s) for 12 week(s) starting Week 1 Tutorial Face to Face On Campus 1 hour(s) per week(s) for 5 week(s) starting Week 2 Tutorial Face to Face On Campus 1 hour(s) per week(s) for 6 week(s) starting Week 8
Unit Weighting	10
Workload	Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

COURSE OUTLINE

CONTACTS

Course Coordinator	Mr Paul Sunderland Paul.Sunderland@newcastle.edu.au Consultation: Please email to schedule an appointment.		
Teaching Staff	Other teaching staff will be advised on the course Canvas site.		
School Office	<table><tr><td>Callaghan Ground Floor, General Purpose Building (GP) Ph: 02 4921 5558 enabling@newcastle.edu.au</td><td>Ourimbah HO 168, Humanities Building Ph: 02 4348 4076 enabling@newcastle.edu.au</td></tr></table>	Callaghan Ground Floor, General Purpose Building (GP) Ph: 02 4921 5558 enabling@newcastle.edu.au	Ourimbah HO 168, Humanities Building Ph: 02 4348 4076 enabling@newcastle.edu.au
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SYLLABUS

Course Content	<p>Descriptive statistics</p> <ul style="list-style-type: none">• Types of data• Representing data in tables and graphs• Measures of central tendency• Measures of dispersion• Percentiles• Stat mode on the calculator <p>Probability</p> <ul style="list-style-type: none">• Types of probability events• Complementary events• Conditional probability• Contingency tables• Tree diagrams• Probability distributions• Binomial formula <p>Bi-variate data</p> <ul style="list-style-type: none">• Statistical independence• Linear correlation and regressions <p>Introduction to statistical inference</p> <ul style="list-style-type: none">• The normal distribution• Z-scores• Confidence intervals• Normal approximation of other distributions
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Course Learning Outcomes	On successful completion of this course, students will be able to: <ol style="list-style-type: none">1. Apply probability theory to solve specific problems.2. Present data and conduct analysis of statistics at a basic level.
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Course Materials	A Scientific Calculator will be required, all other course materials will be provided on the course Canvas site. Students are not required to purchase a textbook.
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SCHEDULE

Week	Week Begins	Topic	Learning Activity	Assessment Due
1	26 Feb	Module 1 Gathering Data	No tutorial	
2	4 Mar	Module 2 Measures of Central Tendency	Tutorial 1	Quiz 1
3	11 Mar	Module 3 Measures of Dispersion	Tutorial 2	Quiz 2
4	18 Mar	Module 4 Percentages and Percentiles	Tutorial 3	Quiz 3
5	25 Mar	Module 5 Probability	Tutorial 4	Quiz 4
6	1 Apr	Module 6 Tree Diagrams ONLINE RECORDED LECTURE	Tutorial 5 ONLINE RECORDED TUTORIAL	Quiz 5
7	8 Apr	Revision lecture	No Tutorial	Online class test (Modules 1 – 5) Thursday 11 th April 11:00pm
Recess				
Recess				
8	29 Apr	Module 7 Bivariate Data	Tutorial 6	Quiz 6
9	6 May	Module 8 Correlation and Regression	Tutorial 7	Quiz 7
10	13 May	Module 9 Discrete Probability	Tutorial 8	Quiz 8
11	20 May	Module 10 The Normal Distribution	Tutorial 9	Quiz 9
12	27 May	Module 11 Application of the Normal Distribution	Tutorial 10	Quiz 10
13	3 Jun	No Lecture	Tutorial 11	Quiz 11
Examination Period				
Examination Period				

ASSESSMENTS

This course has 3 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Quizzes	Sundays 11:59pm Weeks 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13	Individual	20%	1, 2
2	Class Test	Thursday 11 th April 11:00pm	Individual	30%	1, 2
3	Final Examination	During examination period	Individual	50%	1, 2

Late Submissions

The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 5% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - Quizzes

Assessment Type	Quiz
Description	Quizzes will be made available from 9am on Monday of each week and close by 11:59pm Sunday of that week. Quizzes start from Week 2. There is no quiz in Week 7. The best 9 out of 11 marks will count towards 20% of final mark. Each quiz is based on previous week's module topic.
Weighting	20%
Due Date	Sundays 11:59pm Weeks 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13
Submission Method	Online
Assessment Criteria	Correct answers
Return Method	Online
Feedback Provided	Feedback will be provided in Canvas upon completion of the quiz

Assessment 2 - Class Test

Assessment Type	In Term Test
Description	100-minute (Canvas Component 50min/Written Component 50min) examination covering modules 1-5 (inclusive).
Weighting	30%
Due Date	Thursday 11 th April at 11:00pm
Submission Method	Online
Assessment Criteria	The marking scheme will have a strong emphasis on the problem-solving technique. Clearly written solutions showing all steps in the working-out for the written component will attract the highest marks.
Return Method	Online
Feedback Provided	Online

Assessment 3 - Final Examination

Assessment Type	Online Open Book Formal Examination
Description	An examination covering all topics from all modules 6-11 (inclusive). The online exam paper will be made available for a period of time. Once the exam has commenced, it must be completed within the time limit given on the exam paper.
Weighting	50%
Due Date	During the examination period
Submission Method	Online
Assessment Criteria	Students must be able to demonstrate their understanding, by showing working, in the written sections.
Return Method	Not returned
Feedback Provided	No feedback will be provided for this assessment

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

Communication Methods

Email is the principal form of communication at the university and within this course. Always use your student email (NUmail), rather than a private email address, and check this regularly. As Course Coordinator I will try to respond to your email within three (3) working days. I will not normally respond to emails over the weekends. Please be courteous in your email communication and in the online space.

Canvas is used to distribute course material, announcements and other information. It is also used for online quizzes and to allow students to track their individual progressive assessment results throughout the semester via Grades.

Discussions forums in Canvas can be used to ask questions about minor issues. Students are strongly encouraged to use these to communicate with each other, discuss issues relating to the course, and solve minor problems.

Attendance and Engagement

In addition to face-to-face hours in class, out-of-class study and related work will require an additional commitment of up to 10 hours per week of reading, preparation, and study time over the semester. Students are required to spend on average 120-140 hours of effort (contact and non-contact hours including assessment) per semester per 10 unit course.

To maximise your learning opportunities, you should read all relevant material prior to attending class.

It is strongly recommended that you attend your classes every week. Our data shows that you will get better results if you attend class with your peers. If you do have to miss a class, you should catch up on any missed work by accessing lecture recordings if you are enrolled face-to-face. While online tutorials are recorded, on-campus tutorials are not, so you should view other resources available on your Canvas site and contact your course coordinator if you would like advice on how to best catch up on any material that was missed. **If you are unable to attend classes regularly you should reach out to your course coordinator as soon as possible to discuss ways that you can continue to engage with the learning material.**

A plan of regular revision throughout the semester is also strongly recommended to help you manage your time, consolidate information and retain that knowledge for the duration of

the course and beyond.

Assessment items have been designed to reinforce and revise the course material, and ensure you are up to date with course content. You are required to submit all assessable items by the due dates unless prior arrangements have been made.

Additional Contact Details

If you have any questions about your course, please speak with your course coordinator, lecturer or tutor first. For general enquiries, please contact the Pathways and Academic Learning Support Centre Office or your Student Liaison Officer. Contact details for both the office and Student Liaison Officers can be found [here](#).

Yapug students can also contact your Indigenous Enabling Learning Advisor [Hannah Pipe](#) or your Program Convenor [Dan Collins](#).

Final Examination

This course has a formal examination. All formal examinations will be held during the [University's Examination Period](#). Your [exam timetable](#) will be available approximately 4 weeks before the exam period and you must ensure that you are available to undertake your exam at any time during the Examination Period.

If you are unable to attend a scheduled examination due to illness or you have another significant, verifiable reason, contact the Pathways and Academic Learning Support Office and advise your lecturer at the earliest opportunity. Completion of an [online Adverse Circumstances application](#) including appropriate documentation is required.

If you have a permanent or temporary disability or medical condition that means you may need adjustments made during your examination, you must register with [AccessAbility](#) at the start of semester so that these arrangements can be made.

If you have a Reasonable Adjustment Plan (RAP), your examination will be scheduled in accordance with it. If you are unable to attend your scheduled examination due to illness or other circumstance, you will need to submit an online Adverse Circumstances application and supply appropriate documentation to support your application. Your RAP is not able to be used as your documentation.

Adverse Circumstances

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for Adverse Circumstances must be lodged via the online Adverse Circumstances system for all individual assessment items worth 30% or greater **by 11:00pm on the day the assessment is due**. For assessment items less than 30%, you will need to contact your Course Coordinator by 11:00pm on the due date of the assessment item.

Before applying you must refer to the [Adverse Circumstances Affecting Assessment Items Procedure](#) and the [Adverse Circumstances Affecting Assessment Items Policy](#).

Please note that students must submit their adverse circumstances application via the online Adverse Circumstances system by 11:00pm on the due date of the assessment item, even if you are using a [Reasonable Adjustment Plan \(RAP\)](#) as your supporting documentation.

Written Assessment Word Limits

If this course includes written assessments, the word limit listed will include headings, sub-heading, in-text citations, quotes and referencing but does not include the list of references, appendices and footnotes. You will not receive a penalty for exceeding the word limit (there is a tolerance of up to 10%), but any work after the maximum word limit may not be included within the allocation of marks.

Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. Please refer to the [Student Academic Integrity Policy](#).

Oral Interviews (Vivas)

As part of the evaluation process of any assessment item in this course an oral examination

(viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the [Oral Examination \(viva\) Procedure](#). In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the [Student Conduct Rule](#).

Workplace Health and Safety Requirements

There are no specific WH&S requirements for this course.

Software

Free Microsoft Office software is available to enrolled students [here](#) and includes 5 TB of free cloud storage with OneDrive.

Timetable

Your timetable for this course is available via the myUni Student Portal and can also be found [here](#).

Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

Important Policy Information

The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the [policies and procedures](#) that support a safe and respectful environment at the University.

This course outline was approved by the Director, PALS. No alteration of this course outline is permitted without Director approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.
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