

PUBH6303: Applied Research

Callaghan and Online
Semester 2 - 2023



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

OVERVIEW

Course Description

This course is open to students from a range of different programs. Depending on the degree program a student is enrolled in, this course enables students to undertake either:

- A. an independent research project or work-based project in a topic of interest to themselves (on the basis an appropriate project and supervision team can be identified), or
- B. structured learning in a statistical topic area specified by the teaching staff, followed by detailed analyses and written report generation using provided data.

Students enrolled in Clinical Epidemiology, Health Science, Public Health, Traumatology or Workplace Health and Safety degrees may undertake option A. Students enrolled in Data Science or Medical Statistics degrees may undertake option A or option B.

Option A: Independent research project or work-based project (available to all students)

Students will conduct a Public Health/Population Health/Medical/Statistical /Workplace Health and Safety research project. Students will have the opportunity to explore in depth a topic of Public Health, Population Health, Epidemiologic, Medical, Workplace Health and Safety Statistical significance under the guidance of suitable supervisors. The project may entail a detailed review of the literature (e.g., systematic, scoping, narrative or integrative review), an analysis of an existing data set, or a work-based project. Due to the fixed semester timeframe, it is expected that students undertaking any data analyses will use previously collected data and have necessary ethics approvals in place, prior to the start of semester.

Students should identify a minimum of one supervisor to support their project. A learning contract will be negotiated between the student and their supervisor(s) at the commencement of the semester and fortnightly meetings will be held throughout the semester.

Students enrolling in this course can define a research question/idea of interest and research potentially relevant supervisors prior to the semester commencing. The course coordinator will make the final decision regarding allocation of supervisor(s). Alternatively, students who are considering enrolling in this course and who do not have a research question/idea should contact the course coordinator at least one month prior to the beginning of Semester 2. The proposed project must be appropriate scope to complete in one semester.

COURSE OUTLINE

www.newcastle.edu.au

CRICOS Provider 00109J

Option B: Structured statistical learning (available to Data Science and Medical Statistics students)

Students will study a series of provided written learning modules focussed on a specified statistical topic area. Practical skills in data management, statistical programming and analysis will be gained using accompanying datasets and example code. For the major assessment, students will apply their learning using a provided dataset. Using the data, students will identify and implement appropriate methods to answer specified research questions and generate a written report for assessment.

Assumed Knowledge Students undertaking Option A are assumed to have completed prior courses in research methods and/or statistical analysis (for the secondary data analysis option).

Students undertaking Option B are assumed to have previously completed a prior course covering the fundamentals of linear and/or generalised linear models, such as BIOS6070 or BIOS6940.

Contact Hours

CALLAGHAN

Individual Supervision

Face to Face On Campus

2 hour(s) per Fortnight for Full Term

Regular meetings between student and academic supervisor.

Self-Directed Learning

Self-Directed

9 hour(s) per Week for Full Term

ONLINE

Individual Supervision

Online

2 hour(s) per Fortnight for Full Term

Regular meetings between student and academic supervisor.

Self-Directed Learning

Self-Directed

9 hour(s) per Week for Full Term

Contact hours are an indication only.

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.

CONTACTS

Course Coordinators	Callaghan and Online Dr Bree Hobden Bree.Hobden@newcastle.edu.au +61 2 4042 0474
Teaching Staff	Other teaching staff will be advised on the course Canvas site.
School Office	School of Medicine and Public Health Education Office SMPH-edoffice@newcastle.edu.au +61 2 4042 0550

SYLLABUS

Course Content	Option A Fortnightly meetings with academic supervisor(s) - contract to be set up based on the topic. There are no face-to-face or online classes this course is entirely self-directed. Option B The statistical topic area of structured learning will be survival analysis (available to Data Science and Medical Statistics students). Topics will include censoring, survival and hazard functions. The widely used semi-parametric approach of Cox proportional hazards regression will be covered, including methods for checking the proportional hazards assumption and model extensions to allow for deviation from proportional hazards. Additional topics will include extensions of the Cox model to deal with recurrent events and competing risks. Basic parametric models will also be introduced, including the exponential and Weibull models. Methods will be practically applied using Stata or SAS software.
Course Learning Outcomes	On successful completion of this course, students will be able to: <ol style="list-style-type: none">1. Define and critically evaluate a specific area of special interest in relation to Public Health, Medical Statistics, or Work, Health and Safety.2. Analyse own professional strengths in working independently.3. Collect, organise, critically analyse and articulate secondary information (review), OR Formulate and articulate a testable hypothesis/researchable research question, identify relevant existing population health data, medical data, or WHS data, and analyse, and articulate findings (OR secondary data analysis) OR Plan and/or evaluate an evidence-based health promotion, disease surveillance initiative, or WHS project (work-based project).
Course Materials	Other Resources: - See Canvas for course materials.

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	Progress Assignment	See Canvas for due date.	Individual	20%	1, 2
2	Final Assignment	See Canvas for due date.	Individual	70%	1, 2, 3
3	Supervisors Report	See Canvas for due date.	Individual	10%	1, 2, 3

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 10% 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 - Progress Assignment

Assessment Type	Written Assignment
Description	See Canvas for assignment details.
Weighting	20%
Due Date	See Canvas for due date.

Assessment 2 - Final Assignment

Assessment Type	Written Assignment
Description	See Canvas for assignment details.
Weighting	70%
Due Date	See Canvas for due date.

Assessment 3 - Supervisors Report

Assessment Type	Participation
Description	See Canvas for assignment details.
Weighting	10%
Due Date	See Canvas for due date.

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.

*Skills are those identified for the purposes of assessment task(s).

Communication Methods

Communication methods used in this course include:

- Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site.
- Email: Students will receive communications via their student email account.

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.

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](#).

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. For the Student Academic Integrity Policy, refer to <https://policies.newcastle.edu.au/document/view-current.php?id=35>.

**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 special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:

1. the assessment item is a major assessment item; or
2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system;
3. you are requesting a change of placement; or
4. the course has a compulsory attendance requirement.

Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at:

<https://policies.newcastle.edu.au/document/view-current.php?id=236>

**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 at <https://www.newcastle.edu.au/current-students/no-room-for/policies-and-procedures> that support a safe and respectful environment at the University.

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School 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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