

# Unit Outline (Higher Education)

<b>Institute / School:</b>	Institute of Health and Wellbeing
<b>Unit Title:</b>	BIOSTATISTICS
<b>Unit ID:</b>	HEAPH6003
<b>Credit Points:</b>	15.00
<b>Prerequisite(s):</b>	(HEAPH6001 and HEAPH6002 and HEAPH6007 and HEAPH7001)
<b>Co-requisite(s):</b>	Nil
<b>Exclusion(s):</b>	Nil
<b>ASCED:</b>	061399

## Description of the Unit:

This unit will increase the ability of the students to apply the basic principles and methods used in biostatistics including application to public health studies. It is essential for health professionals to understand biostatistics in order to design, questionnaire development, conduct surveys, and interpret public health-related research. Students will learn how to describe, summarise, analyse and interpret health-related data. This includes the technical qualifications, such as use of SPSS and MS Excel, necessary for analysing and interpreting data on a descriptive, bivariate and multivariate level.

**Grade Scheme:** Graded (HD, D, C, P, MF, F, XF)

## Work Experience:

Not wholly work experience: Student is not undertaking work experience in industry or student is undertaking work experience in industry where learning and performance is directed by the provider.

**Does Recognition of Prior Learning apply to this Unit?** No

**Placement Component:** No

**Supplementary Assessment:** Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

**CourseLevel:**

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory					✓	
Intermediate						
Advanced						

**Learning Outcomes:**
**Knowledge:**

- K1.** Understand key concepts in biostatistics and the way in which both descriptive and inferential statistics are used to measure, describe and predict health and illness;
- K2.** Understand how and when to use different types of inferential statistics;
- K3.** Understand how to present data using relevant tables, graphical displays, and summary statistics, quantify uncertainty in study results

**Skills:**

- S1.** Formulate research hypotheses into a statistical context in public health studies and evaluate hypothesis with appropriate statistical methods;
- S2.** Analyse data using specific software packages e.g. SPSS, MS Excel Calculate basic epidemiological measures
- S3.** Critically appraise and accurately interpret statistical methods and results reported in clinical and public health publications

**Application of knowledge and skills:**

- A1.** Apply key concepts of biostatistics, including; sampling, hypothesis testing, validity and reliability, statistical significance;
- A2.** Apply key concepts of biostatistics for evaluation of clinical and epidemiological interventions;
- A3.** Contribute in developing health policies by providing evidence based research data to the policy makers in health.

**Unit Content:**

Topics may include:

- Classification of health data/variables
- Summarising data using simple statistical methods and graphical presentation
- Sampling distributions
- Quantifying uncertainty in results from a sample
- Working with statistical distributions
- Comparing two or more groups/methods using confidence intervals (CIs) and hypothesis tests (p values)
- Choosing right statistical tests, assessing the association between an outcome and an exposure using the chi-squared test
- Using risk comparisons (RR and OR)
- Predicting an event or identifying risk factors for an event of interest where the event is measured on a continuous scale or a binary scale (yes/no)

**Learning Task and Assessment:**

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, S1, S2, S3, A1, A2, A3	Structured quiz	Online quiz	10% - 30%
K1, K2, K3, S1, S2, S3, A1, A3	Developing a quantitative survey protocol and design a questionnaire on health issue.	Written report	20% - 40%
K1, K2, K3, S1, S2, S3, A1, A3	Summarising data and evaluation of advanced research hypotheses	Written report	40% -60%

### Alignment to the Minimum Co-Operative Standards (MiCS)

The Minimum Co-Operative Standards (MiCS) are an integral part of the Co-Operative University Model. Seven criteria inform the MiCS alignment at a Course level. Although Units must undertake MiCS mapping, there is NO expectation that Units will meet all seven criteria. The criteria are as follows:

1. Co-design with industry and students
2. Co-develop with industry and students
3. Co-deliver with industry
4. FedTASK alignment
5. Workplace learning and career preparation
6. Authentic assessment
7. Industry-link/Industry facing experience

MiCS Course level reporting highlights how each Course embraces the principles and practices associated with the Co-Operative Model. Evidence of Course alignment with the MiCS, can be captured in the Course Modification Form.

**MICS Mapping has been undertaken for this Unit**

Yes

Date:

Mar 17, 2023

### Adopted Reference Style:

APA

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)