991AA Master of Biostatistics

Year and Campus:	2016 - Parkville
CRICOS Code:	088478A
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Graduate/Postgraduate
Duration & Credit Points:	150 credit points taken over 18 months full time. This course is available as full or part time.
Coordinator:	A/Professor Julie Simpson
Contact:	**julieas@unimelb.edu.au (mailto:%20julieas@unimelb.edu.au)** **Melbourne School of Population and Global Health** **OR** **Currently enrolled students:** # **Contact Stop 1 (http://students.unimelb.edu.au/stop1)** **Future Students:** # Further Information: **http://mspgh.unimelb.edu.au/ (http://mspgh.unimelb.edu.au/)** # Email: **Online Form (http://mspgh.unimelb.edu.au/study/degrees/master-of-public-health/overview)**
Course Overview:	The Master of Biostatistics provides advanced biostatistical training with a solid foundation in mathematics and probability for a diverse range of students. Graduates acquire specialised knowledge and skills in the statistical methods used in health and medical investigations, with the necessary mathematical foundation to integrate sophisticated statistical understanding and specialised skills into their training. On completion of the Masters degree, graduates will have had the opportunity to complete a research-based project under expert biostatistical supervision and will attain the required skills for employment as a professional biostatistician or for continuing to a research higher degree. ***Please note:*** *mid-year intake to this course is not available for international students.*
Learning Outcomes:	On completion of the Master of Biostatistics, graduates will: # have developed a sound understanding of epidemiological study design and the theory and application of the major areas of biostatistics relevant to professional practice # have acquired skills in complex statistical analyses to handle a variety of practical problems using modern statistical techniques and software # have acquired skills in data collection and data management, including database design, quality control procedures and the ethical handling of data # have developed skills to identify the relevant statistical issues in practical problems in medical/health settings and to propose and implement an appropriate statistical design and/or analysis methodology # have developed skills and had experience in communication of biostatistical issues with clinical/health personnel and the presentation of statistical results in a format suitable for publication in health-related journals or professional reports # have acquired the technical skills to be able to read methodological papers in the biostatistical literature and apply the methods described therein to practical problems # have developed the practical and technical skills to commence professional careers as independent biostatisticians and/or to progress to further postgraduate research studies # be able to demonstrate an understanding of professional codes of conduct and ethical standards such as those of the Statistical Society of Australia # have developed problem solving abilities in biostatistics, characterised by flexibility of approach
Course Structure & Available Subjects:	**Students must choose between Option One or Option Two:** Option One:

SIX core subjects, **FOUR** elective subjects, the Capstone Selective subject POPH90122 Survival Analysis and a 12.5 point Research Project

Option Two:

SIX core subjects, **FOUR** electives subjects and a 25 point Research Project

Subject Options:

Core Subjects

Students must complete the following core subjects:

Subject	Study Period Commencement:	Credit Points:
POPH90014 Epidemiology 1	Semester 1	12.5
MAST90101 Introduction to Statistical Computing	Semester 1	12.5
MAST90100 Inference Methods in Biostatistics	April	12.5
MAST90102 Linear Regression	Semester 2	12.5
MAST90099 Categorical Data: Models and Methods	Semester 2	12.5
POPH90148 Probability and Distribution Theory	Semester 1, Semester 2	12.5

Electives

Students must select FOUR electives from the following list:

Subject	Study Period Commencement:	Credit Points:
POPH90118 Clinical Biostatistics	Semester 1	12.5
POPH90117 Health Indicators and Health Surveys	Semester 1	12.5
POPH90123 Longitudinal and Correlated Data	Semester 1	12.5
POPH90122 Survival Analysis	Semester 1	12.5
ISYS90069 eHealth & Biomedical Informatics Systems	June	12.5
POPH90139 Bayesian Statistical Methods	Semester 2	12.5
POPH90119 Design of Randomised Controlled Trials	Semester 2	12.5
POPH90271 Infectious Diseases Modelling	Semester 2	12.5
MAST90027 The Practice of Statistics	Semester 2	12.5
POPH90242 Epidemiology 2	August	12.5
INFO90002 Database Systems & Information Modelling	Semester 1, Semester 2	12.5
COMP90041 Programming and Software Development	Semester 1, Semester 2	12.5
POPH90124 Bioinformatics	Not offered 2016	12.5
MAST90083 Computational Statistics and Data Mining	Not offered 2016	12.5

Capstone

There are 2 capstone options to choose from. The capstone experience should be undertaken in the final year or final semester of the Master of Biostatistics.

OPTION ONE:

Students may take a 25 point Work Place Project. Students have the option of enrolling in a year-long project or a semester-long project. Students enrolling in the year-long project MUST complete the project in two semesters consecutively.

Subject	Study Period Commencement:	Credit Points:
POPH90272 Biostatistics Research Project - L	Semester 1, Semester 2	12.5
POPH90151 Biostatistics Research Project - D	Semester 1, Semester 2	25

OPTION TWO:

Students who choose this option must enrol in the following Research Project plus the capstone selective subject POPH90122 Survival Analysis

Subject	Study Period Commencement:	Credit Points:
POPH90149 Biostatistics Research Project - S	Semester 1, Semester 2	12.5
POPH90122 Survival Analysis	Semester 1	12.5

Entry Requirements:

1. The Selection Committee will evaluate the applicant's ability to pursue successfully the course using the following criteria:

A Bachelor degree in a relevant discipline, such as statistics, mathematics, biomedicine, psychology, science, pharmacy, health sciences, economics, from an approved university, with an average mark of at least H2B (70%) over the degree; and
Successful completion (result of at least H3 or 65%) at tertiary level of at least one mathematics subject, including elements of multivariable calculus and linear algebra.

2. The Selection Committee may conduct interviews or tests or call for referee reports or employer references to elucidate any of the matters listed above.

3. The Selection Committee may seek further information to clarify any aspect of an application in accordance with the Academic Board **rules (http://about.unimelb.edu.au/academicboard/resolutions)** on the use of selection instruments.

Core Participation Requirements:

For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this course are articulated in the Course Description, Course Objectives and Generic Skills of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website.

Graduate Attributes:

The Melbourne Experience enables our graduates to become: Academically excellent: have a strong sense of intellectual integrity and the ethics of scholarship have in-depth knowledge of their specialist discipline(s) reach a high level of achievement in writing, generic research activities, problem-solving and communication be critical and creative thinkers, with an aptitude for continued self-directed learning be adept at learning in a range of ways, including through information and communication technologies Knowledgeable across disciplines: examine critically, synthesise and evaluate knowledge across a broad range of disciplines expand their analytical and cognitive skills through learning experiences in diverse subjects have the capacity to participate fully in collaborative learning and to confront unfamiliar problems have a set of flexible and transferable skills for different types of employment Leaders in communities: initiate and implement constructive change in their communities, including professions and workplaces have excellent interpersonal and decision-making skills, including an awareness of personal strengths and limitations mentor future generations of learners engage in meaningful public discourse, with a profound awareness of community needs Attuned to cultural diversity: value different cultures be well-informed citizens able to contribute to their communities wherever they choose to live and work have an understanding of the social and cultural diversity in our community respect indigenous knowledge, cultures and values Active global citizens: accept social and civic responsibilities be advocates for improving the sustainability of the environment have a broad global understanding, with a high regard for human rights, equity and ethics

Generic Skills:

Refer to Course Objectives.