991AA Master of Biostatistics

Year and Campus:	2014 - Parkville
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.
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Course Overview:	The Master of Biostatistics is the most advanced award of the three-tier structure in postgraduate biostatistics (see also the Postgraduate Diploma and Postgraduate Certificate in Biostatistics). Biostatistics is the discipline that underpins the use of statistical methods in health and medical research. On completion of the Masters degree, graduates will have attained skills suitable for employment as professional biostatisticians in medical and epidemiological research, the pharmaceutical industry and government departments and agencies. The program is designed to accommodate students from a range of academic backgrounds and includes subjects designed to provide the necessary foundations in mathematical and statistical theory to those without a first degree in mathematics or statistics. A compulsory subject in epidemiology introduces those unfamiliar with research in population health to critical appraisal of the health and medical literature. Subjects taught under the Biostatistics program form a structured sequence and are not generally available to students taking other awards.
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:	This course is available on a part-time basis only, and at the maximum rate of 2 subjects per semester requires 3 years to complete (150 credit points).
Subject Options:	**Option 1:** 10 coursework subjects and a two unit workplace project portfolio (150 points) **Option 2:** 11 coursework subjects and a one unit workplace project portfolio (150 points)

Students may be waived the requirement to complete either Epidemiology (most likely students coming from a background in health research), or one or more of the units, Mathematical Background for Biostatistics, Probability and Distribution Theory and Principles of Statistical Inference (most likely students coming from a background in mathematics and/or statistics), if they have equivalent prior studies. This should leave room for the student to complete one or two electives in addition to the compulsory Workplace Project Portfolio unit (WPP). Students may receive credit for subjects previously completed while enrolled at the Postgraduate Certificate and Postgraduate Diploma levels.

Core Subjects

Students must complete the following core subjects:

Subject	Study Period Commencement:	Credit Points:
POPH90122 Survival Analysis	Semester 1	12.50
POPH90018 Data Management & Statistical Computing	Semester 1, Semester 2	12.50
POPH90016 Epidemiology	Semester 1, Semester 2	12.50
POPH90015 Mathematics Background for Biostatistics	Semester 1, Semester 2	12.50
POPH90017 Principles of Statistical Inference	Semester 1, Semester 2	12.50
POPH90148 Probability and Distribution Theory	Semester 1, Semester 2	12.50
POPH90121 Categorical Data & GLMs	Semester 2	12.50
POPH90119 Design of Randomised Controlled Trials	Semester 2	12.50
POPH90120 Linear Models	Semester 2	12.50

Workplace Project Portfolio

Students must also complete one of the following workplace project portfolio subjects (depending on the structure of their program):

Subject	Study Period Commencement:	Credit Points:
POPH90149 Workplace Project Portfolio - S (WPP)	Semester 1, Semester 2	12.50
POPH90125 Workplace Project Portfolio - L (WPP)	Semester 1, Semester 2	12.50
POPH90151 Workplace Project Portfolio - D (WPP)	Semester 1, Semester 2	25

Optional Electives

Subject	Study Period Commencement:	Credit Points:
POPH90118 Clinical Biostatistics	Semester 1	12.50
POPH90117 Health Indicators and Health Surveys	Semester 1	12.50
POPH90123 Longitudinal and Correlated Data	Semester 1	12.50
POPH90138 Advanced Clinical Trials	Not offered 2014	12.50
POPH90139 Bayesian Statistical Methods	Semester 2	12.50
POPH90124 Bioinformatics	Semester 2	12.50

Entry Requirements:

A four-year undergraduate degree in a relevant discipline incorporating studies in mathematics or statistics at least at second-year level with an average mark of at least H2B (70%); OR

	# A Postgraduate Certificate or Postgraduate Diploma in Biostatistics. Successful applicants with a Postgraduate Diploma in Biostatistics with at least H2B (70%) average may be awarded a maximum of 50 points credit (advanced standing) on entry to the masters degree. # The Selection Committee may conduct interviews or tests or call for referee reports or employer references to elucidate any of the matters listed above.
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.
Links to further information:	http://www.sph.unimelb.edu.au
Notes:	All subjects are taught by distance education, via a consortium of universities known as the Biostatistics Collaboration of Australia (BCA). For further details, see the BCA website: www.bca.edu.au. Because the degree of Master of Biostatistics includes a compulsory supervised workplace project portfolio (subject code 505-945), enrolment in the Master of Biostatistics is not usually possible for international students unable to live and be employed in Australia while undertaking the degree. Mid-Year entry is available.