

## MC-SCIEPI Master of Science (Epidemiology)

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| <b>Year and Campus:</b>                           | 2011 - Parkville  |
| <b>CRICOS Code:</b>                               | 062189B   |
| <b>Fees Information:</b>                          | Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>   |
| <b>Level:</b>                                     | Graduate/Postgraduate   |
| <b>Duration &amp; Credit Points:</b>              | 200 credit points taken over 24 months full time. This course is available as full or part time.  |
| <b>Coordinator:</b>                               | Professor Dallas English  |
| <b>Contact:</b>                                   | <p>Centre for Molecular, Environmental, Genetic and Analytic (MEGA) Epidemiology<br/>Melbourne School of Population Health<br/>Tel: +61 3 8344 0671<br/>Email: <a href="mailto:epi-info@unimelb.edu.au">epi-info@unimelb.edu.au</a></p> <p>OR</p> <p>Melbourne Graduate School of Science<br/>Faculty of Science<br/>Tel: + 61 3 8344 6404</p> <p>OR</p> <p>Academic Programs Office<br/>Melbourne School of Population Health<br/>Tel: +61 3 8344 9339<br/>Fax: +61 3 8344 0824<br/>Email: <a href="mailto:sph-gradinfo@unimelb.edu.au">sph-gradinfo@unimelb.edu.au</a></p>  |
| <b>Course Overview:</b>                           | The Master of Science - Epidemiology program is one of the research training streams of the Master of Science. The research training streams give students the opportunity to undertake a substantive research project in a field of choice as well as a broad range of coursework subjects including a professional tools component, as a pathway to PhD study or to the workforce.  |
| <b>Objectives:</b>                                | <p>On completion of this course, graduates are expected to have:</p> <ul style="list-style-type: none"> <li># an advanced understanding of epidemiological theory and its role and contribution in health-related disciplines;</li> <li># an understanding of basic statistical concepts and their role in epidemiological design and analysis;</li> <li># a critical approach to the appraisal of research work;</li> <li># the skills to identify and prioritise issues in health research and practice;</li> <li># the capacity to apply epidemiological and biostatistical theory and methods in practice including the demonstrated ability to: <ul style="list-style-type: none"> <li>&gt; Identify health issues and formulate research questions</li> <li>&gt; Locate, synthesise and critically appraise epidemiological data, systems and research</li> <li>&gt; Design and appraise epidemiological studies</li> <li>&gt; Summarise and report epidemiological data</li> <li>&gt; Apply standard methods of statistical analysis used in epidemiology</li> <li>&gt; Interpret and apply the findings of epidemiological studies</li> <li>&gt; Prepare grant applications and manuscripts and deliver effective oral presentations, and</li> </ul> </li> <li># developed business and communication skills that are relevant to the workplace.</li> </ul> |
| <b>Course Structure &amp; Available Subjects:</b> | <p>Students undertaking the Master of Science - Epidemiology program will complete 200 points comprising:</p> <ul style="list-style-type: none"> <li># 75 points of Discipline subjects;</li> <li># 25-50 points of Elective Discipline subjects;</li> <li># 25-50 points of Professional Tools subjects; and</li> <li># a 50 point Research Project.</li> </ul>  |

**Core Discipline subjects (75 points)**

Students must take:

- # 505-969 Epidemiology and Analytic Methods 1
- # 505-970 Epidemiology and Analytic Methods 2
- # 505-973 Study Design in Epidemiology
- # 505-974 Epidemiology in Practice
- # 505-971 Linear and Logistic Regression
- # 505-972 Survival Analysis and Regression for Rates

**Elective Discipline subjects (25-50 points)**

Students must take 25-50 points of the following:

- # 505-929 Infectious Disease Epidemiology
- # 505-926 Genetic Epidemiology
- # other approved subjects

Students may select approved subjects from those within the **Master of Public Health (.../view/current/244-CW)** which includes subjects on health economics, health program evaluation, international health, sexual health, social science and women's health. Students without a background in biology may select up to two approved relevant biology subjects.

**Professional Tools subjects (25-50 points)**

Students must take between two and four subjects from:

Business tools

- # 600-614 Money, People and Processes
- # 600-622 Business Tools: The Market Environment

Communication tools

- # 600-619 Scientists, Communication and the Workplace
- # 600-616 Science in Context

Science tools

- # 615-668 Critical analysis in Science
- # 615-505 e-Science
- # 600-618 Ethics and Responsibility in Science
- # 600-617 Systems Simulation and Modelling

**Research Project (50 points)**

Students will gain research experience in Epidemiology by completing a 50 point Research Project comprising:

- # a research proposal and protocol
- # a scientific manuscript based on an analysis of an existing dataset or a meta analysis of existing studies
- # two oral presentations

Students would normally enrol in a combination of Research Project subjects as indicated below to ensure they have completed a total of 50 points by the end of their course.

- # 505-983 Epidemiology Research Project - 12.5 points
- # 505-984 Epidemiology Research Project - 25.0 points
- # 505-985 Epidemiology Research Project - 37.5 points

**Subject Options:****Discipline Core subjects**

| Subject                                | Study Period Commencement: | Credit Points: |
|--|----------------------------|----------------|
| POPH90014 Epidemiology                 | March                      | 12.50          |
| POPH90013 Biostatistics                | Semester 1                 | 12.50          |
| POPH90146 Study Design in Epidemiology | May                        | 12.50          |

|  |           |       |
|--|-----------|-------|
| POPH90147 Epidemiology in Practice                 | August    | 12.50 |
| POPH90144 Linear & Logistic Regression             | July      | 12.50 |
| POPH90145 Survival Analysis & Regression for Rates | September | 12.50 |

### Discipline Elective subjects

Students must complete 25 to 50 points of the following Elective Discipline subjects.

Students may select approved subjects from the Master of Public Health which includes subjects on gender and women's health, global health, health economics, health program evaluation, sexual health and social health. Students without a background in biology may select up to two approved relevant biology subjects.

| Subject                                   | Study Period Commencement: | Credit Points: |
|---|----------------------------|----------------|
| POPH90112 Infectious Disease Epidemiology | Semester 1                 | 12.50          |
| POPH90111 Genetic Epidemiology            | Semester 2                 | 12.50          |

### Professional Tools subjects

Students must complete 15 to 50 points of the following Professional Tools subjects:

| Subject   | Study Period Commencement: | Credit Points: |
|---|----------------------------|----------------|
| BUSA90403 Business Tools: Money People & Processes  | Semester 2                 | 12.50          |
| BUSA90471 Business Tools: The Market Environment    | Semester 1                 | 12.50          |
| SCIE90006 Scientists, Communication & the Workplace | Not offered 2011           | 12.50          |
| SCIE90004 Science in Context                        | Not offered 2011           | 12.50          |
| SCIE90007 E-Science                                 | Not offered 2011           | 12.50          |
| SCIE90005 Ethics and Responsibility in Science      | Semester 2                 | 12.50          |
| MAST90045 Systems Modelling and Simulation          | Semester 1                 | 12.50          |
| SCIE90009 Critical Analysis in Science              | Not offered 2011           | 12.50          |

### Epidemiology Research Project

Students will gain research experience in Epidemiology by completing a 50 point Research Project comprising:

- # a research proposal and protocol
- # a scientific manuscript based on an analysis of an existing dataset or a meta analysis of existing studies
- # two oral presentations

Students would normally enrol in a combination of Research Project subjects as indicated below to ensure they have completed a total of 50 points by the end of their course.

| Subject                                 | Study Period Commencement: | Credit Points: |
|---|----------------------------|----------------|
| POPH90214 Epidemiology Research Project | Semester 1, Semester 2     | 12.50          |
| POPH90216 Epidemiology Research Project | Semester 1, Semester 2     | 37.50          |

### Entry Requirements:

1. The Selection Committee will evaluate the applicant's ability to pursue the course successfully using the following criterion:
  - # an undergraduate degree with a major in an appropriate discipline with at least an H3 (65%) average in the major, or equivalent.
2. The Selection Committee may conduct interviews and tests and may call for referee reports or employer references to elucidate any of the matters referred to above.

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| <b>Core Participation Requirements:</b> | It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a course are encouraged to discuss this with the relevant course coordinator and the Disability Liaison Unit.   |
| <b>Further Study:</b>                   | The Research Training programs offer a pathway to a PhD.   |
| <b>Graduate Attributes:</b>             | Graduates will:have the ability to demonstrate advanced independent critical enquiry, analysis and reflection; 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, research or project activities, problem-solving and communication; be critical and creative thinkers, with an aptitude for continued self-directed learning; be able to examine critically, synthesise and evaluate knowledge across a broad range of disciplines; have a set of flexible and transferable skills for different types of employment; andbe able to initiate and implement constructive change in their communities, including professions and workplaces. |
| <b>Links to further information:</b>    | <a href="http://graduate.science.unimelb.edu.au/">http://graduate.science.unimelb.edu.au/</a>  |