

## 642AA Postgraduate Certificate in Biostatistics

| <b>Year and Campus:</b>                           | 2010 - Parkville  |                |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |
|---|---|----------------|--|---------|----------------------------|----------------|------------------------|------------------------|-------|---------|----------------------------|----------------|----------------------------------|------------|-------|--|------------|-------|--|------------|-------|-----------------------------|------------|-------|
| <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>              | 50 credit points taken over 6 months full time. This course is available as full or part time.  |                |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |
| <b>Coordinator:</b>                               | Professor John Carlin   |                |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |
| <b>Contact:</b>                                   | <p>Centre for Molecular, Environmental, Genetic and Analytic (MEGA) Epidemiology<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>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>                           | <p>This course is a subset of the Master of Biostatistics (see that heading for further information). On completion of the Postgraduate Certificate in Biostatistics, students will usually have completed an introductory range of subjects that are required for the Postgraduate Diploma and Master of Biostatistics, and will have acquired an understanding of the principles of epidemiology and some aspects of biostatistics.</p>   |                |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |
| <b>Objectives:</b>                                | <p>On completion of this course, graduates will:</p> <ul style="list-style-type: none"> <li># Be able to demonstrate a broad understanding of the value and basic principles of biostatistical methods in health and medical research</li> <li># Be able to demonstrate an understanding of the principles of epidemiology and its biostatistical underpinnings</li> <li># Have acquired skills in data management and basic statistical analyses</li> <li># Have developed the practical and technical skills to progress to further postgraduate studies in biostatistics</li> </ul>  |                |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |
| <b>Course Structure &amp; Available Subjects:</b> | <p>This course is available on a part-time basis only, and at a maximum rate of 2 subjects per semester (4 subjects in total) requires 1 year to complete (50 credit points).</p>   |                |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |
| <b>Subject Options:</b>                           | <p><b>Core Subjects</b><br/>           Students must complete the following CORE subject:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>POPH90016 Epidemiology</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> </tbody> </table> <p><b>Elective Subjects</b><br/>           Students must complete THREE subjects from the following list of electives:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>POPH90118 Clinical Biostatistics</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>POPH90117 Health Indicators and Health Surveys</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>POPH90123 Longitudinal and Correlated Data</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>POPH90122 Survival Analysis</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> |                |  | Subject | Study Period Commencement: | Credit Points: | POPH90016 Epidemiology | Semester 1, Semester 2 | 12.50 | 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 | POPH90122 Survival Analysis | Semester 1 | 12.50 |
| Subject   | Study Period Commencement:  | Credit Points: |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |
| POPH90016 Epidemiology                            | Semester 1, Semester 2  | 12.50          |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |
| 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          |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |
| POPH90122 Survival Analysis                       | Semester 1  | 12.50          |  |         |                            |                |                        |                        |       |         |                            |                |                                  |            |       |  |            |       |  |            |       |                             |            |       |

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|---|--|------------------------|-------|
|   | POPH90018 Data Management & Statistical Computing  | Semester 1, Semester 2 | 12.50 |
|   | POPH90015 Mathematics B'Ground for Biostatistics   | Not offered 2010       | 12.50 |
|   | POPH90017 Principles of Statistical Inference  | Semester 1, Semester 2 | 12.50 |
|   | POPH90148 Probability and Distribution Theory  | Semester 1, Semester 2 | 12.50 |
|   | POPH90138 Advanced Clinical Trials   | Semester 2             | 12.50 |
|   | POPH90139 Bayesian Statistical Methods   | Semester 2             | 12.50 |
|   | POPH90124 Bioinformatics   | 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 |
| <b>Entry Requirements:</b>              | <ul style="list-style-type: none"> <li># An undergraduate degree with an average mark of at least H2B (70%) over the degree and two years of documented work experience relevant to the use of quantitative methods in health research; OR an undergraduate degree in mathematics, statistics, health or other sciences that includes tertiary-level mathematics, with an average mark of at least H2B (70%) over the degree.</li> <li># A demonstrated capacity for advanced mathematical work, indicated for example by a high level of achievement in secondary or tertiary mathematics.</li> <li># Successful completion of a tertiary-level statistics subject or demonstrated equivalent prior knowledge of statistics.</li> </ul> <p>The Selection Committee may conduct interviews or tests or may call for referee reports or employer references to elucidate any of the matters listed above.</p>   |                        |       |
| <b>Core Participation Requirements:</b> | None   |                        |       |
| <b>Graduate Attributes:</b>             | <p>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</p> |                        |       |
| <b>Generic Skills:</b>                  | Please refer to the Course Objectives.   |                        |       |
| <b>Links to further information:</b>    | <a href="http://www.sph.unimelb.edu.au">http://www.sph.unimelb.edu.au</a>  |                        |       |
| <b>Notes:</b>                           | <p>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: <a href="http://www.bca.edu.au">www.bca.edu.au</a></p> <p>This course is available to International students by distance only.</p> <p>Mid year entry is available.</p>   |                        |       |

