

## 439FS Master of Food Science

| <b>Year and Campus:</b>                           | 2011 - Parkville                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |  |         |                            |                |                                                |            |       |                          |            |       |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|---------|----------------------------|----------------|------------------------------------------------|------------|-------|--------------------------|------------|-------|
| <b>CRICOS Code:</b>                               | 037942D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |  |         |                            |                |                                                |            |       |                          |            |       |
| <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>                               | Dr Ian Bland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |  |         |                            |                |                                                |            |       |                          |            |       |
| <b>Contact:</b>                                   | <p><b>Melbourne School of Land &amp; Environment Student Centre</b><br/>Ground Floor, Land &amp; Food Resources (building 142)</p> <p><i>Enquiries</i><br/>Phone: 13 MELB (13 6352)<br/>Email: <a href="mailto:13MELB@unimelb.edu.au">13MELB@unimelb.edu.au</a> (<a href="mailto:13MELB@unimelb.edu.au">mailto:13MELB@unimelb.edu.au</a>)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |  |         |                            |                |                                                |            |       |                          |            |       |
| <b>Course Overview:</b>                           | <p>The Melbourne School of Land and Environment at the University of Melbourne is proud to introduce you to its Master of Food Science.</p> <p>The Master of Food Science has been developed for graduates holding a science or engineering degree seeking specialist training for a career in the food and associated industries. Each student completes a tailored program of coursework subjects incorporating core study areas and electives in addition to a research project in an approved area of food science.</p> <p>As a graduate you will be well prepared to play a key role in research and technical divisions within food companies and associated organisations, as well as in managing food production across the entire food supply chain.</p>                                                                                                                                                                                                                                                                  |                |  |         |                            |                |                                                |            |       |                          |            |       |
| <b>Objectives:</b>                                | <ul style="list-style-type: none"> <li># Enable you to explore the inter-disciplinary nature of agriculture, food production and food science at an advanced level.</li> <li># Provide you with a sound foundation in food chemistry, microbiology, quality and processing technology.</li> <li># Introduce you to advanced research topics and the practical application of these topics within food science.</li> <li># Develop competence in the design, conduct and analysis of experimental work.</li> <li># Develop research skills in an aspect of food science and related technologies.</li> <li># Introduce industrial applications of food science and technology and the commercial outcomes.</li> <li># Increase understanding of the specialised disciplines of food science, emerging technologies and the relevance of these to the future food industry.</li> <li># Develop a critical understanding of the economic, social and ethical factors related to food production in Australia and globally.</li> </ul> |                |  |         |                            |                |                                                |            |       |                          |            |       |
| <b>Course Structure &amp; Available Subjects:</b> | A diverse range of elective subjects is offered enabling students to develop sufficient familiarity with knowledge areas relevant to their research thesis, supplementing existing academic qualifications and industrial experience.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |  |         |                            |                |                                                |            |       |                          |            |       |
| <b>Majors/Minors/ Specialisations</b>             | Master of Food Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |  |         |                            |                |                                                |            |       |                          |            |       |
| <b>Subject Options:</b>                           | <p><b>Core Subjects</b></p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>MAST40001 Research Philosophies and Statistics</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>FOOD90022 Food Chemistry</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |  | Subject | Study Period Commencement: | Credit Points: | MAST40001 Research Philosophies and Statistics | Semester 1 | 12.50 | FOOD90022 Food Chemistry | Semester 1 | 12.50 |
| Subject                                           | Study Period Commencement:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Credit Points: |  |         |                            |                |                                                |            |       |                          |            |       |
| MAST40001 Research Philosophies and Statistics    | Semester 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12.50          |  |         |                            |                |                                                |            |       |                          |            |       |
| FOOD90022 Food Chemistry                          | Semester 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12.50          |  |         |                            |                |                                                |            |       |                          |            |       |

|                                   |            |       |
|-----------------------------------|------------|-------|
| FOOD90007 Food Processing         | Semester 1 | 12.50 |
| FOOD90023 Food Microbiology       | Semester 2 | 12.50 |
| FOOD90008 Food Safety and Quality | Semester 2 | 12.50 |

**Selective Subjects 1**

You must choose one of the following subjects.

| Subject                                         | Study Period Commencement: | Credit Points: |
|-------------------------------------------------|----------------------------|----------------|
| FOOD90009 Cereal, Legume and Oilseed Technology | Semester 2                 | 12.50          |
| AGRI90019 Fruit and Vegetable Technology        | Semester 1                 | 12.50          |

**Selective Subjects 2**

You must choose one of the following subjects.

| Subject                                   | Study Period Commencement: | Credit Points: |
|-------------------------------------------|----------------------------|----------------|
| FOOD90010 Meat and Smallgoods Technology  | Not offered 2011           | 12.50          |
| FOOD90012 Current Issues in Dairy Science | Semester 1                 | 12.50          |

**Selective Subjects 3**

You must choose one of the following subjects.

| Subject                                        | Study Period Commencement: | Credit Points: |
|------------------------------------------------|----------------------------|----------------|
| FOOD90011 Food Biotechnology                   | Semester 1                 | 12.50          |
| FOOD90024 Disease Management and Food Security | Not offered 2011           | 12.50          |

**Elective Subjects**

The following subjects are delivered online and may have non-standard commencement dates. Contact the Postgraduate Administrator for further details.

| Subject                                            | Study Period Commencement: | Credit Points: |
|----------------------------------------------------|----------------------------|----------------|
| NRMT40001 Emerging Issues in Land Resources        | Semester 2                 | 12.50          |
| EVSC90001 Global Environment and Sustainability    | Not offered 2011           | 12.50          |
| AGRI90012 Agribusiness Management Economics        | April                      | 12.50          |
| NRMT90018 Human Resource Management                | April                      | 12.50          |
| AGRI90014 Managing Markets                         | June                       | 12.50          |
| AGRI90017 Operations and Decision-making           | September                  | 12.50          |
| AGRI90064 Project A                                | Not offered 2011           | 25             |
| AGRI90070 Project A                                | Year Long                  | 25             |
| AGRI90065 Project B                                | Semester 1, Semester 2     | 25             |
| AGRI90072 Project B                                | Semester 1, Semester 2     | 50             |
| AGRI90030 Concepts in Viticulture and Wine Science | Semester 1                 | 12.50          |
| AGRI90039 Australian Wine - A World Perspective    | January, July              | 12.50          |
| AGRI90041 Advanced Oenology                        | Not offered 2011           | 12.50          |
| AGRI90042 Wine Science                             | Not offered 2011           | 12.50          |

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |       |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------|
|                                         | FOOD90009 Cereal, Legume and Oilseed Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Semester 2       | 12.50 |
|                                         | FOOD90010 Meat and Smallgoods Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Not offered 2011 | 12.50 |
|                                         | FOOD90012 Current Issues in Dairy Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Semester 1       | 12.50 |
|                                         | FOOD90011 Food Biotechnology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Semester 1       | 12.50 |
|                                         | FOOD90024 Disease Management and Food Security                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Not offered 2011 | 12.50 |
|                                         | AGRI90019 Fruit and Vegetable Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Semester 1       | 12.50 |
| <b>Entry Requirements:</b>              | <p>1. The Selection Committee will evaluate the applicant's ability to pursue the course successfully using the following criteria:</p> <ul style="list-style-type: none"> <li># An honours degree or equivalent in a relevant discipline, or</li> <li># An undergraduate degree in a relevant discipline with a weighted average of 65% or better, or</li> <li># An undergraduate degree or two-year associate degree or diploma in a relevant discipline and at least five years documented, relevant professional experience.</li> </ul> <p>2. The Selection Committee may conduct interviews and tests and call for referee reports and employer references to elucidate any of the matters referred to above.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |       |
| <b>Core Participation Requirements:</b> | <p>The Melbourne School of Land and Environment (MSLE) welcomes applications from students with disabilities. It is University and School policy to take reasonable steps to make reasonable adjustments so as to enable the student's participation in the School's programs. MSLE contributes to the New Generation degrees and offers a broad range of programs across undergraduate and post-graduate levels many of which adopt a multi-disciplinary approach. Students of the School's courses must possess intellectual, ethical, and emotional capabilities required to participate in the full curriculum and to achieve the levels of competence required by the School. Candidates must have abilities and skills in observation; motor in relevant areas; communication; in conceptual, integrative, and quantitative dimensions; and in behavioural and social dimensions. Adjustments can be provided to minimise the impact of a disability, however students need to be able to participate in the program in an independent manner and with regard to their safety and the safety of others. I. Observation: In some contexts, the student must be able to observe demonstrations and experiments in the basic and applied sciences. More broadly, observation requires reading text, diagrams, maps, drawings and numerical data. The candidate should be able to observe details at a number of scales and record useful observations in discipline dependant contexts. II. Communication: A candidate should be able to communicate with fellow students, professional and academic staff, members of relevant professions and the public. A candidate must be able to communicate effectively and sensitively. Communication includes not only speech but also reading and writing. III. Motor: Candidates should have sufficient motor function necessary for participation in the inherent discipline-related activities. The practical work, design work, field work, diagnostic procedures, laboratory tests, require varying motor movement abilities. Off campus investigations may include visits to construction sites, urban, rural and/or remote environments. IV. Intellectual-Conceptual, Integrative and Quantitative Abilities: These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving, the critical skill demanded of professionals in land and environment industries, requires all of these intellectual abilities. In addition, the candidate should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures. V. Behavioural and Social Attributes: A candidate must possess behavioural and social attributes that enable them to participate in a complex learning environment. Students are required to take responsibility for their own participation and learning. They also contribute to the learning of other students in collaborative learning environments, demonstrating interpersonal skills and an understanding of the needs of other students. Assessment may include the outcomes of tasks completed in collaboration with other students. Students who feel their disability will prevent them from meeting the above academic requirements are encouraged to contact the Disability Liaison Unit.</p> |                  |       |
| <b>Graduate Attributes:</b>             | <p>The Melbourne Experience enables our Graduates to become: Academically excellent Our Graduates will be expected to: 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</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |       |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | <p>technologies Knowledgeable across disciplines Our graduates will be expected to: 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 Our graduates will be expected to: 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 Our graduates will be expected to : 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 Our graduates will be expected to: 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, equality and ethics.</p> |
| <p><b>Generic Skills:</b></p> | <ul style="list-style-type: none"> <li># A profound respect for truth, intellectual and professional integrity, and the ethics of scholarship</li> <li># Capacity for independent critical thought, rational inquiry and self-directed learning and research</li> <li># An ability to derive, interpret and analyse social, technical or economic information from primary and other sources</li> <li># Awareness of and ability to utilise appropriate communication technology and methods for the storage, management and analysis of data</li> <li># Capacity for creativity and innovation, through the application of skills and knowledge</li> <li># Ability to integrate information across a relevant discipline to solve problems in applied situations</li> <li># Highly developed computer - based skills to allow for effective on-line learning and communication.</li> <li># Highly developed written communication skills to allow informed dialogue with individuals and groups from industry, government and the community</li> <li># Highly developed oral communication skills to allow informed dialogue and liaison with individuals and groups from industry, government and the community.</li> <li># Appreciation of social and cultural diversity from a regional to a global context</li> <li># Ability to participate effectively as a member of a team</li> <li># Ability to plan work, use time effectively and manage small projects</li> </ul>           |
| <p><b>Notes:</b></p>          | <p>Exit with Postgraduate Diploma of Food Science is possible on the completion of the first year of the Masters.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |