

## MC-FRSTES Master of Forest Ecosystem Science

<b>Year and Campus:</b>	2016 - Creswick
<b>CRICOS Code:</b>	061123F
<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 Christopher Weston Email: <a href="mailto:weston@unimelb.edu.au">weston@unimelb.edu.au</a>
<b>Contact:</b>	<p>Currently enrolled students:</p> <ul style="list-style-type: none"> <li># General information: <a href="https://ask.unimelb.edu.au">https://ask.unimelb.edu.au</a> (<a href="https://ask.unimelb.edu.au">https://ask.unimelb.edu.au</a>)</li> <li># <b>Contact Stop 1</b> (<a href="http://students.unimelb.edu.au/stop1">http://students.unimelb.edu.au/stop1</a>)</li> </ul> <p>Future students:</p> <ul style="list-style-type: none"> <li># Further information: <a href="http://graduate.science.unimelb.edu.au/master-of-forest-ecosystem-science">graduate.science.unimelb.edu.au/master-of-forest-ecosystem-science</a> (<a href="http://graduate.science.unimelb.edu.au/master-of-forest-ecosystem-science">http://graduate.science.unimelb.edu.au/master-of-forest-ecosystem-science</a>)</li> </ul>
<b>Course Overview:</b>	<p>The Master of Forest Ecosystem Science (MFES) is a two year (full-time) or part-time equivalent coursework degree that prepares students for careers in the forest and natural resource management sectors. Acceleration is possible by taking subjects in the summer, winter and semester breaks, subject to the School approval.</p> <p>Features of the MFES:</p> <ul style="list-style-type: none"> <li># Taught mainly in intensive two-week blocks with supplementary off-campus study, allowing for greater flexibility for part-time or remote study, or more rapid completion</li> <li># Incorporates internships with the forest sector for advanced industry experience and establishment of key networks for future employment</li> <li># Includes some Commonwealth Supported Places (HECS) and Australian Fee paying places</li> <li># Financial support may be available through government student support schemes (Centrelink), and other government and industry scholarships</li> <li># Encourages study abroad and student exchange nationally and internationally</li> <li># Draws on the research strengths of the Graduate School of Science and forest management and forest science educators nationally and internationally</li> <li># Provides graduates with key networks in the forest and ecosystem management sectors nationally and internationally</li> </ul>
<b>Learning Outcomes:</b>	<p><i>Upon completion of this course, students will</i></p> <ul style="list-style-type: none"> <li># be able to demonstrate advanced skills and knowledge in the design and implementation of forest ecosystem management</li> <li># have developed a thorough knowledge of forest systems as a basis for recommending sustainable forest management practices, and be able to effectively communicate the future effects of climate change and its relevance to forest science disciplines</li> <li># understand the biological, economic, social and environmental factors that shape the development of forest and natural resource management enterprises both in Australia and internationally, including recent developments in biodiversity conservation, climate change science and water resource management</li> <li># have developed advanced knowledge and analytical capabilities that enable novel solutions in forest ecosystem management including planted and natural forest settings</li> <li># be able to independently critically analyse, integrate and interpret forest science data generated through novel research as a basis for recommending sustainable forest management actions</li> <li># be able to effectively communicate, to a range of audiences, the environmental and functional values of forest ecosystems in the maintenance of healthy and vibrant human communities</li> </ul>

<b>Course Structure &amp; Available Subjects:</b>	<p>Students entering the 200-point Master of Forest Ecosystem Science (MFES) program must complete 125 points of core discipline subjects including at least 25 points of project and 75 points of elective subjects.</p> <p>The structure of the MFES allows students the flexibility to develop their own interests from a wide selection of subjects whilst developing essential forest ecosystem science skills and knowledge. The program also allows students the freedom to complete up to 25% of their subjects at another university in Australia or internationally.</p>																																																																								
<b>Subject Options:</b>	<p><b>Core Discipline Subjects</b></p> <p>You should choose 8 subjects (100 points) from the core list below:</p> <table border="1" data-bbox="387 499 1485 1563"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr><td>FRST90015 Forest Ecosystems</td><td>February</td><td>12.50</td></tr> <tr><td>FRST90017 Bushfire Planning &amp; Management</td><td>March</td><td>12.50</td></tr> <tr><td>FRST90019 Forest Assessment and Monitoring</td><td>May</td><td>12.50</td></tr> <tr><td>FRST90020 Silviculture &amp; Forest Dynamics</td><td>June</td><td>12.50</td></tr> <tr><td>FRST90021 Sustainable Forest Management</td><td>July</td><td>12.50</td></tr> <tr><td>FRST90022 Forests and Water</td><td>September</td><td>12.50</td></tr> <tr><td>FRST90034 Ecological Restoration</td><td>September</td><td>12.50</td></tr> <tr><td>FRST90030 Forests in the Asia Pacific Region</td><td>November</td><td>12.50</td></tr> <tr><td>FRST90032 Forests, Carbon and Climate Change</td><td>June</td><td>12.50</td></tr> <tr><td>FRST90033 Farm Trees &amp; Agroforestry</td><td>October</td><td>12.50</td></tr> <tr><td>FRST90016 Trees in a Changing Climate</td><td>November</td><td>12.50</td></tr> <tr><td>FRST90026 Bushfire &amp; Biodiversity</td><td>March</td><td>12.50</td></tr> <tr><td>FRST90031 Timber, Sustainable &amp; Renewable Material</td><td>October</td><td>12.50</td></tr> <tr><td>FRST90025 Bushfire &amp; Climate</td><td>March</td><td>12.50</td></tr> <tr><td>FRST90029 International Forest Policy</td><td>August</td><td>12.5</td></tr> <tr><td>FRST90041 Forest Operations</td><td>Not offered 2016</td><td>12.5</td></tr> <tr><td>FRST90073 Forest Planning and Business Management</td><td>Not offered 2016</td><td>12.5</td></tr> </tbody> </table> <p><b>Research Subjects:</b></p> <p>Students must take a minimum of 25 points of research, with a maximum of 50 points of research subjects below.</p> <table border="1" data-bbox="387 1675 1485 2047"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr><td>FRST90035 Forest Internship Project</td><td>Year Long</td><td>25</td></tr> <tr><td>FRST90075 Long Research Project</td><td>Semester 1, Semester 2</td><td>50</td></tr> <tr><td>FRST90076 Short Research Project B</td><td>Semester 1, Semester 2</td><td>12.50</td></tr> <tr><td>FRST90077 Long Research Project B</td><td>Semester 1, Semester 2</td><td>25</td></tr> <tr><td>HORT90047 Short Research Project</td><td>Semester 1, Semester 2</td><td>25</td></tr> </tbody> </table> <p><b>Electives</b></p>	Subject	Study Period Commencement:	Credit Points:	FRST90015 Forest Ecosystems	February	12.50	FRST90017 Bushfire Planning & Management	March	12.50	FRST90019 Forest Assessment and Monitoring	May	12.50	FRST90020 Silviculture & Forest Dynamics	June	12.50	FRST90021 Sustainable Forest Management	July	12.50	FRST90022 Forests and Water	September	12.50	FRST90034 Ecological Restoration	September	12.50	FRST90030 Forests in the Asia Pacific Region	November	12.50	FRST90032 Forests, Carbon and Climate Change	June	12.50	FRST90033 Farm Trees & Agroforestry	October	12.50	FRST90016 Trees in a Changing Climate	November	12.50	FRST90026 Bushfire & Biodiversity	March	12.50	FRST90031 Timber, Sustainable & Renewable Material	October	12.50	FRST90025 Bushfire & Climate	March	12.50	FRST90029 International Forest Policy	August	12.5	FRST90041 Forest Operations	Not offered 2016	12.5	FRST90073 Forest Planning and Business Management	Not offered 2016	12.5	Subject	Study Period Commencement:	Credit Points:	FRST90035 Forest Internship Project	Year Long	25	FRST90075 Long Research Project	Semester 1, Semester 2	50	FRST90076 Short Research Project B	Semester 1, Semester 2	12.50	FRST90077 Long Research Project B	Semester 1, Semester 2	25	HORT90047 Short Research Project	Semester 1, Semester 2	25
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The remainder of your subject choices should be from either the Core Discipline subject list above that you did not choose as your core, or the electives below:

Subject	Study Period Commencement:	Credit Points:
AGRI90013 Financial Management for Agribusiness	Semester 1	12.50
MAST90008 Research Philosophies & Statistics	Semester 1	12.50
NRMT90003 Social Research Methods	Semester 1	12.50
AGRI90075 Research Methods For Life Sciences	Semester 1	12.50
NRMT90017 Leadership	February	12.50
MGMT90018 Managerial Psychology	Semester 1, Semester 2	12.50
NRMT90021 Project Management	Semester 2	12.50
NRMT90019 Business Strategy	February	12.50
EVSC90021 Public Values, Contested Landscapes	Not offered 2016	12.50
NRMT90007 Community Natural Resource Management	Semester 2	12.50
ENST90031 Bushfire Interface Design Workshop	Semester 2	25
EVSC90022 Bushfire Urban Planning	April	12.50
EVSC90023 Building Behaviour in Bushfires	May	12.50
EVSC90024 Bushfire Interface Science	July	12.5
HORT90041 Urban Tree Growth and Function	February	12.5
HORT90042 Managing Urban Trees	July	12.5
HORT90043 Tree Identification and Selection	September	12.5
HORT90044 Urban Tree Health	November	12.5

Or approved electives from:

- \* the Office of Environmental Programs Subject List
- \* the University Handbook
- \* from another University nationally or internationally (up to 25% of total course)

**Entry Requirements:**

1. In order to be considered for entry, applicants must have completed:
  - an undergraduate degree in a cognate discipline with at least an H3 (65%) weighted average, or equivalent;
  - OR
  - an undergraduate degree in any area including at least 25 points in one or more of Chemistry, Biology, Mathematics or Statistics, or equivalent, and with at least an H3 (65%) weighted average, or equivalent;
  - OR
  - an undergraduate degree in any area and a Graduate Certificate in Environment with at least an H3 (65%) weighted average in the Certificate, or equivalent;
  - OR
  - a two-year associate degree or diploma in a relevant discipline, or equivalent; and
  - five years documented, relevant professional experience; and
  - an appropriate level of performance on a test conducted by the Selection Committee to confirm generic skills necessary for successful study in the program.

Meeting these requirements does not guarantee selection.
2. In ranking applications, the Selection Committee will consider:

	<ul style="list-style-type: none"> <li>• prior academic performance; and</li> <li>• professional experience; and</li> <li>• the score on the test conducted by the Selection Committee.</li> </ul> <p>3. The Selection Committee may seek further information to clarify any aspect of an application in accordance with the Academic Board <b>rules (<a href="http://about.unimelb.edu.au/academicboard/resolutions">http://about.unimelb.edu.au/academicboard/resolutions</a>)</b> on the use of selection instruments.</p> <p>Note: The requirement for at least H3 (65%) weighted average in each case may be waived where the applicant can demonstrate significant professional development in a relevant area since graduation.</p> <p>The task-based assessment will be conducted in a single period of two hours duration where students will be required to demonstrate the following abilities to gain entry to graduate study:</p> <ul style="list-style-type: none"> <li>• analyze and interpret scientific or technical data</li> <li>• comprehend and use scientific literature</li> <li>• conceptualize a problem</li> </ul>
<p><b>Core Participation Requirements:</b></p>	<p>The Faculty of Science (Science) welcomes applications from students with disabilities. It is University and Faculty policy to take reasonable steps to make reasonable adjustments so as to enable the student's participation in the Faculty's programs. Science 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 Faculty'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 Faculty. 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. <a href="http://www.services.unimelb.edu.au/disability">http://www.services.unimelb.edu.au/disability</a></p>
<p><b>Further Study:</b></p>	<p>Progression Pathways to PhD</p> <p>The Master of Forest Ecosystem Science allows you to complete either the Forest Internship Project or the Forest Research Project to progress to a PhD.</p>
<p><b>Graduate Attributes:</b></p>	<p>The Melbourne Experience enables our Graduates to become:</p> <ul style="list-style-type: none"> <li>Academically excellent</li> <li>Have strong sense of intellectual integrity and the ethics of scholarship</li> <li>Have in-depth knowledge of their specialist discipline(s)</li> <li>Reach a high level of achievement in writing, generic research activities, problem-solving and communication</li> <li>Be critical and creative thinkers, with an aptitude for continued self directed learning</li> <li>Be adept at learning in a range of ways, including through information and communication technologies</li> <li>Knowledgeable across disciplines</li> <li>Examine critically, synthesise and evaluate knowledge across a broad range of disciplines</li> <li>Expand their analytical and cognitive skills through learning experiences in diverse subjects</li> <li>Have the</li> </ul>

	<p>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, equality and ethics.</p>
<b>Professional Accreditation:</b>	<p>Graduates of the Master of Forest Ecosystem Science will be eligible for membership of the <b>Institute of Foresters Australia (<a href="http://www.forestry.org.au/">http://www.forestry.org.au/</a>)</b> and with further professional and practical experience to qualify as Registered Professional Foresters.</p>
<b>Generic Skills:</b>	<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 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>
<b>Links to further information:</b>	<p><a href="http://graduate.science.unimelb.edu.au/master-of-forest-ecosystem-science">http://graduate.science.unimelb.edu.au/master-of-forest-ecosystem-science</a></p>
<b>Notes:</b>	<p>Please note, the majority of the Master of Forest Ecosystem Science (MFES) subjects are taught at the Creswick campus and some are taught at the metropolitan campuses. Costs associated with accommodation and travel is at the students' own expense.</p>