

## Faculty of Land and Food Resources

### Master of Forest Ecosystem Science

(Incorporating the Postgraduate Diploma of Forest Ecosystem Science as an exit point)

#### **1 Background**

The Faculty proposes to establish a coursework Master of Forest Ecosystem Science (MFES) commencing in 2008. It will consist of a two-year program (full-time) comprising the equivalent of sixteen 12.5 point subjects with the option to include up to 50 points of project work. The MFES will accept graduates from the Science, Bioscience and Environments new generation Melbourne degrees as well as a wide range of science-related 3-year undergraduate degrees. Graduates of the Master of Forest Ecosystem Science will qualify for entry to voting membership of the Institute of Foresters of Australia and to practice as professional foresters.

Professional foresters are essential to a profitable and environmentally sustainable forest and natural resource management sector. In 2001 approximately 2000 qualified foresters were employed in the sector, a 10% increase in 5 years. In contrast, however, during the past decade, the number of students completing coursework forestry programs has declined. In 2005 there were only 35 new graduates in the country. Forest and natural resource management agencies and businesses identify professional foresters as their most important skilled personnel (NAFI/ A3P 2006, Chapter 7). The shortage has been partly met by international recruitment or the appointment of less-qualified staff. Both options impose direct and opportunity costs. The significance of the shortage has been recognized in evidence to the House of Representatives *Inquiry into Rural Skills Training and Research* (yet to report) to the Standing Committee on Agriculture, Fisheries and Forestry. It is also noted in the study commissioned by DEST, *Wood and Paper Products Industry Skills Shortage in Australia* (NAFI/ A3P 2006), which presents relevant background data from a national audit conducted in 2005/6. There is a growing need for trained research scientists and professionals in related fields and in natural resource and catchment management disciplines.

This proposed coursework Masters degree is designed to ameliorate the national forest science skills shortage. Following the introduction of the Melbourne Model in 2008 and the transition to New Generation degrees, the coursework Master of Forest Ecosystem Science will be the only accredited professional forest science qualification offered at this university. Furthermore the MFES will expose graduates to the research strengths of the School of Forest and Ecosystem Science and potentially increase applications for PhD studies.

#### **2 Course/Program Objectives**

The MFES will prepare students for entry to middle and upper management positions within the forestry and natural resource management sectors and provide a pathway to further study, by:

- (a) Developing knowledge, skills, understanding and competence in the area of forest ecosystem sciences;
- (b) Developing a thorough approach to forest sciences and sustainable forest management through an understanding of the biological, economic, social and environmental factors which shape the development of forest and natural resource management enterprises both in Australia and internationally, including climate change science and water resource management;
- (c) Increasing knowledge and analytical capabilities appropriate to forest and ecosystem science and related specialist disciplines;

- (d) Developing competence in the design, conduct and analysis of research questions and experimental work, particularly for those students interested in pursuing a research career;
- (e) Extending scholarly and critical attitudes in forest and natural resource management disciplines.

### **3 Entry Requirements**

To be separately recommended by Academic Board.

### **4 Statement of how the course allows students to achieve the University of Melbourne Graduate Attributes and how it meets the statement of Expectations of a Professional Masters**

The new generation professional Forest Ecosystem Science Masters degree will be distinguished by a commitment to:

- learning and teaching based on the best available research in forest ecosystem sciences;
- a respect for the intellectual maturity and diversity of experience in the student cohort;
- pedagogies that promote independent critical inquiry, analysis and reflection;
- a strong engagement with the forest science and natural resource management professional community in designing and delivering the program;
- the full utilization of human and material resources of the School of Forest and Ecosystem Science.

Graduates of the MFES will meet the University of Melbourne graduate attributes at a high level, and, in particular will:

- be well-prepared for highly accomplished practice in forest science and natural resource management professions, including accreditation by the Institute of Foresters of Australia
- demonstrate a respect for the evidence base of research underpinning best practice in the forest science profession;
- have a strong commitment to principles of ethical practice and to furthering equity and diversity within the forest science profession;
- be committed to ongoing development of their own professional knowledge and skills through continuing critical inquiry;
- demonstrate leadership by their capacity to plan and implement creative and productive change in their workplace and their profession;
- be able to communicate forest science professional knowledge both to their peers and to members of the general community.

### **5 Course/Program Structure**

The MFES will require the completion of 200 points. Students will be required to complete ten core subjects and at least two elective coursework subjects (12.5 points each = 150 points) plus either;

- two further coursework subjects plus a 25 point industry internship project, or
- a 50 point research project.

Students with prior qualifications in the core subject areas may apply to substitute these core subjects with approved electives. The course may be completed in 4 semesters (usually over 2 years; full-time) or as a part-time student in 8 semesters (50% time) over 4 years. The table below illustrates this structure. By taking summer and/or winter semester subjects in addition to semester 1 and 2 subjects, students may complete the course in less than 2 years. The course is designed to create a cohort experience during year 1 when all subjects are taught at the Creswick Campus.

## Structure of the Master of Forest Ecosystem Science

Coursework		Project or coursework		
Twelve subjects - ten core or compulsory subjects - two elective subjects - subject delivery a mix of standard and intensive delivery modes - subjects delivered at either Parkville or Creswick - all coursework subjects are 12.5 pts		4 elective subjects or		Master of Forest Ecosystem Science
		2 elective subjects + Industry Project (25 pts) or		
		Research Project (50 pts)		
150 points	+	50 points	=	200 points
<ul style="list-style-type: none"> <li>• ten core subjects</li> <li>• two elective subjects</li> </ul>		<ul style="list-style-type: none"> <li>• up to 4 elective subjects</li> <li>• flexibility to complete subjects or projects at another University</li> <li>• wide range of electives available from across the University of Melbourne</li> </ul>		<ul style="list-style-type: none"> <li>• four semesters full time study</li> <li>• eight semesters at 50% time</li> </ul>

### Exit Award: Postgraduate Diploma of Forest Ecosystem Science

The Post-Graduate Diploma will provide students with advanced understanding and capacity of the core principles and practices of forest ecosystem science and management.

This program will consist of the subjects offered in Year 1 of the MFES. The Postgraduate Diploma provides the core subjects consistent with achieving the stated course objectives. This award will be created by changing the name of the existing Post-graduate Diploma of Forest Science to Post-graduate Diploma of Forest Ecosystem Science.

### 6 Availability of Course

The program will be available from 2008 on a full-time and part-time basis, and will be offered to CSP students, fee-paying international students and fee-paying Australian students.