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# Intermediate Farm Environment Planning

## Course Outline

This is a 10-credit course and will provide the student with the knowledge and integrated skills necessary to produce a base New Zealand industry-standard, farm-scale, freshwater Farm Environment Plan. This plan will identify existing and potential soil, pathogen, and nutrient loss pathways, the sources of these losses, and will provide justification for a range of options to mitigate the impact of the farm system on freshwater bodies.

**Co-ordinator:** Farmed Landscapes Research Centre (Massey University)

Updated October 2020

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- Availability:** Enrolment will be offered periodically as demand dictates.
- Location:** Online study.
- Delivery mode:** The course will be delivered through online distance learning. This is intended to allow a flexible learning style for employed professionals.
- Aim:** The course will introduce the student to the concepts and components of a freshwater Farm Environment Plan. Students will examine the purpose of a freshwater Farm Environment Plan with respect to government policies. The course will then acquaint students with systems used to classify landscape units, different types of soil erosion, sources of sediment, nutrient and pathogen loss, and options available to mitigate these losses. Students will be introduced to spatial mapping of the relevant physical features and observed soil erosion, sediment, nutrient and pathogen loss issues through virtual field trips which will be integrated throughout the course. Students will demonstrate their acquired knowledge and skills in the form of a desktop Farm Environment Plan report.
- Entry requirements:** This course is suited to students or professionals holding a Bachelor's degree, preferably with some qualifications in soil science and with an interest in farm environment planning. Students are also required to have completed Massey University's Intermediate Sustainable Nutrient Management course (or equivalent third year soil science course) OR be able to demonstrate skills and experience in nutrient management and the use of Overseer.
- Workload:** Approximately 100 hours of online study consisting of 50 hours of self-timed learning activities, 48 hours of assessed learning, and approximately 1-2 hours of video conference tutorials and assessment.

**Learning outcomes:**

- 1) Understand the key factors and issues to be considered in a freshwater Farm Environment Plan.
- 2) Explain the role of geology in soil stability and the risk of sediment loss.
- 3) Interpret the Land Use Capability index and the Land Resource Inventory for soil resource management.
- 4) Identify key erosion types, and sources of sediment, nutrient, and pathogen loss.
- 5) Describe the consequences of erosion, sediment, nutrient, and pathogen losses.
- 6) Explain the benefits and effectiveness of mitigation strategies to reduce sediment, nutrient, and pathogen losses.
- 7) Develop a plan to identify and implement mitigation strategies.
- 8) Develop a desktop freshwater Farm Environment Plan.

**Certification:**

Successful participants will receive a Massey University 'Certificate of Completion' in Intermediate Farm Environment Planning' and have this achievement and 10 credits added to their academic record at Massey University.

**Assessment:**

	<b>Assessment type*</b>	<b>Assessment Title</b>	<b>Weighting (%)</b>	<b>Link to Learning Outcomes</b>
1	Test	Online quiz: a series of online quizzes on freshwater Farm Environment Plan concepts and components.	30	1,2,3,4,5,6,7,8
2	Test	Short answer: on freshwater Farm Environment Plan concepts and components.	0 Pass/fail	1,2,3,4,5,6,7,8
3	Written Assessment	Report, Technical: Desktop freshwater Farm Environment Plan	70	1,2,3,4,5,6,7,8

**Requirements to successfully complete the paper:**

Achieve an overall minimum of 50% in the online quizzes and desktop Farm Environment Plan assessments. Submission (pass/fail) of short answer responses.

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**Credit to other tertiary qualifications:**

The 'Certificate of Completion' is a recognised University achievement. A student may wish to have the work completed on this course credited towards a postgraduate course in Soil Science offered by Massey University. This can be achieved by enrolling in the appropriate course and applying for credit to the course co-ordinator for the work completed in this short course.

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