

<b>Module Title:</b>	Soil science 1
<b>Language of Instruction:</b>	English
<b>Credits:</b>	5
<b>NFQ Level:</b>	6
<b>Module Delivered In</b>	No Programmes
<b>Teaching &amp; Learning Strategies:</b>	Formal lectures will be complemented by practical field sessions that allows for a balance of theory and hands on learning activities. Classroom activities will focus on aspects of soil nutrient content and the interactions between these nutrients and the plant. Visiting lecturers will be used where appropriate to enhance the learning experience of the students and expose them to new concepts in soil management. Learners will be brought to selected tillage and grassland farms in the South East to assess soil structure and nutrient content.
<b>Module Aim:</b>	This module aims to develop the students understanding of the importance of soil in agricultural systems. Students will learn how assess the physical and chemical properties of the soil including; structure, porosity, pH and nutrient content.

Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Recognise and apply soil fertility concepts and land use to ensure that land is managed in a sustainable manner
LO2	Conduct infield soil tests and use this data to form a crop nutrient plan
LO3	Critically assess the suitability of soils to grow a variety of crops
LO4	Be capable of conducting in field assessments of soil structure
LO5	Have a basic understanding of the influence of underlying geology on soil function

Pre-requisite learning
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>
No recommendations listed
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>
No incompatible modules listed
<b>Co-requisite Modules</b>
No Co-requisite modules listed
<b>Requirements</b> <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>
No requirements listed

**Module Content & Assessment**

Indicative Content
<b>Soil nutrient management</b> The interaction between soil nutrients and availability for the crop
<b>Soil pH</b> The effect of pH on the chemical properties of soil and crop growth
<b>Physical properties of soil</b> Assessment of soil porosity, water holding capacity and free drainage

Assessment Breakdown	%
Continuous Assessment	10.00%
Project	20.00%
Practical	20.00%
End of Module Formal Examination	50.00%

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Students will complete a nutrient management plan for a crop based on soil nutrient analysis	2,3	10.00	n/a

Project				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	Students will assess soil physical properties in a variety of cropping systems and areas in the field	3,4	20.00	n/a

Practical				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Students will submit reports upon completion of each practical session	2,3,4	20.00	n/a

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	An end of year exam will take place covering aspects of animal production delivered during the term	1,2,5	50.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

**Module Workload**

<b>Workload: Full Time</b>		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Every Week	0.75
Practicals	Every Week	0.75
Independent Learning	Every Week	1.50
Total Hours		3.00

