

## MODULE DESCRIPTOR

<b>MODULE TITLE</b>	Applied Soil Technology		
<b>MODULE CODE</b>	MR1202	<b>CREDIT VALUE</b>	10 Credits
<b>MODULE DELIVERY</b>	Semester 2		
<b>MODULE TUTOR</b>	Colin Stanfield		
<b>DATE APPROVED</b>	April 2008	<b>VERSION NUMBER</b>	1
<b>DEPARTMENT</b>	School of Built & Natural Environment	<b>PARTNER INSTITUTION</b>	Myerscough College

### RELATIONSHIP WITH OTHER MODULES

<b>Co-requisites</b>	None	<b>Pre-requisites</b>	Essential Soil Science	<b>Excluded Combinations</b>	None
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### MODULE AIMS

This module aims to develop a knowledge and understanding of the application of the principles of soil science to the sustainable management of soil (and soil substitutes) in specific environmental and technical field – production, amenity, conservation, aesthetic and recreational. The module will discuss the processes involved in and the potential for soil degradation and to gain an awareness of the technological innovation used in soil management. This module promotes the progression of the student from an understanding of the essential principles of soil science to their application in soil management in a wide range of environments.

### MODULE CONTENT

- 1 Soil problems, their causes, identification and management
- 2 On site assessment and laboratory analysis of soil properties in relation to soil degradation and management
- 3 Cultural and technological management tools and processes
- 4 Soil amendments and substitutes

### LEARNING OUTCOMES

**On successful completion of this module a student will be able to:**

<b>1</b>	Recognise and describe typical soil problems associated with specific environmental and technical fields – production, amenity, conservation, aesthetic and recreational.
<b>2</b>	Observe and record both field and laboratory properties and characteristics of soil in relation to problems of degradation, erosion and sub optimal plant growth, development and soil performance.
<b>3</b>	Recognise and differentiate between the properties and appropriate use of soil, soil amendments and soil substitutes

## TEACHING AND LEARNING STRATEGY

The module will be delivered either by means of a series of lectures supported by laboratory practicals and demonstrations, or (for On Line/Distance Learning students) formatted as a sequenced series of learning sessions including PowerPoint presentations, packaged files, articles for further reading and learning activities.

On line/distance learning and part time students will be encouraged to bring their work based knowledge and experience to inform their studies for this module. Campus based students will carry out a number of site visits/field trips.

Formal lectures will be supported by prepared material.

Laboratory practical sessions will be supported by a structured practical file. Whilst laboratory practical time is allocated, students will be required to undertake additional laboratory practical work to supplement this time. Such additional work, where fully verified, will count towards a final module grade.

Students will be required to seek out additional information from the College library and other relevant sources. Such information must be applied to specific examples related to the students' area of interest relevant to their Degree award title. Additional reading, research and independent learning is essential for success in this module and all students will be guided by the module tutor in respect of effective independent learning.

There will also be a number of personal tutorial sessions available to provide an opportunity for discussion on matters relating to the module with the module tutor.

For On-line delivery a number of self-tests are provided to assist students to monitor their progress and depth of understanding. Students are empowered to participate in on-line discussion forums and tutorials through the virtual learning environment – Myerscough On Line Learning Network (MOLLNET) – and by direct access to the module tutor by e-mail and telephone.

## INDICATIVE CLASS CONTACT

1 hour lecture per week (12 weeks x 1 hour) plus **either** a 2 hour practical (6 weeks x 2 hours) **or** 1 hour workshop/seminar per week (6 weeks x 1 hour).

For on-line distance learning students, module tutor time is allocated to support students on a 2 hour per week basis. Students also have 24 hour access to a wide range of learning materials and assessment exercises.

## INDICATIVE ASSESSMENT

Number of Assignments	Assessment	Weighting %	Type/Duration/ Wordcount (indicative only)	Learning Outcomes being assessed
1	Laboratory practical file and report	60%	2000	1, 2 and 3
1	End of module exam	40%	1 hours	1 and 2

## MODULE PASS REQUIREMENTS

For successful completion of the module, both the examination and the coursework must be passed at 40%.

## BIBLIOGRAPHY AND LEARNING SUPPORT MATERIAL

Adams, W. A. and Gibbs, R. J. (1994) *Natural Turf for Sport and Amenity Science and Practice*, CAB International

Biddle, P. G. (1998) *Tree Root Damage to Buildings Vol 1 and 2*, Witton Mead

Bunt, A. C. (1988) *Media and Mulches for Container Grown Plants*, Allan and Unwin

Craul, A and Craul P.J. (2006) *Soil Design Protocols for Landscape Architects and Contractors*. John Wiley & Sons

McKintyre, K. (2000) *Practical drainage for golf, sportsturf and horticulture* Ann Arbor Press

Wild, A. (1995) *Soils and the Environment (An Introduction)*, Cambridge University Press.

Watson, G. (1998) *Landscape Below Ground*, International Society of Arboriculture

Stewart, V. I. (1994) *Sports Turf, Science, Construction and Maintenance*, Chapman Hall.

## JOURNALS

The European Journal of Soil Science

The Journal of the Sportsturf Research Institute

The Journal of Arboricultural Science

The Journal of Horticultural Science

## ELECTRONIC INFORMATION SOURCES

<http://www.soils.org.uk/>

<http://www.pedosphere.com/textbook.html>

<http://www.soils.org/>

<http://www.silsoe.cranfield.ac.uk/nsri/>

<http://www.aie.org.uk/>

<http://www.soil-net.com/>

<http://www.pitchcare.com/>

<http://www.pedosphere.com/>

<http://www.silsoe.cranfield.ac.uk/nsri/>

<http://www.soil-net.com/>