

ERTH90028 Urban Soils, Substrates and Water

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2016, Burnley This subject commences in the following study period/s: Semester 2, Burnley - Taught on campus.
Time Commitment:	Contact Hours: 36 Total Time Commitment: 170
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. This course requires all students to enrol in subjects where they must actively and safely contribute to field excursions and laboratory activities. Students who feel their disability will impact on meeting this requirement are encouraged to discuss this matter with the Subject Coordinator and Disability Liaison http://services.unimelb.edu.au/disability/ . Email: disability-liaison@unimelb.edu.au
Coordinator:	Assoc Prof Stephen Livesley
Contact:	sjlive@unimelb.edu.au (mailto:sjlive@unimelb.edu.au)
Subject Overview:	Urban soils can present distinct and unique challenges to the land manager, landscape architect or horticulturist responsible for developing, maintaining or improving urban landscapes. Often compacted, contaminated, or otherwise unsuitable for plant growth, urban soils require assessment, solutions and practical methods to ensure successful outcomes. This applications-oriented subject covers several fundamental soil science issues with direct relevance to urban landscape impacts, uses and requirements. Topics covered include compaction, nutrition, contamination, water supply, drainage and structural soils.
Learning Outcomes:	<p>Upon completion of this subject students will be able to:</p> <ul style="list-style-type: none"> # Discuss key soil physical and chemical properties and their application to urban soil typologies. # Undertake field assessments/measurement of soil properties (physical, hydrologic & chemical), including sampling of urban soils for laboratory analysis # Discuss the mechanisms that impact urban soil conditions. # Describe the rationale, function, design and installation of structural soils, containerised soils and other specialised environments # Assess methods used to remediate, alleviate and improve urban soils. # Investigate case studies of soil assessment, analysis and problem solving in different urban landscape scenarios (turf, tree, construction, horticultural, roads, etc.) # Discuss hydrological issues associated with soil water availability, irrigation supply and drainage management. <p>Discuss ecosystem services that urban soils provide to the population, built landscape and biodiversity</p>
Assessment:	Short answer tests, Weeks 4 & 11 = 20% Practical exam, Week 8 = 20% Framing an urban soil management case study (group oral presentation) 15 minutes, Week 9 = 10% Urban soil management case study (individual report) up to 3000 words, 2 weeks after week 12 = 50%
Prescribed Texts:	None

Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<p>Generic skills obtained during this course will be:</p> <ul style="list-style-type: none"> # Soil management skills for residential gardens, production horticulture, local government and major infrastructure. # Scientific understanding of key soil physical, chemical and hydrological properties. # Basic field and laboratory competencies for urban soil and landscape assessments. # Systems understanding of the urban landscape (water, substrate, vegetation, society, climate). <p>Oral presentation skills and inter-personal skills for group work under pressure.</p>
Related Course(s):	<p>Graduate Diploma in Urban Horticulture Master of Urban Horticulture</p>
Related Majors/Minors/ Specialisations:	<p>Master of Science (Ecosystem Science) - Discipline Elective subjects Sustainable Cities, Sustainable Regions Tailored Specialisation</p>