HORTICULTURE AND VITICULTURE (HORT)

HORT 1004 Horticultural Production Systems (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort1004/) Legacy Code: 301096
Food represents the single largest part of your environmental footprint. This means our modern, urban-oriented society must begin to reconnect with the sources of our food to create more sustainable future. This subject explores the scientific basis of sustainable crop production by examining fruit, vegetable and grain enterprises. Management of produce from harvest to consumption will also be explored to examine factors that impact upon food quality and safety. Students will compare and contrast growing conditions of the highly variable Australian environment to consider the global context for horticultural industry development. By delving into the world of crop management, students will identify the impacts (opportunities and constraints) of plant physiology on the sustainability of food. Students will also consider how novel food products can prompt consumers to appreciate the environmental, economic and social benefits that can arise from sustainable horticultural production.
Level: Undergraduate Level 1 subject
Equivalent Subjects: HORT 1003 - Horticultural Production 2 LGYA 5944 - Fruit Production HORT 1002 - Crop Production HORT 1001 - Crop Production
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 2003 Plant Production (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort2003/) Legacy Code: 301447
This subject will provide you with an understanding of the scientific basis of sustainable plant production in natural and built environments. These include cropping of plants for food production in extensive and intensive systems. In this subject you will gain an understanding of the physiological controls on plant yield in the Australian environment. You will become familiar with the science and practice of sustainable plant production and develop crop management skills through the production of nursery crops, vegetables and fruits.
Level: Undergraduate Level 2 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 3002 Protected Cropping Technology (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort3002/) Legacy Code: 301448
This subject will develop your understanding of the role technology plays in underpinning plant production, in built environments, as well as the impact on processing and consumption of established and emerging opportunities. This subject explores the factors affecting growth, maturation and physiology of plant products in the protected cropping environment. Industry issues of controlling pests and disease, assessing harvest maturity, post-harvest management are underpinned by systems modelling and sustainable practices.
Level: Undergraduate Level 3 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 7001 Advanced Greenhouse Technology (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort7001/) Legacy Code: 301358
This subject explores a range of advanced greenhouse technologies in Australia and overseas-from simple low-cost options, through to cutting-edge technology in energy and water-efficient production. Students will observe current status and future trends in the industry to examine how advanced technologies can improve sustainability measures along with the reliability of horticultural output. This subject focuses on engineering aspects of greenhouse horticulture systems as well as crop growth and development. The basics of crop growth and development and the physical principles of greenhouse systems at different levels will be taught. The main in depth topics of the subject are: the selection of suitable greenhouse technology, physics of greenhouse climate, greenhouse systems (passive greenhouse, climate controlled, closed or semi-closed greenhouse), cropping systems, cover materials and smart glass technologies, energy saving technologies, water and nutrient recycling, and robotics for de-leafing and picking.
Level: Postgraduate Coursework Level 7 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 7002 Greenhouse Control Systems (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort7002/) Legacy Code: 301359
This subject develops an understanding of the leading controlling systems for protected cropping in low, medium and high-tech greenhouses. The main topics are: the integration of hardware and software in a range of different protected cropping systems, management of the aerial environment (e.g. manageable parameters and greenhouse climate engineering, radiation management, energy sources and distribution systems, ventilation, air conditioning and cooling systems, screens, carbon dioxide-sources and distribution), and management of the hydroponic environment (factors, tools, control of water and nutrient balance, water quality, salinity effects). The subject emphasises computing skills, calculation, and analysis that are applicable to a range of different greenhouse control systems.
Level: Postgraduate Coursework Level 7 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 7003 Greenhouse Crop Production (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort7003/) Legacy Code: 301360
This subject focuses on key concepts relating to the functioning of a range of greenhouse horticultural crops in their environment, biological mechanisms, crop growth and development, integrated pest management, crop production, quality and postharvest technology. Students will learn concepts and knowledge relevant to plant physiology, environmental sciences, horticultural production, food technology, and postharvest physiology. Students will be able to measure and interpret plant physiological, biochemical, genetic, and produce quality traits in greenhouse experiments in the context of the functional diversity in crops. The students will also integrate knowledge using plant growth modelling techniques, interpret model output, and address questions on functional diversity in crops by combining model output and experimental data.
Level: Postgraduate Coursework Level 7 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 7004 Industry Project (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort7004/) Legacy Code: 301361
In this unit, students will complete an industry based project under the guidance of an industry partner and a member of the University's academic staff. Using a project based methodology, students will be required to solve a real world problem on behalf of a protected cropping industry partner. Students will develop skills in scoping, planning, implementing, reporting on the industry project; reflecting on what has been learned in the context of their personal and professional development and how this can be used in their future career.
Level: Postgraduate Coursework Level 7 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 7005 Industry Project (Extended) (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort7005/) Legacy Code: 301362
In this subject, students will undertake a more in depth investigation of the project undertaken in 301361Industry Project. Students will extend their use of project based methodologies to solve the problem identified in the pre-requisite subject 301361 Industry Project for a protected cropping industry partner. Students will extend their skills in planning, implementing, collecting and analysing data, reporting on the industry project and reflecting on what has been learned in the context of their personal and professional development and how this can be used in future career.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): HORT 7004
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 7006 Plant-Climate Interactions in Controlled Environments (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort7006/) Legacy Code: 301357
This subject aims to provide knowledge of relationships between plant growth, controlled environment and crop physiological aspects relevant to protected crop production. The subject will provide students with relevant knowledge to explain and develop concepts that are key to understanding various areas of environmental plant physiology. The subject will also stimulate students to conceptualise interactions between the physical environment and plant functioning. The subject will compare the important parameters and concepts (e.g. plant growth, plant and fruit development, light interception, light use efficiency, biomass partitioning, and water use efficiency) in horticultural crop growth in the controlled systems.
Level: Postgraduate Coursework Level 7 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 9001 Higher Degree Research Thesis - Horticulture (80 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort9001/) Legacy Code: 800071
Level: PhD and Research Masters Level 9 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

HORT 9002 Higher Degree Research Thesis - Viticulture (80 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/hort9002/) Legacy Code: 800073
Level: PhD and Research Masters Level 9 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject