

HORT20012 Advanced Plant Biology

Credit Points:	12.50
Level:	2 (Undergraduate)
Dates & Locations:	2011, Burnley This subject commences in the following study period/s: Semester 1, Burnley - Taught on campus.
Time Commitment:	Contact Hours: Twenty-four hours lectures, 24 hours practicals, 12 hours tutorials Total Time Commitment: Not available
Prerequisites:	N/A
Corequisites:	N/A
Recommended Background Knowledge:	N/A
Non Allowed Subjects:	NA
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
Coordinator:	Dr Virginia Williamson
Contact:	Melbourne School of Land & Environment Student Centre Ground Floor, Land & Food Resources (building 142) <i>Enquiries</i> Phone: 13 MELB (13 6352) Email: 13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au)
Subject Overview:	The aims of this subject are to extend the student's ability to: <ul style="list-style-type: none"> # apply the principles and units of chemical measurement and energy balances; # comprehend the biochemistry of major plant physiological processes including photosynthesis; # understand how water, inorganic nutrients and sugars are translocated around the plant body; # understand the biological process of germination, growth, flowering, dormancy and senescence; # be able to describe the effects of plant hormones on plant growth and development; # comprehend the effects of herbicides on plant metabolism, the environment and health; # understand the physiological basis of plant responses to disease and decay; # comprehend the structure of genetic information and the mechanisms of gene expression; # identify responses of native plants to aspects of the Australian environment; # demonstrate the ability to design and conduct experiments relating to plant physiology; and # develop good scientific report writing skills.

	<p>Content to be studied in this subject includes:</p> <ul style="list-style-type: none"> # nutrient cycling, uptake and assays; # photosynthesis; # respiration; # germination, growth, flowering and senescence; # the biology of mycorrhizal fungi; # competition, breeding and genetics; # stress physiology; # physiological plant pathology; # hormone biology; # mechanisms of herbicide action; # plant pollutants; and # the biology of native plants.
<p>Objectives:</p>	<p>The aims of this subject are to extend the student's ability to:</p> <ul style="list-style-type: none"> # apply the principles and units of chemical measurement and energy balances; # comprehend the biochemistry of major plant physiological processes including photosynthesis; # understand how water, inorganic nutrients and sugars are translocated around the plant body; # understand the biological process of germination, growth, flowering, dormancy and senescence; # be able to describe the effects of plant hormones on plant growth and development; # comprehend the effects of herbicides on plant metabolism, the environment and health; # understand the physiological basis of plant responses to disease and decay; # comprehend the structure of genetic information and the mechanisms of gene expression; # identify responses of native plants to aspects of the Australian environment; # demonstrate the ability to design and conduct experiments relating to plant physiology; and # develop good scientific report writing skills.
<p>Assessment:</p>	<p>A 60 minute examination worth 20% (mid-semester), 120 minute examination worth 40% (end of semester) two practical reports equivalent to 1500 words worth 30% and participation in subject 10%.</p>
<p>Prescribed Texts:</p>	<p>Raven, P.H., Evert, R.F., Eichhorn, S.E. (2005) <i>The Biology of Plants</i> (7th Edition). New York. W.H. Freeman.</p>
<p>Breadth Options:</p>	<p>This subject is not available as a breadth subject.</p>
<p>Fees Information:</p>	<p>Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees</p>
<p>Generic Skills:</p>	<ul style="list-style-type: none"> • Exercise problem-solving skills (developed through practical exercises and lecture discussions); • Think critically and organise knowledge (from consideration of the lecture material);

	<ul style="list-style-type: none">• Expand from theoretical principles to practical explanations (through observing practical work);• Plan effective work schedules (to meet deadlines for submission of assessable work); and• Develop skills of critical observation and analysis developed through practical exercises.
Notes:	Study commitment for this subject is five hours per week.
Related Course(s):	Associate Degree in Environmental Horticulture