

## BOTA30005 Plant Molecular Biology & Biotechnology

<b>Credit Points:</b>	12.5															
<b>Level:</b>	3 (Undergraduate)															
<b>Dates &amp; Locations:</b>	2015, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.															
<b>Time Commitment:</b>	Contact Hours: 24 lectures and 24 hours of practical work during the semester Total Time Commitment: Estimated total time commitment of 170 hours															
<b>Prerequisites:</b>	One of <table border="1" data-bbox="389 573 1485 891"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CEDB20003 Fundamentals of Cell Biology</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>BCMB20002 Biochemistry and Molecular Biology</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> <tr> <td>BOTA20001 Green Planet: Plants and the Environment</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>BIOM20001 Molecular and Cellular Biomedicine</td> <td>Semester 1</td> <td>25</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	CEDB20003 Fundamentals of Cell Biology	Semester 1	12.50	BCMB20002 Biochemistry and Molecular Biology	Semester 1, Semester 2	12.50	BOTA20001 Green Planet: Plants and the Environment	Semester 1	12.50	BIOM20001 Molecular and Cellular Biomedicine	Semester 1	25
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<b>Corequisites:</b>	None															
<b>Recommended Background Knowledge:</b>	None															
<b>Non Allowed Subjects:</b>	None															
<b>Core Participation Requirements:</b>	For the purposes of considering applications for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005) and Students Experiencing Academic Disadvantage Policy, this subject requires all students to actively and safely participate in practical class activities. Students who feel their disability may impact upon their participation are encouraged to discuss this with the Subject Coordinator and the Disability Liaison Unit. <a href="http://www.services.unimelb.edu.au/disability/">http://www.services.unimelb.edu.au/disability/</a>															
<b>Coordinator:</b>	Assoc Prof Ed Newbiggin															
<b>Contact:</b>	<a href="mailto:edwardjn@unimelb.edu.au">edwardjn@unimelb.edu.au</a> ( <a href="mailto:edwardjn@unimelb.edu.au">mailto:edwardjn@unimelb.edu.au</a> )															
<b>Subject Overview:</b>	This subject will focus on processes that are unique to plants as well as current techniques for their investigation and manipulation in biotechnology, including genetic engineering and plant transformation. The subject includes study of the responses of plants to biotic and abiotic stress; cell wall biosynthesis, carbon dioxide fixation and concentrating mechanisms; cell-cell recognition; nutrient uptake and processing; and the organisation of the genome in plants and its modification by biotechnology.															
<b>Learning Outcomes:</b>	By the end of the subject, the student should have acquired an overall appreciation of the functional biology of plants and the application of biotechnology to agriculture, horticulture, forestry and the food industry.															
<b>Assessment:</b>	A 1-hour laboratory test held mid-semester (10%); two practical reports totalling no more than 20 pages due during the semester, one before and one after the midsemester break (30%); a 2-hour written examination in the examination period (60%).															
<b>Prescribed Texts:</b>	None															

<b>Breadth Options:</b>	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> <li># <b>Bachelor of Arts</b> (<a href="https://handbook.unimelb.edu.au/view/2015/B-ARTS">https://handbook.unimelb.edu.au/view/2015/B-ARTS</a>)</li> <li># <b>Bachelor of Commerce</b> (<a href="https://handbook.unimelb.edu.au/view/2015/B-COM">https://handbook.unimelb.edu.au/view/2015/B-COM</a>)</li> <li># <b>Bachelor of Environments</b> (<a href="https://handbook.unimelb.edu.au/view/2015/B-ENVS">https://handbook.unimelb.edu.au/view/2015/B-ENVS</a>)</li> <li># <b>Bachelor of Music</b> (<a href="https://handbook.unimelb.edu.au/view/2015/B-MUS">https://handbook.unimelb.edu.au/view/2015/B-MUS</a>)</li> </ul> <p>You should visit <b>learn more about breadth subjects</b> (<a href="http://breadth.unimelb.edu.au/breadth/info/index.html">http://breadth.unimelb.edu.au/breadth/info/index.html</a>) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Notes:</b>	This subject is available for science credit to students enrolled in the BSc (both pre-2008 and new degrees), BAsC or a combined BSc course.
<b>Related Course(s):</b>	Master of Biotechnology
<b>Related Majors/Minors/Specialisations:</b>	<p>Biotechnology (pre-2008 Bachelor of Science)          Botany          Botany          Botany          Botany          Botany (pre-2008 Bachelor of Science)          Cell Biology (pre-2008 Bachelor of Science)          Molecular Biotechnology (specialisation of Biotechnology major)          Plant Cell Biology and Development (specialisation of Cell and Developmental Biology major)          Plant Science          Science-credited subjects - new generation B-SCI and B-ENG.          Selective subjects for B-BMED</p>