

# NEUR30005 Developmental Neurobiology

<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: 3 hours per week x 12 weeks Total Time Commitment: 170 hours															
<b>Prerequisites:</b>	<p>One of:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CEDB30002 Concepts in Cell &amp; Developmental Biology</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>NEUR30003 Principles of Neuroscience</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> <p>(516-209 Introductory Neuroscience is an alternative prerequisite to NEUR30003)</p> <p>OR (For BBiomedicine students only)</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BIOM20001 Molecular and Cellular Biomedicine</td> <td>Semester 1</td> <td>25</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	CEDB30002 Concepts in Cell & Developmental Biology	Semester 1	12.50	NEUR30003 Principles of Neuroscience	Semester 1	12.50	Subject	Study Period Commencement:	Credit Points:	BIOM20001 Molecular and Cellular Biomedicine	Semester 1	25
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BIOM20001 Molecular and Cellular Biomedicine	Semester 1	25														
<b>Corequisites:</b>	None															
<b>Recommended Background Knowledge:</b>	None															
<b>Non Allowed Subjects:</b>	None															
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.&lt;/p&gt; &lt;p&gt;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. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p>															
<b>Coordinator:</b>	Dr Jenny Gunnensen															
<b>Contact:</b>	<p>Subject Coordinato Dr Jenny Gunnensen</p> <p><b><a href="mailto:jenny.gunnensen@unimelb.edu.au">jenny.gunnensen@unimelb.edu.au</a> (mailto:jenny.gunnensen@unimelb.edu.au)</b></p> <p>Administrative Coordinator Ms Kim Williams</p> <p><b><a href="mailto:BiomedSci-AcademicServices@unimelb.edu.au">BiomedSci-AcademicServices@unimelb.edu.au</a> (mailto:BiomedSci-AcademicServices@unimelb.edu.au)</b></p>															
<b>Subject Overview:</b>	The human brain is, arguably, the most complex structure on earth. This subject examines how a simple sheet of cells in the early embryo is fashioned into a functioning brain -. You will learn															

	<p>how cells within the primordial nervous system are assigned different fates, how neural stem cells are stimulated to divide to produce the billions of cells that comprise the nervous system and how these cells differentiate into mature neurons. The subject will examine how neural circuits are established as newly-born neurons send out axons, making functional synaptic connections with specific target cells.</p>
<b>Learning Outcomes:</b>	<p>On completion of this subject, students should:</p> <ul style="list-style-type: none"> <li># appreciate the major processes involved in the development of the nervous system, including neural induction, neural patterning, neural and glial cell proliferation, determination of neural fate, neuronal migration, axon guidance, regulation of neuron survival and synaptogenesis;</li> <li># have gained some insights into the cellular and molecular basis of those processes and understand how disorders in developmental processes can lead to neural defects;</li> <li># be aware of the regenerative ability of the nervous system and the prospects for therapeutic treatment of neural injury and disease;</li> <li># be familiar with outstanding questions currently being addressed in research in neural development; and</li> <li># be familiar with modern experimental approaches used to investigate the development of the nervous system and appreciate their strengths and limitations.</li> </ul>
<b>Assessment:</b>	<p>A 45-minute written class test halfway through the semester (15%); a 2000 word essay due towards the end of the semester (20%); a 2-hour written examination in the examination period (65%).</p>
<b>Prescribed Texts:</b>	<p>Sanes, Development of the Nervous System 3rd ed, 2010</p>
<b>Recommended Texts:</b>	<ul style="list-style-type: none"> <li># Principles of Neural Science (Kandel, Schwartz and Jessell), 4th ed</li> <li># Development of the Nervous System (B Sanes et al.), 2nd ed, 2006</li> </ul>
<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>	<p>Subject EFTSL, Level, Discipline &amp; Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a></p>
<b>Generic Skills:</b>	<p>On completion of this subject, students should have developed:</p> <ul style="list-style-type: none"> <li># The ability to critically analyse scientific research papers.</li> <li># The ability to carry out literature searches.</li> <li># A capacity for independent critical thought, rational enquiry and self-directed learning.</li> <li># The ability to plan work and use time effectively.</li> <li># The ability to synthesise apparently disparate types of knowledge.</li> </ul>
<b>Notes:</b>	<p>This subject is available to students enrolled in the NG BSc, BBiomed, pre-2008 BSc, pre-2008 BAsC, pre-2008 BBiomedSc.</p>
<b>Related Majors/Minors/Specialisations:</b>	<p>Anatomy (pre-2008 Bachelor of Science)  Animal Cell Biology (specialisation of Cell and Developmental Biology major)  Cell Biology (pre-2008 Bachelor of Science)  Human Structure and Function  Neuroscience  Reproduction and Development (specialisation of Cell and Developmental Biology major)  Science-credited subjects - new generation B-SCI and B-ENG.  Selective subjects for B-BMED</p>