

# OPTO30007 Visual Neuroscience

<b>Credit Points:</b>	12.50									
<b>Level:</b>	3 (Undergraduate)									
<b>Dates &amp; Locations:</b>	This subject is not offered in 2013.									
<b>Time Commitment:</b>	Contact Hours: 3 x one hour lectures per week. Total Time Commitment: Estimated total time commitment 120 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>NEUR30003 Principles of Neuroscience</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>NEUR30002 Neurophysiology: Neurons and Circuits</td> <td>Not offered 2013</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	NEUR30003 Principles of Neuroscience	Not offered 2013	12.50	NEUR30002 Neurophysiology: Neurons and Circuits	Not offered 2013	12.50
Subject	Study Period Commencement:	Credit Points:								
NEUR30003 Principles of Neuroscience	Not offered 2013	12.50								
NEUR30002 Neurophysiology: Neurons and Circuits	Not offered 2013	12.50								
<b>Corequisites:</b>	None									
<b>Recommended Background Knowledge:</b>	None									
<b>Non Allowed Subjects:</b>	<p>Credit cannot be gained for this subject and</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>NEUR30001 Neural Basis of Vision</td> <td>Not offered 2013</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	NEUR30001 Neural Basis of Vision	Not offered 2013	12.50			
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<b>Core Participation Requirements:</b>	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: <a href="http://www.services.unimelb.edu.au/disability/">http://www.services.unimelb.edu.au/disability/</a>									
<b>Contact:</b>	<b>Email: <a href="mailto:trv@unimelb.edu.au">trv@unimelb.edu.au</a> (mailto:trv@unimelb.edu.au)</b>									
<b>Subject Overview:</b>	The subject builds on students' understanding of the basic principles behind the functioning of the nervous system, developed in the prerequisite neuroscience subject/s. It develops students' understanding of the structure, function and development underlying the processing of visual information from the eyes to the further reaches of the brain. The subject provides a thorough understanding of the various levels of the visual pathway and the neural mechanisms that enable visual functions such as perceiving form, colour, depth and movement and how visually-guided action is executed. It will also explore the basis of higher brain functions, such as visual attention and reading and also how eye movements are controlled and vision is related to other senses such as balance, hearing and touch. The subject will provide a number of examples of how disorders of the neural processing lead to specific clinical syndromes.									
<b>Objectives:</b>	<p>On completion of this subject students should:</p> <ul style="list-style-type: none"> <li># Have a thorough understanding of the structure and function of the visual system and how neural elements within different parts of the visual system interact to provide our visual percept and behaviour.</li> <li># Understand the relationship between vision and the other senses.</li> <li># Have a basic appreciation of the pathophysiology underlying neurological disorders associated with the visual system.</li> <li># Be able to convey and explain this acquired knowledge to either a lay or science audience.</li> <li># Have the necessary background knowledge and intellectual skills to engage in either postgraduate studies, or employment, related to visual function and its neurological basis.</li> </ul>									

<b>Assessment:</b>	Two written assessments of 30 minutes each, one mid semester (15%) and one late semester (15%); 3-hour written examination (70%) in end of semester exam period.
<b>Prescribed Texts:</b>	E R Kandel, J H Schwartz, T M Jessell, Principles of Neural Science, 4th Ed., McGraw-Hill, 2000.
<b>Recommended Texts:</b>	J G Nicolls, A R Martin, B G Wallace & P A Fuchs, From Neuron to Brain, 4th Ed., Sinauer, 2001
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<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>Generic Skills:</b>	On completion of this subject students should have developed the following generic skills: <ul style="list-style-type: none"> <li># The capacity for critical evaluation of complex issues</li> <li># Problem-solving and communication skills</li> <li># Improved capacity for seeking and evaluating relevant information.</li> </ul>
<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. This subject is available for credit in the Bachelor of Biomedicine.
<b>Related Majors/Minors/ Specialisations:</b>	Human Structure and Function Neuroscience Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED. Vision Science (pre-2008 Bachelor of Science)