# Neuroscience

| | |
|---|---|
| **Year and Campus:** | 2016 |
| **Coordinator:** | Dr Peter Kitchener Department of Anatomy and Neuroscience |
| **Contact:** | Email: **pkitc@unimelb.edu.au (mailto:pkitc@unimelb.edu.au)** |
| **Overview:** | It is expected that students completing this Major will understand the fundamental organisational and functional principles of the nervous system: from the biology of nerve cells and neural circuits through to neural systems and ultimately to complex behaviours like thought and emotion. From the two core subjects students will gain an overview of the breath of modern neuroscience to see how a spectrum of science disciplines (such as Cell and Molecular Biology, Pharmacology, Physiology, Zoology and Anatomy) contribute to our understanding of nervous system function. This will also reveal how Neuroscience overlaps with related areas of study, such as Cognitive Science, Psychology and Medicine. Areas of study include how perceptual and motor systems are organised, the crucial role of the nervous system in the regulation of the internal environment of the body, how the nervous system develops, how it has evolved, and the effects of injury, disease and abuse. |
| **Learning Outcomes:** | *Neuroscience Major Graduates should demonstrate*:<br># a foundation of fundamental knowledge of neuronal and nervous system organisation and function, and a critical engagement with the neuroscientific literature; this should empower students to see the connections between the detailed discipline knowledge and broader questions within and beyond neuroscience;<br># appreciation of how numerous Science disciplines have increased our understanding of nervous system function, and how Neuroscience overlaps with other areas of related study;<br># capacity to be self-directed learners and independent thinkers; to critically evaluate claims and ideas, to see connections between ideas, hypothesis, experiments and interpretation of information.<br># awareness of the scope, limits and power of measurement techniques, and the role of the methods of measurement and the paths to discovery that may involve different approaches to understanding complex problems.<br># ability to critically read and analyse scientific papers and communicate scientific ideas in an essay task that is intended to help integrate and critically evaluate interpretation of data and provide an insight into the process of scientific peer review. |
| **Structure & Available Subjects:** | Completion of 50 points of study at Level 3. |
| **Subject Options:** | Both of |

| Subject | Study Period Commencement: | Credit Points: |
|---|---|---|
| NEUR30003 Principles of Neuroscience | Semester 1 | 12.50 |
| NEUR30002 Neurophysiology: Neurons and Circuits | Semester 1 | 12.50 |

Plus two electives selected from

| Subject | Study Period Commencement: | Credit Points: |
|---|---|---|
| NEUR30005 Developmental Neurobiology | Semester 2 | 12.50 |
| NEUR30004 Sensation Movement and Complex Functions | Semester 2 | 12.50 |
| OPTO30007 Visual Neuroscience | Semester 2 | 12.50 |
| PHRM30002 Drugs Affecting the Nervous System | Semester 2 | 12.50 |
| BCMB30004 Cell Signalling and Neurochemistry | Semester 2 | 12.50 |

| | | | |
|---|---|---|---|
| | BIOM30003 Biomedical Science Research Project | Summer Term, Semester 1, Semester 2 | 12.50 |
| **Related Course(s):** | Bachelor of Biomedicine<br>Bachelor of Science | | |