

## 521-304 Hormone & Neurotransmitter Biochemistry

<b>Credit Points:</b>	12.500
<b>Level:</b>	Undergraduate
<b>Dates &amp; Locations:</b>	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: 36 lectures (three per week) Total Time Commitment: 120 hours
<b>Prerequisites:</b>	Biochemistry 521-211 and 521-212. BBiomedSc students: 521-213 and 536-250.
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
<b>Coordinator:</b>	A/Prof H-C Cheng
<b>Subject Overview:</b>	<p>Aberrations in the structure and expression of hormones, growth factors, neurotransmitters and their receptors can give rise to diseases such as cancer and neurodegenerative diseases. To understand the molecular basis of these diseases, it is essential to know how hormones, growth factors and neurotransmitters are synthesised, and how their signals are recognised, amplified and transmitted by intracellular signaling pathways in the target cells.</p> <p>On completion of the subject, students will understand the molecular basis of hormone and neurotransmitter actions; the techniques used to investigate the mechanism of hormone action and neurotransmitter functions; and how abnormalities in synthesis and in the intracellular signalling pathways give rise to diseases.</p> <p>Topics covered include biosynthesis, storage and secretion of hormones and neurotransmitters; hormone receptors and mechanisms of intracellular signal transduction, emphasis on second messengers and protein phosphorylation-dephosphorylation; regulation of gene expression; molecular basis of drug addiction; tissue specialisation within the nervous system and different roles of individual neurotransmitters; neurochemistry of sensory transduction, molecular basis of neurodegenerative diseases, molecular basis of cancer formation and progression and the use and design of protein kinase inhibitors as cancer therapeutics.</p> <p>In addition to these specific skills, students will think critically from consideration of the lecture material and research papers, expand from theoretical principles to practical explanations through observing and reporting research literature, and acquire abilities in collaborative working while participating in group presentations.</p>
<b>Assessment:</b>	A 50-minute written test held mid-semester (7.5%); a 50-minute written test at the end of semester (7.5%); a 50-minute group oral presentation during semester (5%); a 3-hour written examination in the examination period (80%).
<b>Prescribed Texts:</b>	None
<b>Breadth Options:</b>	<p>This subject is a level 2 or level 3 subject and is not available to new generation degree students as a breadth option in 2008.</p> <p>This subject or an equivalent will be available as breadth in the future.</p> <p>Breadth subjects are currently being developed and these existing subject details can be used as guide to the type of options that might be available.</p> <p>2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.</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>	Students enrolled in the BSc (pre-2008 BSc), BAsSc or a combined BSc course will receive science credit for the completion of this subject.
<b>Related Course(s):</b>	Bachelor of Arts and Bachelor of Science Bachelor of Arts and Sciences Bachelor of Biomedical Science Bachelor of Science Graduate Diploma in Biotechnology