CHRISTIAN HERITAGE COLLEGE

NP540

NEUROSCIENCE FOR NEUROPSYCHOTHERAPY

This sample unit outline is provided by CHC for prospective and current students to assist with unit selection.

Elements of this outline which may change with subsequent offerings of the unit include Content, Required Texts, Recommended Readings and details of the Assessment Tasks.

Students who are currently enrolled in this unit should obtain the outline for the relevant semester from the unit lecturer.

Unit code	NP540
Unit name	Neuroscience for Neuropsychotherapy
Associated higher education awards	Graduate Certificate in Neuropsychotherapy
Duration	One semester
Level	Postgraduate
Core/elective	Core
Weighting	Unit credit points: 10 Course credit points: 40
Delivery mode	Face-to-Face on site
Student workload	*Face-to-face on site* Contact hours 14 hours Reading, study, and preparation 76 hours Assignment preparation 60 hours **TOTAL 150 hours** Students requiring additional English language support are expected to undertake an additional one hour per week.
Prerequisites/ co-requisites/ restrictions	Nil
Rationale	Recent discoveries in neuroscience have shifted the paradigm of understanding the human brain. This shift points toward a new understanding of mental health and has opened new perspectives in both understanding the causes of mental health disorders and facilitating mental health. The interplay between genetic functioning and the environment (epigenetics) opens exciting new options towards understanding the biological mechanisms that lead to mental health disorders and strategies to manage/treat these conditions. This is further enhanced by recent discoveries in regards to the biology of neural plasticity. This unit provides foundational scientific underpinnings for the theory of neuropsychotherapy. It focuses on the key principles of neuroscience, understanding the paradigm shift in neural development and the implications for mental health practice. It further brings to bear a Christian worldview lens on understandings of the human brain, its functioning and the implications for therapeutic engagement.
Prescribed text(s)	Bear, M. F., Connors, B.W., & Paradiso, M.A. (2016). *Neuroscience: Exploring the brain*. Philadelphia, PA: Lippincott Williams & Wilkins.
Recommended readings	**Books** Barker, R., & Cicchetti, F. (2012). *Neuroanatomy and neuroscience at a glance.* Hoboken, NJ: Wiley. Jeeves, M. (2013). *Minds, brains, souls and gods: A conversation on faith, psychology and neuroscience*. Downers Grove, IL: IVP Academic. Kandel, E., Schwartz, J., Jessell, T., Siegelbaum, S., & Hudspeth, A. (Eds.). (2013). *Principles of neural science* (5th ed.). New York, NY: McGraw-Hill Medical. McHenry, B., Sikorski, A. M., & McHenry, J. (2014). *A counsellor's introduction to neuroscience.* New York, NY: Routledge.

	Montgomery, A. (2013). *Neurobiology essentials for clinicians: What every therapist needs to know.* New York, NY: Norton. Sporns, O. (2011). *Networks of the brain.* Cambridge, MA: MIT Press. **Journals** *International Journal of Neuropsychotherapy* *Journal of Psychology and Theology* *The Journal of Neuroscience* **Websites** www.neuropsychotherapy.org In addition to the resources above, students should have access to a Bible, preferably a modern translation such as The Holy Bible: The New International Version 2011 (NIV 2011) or The Holy Bible: New King James Version (NKJV). These and other translations may be accessed free on-line at http://www.biblegateway.com. The Bible app from LifeChurch.tv is also available free for smart phones and tablet devices.
Specialist resource requirements	Nil
Content	1. The wonder of the created body and understanding the human brain 2. Paradigms of neural understanding 3. The brain and the mind – understanding the human condition 4. Genes and the environment 5. The central nervous systems 6. The neural system and neural structures 7. The stress response system 8. Neurochemicals and neural networks 9. Neural plasticity 10. The neuroscience of memory 11. Principles of neuroscience and implications for learning and change 12. From molecules to spirituality 13. The brain and psychotherapy
Learning outcomes	On completion of this unit, students will have demonstrated that they have: 1. investigated the development of the brain, the concept of "bottom-up" development and the implications of this for therapeutic practice; 2. examined the interplay between the genetic makeup and environment for shaping neural activation and the implications in terms of working in the mental health domain; 3. developed a core understanding of the neural systems, structures, stress response and neurochemicals, and how they facilitate patterns of emotions and behaviours and provide the guidelines to facilitate change; 4. examined the research evidence regarding the neuroscience of memory and ways to facilitate changes in memory systems; 5. critically reflected on the role of the environment, including that engendered by a Christian worldview, to facilitate neural change; 6. critically reflected on the impact and significance of neuroscientific advances on our understandings of the human condition and the journey to wholeness, including Christian worldview perspectives; and 7. communicated at an appropriate tertiary standard with special attention to correct grammars, punctuation, spelling, vocabulary, usage, sentence structure, logical relations, style, referencing, and presentation.

Assessment tasks	**Task 1: Meta-Reflection** Students are to write a meta-reflection that synthesises their significant learnings regarding neurobioiology. Word Length/Duration: 2, 500 words Weighting: 50% Learning Outcomes: 1-7 Assessed: Week 9 **Task 2: Case Study Analysis** Students are to analyse a case study with regard to aspects of neurobiology and their implications for neuropsychotherapy practice. Word Length/Duration: 3,000 words Weighting: 50% Learning Outcomes: 1-5, 7 Assessed: Week 15
Unit summary	This unit focuses on providing a baseline of knowledge to master the current discourse in clinical neurobiology as well as developing competency to apply these principles in neuropsychotherapy practice.