

## **CAPS 426**

**Course description:** An integrated study of the structural and functional organization of the central nervous system with special emphasis on neurophysiological mechanisms.

**Credits:** 3

**Pre-reqs:** (A cumulative average of 75% over at least 90 credits attempted in the first three years of a student's program and a minimum mark of 75% in [CAPS 301](#) or [PHYL 301](#). Permission of the course director is also required.)

- This course is restricted to students in year:  $\geq 4$  -OR-  
in one of these faculties: GRAD -OR-  
in one of these categories: Qualifying -OR-  
in one of these categories: UNCL

Tue., Thu. 8:00-10:00

This course will be held in LSC 1416.

There are 6 Lecturers for this course: Drs. Timothy O'Connor (TO), Christopher Loewen (CL), Eric Accili (EA), Shernaz Bamji (SB), Kurt Haas (KH), and Doug Allan (DA). Dr. Haas is the Course Director

1. Jan. 3, 2017: Introduction to the Neuron (TO)
2. Jan. 12, 2017: Cell Biology of the Neuron (CL)
3. Jan. 17, 2017: Membrane Potential and Action potentials (EA)
4. Jan. 19, 2017: General Neuroanatomy (TO)
5. Jan. 24, 2017: Sensory and Motor Systems (SB)
6. Jan. 26, 2017: Receptors and Neurotransmitters (KH)
7. Jan. 31, 2017: Development – neurogenesis, migration and patterning (DA)
8. Feb. 2, 2017: Development – Differentiation (DA)
9. Feb. 7, 2017: Axonal pathfinding (TO)
10. Feb. 9, 2017: Target-dependent death, Apoptosis (SB)
11. Feb. 14, 2017: Midterm
12. Feb. 16, 2017: Synaptogenesis and Circuit formation (KH)
13. Feb. 28, 2017: Synaptic plasticity – LTP/LTD Learning and Memory (SB)
14. Mar. 2, 2017: Neural Encoding (KH)
15. Mar. 7, 2017: Sleep and Consciousness (KH)
16. Mar. 9, 2017: Neurogenetics (DA)
17. Mar. 14, 2017: Neurogenetics (DA)
18. Mar. 16, 2017: Disease Modeling, Regeneration (SB/TOC)
19. Final

### **Reference textbook:**

Neuroscience, Eds. Purves, Augustine

Principles of Neurobiology, Ed. Liqun Luo