



## Department of Physiology & Pathophysiology Graduate Courses

PHGY 7310 Principles of Electronics for Life Sciences

PHGY 7320 Instrumentation for Electrophysiology

Fridays, 2:00 - 4:45 pm

**Fall term online lectures; Winter term hands-on training (to be confirmed)**

The following courses are 3.0 credit hours each and open to all graduate students (MSc and PhD) in all disciplines within and outside of the Rady Faculty of Health Sciences.

**PHGY 7310 Principles of Electronics for Life Sciences**      **September – December 2020 (Fall Term)**

**Course description:** This course will review and discuss basic concepts related to physics and electronics. Moreover, the course will explore applications of electronics principles for use in the understanding of neural activity. Concepts such as electrical stimulation, field potentials, recording methods, analog to digital conversion and acquisition of signals and some methods based on electrically charged dyes used in animal research as well as the basis of electrophysiological techniques used in human research will be covered.

**Prerequisites:** A basic course in biology and/or physics or the consent of the course co-ordinator(s).

**PHGY 7320 Instrumentation for Electrophysiology**      **January – April 2021 (Winter Term)**

**Course description:** This course will focus on in-depth and hands-on examination of electrophysiological research methods. Theoretical considerations, current best-practice guidelines and new/developing research directions will be addressed in relation to brain and nerve stimulation and recording of neural activity in humans. Hands-on training in methods, such as electrical and magnetic stimulation of the central nervous system; surface electromyography, and general nerve conduction testing methods.

**Prerequisites:** Passing grade in *PHGY7310 Principles of Electronics for Life Sciences*, or consent of the course co-ordinator(s).

**For more information on the course and it's content contact:**

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