NEURODPT 533 — MOLECULAR PHYSIOLOGY
2 credits.

This course will introduce functional aspects of mammalian organ systems from a molecular perspective. Human diseases will receive a special emphasis, and diseases will be used to illustrate the connection between molecules and biological function. Recommended but not required: Biocore 323, biochem (e.g. BIOCHEM 507 508), cell biology (e.g. ZOOLOGY 570)

**Requisites:** CHEM 103 104 or 109 or 115 116; PHYSICS 201 202 or 207 208; ZOOLOGY/BIOLOGY/BOTANY 151 152 or Biocore 303 304; MATH 221 222 or 275 276.

**Course Designation:** Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S

**Repeatable for Credit:** No

NEURODPT/NTP/PHYSIOLOGY/BOTANY 616 — LAB COURSE IN NEUROBIOLOGY AND BEHAVIOR
4 credits.

Students will do three independent experimental modules exploring neurophysiology and behavior, each taking 4-5 weeks. Students will work in groups of 2 or 3 and will learn techniques and then develop their own short investigations into each of three separate areas of neurobiology. There will be continual interaction between students and faculty.

**Requisites:** ZOOLOGY/NTP/PSYCH/ZOOLOGY 523 and NTP/PHYSIO/PSYCH/ZOOLOGY 524 or NTP/PHMCOL-M/PHYSIO/L/PHMCOL-M 610 and ANATOMY/NTP/PHMCOL-M/PHYSIO/PSYCH/ANATOMY/NTP/PHMCOL-M/PHYSIO 611

**Course Designation:** Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

NEURODPT/NTP 630 — NEURONAL MECHANISMS FOR SENSATION AND MEMORY IN CEREBRAL CORTEX
3 credits.

Current literature will be considered in lectures and discussions that provides insight into how the cerebral cortex processes sensory information to generate and store cogent representations of the external world. The course includes laboratory exercises and demonstrations.

**Requisites:** PHYSIOLOGY/ANATOMY/NT/PHMCOL-M/PSYCH/ANATOMY/NT/PHMCOL-M/PSYCH 611, MED SC-M 731, COMP BIO 505, PSYCH/ZOOLOGY/PSYCH 523, PSYCH 454, or graduate or professional standing

**Course Designation:** Breadth - Biological Sci. Counts toward the Natural Sci req
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

Last Taught: Spring 2017

NEURODPT/PSYCH/ZOOLOGY 674 — BEHAVIORAL NEUROENDOCRINOLOGY SEMINAR
2 credits.

Behavior results from a complex interplay among hormones, the brain, and environmental factors. Behaviors and their underlying neural substrates have evolved in response to specific environmental conditions, resulting in vast species diversity in behavioral and neuroendocrine solutions to environmental problems. This seminar is designed to explore the primary literature on the neuroendocrine underpinnings of behavior spanning from feeding to sex differences in complex social behaviors. A range of taxonomic groups will be discussed, including (but not limited to) mammals, birds, and fish. A background in neuroscience and/or endocrinology is strongly recommended.

**Requisites:** BIOLOGY/ZOOLOGY/BIOLOGY 101 or BIOLOGY/BOTANY/ZOOLOGY/BIOLOGY/BOTANY 151 or BIOCORE 383

**Course Designation:** Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

Last Taught: Fall 2017

NEURODPT 699 — INDEPENDENT WORK
1-4 credits.

Independent work.

**Requisites:** Consent of instructor

**Repeatable for Credit:** Yes, unlimited number of completions

NEURODPT 700 — CYTOSKELETAL DYNAMICS
2 credits.

Course content is topical and current. The course covers such issues as microtubule dynamics, microtubule-associated proteins, microtubule-organizing centers, actin filaments, actin regulatory proteins, intermediate filaments, cell motility, mitosis, process outgrowth, and cell differentiation.

**Requisites:** Graduate or professional standing

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

NEURODPT 990 — RESEARCH AND THESIS
1-9 credits.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** Yes, unlimited number of completions