

NEUROENDOCRINOLOGY

16:340:510

Course Directors: Dr. Dipak Sarkar
Dipak.sarkar@rutgers.edu

Course Description: The course provides a comprehensive and up-to-date coverage of the inter-relationships between the central nervous system and the endocrine system in the mammal. The course also provides the student with basic concepts and experimental approaches in mammalian neuroendocrinology including cellular and molecular actions of hypothalamic and pituitary hormones and the role of these hormones in controlling reproductive functions, body metabolism (e.g. obesity and diabetes), stress, growth, biological rhythms, drug addiction and immunity. It also provides the opportunity for the student to learn how to critically interpret information from the neuroendocrinology literature. It is expected that students in the class have a solid background in biology and in physiological processes.

LECTURE SCHEDULE

Topics
Hypothalamus
Pituitary Gland
Sexual Differentiation of the Neuroendocrine Brain
Neuroendocrine Control of Gonadotropin Release
Neuroendocrine Control of Prolactin Release
Neuroendocrine Control of Thyroid Hormone Release
Neuroendocrine Control of Growth Hormone Release
Hypothalamic Control of Food Intake
Neuroendocrine Control of Stress Axis Function
Neuroendocrine-Immune Interaction
Neuroendocrine Control of Biological Rhythms
Obesity, Hypothalamus, and Bone