

# NRSC - NEUROSCIENCE (NRSC)

## NRSC 101 Neuroscience Overview

**Credit 1. 1 Lecture Hour.** An introductory survey of neuroscience for freshmen undergraduate students on the basic neuroscience core ideas and neurological disorders. **Cross Listing:** BIOL 102, PBSI 101 and VIBS 101.

## NRSC 201/VIBS 201 History of Neuroscience

**Credit 1. 1 Lecture Hour.** Wide spectrum of neuroscience discovery beginning at the turn of the 20th Century; emphasis on key discoveries and their rationale, experimental design, experimental methods, major findings and interpretation of results. **Prerequisites:** Sophomore classification. **Cross Listing:** VIBS 201/NRSC 201.

## NRSC 277/VIBS 277 Essential Neuroscience - From Molecules to Nervous Systems

**Credits 3. 3 Lecture Hours.** Neuroscience from the molecular to system levels; fundamental principles and knowledge of neuroscience; current research information on neuroscience. **Prerequisites:** Sophomore classification and approval of instructor. **Cross Listing:** VIBS 277/NRSC 277.

## NRSC 289 Special Topics in...

**Credits 1 to 4. 1 to 4 Lecture Hours. 0 to 4 Lab Hours.** Selected topics in an identified area of neuroscience. May be repeated for credit. **Prerequisite:** Approval of instructor.

## NRSC 401/VIBS 401 Developmental Neurotoxicology

**Credits 2. 2 Lecture Hours.** Effects of exposure to toxic substances on the developing nervous system; content to include mechanisms of toxicity of substances potentially devastating to the developing nervous system including lead, mercury and other heavy metals, alcohol, nicotine (smoking), pesticides, flame retardants, and others. **Prerequisite:** Junior or senior classification. **Cross Listing:** VIBS 401.

## NRSC 407/VIBS 407 Core Ideas in Neuroscience

**Credits 2. 2 Lecture Hours.** General overview of selected core ideas across the full spectrum of neuroscience. **Prerequisite:** Junior or senior classification; background in science courses recommended. **Cross Listing:** VIBS 407/NRSC 407.

## NRSC 428/BIOL 428 Cellular Neuroscience

**Credits 3. 3 Lecture Hours.** Cell biology, molecular biology and biophysics of neurons as it pertains to their fundamental role in the physiological basis of behavior; study of how neurons create, maintain and exploit electrical signals for information coding and transmission; principles of electrical and chemical signaling between neurons, and the role of intracellular signaling for signal modulation and synaptic plasticity; exploration of a broad range of state-of-the-art molecular tools currently used to study the nervous system, and the cellular basis for many of the most common neurological disorders affecting humans as well as the strategies and therapies for their treatment. **Prerequisites:** BIOL 213 and PSYC 235, or approval of instructor. **Cross Listing:** BIOL 428.

## NRSC 434/BIOL 434 Regulatory and Behavioral Neuroscience

**Credits 3. 3 Lecture Hours.** Cell biology and biophysics of neurons; functional organization of the vertebrate nervous system; physiological basis of behavior. **Prerequisites:** BIOL 213; BIOL 319, BIOL 320, BIOL 388, BIOL 413, NRSC 235, or PSYC 235, or approval of instructor. **Cross Listing:** BIOL 434/NRSC 434.

## NRSC 444 Neural Development

**Credits 3. 3 Lecture Hours.** Cellular and molecular mechanisms of nervous system development including neural induction and the basis of complex behaviors; use of a wide range of model organisms with a specific emphasis on vertebrate nervous system development. **Prerequisites:** BIOL 213, BIOL 319, BIOL 320, BIOL 413, BIOL 388, NRSC 235 or PSYC 235. **Cross Listing:** BIOL 444/NRSC 444.

## NRSC 450/VIBS 450 Mammalian Functional Neuroanatomy

**Credits 4. 3 Lecture Hours. 2 Lab Hours.** Functional morphology of the domestic animal and human brain using gross specimens, microscopic sections, interactive computer-, DVD- and video-assisted instructional programs supplemented with clinical case studies. **Prerequisites:** Junior or senior classification; BIMS, biology, biochemistry, or psychology majors, or neuroscience minors with overall 3.5 Texas A&M GPA; or approval of instructor. **Cross Listing:** VIBS 450/NRSC 450.

## NRSC 485 Directed Studies

**Credits 0 to 3. 0 to 3 Other Hours.** Directed readings or research problems in selected areas designed to supplement existing course offerings conducted under the direction of a member of the Faculty of Neuroscience. May be repeated for credit. **Prerequisite:** Approval of member of the faculty of neuroscience.

## NRSC 489 Special Topics in...

**Credits 1 to 4. 1 to 4 Lecture Hours.** Selected topics in an identified area of neuroscience. May be repeated for credit. **Prerequisite:** Approval of instructor.

## NRSC 491 Research

**Credits 0 to 4. 0 to 4 Other Hours.** Research conducted under the direction of a member of the Faculty of Neuroscience. May be repeated for credit. **Prerequisites:** Junior or senior classification and approval of member of the faculty of neuroscience.