

INVESTIGATIVE NEUROSCIENCE (NEURO 203/NRSC 201)

LECTURE SCHEDULE – as of 14 AUGUST 2018

LSU Neuroscience Center Large Conference Room 835 (8th Floor)
Lion Eye Center Building, 2020 Gravier Street, New Orleans LA 70112 USA

Tuesdays & Thursdays – 2 - 4 PM (exceptions as indicated)

Course Director: Walter J. Lukiw, BS, MS, PhD

Neuroscience Center and Departments of Neurology and Ophthalmology

email: wlukiw@lsuhsc.edu

- **Overview:** 23 two-hour lectures by leading experts in the field on neuroscience with emphasis on brain and visual structure and function, technical approaches to research, and brain and visual pathology
- **Grade Evaluation:** one preliminary examination (30%); one research topic paper (30%); one final exam (40%); details will be given in first class meeting 08/16/2018
- **Textbooks** (Note that individual lecturers may assign specific scientific journal articles, or specific chapters from the three texts listed below, or other texts, for review prior to class, disseminated by email as .pdf files):
[1] *Basic Neurochemistry, Principles of Molecular, Cellular, and Medical Neurobiology, 8th Edition, 2011* (editors Brady, Siegel, Albers, Price);
[2] *Principles of Neural Science, 5th Edition, 2012*, (editors Kandel, Schwartz, Jessel, Siegelbaum, Hudspeth);
[3] *Molecular Biology of the Cell, 6th Edition, 2015*; (editors Alberts, Johnson, Lewis, Morgan, Raff, Roberts, Walter)

SCHEDULE

| DATE | TOPIC | LECTURER |
|---|--|------------------|
| 08/16 | First Class Meeting, introduction to NEURO 203 and course overview | Dr. WJ Lukiw |
| 08/21 | Overview of the nervous system | Dr. T. Weyand |
| 08/23 | Experimental design and statistics | Dr. Z. Fang |
| (Note Time Change 2:00-4:00 pm 08/22 only for Dr. Fang's lecture) | | |
| 08/28 | The development of nervous system | Dr. C. Wu |
| 08/30 | Electrotonic properties, membrane potential and action potential | Dr. S. Gasparini |
| (Note Time Change 2:30-4:30 pm today only for Dr. Gasparini's lecture) | | |
| 09/04 | Synaptic (chemical) transmission and synaptic plasticity | Dr. J. Erickson |
| 09/06 | Synaptic transmission and synaptic integration | Dr. X. Tian |
| 09/11 | Receptors and non-classic signaling | Dr. C. Chen |
| 09/13 | Apoptosis/necrosis/signal transduction/neurovascular unit | Dr. NG Bazan |
| 09/18 | Overview of neuronal circuits: construction of a receptive field | Dr. T. Weyand |
| (Note Time Change 2:30-4:30 pm today only for Dr. Weyand's lecture) | | |
| 09/20 | Regulation of gene expression | Dr. J. Erickson |
| 09/25 | <u>Preliminary examination (first 11 lectures; 30% of grade)</u> | |
| 09/25 | <u>List of 'Neuroscience Research Topics' handed out (each student writes a 3-page research paper)</u> | |
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| 09/27 | Gene expression in neurons | Dr. W.J. Lukiw |
| 10/02 | Neuroplasticity and vocal behavior (note switch with Dr. Song Hong) | Dr. XiaoChing Li |
| 10/04 | Visual system pathology/inflammation (note switch with Dr. M. Jin) | Dr. H.E. Bazan |
| 10/09 | Auditory system I | Dr. H. Farris |
| (Note Time Change 12:30 pm-2:30 pm today only for Dr. H. Farris' lecture) | | |
| 10/11 | Auditory System II | Dr. J. Lentz |
| 10/16 | Motor system | Dr. T. Weyand |
| 10/18 | Visual System I | Dr. Song Hong |
| 10/23 | Visual system II | Dr. M. Jin |
| 10/25 | Epilepsy | Dr. L. Belayev |
| 10/30 | Speech and language processing | Dr. H. Farris |
| 11/01 | Stroke and head trauma | Dr. L. Belayev |
| 11/06 | SFN 2018 Meeting San Diego No Class | |
| 11/08 | Alzheimer's disease | Dr. W.J. Lukiw |
| 11/13 | <u>Final Research Topics Papers due (30% of grade)</u> | |
| 11/13 | <u>Final Exam (last 12 lectures; 40% of grade)</u> | |
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