**CELLULAR NEUROPHYSIOLOGY AND FUNCTIONAL NEUROANATOMY (16:830:567)**

**Fall 2019, Wednesday 2:00-4:40pm**

Instructors: Mark West and Ben Samuels

Textbooks:

1. ***Principles of Neural Science****, 6th Ed.*, Kandel, Schwartz, Jessell, Siegelbaum & Hudspeth (KSJSH)

2. ***Neuroanatomy Text and Atlas****, 5th Ed,* Martin (M) or: [e-book (website "Inkling" from Amazon may be trustworthy)](https://www.inkling.com/store/book/neuroanatomy-text-and-atlas-john-martin-4th/?gclid=CL_gvsK-m7kCFYyi4AodcUIAfQ). Clinical case at the beginning of each chapter will not be on exams.

3. [Martin's Interactive Neuroanatomy Atlas](http://www.columbia.edu/itc/hs/medical/neuroanatomy/neuroanat/) online

4. All other readings will be posted on Sakai

(Note: Previous editions of textbooks may be sufficient. However, editions are many years apart, and chapter and page numbers will differ from the syllabus.)

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| **Date** | **Topic** | **Lecturer** | **Associated Readings** |
| Sept 4 | Introduction/Cellular organization | Samuels | KSJSH: 1-4 |
| Sept 11 | Neurophysiology: Ion Channels and Action Potentials I | Samuels | KSJSH: 5-7, Appendix A |
| Sept 18 | Neurophysiology: Ion Channels and Action Potentials II | Samuels | KSJSH: 5-7, Appendix A |
| Sept 25 | Synaptic Transmission I | Samuels | KSJSH: 8,10,11; Bissiere et al |
| Oct 2 | Synaptic Transmission II | Samuels | KSJSH: 12,13; Geppert et al; Koch et al |
| Oct 9 | Neuropharmacology | Samuels | Stahl and Foster et al |
| **Oct 16** | **EXAM 1** |  | **covers all material up to and including Oct. 9** |
| Oct 23 | No class (SfN meeting) |  |  |
| Oct 30 | Overview of the brain; Spinal cord  Blood supply; Cerebrospinal fluid | West | M: 1, 2 (p32-45) 3  figs. 3-2, 3, 4, 7, 8, 13, 14, 15, 16, 17  M: atlas p417-443 |
| Nov 6 | Brain stem, cranial nerves | West | M: atlas 426-431; 444-481  KSJSH: 46 (p1038-1050)  Reserve (Sakai): Heimer 10, 11 |
| Nov 13 | Amygdala, basal forebrain | West | M: 16; atlas 472-481;  Reserve (Sakai “Amygdala 20 16”; “LeDoux review”) |
| Nov 20 | Limbic system | West | M: 16; atlas 464-478;  Reserve (Sakai: “Limbic hippoc 21”) |
| Nov 27 | No class (Friday classes on this date) |  |  |
| Dec 4 | Hypothalamus/HPA axis;  ANS: peripheral/central | West | KSJSH: 47 (p1056-1061; 1066-1072);  M 15 |
| Dec 11 | Cortex & thalamus | West | M:2 (p.45-54); atlas 418-431; 462-475  Reserve (Sakai): Heimer 22 |
| **Date TBD** | **EXAM 2** |  | **covers all material from Oct 30 onward** |

**Self-Reporting Absence Application**

Students are expected to attend all classes and to participate; if you expect to miss one or two classes, please use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence. An email is automatically sent to me.

**Current Academic Integrity Policy**

<http://academicintegrity.rutgers.edu/academic-integrity-policy/>

*Short version*: Don’t cheat. Don’t plagiarize.

*Longer version*: Cheating on tests deprives you of the educational benefits of preparing these materials appropriately. It is personally dishonest to cheat on a test. It is also unfair, since it gives you an undeserved advantage over your fellow students who are graded on the basis of their own work. In this class we will take cheating very seriously. All suspected cases of cheating will be automatically referred to the Office of Judicial Affairs, and we will recommend penalties appropriate to the gravity of the infraction. The university's policy on Academic Integrity is available at[**http://academicintegrity.rutgers.edu/academic-integrity-policy**](http://academicintegrity.rutgers.edu/academic-integrity-policy)**.** I strongly advise you to familiarize yourself with this document, both for this class and for your other classes and future work.

**Student-Wellness Services:**

[**Just In Case Web App**](http://m.appcreatorpro.com/m/rutgers/fda9f59ca5/fda9f59ca5.html)

[http://www.justincaseforcolleges.com/faq/](https://nam02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.justincaseforcolleges.com%2Ffaq%2F&data=02%7C01%7Cben.samuels%40rutgers.edu%7C76e72bffdd9b4beac15108d72fbf0ec1%7Cb92d2b234d35447093ff69aca6632ffe%7C1%7C0%7C637030369996274611&sdata=Ombk6PgmXsSk%2B8yRrUZiFsQP9Za2u7Sy2EqV7QyGYcA%3D&reserved=0)  
Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

**Counseling, ADAP & Psychiatric Services (CAPS)**

**(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/** [**www.rhscaps.rutgers.edu/**](http://www.rhscaps.rutgers.edu/)

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students’ efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

**Violence Prevention & Victim Assistance (VPVA)**

**(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 /** [**www.vpva.rutgers.edu/**](http://www.vpva.rutgers.edu/)

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

**Disability Services**

(**848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 /** [**https://ods.rutgers.edu/**](https://ods.rutgers.edu/)

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus’s disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

**Scarlet Listeners**

Free and confidential peer counseling that provides a comforting and supportive safe space. Contact via email: scarlet.listeners@gmail.com