
BCS 245: Syllabus

Spring 2014

Time & Location

Tuesdays & Thursdays, 11:05 AM – 12:20 PM, Goergen 101

Personnel

Dr. Greg DeAngelis (Instructor)

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Office Hours: by appointment (contact Michele Schultz to schedule an appointment, mschultz@bcs.rochester.edu)

Meghan Gray, (TA)

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William Li, (TA)

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The TAs will be organizing and running a series of workshops during the course, most likely during evening hours. Workshops are optional but are a great way to improve your understanding of the material and get experience with exam-type questions.

Course Organization

The course will consist of a series of lectures, along with discussion sessions in which the class will critically evaluate primary literature relevant to the topics of the course. Background readings will be assigned for most lectures. Students will get much more out of the lectures if they have done the background reading before coming to class. There will also be a considerable amount of lecture content that will not be found in the readings, *thus class attendance is very important and questions are encouraged.*

Course Philosophy

Much of the course material does not come from the textbook because I want to expose you to some of the really important issues in systems neuroscience, and I have not found a textbook that contains the right material and operates at the right level. The emphasis is on understanding core principles and ideas about how neural systems work and how we can start to understand how neural activity gives rise to behavior. We focus on a smaller number of topics but go into them in greater depth. As a result, simply memorizing facts will generally not yield good performance. It may be very helpful to form study groups and discuss the material so that you obtain sufficient depth of understanding.

Readings

The course textbook is the 5th edition of "Neuroscience" by Purves, Augustine, Fitzpatrick, Hall, LaMantia, McNamara, and White. Chapters will be assigned as background reading for a number of lectures. A copy of the textbook should be on reserve at Rush Rhees library. Additional required readings will be drawn from reviews, journal articles, and book chapters and will be available electronically on **Blackboard**.

Grading

Each student's grade will be determined by a combination of performance on exams, quizzes, and class participation. These components will be weighted as follows:

- Midterm exam I: 20%
- Midterm exam II: 20%
- Final exam: 30%
- Quizzes: 15%
- Class participation: 15%

Exams

Some exams may have two portions: an in-class portion and a take-home portion. The in-class portion will be mainly multiple-choice and short answer questions. The take-home portion (if applicable) will be open-book and will involve more intricate problem-solving and essay-type questions that will require

students to synthesize material and apply key concepts to hypothetical problems. You will be given a few days to complete the take-home portion of the exam, and you **MUST WORK ALONE**. The final exam will be partially cumulative in the sense that it may draw on some of the concepts and material presented in the first half of the course. However, the final exam will mainly focus on material presented since the second midterm. *Exams will focus heavily on the material that we discuss in class, thus understanding deeply the material covered in lectures and discussions is the key to success (and this generally will not happen without classroom attendance).*

Quizzes

Each Discussion class will be followed by a brief quiz at the end. If you have read the assigned papers ahead of time and have followed the discussion in class, you should not find the quizzes too difficult. The best way to prepare for Discussion classes is to write down questions as you read the papers. The lowest quiz grade (including an unexcused absence) will be dropped.

Participation

The class participation portion of the grade will be mainly based on how you participate in Discussion sessions, and also on questions asked during lectures. Students will be expected to be active participants in discussion sections, and will be called on as necessary. Papers for Discussion will be primary journal articles which are often not very easy to read. So plan ahead and allow enough time to digest these discussion materials.

Special Arrangements

Students needing special arrangements should contact Dr. DeAngelis and arrange an office visit.