

PSY 6600/7600; 901  
Summer 2013



## Behavioral Neuroscience

### :: Welcome to Behavioral Neuroscience :: PSY 6600/7600

#### *Text and Equipment*

- Bear, MF, Connors, BW, & Paradiso, MA. Neuroscience, Exploring the Brain 3rd ed. 2007, Lippincott Williams & Wilkins
- Power Point (part of the Microsoft Office Suite)
- Fast internet connection for downloading files (if you are using a phone modem, it might be easier to download some files on campus)

#### *Scope*

This course is designed to give you a strong foundation in the structure of neurons, how they gather and integrate information, how they are organized in the brain, and how the brain mediates many aspects of our behavior. Parts will be a review of your undergraduate course in psychobiology, but some parts will build on that knowledge. You will also be encouraged to think about the implications of the neurological approach to studying behavior. We will first examine the components of the nervous system before moving on to their contribution to behaviors including homeostasis, arousal, emotion, reproduction, language, learning, and mental disorders. We will *not* cover the important functions of perception and movement as these are covered in another course.

#### *Teaching Approach*

I believe that every student should learn all the material and I try to eliminate obstacles to doing so.

Accordingly, you have access to about 75% of the test questions before the exams. The test questions cover the points that I think you should know and I don't want you to have to guess about what I have in mind. You gain access to the test questions by taking chapter **quizzes**. I have composed a large number of questions covering each chapter. When you take a quiz over a chapter, 15 questions are chosen randomly. If you take enough quizzes, you will encounter about 75% of the questions and receive feedback regarding your answers. The quizzes are graded by the computer, which is very literal and will not always give credit for a correct answer phrased in a way the computer does not expect. You must judge if your answer is truly correct, and if there is doubt, contact me and I will try to clarify it. You will be able to see your quiz scores so you can keep track of your progress, but they are **NOT** entered into the calculation of your course grade so you do not need to worry about incorrect computer grading of your quizzes. The quizzes give you a good indication of how well you know the material, especially if you take a quiz after a night's sleep and not immediately after studying. Simply opening quizzes and looking at the answers will not work.

**Blackboard can be a little quirky.** It may not grade your quizzes and let you see the answers if you go over the time limit. If that happens, it will also not let you take another quiz. Accordingly, I have set the quiz time limits generously: 10 minutes. Students who know the answers can answer 15 questions correctly in 3 minutes. Watch the clock and do not let the time expire; if you have to skip some questions, that is OK because these quizzes are just for practice. The computer should cut you off after the time limit, but it may not accept or grade your quiz and that will cause delays.

So, the way to succeed on the exams that determine most of your grade is to take quizzes until you can consistently answer the questions quickly and correctly.

It is well established that learning a little every day or two is more effective than learning a lot just before an exam is due. *At a minimum you should log into the course for at least 1 hour every day.* Students who maintain a steady pace (or work ahead) and do well on quizzes will discover occasional opportunities to answer extra credit questions.

There is quite a bit to learn and learning is best in small chunks. Thus, rather than a midterm and final, I have broken the course into 5 units with a separate exam over each.

If you have suggestions for other ways to make it easier for you to learn the information in this course, please let me know.

I believe that you must know a lot of facts in order to understand how the brain works to serve behavior.

“There is no way to learn science, or even to learn to appreciate it, without absorbing a great deal of information--which means committing it to memory,” (H. H. Bauer, *Fatal Attractions: The Troubles with Science*, Paraview Press, 2001). This means that many of the test questions require that you remember a fact or two. Since educated people don't seem so educated if they can't spell all the big words they know, spelling will count in the exams. If you misspell words, you will receive some credit, but not all of it even if your answer is otherwise correct. The more embarrassing the misspelling, the less credit you receive. The quizzes are scored by the computer and it will give no credit for misspellings, but you will receive the feedback to help you learn the information (remember quizzes do not get averaged into your grade). **I will personally score the exams so that partial credit can be given for near-perfect spelling and full credit for alternative ways of stating correct information.** You will have to take the literal-mindedness of the computer into account when interpreting how you are doing on the quizzes. On the other hand, the computer may occasionally accept an answer because it contains a few correct key words or even partial words; if I find that the sense of an answer on an exam is nevertheless incorrect or incomplete despite the correct key words, I will reduce the amount of credit for the answer.

I believe that graduate students should think about facts in relation to each other and should know something about how the 'facts' of neuroscience have been obtained. Perhaps most importantly, students should be a little skeptical about what they hear and read about the nervous system (and other things, too).

This means that there will be some short essay questions that require you to think about the implications of the facts you have learned, or that require you to evaluate one fact in the light of another or to apply facts to new situations. Indications of the nature of these essay questions are found near the end of every chapter lecture. Some multiple-choice questions will have several correct answers and you must have enough confidence in your knowledge to choose all of them. Others may have some pretty plausible incorrect answers and your knowledge must be firm enough for you to reject those.

**Receiving answers from other students constitutes academic dishonesty** and will result in a zero for any exam in which collusion or use of answers from past exams is suspected. Helping another student with an exam will also result in a zero for that exam. If you have any information about past exams, you should get up right now and destroy it. Always use your own words when answering questions. If you don't know an answer, you only lose those points. If you cheat, you lose all the points on that exam making it virtually impossible to pass this course.

### **Grading**

**Quizzes** You may take unlimited quizzes anytime and anywhere. Each quiz score is recorded so I can monitor your study pattern and progress. You should practice taking the quizzes without a book or notes since there is not enough time to look up answers during exams. Quizzes are not averaged into your

score. Don't be alarmed if you phrase a correct answer differently from the computer and the computer does not give credit. All exams are hand scored and correct answers will receive proper credit. **(Note: if you find a quiz question that seems to be coded incorrectly or is in some other way faulty, please let me know right away so I can correct it; since all the questions had to be coded differently for BlackBoard, some errors may remain, so don't be shy)**

Quizzes are to help you judge how well you know the material, but they are not a substitute for studying the text. We are all too optimistic in judging our own knowledge (see The Curse of Knowledge) and the practice quizzes are a good reality check. The best reality check occurs when you take a quiz the next day, not immediately after studying. Short-term memory retains much that long-term memory forgets, the information you retain after a 24-hour break will be retained almost forever.

**Exams** Exams constitute *about* 80% of the points for this course. You will be allowed to take your exams on your own unsupervised. This means the exams are effectively 'open book'. **You are not permitted to get help from friends, the web.** If I find that students are violating this restriction, I will have to require everyone within 75 miles of UT to come to campus at my convenience to take supervised exams.

**The exams have a time limit.** You will not have time to look up more than a few answers. If you know the answers well, you will have adequate time to write them down and even check your work. If you find you cannot tolerate the time pressure, even after practicing numerous quizzes with shorter time limits, I can arrange for you to take a supervised exam with unlimited time, but *without* a book or notes. The computer might continue to accept answers after the time limit is up, but I will be able to see your exam time. I will have to **deduct 2 points for every minute (or part of a minute) that you exceed the time allowed.** It would be unfair to other students if some were allowed to continue and look up answers with unlimited time.

**Late exams** must be taken in the test center on campus and without access to books or notes. If there is any chance that you will have to work or other demands might crop up, plan ahead and take the exam before the time it is finally due. Check the course calendar and announcements so due dates don't creep up on you. Exceptions will be made for serious illness or other disasters but not for vacations.

There will be 5 exams over approximately 100 pages of text and associated assignments. They will have about 30 questions and be worth **about 30 points.** **Beware** that there will be a penalty for randomly checking answers to multiple-choice questions or for checking all of the answers inappropriately. *Doing so can earn negative scores.* **I will check the computer scoring on each exam, so when you review your exams after they have been graded, be sure to look at the points awarded because you may actually have received full or partial credit for your answer.** Each exam has a due date listed in the Calendar. There are also notices of items due soon when you log into the course.

**Discussions** There are discussion topics associated with many of the chapters and the due dates are indicated in the description of the topic located within the chapter folder, **always check each folder contents when we start a new unit so you can see due dates and plan accordingly.** You must post comments on the assigned topic and readings and respond to what others say before the discussion period ends. Each discussion is worth up to 5 points. Only comments with intellectual content earn points, **none** of the points are earned by simply posting agreement with others or by stating an opinion without supporting evidence or argument. The goal of the discussions is to acquaint you with some classic literature and some current topics of interest or controversy. Discussions allow me to evaluate your ability to think about the facts you are learning in the textbook. You should evaluate what you are learning and apply it to the discussion topics.

Keep your postings brief and to the point. Take time to edit your initial postings for clarity and brevity. **Simple and Direct** will be your mantra.

**Simply posting an essay just before the due date is not a discussion.** You must post your initial thoughts several days before the due date. After that, check back every day and see what others are saying then add your comments to help clarify issues as you see them. You are welcome to draw on your own professional experiences and additional sources, but these are not necessary.

**Grading Scale** (categories are rounded only to the nearest hundredth of a point)

A 92.10 - 100

A- 90.00 - 92.09

B+ 87.60 - 89.99

B 82.50 - 87.59

B- 80.00 - 82.49

C+ 77.60 - 79.99

C 72.50 - 77.59

C- 70.00 - 72.49

D+ 67.60 - 69.99

D 62.50 - 67.59

D- 60.00 - 62.49

F ≤ 59.99

**If you have questions** about the course, post it under the discussion topic "Questions about This Course" I will answer as soon as I can and other students may also provide information or advice. **If you have comments** or experiences involving neuroscience or related aspects of psychology, post them under "Comments about Neuroscience". These are always interesting and make the material more real. Feel free to respond to these comments as well as post your own.

**Assignments.** There are lectures and additional assignments associated with most units. The assignments sometimes involve supplementary reading that gives you an alternative viewpoint or covers topics that are important but not covered in the chapter. There will be test questions on these readings. Other assignments involve thinking about an issue and discussing it as you might in class. However, in this class you have the opportunity to be more deliberate in your comments because they must be typed and posted to the discussion board. Take advantage of this opportunity and keep your comments clear and directly related to the issues. In addition everyone has an opportunity (i.e., obligation) to participate. You receive points for these contributions and the points add to your total points for the class. These are not optional. Occasionally the best posting receives more points than the others, in which case the additional point(s) serve as extra credit.

To learn more about me, go to my lab page and look at what I have published [http://psychology.utoledo.edu/showpage.asp?name=comparative\\_hear\\_lab](http://psychology.utoledo.edu/showpage.asp?name=comparative_hear_lab). There are some surprises there.

I have a few interests outside academia. I love to garden (my favorite plant is the bean), I have a dozen pet chickens, and I am a Master Gardener. I am a first-degree black belt (finally!) in Shaolin Kempo Karate but am not as active as I once was. My favorite websites are

<http://www.lewrockwell.com/>

<http://www.artofmanliness.com/>

<http://www.fredoneverything.net/> Warning, you might be offended here. You don't have to read it.

<http://www.rareseeds.com/> Best place for garden seeds

<http://www.chileplants.com/> Best place for Tomato, Chili, Eggplant plants