

**Psychology 207**  
**Brain & Behavior**  
**Fall 2005**

**Instructor: Dr. Sharon Lewis**  
**Office: 214B Seney Hall, Tel 4-8374**  
**Office Hours: Mon/Wed: 11:00-12:30,**  
**Tues., Thurs.: 2:15 -3:15**

These hours are subject to change. Other times  
by appointment; anytime by LL



Never trust anything that can think for itself, if you can't see where it keeps its brain. Harry Potter  
(protagonist in Harry Potter and the Prisoner of Azkaban, by J.K. Rowling, 1999)

He who joyfully marches to music in rank and file has already earned my contempt. He has been  
given a large brain by mistake, since for him the spinal cord would fully suffice.

Albert Einstein

Imagine the brain, that shiny mound of being, that mouse-gray parliament of cells, that dream factory, that petit  
tyrant inside a ball of bone, that huddle of neurons calling all the plays, that little everywhere, that fickle  
pleasuredome, that wrinkled wardrobe of selves stuffed into the skull like too many clothes into a gym bag.

Diane Ackerman (from An Alchemy of Mind. The Marvel and Mystery of the Brain, 2004)

"If brains were money, you'd need to take out a loan to buy a cup of coffee."

Shelley Long (1950-\_\_\_\_) US actress Line from TV show "Cheers," 1980s.

To repeat what others have said, requires education; to challenge it, requires brains.

Mary Pettibone Poole "A Glass Eye at a Keyhole," 1938

**Text:** Kalat, J.W. (2004), Biological Psychology (8<sup>th</sup> edition)

### **Class Organization**

My goal for this course is to have you learn, understand, and find as fascinating as I  
do, the biological basis of learning, memory, sensations, perceptions, motivations, emotions,  
development, drug effects, and psychological disorders. My hope is that after taking this  
course you will be able to better understand and critically assess the exciting neuroscience  
discoveries being made each week.

The class will meet 2 times a week and while attendance is not required, it is strongly  
recommended. The exams will include material from the text as well as items based on  
information presented only in class. Although I will not lecture on all the material in the text  
(as there is insufficient time), I will be using class time to share with you summaries of the  
latest neuroscience research. In addition, I think you will find some of the material easier to  
understand if you both read about it in your text and hear it explained in class.

The final grade is based on four 100-pt. exams, and your choice of a presentation or  
research paper, worth 100 points, for a total of 500. A letter grade will be assigned to the  
total number of points accumulated during the semester. An A requires a minimum of 450  
points, a B 400 points, a C 350 points, a D 300 points, and anything below 300 points is an F.  
If your total puts you a few (2-3) points below a higher grade, your attendance record will be  
taken into consideration when assigning a grade. Make-up tests (which are all essays) will be  
allowed only for officially excused absences. Please make sure you are familiar with the  
College's Honor Code.

The brain is a wonderful organ. It starts working when you get up in the morning, and doesn't  
stop until you get to the office.

Robert Frost (1874-1963) US poet

### **LearnLink:**

Everyone is required to sign onto LearnLink **within the first three weeks of the semester** (i.e., by **9/21**) and write a 1-2-paragraph essay reflecting your thoughts on something that you have learned in this course. You may earn up to 5 extra credit points for writing additional essays on LearnLink.

### **Presentation/Research Paper:**

In the first 2 weeks you will need to decide whether you would like to write a paper or make an oral presentation this semester. You need to turn in your decision in writing to me by **Wednesday, September 14**. Presentations will start sometime in late Nov/early Dec. As soon as I know how many people will be giving a presentation, I will make up a schedule and announce the dates. Please make sure you talk to me about your presentation or paper, as your topic must be approved by me and the information must go beyond what I cover in class. Note that some of the material you will need to submit must be in APA style. I have included information about APA style after the section on presentations and papers.

Presentations: If you plan to give a presentation, use your texts or lecture notes to find a topic in biological psychology that interests you. Then use the PsycINFO database to find some recent (2001-2005) articles that tell you in detail what is happening in that area right now. The articles you select must come from scientific journals (e.g. JCPP, SCIENCE, J. of Abnormal Child Psychology, Neurology, Sleep Research, J. of Comparative Neurology, Brain, etc.). Try to be careful not to select articles that are so technical you cannot understand them. Your presentation to us should be a 10-minute, creative, informative, and critical summary of the topic you have chosen.

By **Wednesday, October 12**, you should submit to me a description of your topic (several sentences describing what you plan to cover) and a list of the articles you plan to present. This should be typed in APA style (See information on this below) with all information about the articles included (e.g., authors, year, title of article and journal, etc). During the next two weeks, we will work together to make sure your topic is appropriate and that you have the right type and number of articles. You must receive approval for your topic before Wednesday, October 26. By **Wednesday, October 26**, I should have a copy of all your articles (which I will keep until after your presentation) as well as a detailed description of your approved topic (1 – 2 paragraphs). On **Wednesday, November 9**, you should hand in a typewritten outline of your presentation. The more detail you provide me, the more feedback I can give you.

Papers: If you choose to do a research paper instead of a presentation, use the PsycINFO database to find some recent (2001-2005) articles or books on a topic in the field of biological psychology. You might search for review articles because these will help you identify the major researchers and issues. The articles you select must come from scientific journals (see above). Make sure you give yourself enough time to decipher what will most likely be highly technical sources. By **Wednesday, October 12**, you must submit a topic (several sentences describing what you want to write about) with a bibliography (typed in

APA style) for my approval. During the next two weeks, we will work together to ensure your topic is appropriate, your topic is narrow enough to write a cohesive paper, and that you have the correct type and number of articles. You must receive approval for your topic before Wednesday, October 26. By **Wednesday, October 26**, you must turn in a typewritten, detailed description (1 – 2 paragraphs) of your approved topic and a bibliography (list your references in APA style). On **Wednesday, November 9**, you need to hand in a typewritten outline of your paper. The more detail you provide me, the more feedback I can give you. The paper will be due at the time of the first scheduled oral presentation. It must be typed, in APA format, and should be between 5-10 pages long.

### **APA Style Essentials**

(Taken from Douglas Degelman, and Martin Lorenzo Harris' site:  
[http://www.vanguard.edu/faculty/ddegelman/detail.aspx?doc\\_id=796](http://www.vanguard.edu/faculty/ddegelman/detail.aspx?doc_id=796))

**Text citations:** Source material must be documented in the body of the paper by citing the author(s) and date(s) of the sources. The underlying principle is that ideas and words of others must be formally acknowledged. The reader can obtain the full source citation from the list of references that follows the body of the paper.

1. When the names of the authors of a source are part of the formal structure of the sentence, the year of publication appears in parentheses following the identification of the authors. Consider the following example:

Wirth and Mitchell (1994) found that although there was a reduction in insulin dosage over a period of two weeks in the treatment condition compared to the control condition, the difference was not statistically significant. [Note: and is used when multiple authors are identified as part of the formal structure of the sentence. Compare this to the example in the following section.]

2. When the authors of a source are not part of the formal structure of the sentence, both the authors and years of publication appear in parentheses, separated by semicolons. Consider the following example:

Reviews of research on religion and health have concluded that at least some types of religious behaviors are related to higher levels of physical and mental health (Gartner, Larson, & Allen, 1991; Koenig, 1990; Levin & Vanderpool, 1991; Maton & Pargament, 1987; Paloma & Pendleton, 1991; Payne, Bergin, Bielema, & Jenkins, 1991). [Note: & is used when multiple authors are identified in parenthetical material. Note also that when several sources are cited parenthetically, they are ordered alphabetically by first authors' surnames.]

3. When a source that has two authors is cited, both authors are included every time the source is cited.

4. When a source that has three, four, or five authors is cited, all authors are included the first time the source is cited. When that source is cited again, the first author's surname and "et al." are used. Consider the following example:

Reviews of research on religion and health have concluded that at least some types of religious behaviors are related to higher levels of physical and mental health (Payne, Bergin, Bielema, & Jenkins, 1991).

Payne et al. (1991) showed that ...

5. When a source that has six or more authors is cited, the first author's surname and "et al." are used every time the source is cited (including the first time).

6. Every effort should be made to cite only sources that you have actually read. When it is necessary to cite a source that you have not read ("Grayson" in the following example) that is cited in a source that you have read ("Murzynski & Degelman" in the following example), use the following format for the text citation and list only the source you have read in the References list:

Grayson (as cited in Murzynski & Degelman, 1996) identified four components of body language that were related to judgments of vulnerability.

7. To cite a personal communication (including letters, emails, and telephone interviews), include initials, surname, and as exact a date as possible. Because a personal communication is not "recoverable" information, it is not included in the References section. For the text citation, use the following format:

B. F. Skinner (personal communication, February 12, 1978) claimed ...

**Quotations:** When a direct quotation is used, always include the author, year, and page number as part of the citation.

1. A quotation of fewer than 40 words should be enclosed in double quotation marks and should be incorporated into the formal structure of the sentence. Example:

Patients receiving prayer had "less congestive heart failure, required less diuretic and antibiotic therapy, had fewer episodes of pneumonia, had fewer cardiac arrests, and were less frequently intubated and ventilated" (Byrd, 1988, p. 829).

2. A lengthier quotation of 40 or more words should appear (without quotation marks) apart from the surrounding text, in block format, with each line indented five spaces from the left margin.

**References:** All sources included in the References section must be cited in the body of the paper (and all sources cited in the paper must be included in the References section).

1. Pagination: The References section begins on a new page.

2. Heading: References (centered on the first line below the manuscript page header)

3. Format: The references (with hanging indent) begin on the line following the References heading. Entries are organized alphabetically by surnames of first authors. Most reference entries have three components:

1. Authors: Authors are listed in the same order as specified in the source, using surnames and initials. Commas separate all authors. When there are seven or more authors, list the first six and then use "et al." for remaining authors. If no author is identified, the title of the document begins the reference.

2. Year of Publication: In parentheses following authors, with a period following the closing parenthesis. If no publication date is identified, use "n.d." in parentheses following the authors.

3. Source Reference: Includes title, journal, volume, pages (for journal article) or title, city of publication, publisher (for book). Italicize titles of books, titles of periodicals, and periodical volume numbers.

4. Example of APA-formatted References : Go to  
<http://www.vanguard.edu/psychology/references.pdf>

5. Official APA "Electronic Reference Formats" document : Go to  
<http://www.apastyle.org/electref.html>

### **Examples of sources**

1. Journal article

Murzynski, J., & Degelman, D. (1996). Body language of women and judgments of vulnerability to sexual assault. *Journal of Applied Social Psychology*, 26, 1617-1626.

2. Book

Paloutzian, R. F. (1996). *Invitation to the psychology of religion* (2nd ed.). Boston: Allyn and Bacon.

3. Web document on university program or department Web site

Degelman, D., & Harris, M. L. (2000). APA style essentials. Retrieved May 18, 2000, from Vanguard University, Department of Psychology Web site:  
[http://www.vanguard.edu/faculty/ddegelman/index.cfm?doc\\_id=796](http://www.vanguard.edu/faculty/ddegelman/index.cfm?doc_id=796)

4. Stand-alone Web document (no date)  
Nielsen, M. E. (n.d.). Notable people in psychology of religion. Retrieved August 3, 2001, from <http://www.psywww.com/psyrelig/psyrelpr.htm>
5. Stand-alone Web document (no author, no date)  
Gender and society. (n.d.). Retrieved December 3, 2001, from <http://www.trinity.edu/~mkearl/gender.html>
6. Journal article from database  
Hien, D., & Honeyman, T. (2000). A closer look at the drug abuse-maternal aggression link. *Journal of Interpersonal Violence*, 15, 503-522. Retrieved May 20, 2000, from ProQuest database.
7. Abstract from secondary database  
Garrity, K., & Degelman, D. (1990). Effect of server introduction on restaurant tipping. *Journal of Applied Social Psychology*, 20, 168-172. Abstract retrieved July 23, 2001, from PsycINFO database.
8. Journal article, Internet-only journal  
Bergen, D. (2002, Spring). The role of pretend play in children's cognitive development. *Early Childhood Research & Practice*, 4(1). Retrieved February 1, 2004, from <http://ecrp.uiuc.edu/v4n1/bergen.html>
9. Article or chapter in an edited book  
Shea, J. D. (1992). Religion and sexual adjustment. In J. F. Schumaker (Ed.), *Religion and mental health* (pp. 70-84). New York: Oxford University Press.
10. Diagnostic and Statistical Manual of Mental Disorders  
American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.

**Footnotes:** Content footnotes are occasionally used to support substantive information in the text..

1. Pagination: Footnotes begin on a separate page.
2. Heading: Footnotes is centered on the first line below the manuscript page header.
3. Format: Indent the first line of each footnote 5-7 spaces and number the footnotes (slightly above the line) as they are identified in the text.
4. Example of APA-formatted Footnotes : <http://www.vanguard.edu/psychology/footnote.pdf>

## Course Outline

- I. Aristotle taught that the brain exists merely to cool the blood and is not involved in the process of thinking. This is true only of certain persons. Will Cuppy (1884-1949) US writer, critic

Chapter 1- The Major Issues

Chapter 2 - Nerve Cells and Nerve Impulses

Chapter 3 – Communication at Synapses – pp 53-67

Chapter 4 - Anatomy of the Nervous System

Chapter 5 - The Development and Plasticity of the Brain

No child on earth was ever meant to be ordinary, and you can see it in them, and they know it, too, but then the times get to them, and they wear out their brains learning what folks expect, and spend their strength trying to rise over those same folks.

Annie Dillard (1945-\_\_\_\_) US author

### Exam I – Monday, October 3

- II. Chapter 3 – Only pp. 67 - 71 (Drugs)

Chapter 15 – Only pp 451 – 463, 486 (Substance Abuse)

Let schoolmasters puzzle their brain, / With grammar, and nonsense, and learning, /

Good liquor, I stoutly maintain, / Gives genius a better discerning.

Oliver Goldsmith (1728-1774) Irish-British poet, dramatist, author

Chapter 6 - Vision

Chapter 7 - The Other Sensory Systems and Attention

Chapter 8 - Movement

Chapter 9 - Wakefulness and Sleep

### Exam II -Monday, October 31

- III. Chapter 10 - Internal Regulation

Sleep deprivation is the most common brain impairment.

William C. Dement (from The Promise of Sleep, 1999, p. 231)

Chapter 11 – Reproductive Behaviors; “Measuring Up: Why Women Are Not Inferior To Men” - C.

Tavris - On reserve in the library

Chapter 12 - Emotional Behaviors

There can be no knowledge without emotion. We may be aware of a truth, yet until we have felt its force, it is not ours. To the cognition of the brain must be added the experience of the soul.

Arnold Bennett (1867-1931) English novelist

### Exam III – Monday, November 21

- IV. I like nonsense -- it wakes up the brain cells. Fantasy is a necessary ingredient in living. It's a way of looking at life through the wrong end of a telescope... and that enables you to laugh at all of life's realities.

Dr. Seuss (1904-1991) US author, illustrator

Chapter 13 - The Biology of Learning and Memory

A strange thing is memory, and hope; one looks backward, and the other forward; one is of today, the other of tomorrow. Memory is history recorded in our brain, memory is a painter, it paints pictures of the past and of the day.

Anna Mary Robertson (Grandma) Moses (1860-1961)

Chapter 14 - Lateralization and Language

Chapter 15 – Psychological Disorders

### Final Exam – Wednesday, December 15, 10:00 – 11:30