

## PSY 606 Behavioral Medicine II: Biobehavioral Processes & Disease in Health Psychology

**Instructor:** Barry E. Hurwitz, Ph.D.  
**Class:** Monday 3:30-6:00 p.m., Flipse 402  
**Office Hours:** Tuesday & Thursday 1:00 - 2:30 p.m. at Clinical Research Building #777,  
or most any day by appointment at FLP #512  
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**Overview:** The field of behavioral medicine emphasizes the scientific study of cognition, emotion, and behavior in health and well being, disease, and disease progression as related to and revealed through physiological principles and events in the context of socio-environmental factors including interpersonal relationships, gender and diversity. The goal of this course is to provide a basic overview of the central nervous system, cardiovascular, endocrine, immune, and other biological systems that are often examined in behavioral medicine research. The course will emphasize the study of basic mechanisms of physiological regulation and dysregulation of the cardiovascular and immune systems, with reference to specific issues in cardiovascular behavioral medicine and psychoneuroimmunology.

**Grades:** Your grades will be based on the following:

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|----------------------------|-----|
| 1. Midterm Exam            | 40% |
| 2. 1-page Papers           | 5%  |
| 3. Literature Review Paper | 15% |
| 4. Final Exam              | 40% |

**Assignments:** Readings will be assigned on a weekly basis. Lecture slides will be posted on Blackboard. There will be 6 one-page papers based on reading assignments (see due dates below\*\*). There will be one 10-page literature review paper. In addition, two exams will be given.

**Short 1-page Papers:** In no longer than 1 page, your task is to summarize a specific topic of interest to you that is relevant to the reading assignment(s) for the class. Use double space lines, 1 inch margins, Arial font 12. No referencing is required. All papers are due by noon on the day of class to be delivered to me via email. Credit toward your grade will provided if the paper is submitted on time and the assignment is completed as described above. Late papers will be accepted only upon instructor permission, acquired in advance of the class.

**Literature Review Paper:** This assignment should be regarded as an opportunity for you to investigate a specific topic of interest to you that is relevant to behavioral medicine. Your paper should be based on a behavioral medicine topic in which behavior and physiological mechanisms are central. By 3/4/16 please provide me with a title and a 3-4 sentence description of your topic, with your primary references (see examples below). Your paper should be written in APA style and be no less than 10 pages in length (not including title page). Please do not include an abstract. In addition, the reference section should include about 15-20 references used in the paper. If I can be of assistance to you please do not hesitate to meet with me or contact me.

Some examples of paper topics from previous years are below:

- Chronic Stress and Immunity
- Exercise Effects on Immune Cell Trafficking
- AIDS: Psychosocial Factors influencing Long-term Survival and Immunity
- Fear Conditioning and the Baroreceptor Reflex
- Cardiovascular Reactivity and Hypertensive Risk
- Immune Alterations and Sickness Behavior in Chronic Fatigue Syndrome

**Readings:** The readings will be primarily drawn from the text and supplementary readings.

**Required Texts:**

1. Abbas, A.K. Lichtman, A.H., Pillai, S. Basic Immunology: Functions and disorders of the immune system. 4<sup>th</sup> edition. Philadelphia: Saunders Elsevier, 2012.

\* You may order from Amazon (free shipping ~\$60 new or ~\$35 used)

<http://www.amazon.com/Basic-Immunology-Functions-Disorders-Immune/dp/1455707074>

**Supplementary Readings Package:**

1. An Introduction: Basic Issues and Processes (Chapter 1). In EP Sarafino, TW Smith (2011), *Health Psychology: Biopsychosocial Interactions (7<sup>th</sup> Ed)*, (pp 1-27), Hoboken, NJ: Wiley & Sons.
2. Wilson DK. Behavior matters: the relevance, impact, and reach of behavioral medicine. *Ann Behav Med.* 2015;49(1):40-8. Review.
3. Functional Neuroanatomy: The Nervous System and Behavior (Chapter 2). In S.M. Breedlove, NV Watson, MR Rosenzweig, (2010). *Biological Psychology: An Introduction to Behavioral, Cognitive and Clinical Neuroscience (6<sup>th</sup> Ed.)*, (pp 23-56), Sunderland, MA: Sinauer Assoc.
4. Smith JJ, Kampine JP. (1990). *Circulatory Physiology-the essentials (3<sup>rd</sup> Ed)*. Williams & Wilkins: Baltimore. (Chapter 10).
5. Loewy AD. (1982). Central Cardiovascular pathways. In Smith, Galosy, Weiss (eds), *Circulation, Neurobiology and Behavior*, Elsevier Science Publications, New York.
6. Kaplan JR, Manuck SB. Status, stress, and atherosclerosis: the role of environment and individual behavior. *Ann N Y Acad Sci.* 1999;896:145-61. Review.
7. Sarti C, Gallagher J. (2006). The metabolic syndrome: prevalence, CHD risk, and treatment. *J Diabetes Complications.* 20(2):121-32. Review.
8. Libby P. (2002). Atherosclerosis: the new view. *Sci Am.* 286(5):46-55.
9. Black PH. The inflammatory response is an integral part of the stress response: Implications for atherosclerosis, insulin resistance, type II diabetes and metabolic syndrome X. *Brain Behav Immun.* 2003;17(5):350-64. Review.
10. Dement WC. (2005). History of sleep physiology and medicine. In Kryger M., Roth T., & Dement W. (eds.), *Principles and Practices of Sleep Medicine (4<sup>th</sup> Ed)*. Elsevier: Philadelphia.
11. Carskadon MA, Dement WC. (2005). Normal human sleep: An overview. In Kryger M., Roth T., & Dement W. (eds.), *Principles and Practices of Sleep Medicine (4<sup>th</sup> Ed)*. Elsevier: Philadelphia.
12. The Epidemiology of AIDS (Chapter 5). In BS Weeks, IE Alcamo, (2010). *AIDS the Biological Basis, (5<sup>th</sup> Ed)*, (pp 122-163), Jones and Bartlett: Boston.

A tentative schedule follows:

### SCHEDULE OF LECTURE TOPICS

<u>Date</u>	<u>Seminar Topics</u>	<u>Readings (#)</u>
1/11	Introduction to Behavioral Medicine: History, Basic Principles & Issues of Gender, Race & Ethnicity	1, 2
1/18	<b>MLK Day</b>	
1/25	CNS Structure & Function**	3
2/1	CNS Structure & Function	3
2/8	CNS Structure & Function**	3
2/15	Circulatory Physiology and Autonomic Control	4, 5
2/22	Cardiovascular Disease & Metabolic Syndrome**	6, 7
2/29	Inflammation and Cardiovascular Disease; Review	8, 9
3/4	Paper outline is due via email	
3/7	<b>Spring Break</b>	
3/14	<b>Midterm Exam</b>	
3/21	Sleep Physiology**	10, 11
3/28	The Basis of Immunity**	Abbas (ch#1, 2, 3, 4)
4/4	Immune Responses to Infection	Abbas (ch#5, 6, 7, 8)
4/11	Immunology of HIV & AIDS**	12, Abbas (ch#12)
4/18	Tumor Immunology; Review	Abbas (ch#10)
4/25	<b>Research paper is due via email</b>	
5/2	<b>Final Exam – 2:00 to 4:30 pm</b>	