Syllabus: PSB4240 "The Psychobiology of Abnormal Behavior"
Spring 2019

Instructor: Andreas Keil, Ph.D. Professor of Psychology
Class Location: ANDERSON HALL 0034
Time: Thursdays, periods 09-11
Credits: 3.0

Dr. Keil's email: akeil@ufl.edu Email is the best way to contact me.

I also hold office hours at the Center for the Study of Emotion and Attention (CSEA), located in the surge area, southwest area of campus: Wednesdays 2:45-3:45, my phone is (352) 392-2439, but again, email works better than calling.
A map to the CSEA (my office) can be found here: http://csea.phhp.ufl.edu/directions.html

Please let me know by email in advance if you plan to see me during office hours, so waits and overlaps etc. can be avoided. Also I travel a lot for work and would not want you to make the trip to the surge area (see above) in vain.

Description: This course covers relationships between biological processes (on the level of genes, hormones, and neural processes) and psychopathology as it is represented in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (2000, 5th ed.).

In this course I will:

a) explain the scientific bases of contemporary biological theories of psychological problems such as intellectual disability, schizophrenia, depression, and anxiety;
b) inform students, as future policy-makers and citizens, about societal implications of mental disorders, and their biological foundations;
c) educate about biological aspects of mental health treatment for students who will be future consumers and referrers to such services;
d) promulgate preventive information;
e) prepare students for further graduate-level training in biopsychology and psychopathology.

By the end of this course, it is expected that students will be able to:

- define and evaluate criteria for biological research in abnormal behavior and specific psychological disorders;
- recognize or "diagnose" common psychological disorders and name their biological components;
- describe common explanations for the etiology of psychological disorders;
- outline some effective treatments for specific psychological disorders with respect to their biological component.

For those who have not had previous training in any aspect of clinical science or abnormal psychology, I recommend this text for introductory reading: Butcher, J.M., Mineka, S., & Hooley, J. Abnormal Psychology: Core Concepts. Boston, MA: Allyn & Bacon.

There is an accompanying Canvas site for this class, which has all the digital information needed to prepare for class and succeed in the exams.

***Exams*: There will be two exams: a midterm exam and a final exam; see below for dates. 80 points can be earned in each exam. Each exam will consist of comprehensive short essay-style questions. The final exam will be cumulative in that knowledge acquired during the first half of the term is useful and needed for addressing problems discussed in the second half. The material required for exams will be what was discussed in class (available as power points) and the assigned readings (PDFs), which are primary research literature (available as PDF-files on the e-learning site of this course).**
Makeup Exams: can be arranged if there are convincing reasons.

***Assignments*: There will be weekly short essay questions on the Canvas site about the readings for each week, worth a total 40 points. It is important that these be completed by the deadline, which is the respective week's class period. That is to say, reading of a given week's readings must be completed and questions answered online BEFORE the class in that given week. Extension of this deadline will require a medical note.**

Students can earn **additional points** towards their grade by completing **up to two brief (< 1 page) assignments on selected topics (see below in the class schedule)**. They will consist of ~3 short essay style questions on topics of the previous classes, to be answered on less than one page of typed text. I will provide these via the email list serve, announce them in class, and also make them available on the e-learning site. Anticipated workload is 15 minutes for each. A maximum of 2 points (i.e., extra credit) can be earned with each assignment, for a total of 4 extra points.

Important! Grades are based on a max of 200 points (see above for 4 EXTRA points)

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
% points	96-100	91-95	86-90	81-85	76-80	71-75	66-70	61-65	56-60	51-55	46-50

Class attendance is highly encouraged, and will make preparation for exams easier than non-attendance. All the reading listed below will be available online as PDF-files through the e-learning site of this class.
It is recommended to look at the weekly schedule and read the papers relevant to the work in class; best results will be obtained when reading in advance, rather than after the class ☺ …

Weekly Schedule:

01/10/19	**No class**
01/17/19	*Introduction to class, plus:* *Topic: The "abnormal" in abnormal Psychology – biological and behavioral aspects* Goal: Understand the concepts and technical terms of clinical research; important issues and concepts for biological approaches to abnormal behavior and experience: e.g. Causation and Risk; "Psychobiosocial" approaches; Diathesis and Stress models; disciplines involved: clinical neurophysiology/neurobiology, clinical/cognitive neuroscience, genetics Reading: Insel et al. (2010): Research Domain Criteria (RDoC): Toward a New Classification Framework for Research on Mental Disorders
01/24/19	*Topic: The methods of human clinical neuroscience* Goal: Understand the foundations of the most widely used methods used in human clinical neuroscience: Functional imaging, EEG/ERP, Psychophysiological recordings, Startle response modulation, etc. Watch these 4 short videos: http://www.youtube.com/watch?v=1CGzk-nV06g http://www.youtube.com/watch?v=lLORKtkf2n8 http://www.youtube.com/watch?v=m3dxye0T5BU http://www.youtube.com/watch?v=BKVv6v-Hd0A
01/31/19	*Topic: Biological underpinnings of the Williams Syndrome* Goal: Apply the concepts from sessions 2 and 3 to the Williams Syndrome, a rare disorder with a very specific pattern of behaviors and known genetic origin. Reading: Haas, B. W., & Reiss, A. L. (2012). Social Brain Development in Williams Syndrome: The Current Status and Directions for Future Research. Frontiers in Psychology, 3. https://doi.org/10.3389/fpsyg.2012.00186
Optional assignment 1	***Available 01/28/2019 on Canvas; due 02/03/2019*** ***→ answer short essay questions on the previous weeks of class***
02/07/19	**No class**
02/14/19	*Topic: Biological underpinnings of severe developmental disorders: Autism and related syndromes* Goal: Learn about what is (not) known about the psychobiology of more complex developmental disorders, such as autism spectrum disorders. Discuss biological aspects of treatment.

	Reading: Park, H. R., Lee, J. M., Moon, H. E., Lee, D. S., Kim, B.-N., Kim, J., … Paek, S. H. (2016). A Short Review on the Current Understanding of Autism Spectrum Disorders. *Experimental Neurobiology*, *25*(1), 1–13. https://doi.org/10.5607/en.2016.25.1.1
02/21/19	*Topic: Neural plasticity - Application in the understanding and treatment of neuromotor disorders* Goal: Understand the principles of neuroplasticity and brain-behavior links Reading: Taub, Uswatte, & Elbert (2005) Neurorehabilitation grounded in basic research. **At the end of this session, we will discuss the upcoming exam and I will answer questions**
02/28/19	**First written exam**
March 2 to March 9	**Spring Break**
03/14/19	*Topic: Biological underpinnings of learning disorders and ADHD; applications in treatment and intervention* Goal: Understand the application of aspects of neural plasticity and psychobiosocial models to learning disorders such as dyslexia and dyscalculia. Reading: Paula Tallal (2004) Improving language and literacy is a matter of time
03/21/19	*Topic: Introduction to the psychobiology of fear and anxiety: How the brain and body learn fear responses* Goal: Understand basic aspects of fear and anxiety in an animal model and in humans; acquisition and extinction of fear. Reading: Lang & Bradley (2010) Emotion and the motivational brain
Optional assignment 2	***Available 03/13/19 on Canvas; due 03/23/19*** **→ answer short essay questions on the previous weeks of class**
03/28/19	*Topic: Psychobiology of fear and anxiety, and stress: Mechanisms and Applications* Goal: Further application of models and findings to diagnostic assessment and therapy of fear, anxiety, and stress Reading: Mahan, A. L., & Ressler, K. J. (2012). Fear conditioning, synaptic plasticity and the amygdala: implications for posttraumatic stress disorder. *Trends in Neurosciences*, *35*(1), 24–35. http://doi.org/10.1016/j.tins.2011.06.007
04/04/19	*Topic: Depression, the HPA system, the Brain and gene-brain-environment interactions* Goal: Apply the concept of endophenotypes to depressive and bipolar disorders Reading: Caspi & Mofitt (2006): Gene-environment interactions in Psychiatry: Joining forces with neuroscience.

04/11/19	*Topic: The Schizophrenias and related disorders; psychotic states and how well psycho-biological models fare in explaining them.* Goal: Understand the schizophrenias from a gene-environment-brain point of view; learn about endophenotypes of Schizophrenia, Psychosis and Dissociation Reading: Preston & Weinberger (2006); Intermediate Phenotypes in schizophrenia: a selective review (**this is on page 165 of the PDF on the web page**).
04/18/19	*Topic: Developmental Psychopathology: Bringing it all together* Goal: Look at disorders and diseases from a developmental perspective; know the main results of research using longitudinal prospective studies. Reading: McGough et al. (2005); Psychiatric comorbity in adult ADHD: findings from multiplex families. **At the end of this session, we will discuss the upcoming exam and I will answer questions**
04/24/19	***Deadline for final exam, which will be online instead of in-class.***