CO 5130 Psychopharmacology and the Biological Basis of Mental Health
Instructor: Carla Maslakowski, M.S., M.Ed, R.Ph
Online Availability: By Appointment
PSU E-mail: CMaslakowski@plymouth.edu
Course Delivery: Online in Moodle

Catalog Description
Psychopharmacology and the Biological Basis of Mental Health course will explore the biological influences on mental illness. This will include an examination of the physiological basis of behavior, perception, emotion and self-regulation; the current theory and research on the relationship between biological events in the central nervous system and behavior; and psychopharmacological interventions.

Course Content
1. Biological Connections and Basic Concepts of Pharmacology
   a. Pharmacology Introduction
   b. Drug Absorption
   c. Drug Distribution
   d. Drug Binding
   e. Biological “Bases” of Behavior
   f. Relating Biology to Psychopharmacology
   g. Biology, Neurology, Pharmacology Relationships
   h. DSM IV Explained
   i. HOPES Brain Tutorial
   j. Why Know How Drugs Work
   k. Explore the Brain by Area or Function
   l. Serotonin Receptors
   m. What Color is Your Brain

2. Depression
   a. Depression Review
   b. Texas Medication Algorithm for Depression
   c. Sig E caps
   d. Neurobiology of Depression
   e. HRS-D17/QIDS-C16 Assessment Forms
   f. Helping Kids beat Depression
   g. SSRIs and NSAIDS interactions
   h. New England Journal of Medicine Major Depression Disorder Discussion
   i. Depression for Internists
3. **Bipolar Mood Disorders**
   a. Bipolar disorder facts
   b. Texas Medication Algorithm for Bipolar Disorders
   c. Bipolar Disorders Review
   d. New England Journal of Medicine Bipolar Disorder review

4. **Treating Anxiety**
   a. Anxiety Review
   b. Anxiety disorders GAD Phobia
   c. Anxiety Treatment Algorithm for Primary Care
   d. Generalized Anxiety Decision Tree
   e. Neurobiology of Anxiety

5. **Obsessive Compulsive Disorder**
   a. OCD review
   b. New England Journal of Medicine Obsessive Compulsive Disorder Discussion

6. **Schizophrenia**
   a. Schizophrenia Review
   b. Schizophrenia Facts
   c. Texas Algorithm for Schizophrenia Treatment
   d. Neurobiology of Schizophrenia

7. **Post Traumatic Stress Disorder**
   a. PTSD Review
   b. PSTSD DSMIV Criteria
   c. Reconstructing Lives: A tale of two soldiers

8. **Substance Abuse**
   a. Opioid Addiction
   b. Drug Abuse
   c. Narcotics and Addiction
   d. Drug Addiction: mechanism of disease

9. **Psychopharmacology for Children and Adolescents**
   a. ADHD Algorithm with no co-disorders
   b. ADHD with Aggression
   c. ADHD with Anxiety
   d. Children Antidepressant Dosages
   e. Children with ADHD and Comorbidities
   f. Eating Disorders Review
   g. Anorexia Treatment Regimen Review
   h. The Medicated Child
   i. Checkmate Plus Behavioral Evaluation Center
   j. Anorexia Nervosa Therapy
10. Geriatric Dementia
   a. Geriatric Dementia Defined
   b. Geriatrics in a Nutshell
   c. New England Journal of Medicine Alzheimer Discussion
   d. Antidepressants and Dementia

Textbook List/Resources

Required Texts:
#2 Glazov, Sheila. What Color is Your Brain. 2008 Slack Incorporated.

Recommended Text:
Pedersen, Darlene, Leahy, Laura. Pocket Psych Drugs. 2010. FA Davis Company

Resources
www.psychsolve.com
www.epocrates.com
www.coursesmart.com/9780803624115
www.newharbinger.com/Psychsolve/tabid/67/default.aspx
www.psychologytoday.com
www.nejm.org
www.monash.edu.au/lss/llonline/writing/medicine/psychology/1.xml
http://psychiatryonline.org/guidelines.aspx

Performance Based Course Objectives

1. Understand how drugs work including routes of administration, drug distribution, elimination, dependence, withdrawal, dose response interaction, and how to interpret lab results.
2. Discuss the basic concepts of drug therapy in relationship to dosage form, frequency, half-life, acid and base composition, volume of distribution, solubility, and steady state.
3. Describe how the body metabolizes drugs and the names of drugs commonly used to treat mental disorders and drugs of abuse.
4. Describe the role of the neurotransmitters (norepinephrine, dopamine, serotonin, and acetylcholine) and their effect on receptors and behavior.
5. Recognize the names and class of the most commonly used psychotropic agents.
6. State which symptoms of schizophrenia respond best to medication, and which do not.
7. Describe the role of psychotropic medications in the comprehensive treatment of
8. Articulate the four different aspects inherent in the term “mood stabilizer.”
9. Explain the role of antidepressant medications in the treatment of Major Depression, and when someone who is depressed might benefit from an antidepressant medication.
10. Compare outcomes for the treatment of Major Depression with selected psychotherapies vs. antidepressant medications.
11. List common side effects of the commonly used antidepressant medications.
13. Discuss the role of stimulants in the treatment of Attention Deficit Hyperactivity Disorder (ADHD), including their limitations and adverse effects.
15. Discuss the types of medications used to treat and manage substance abuse and its complications.
16. Possesses a working knowledge of the neurobiological basis of addiction, and the mechanisms that underlie substance use disorders.
17. Understands treatment and clinical management of common co-occurring disorders (anxiety, depression, PTSD and trauma-related disorders).
18. List at least 3 common or serious side effects of the most commonly used psychotropic medications: benzodiazepines, antipsychotics, SSRIs, lithium, anticonvulsants.
19. Identifies the most common side effects for the most commonly used medications.
20. Describe the essential components of modern psychopharmacologic research, and also at least 3 limitations of most such research.
21. Describe important aspects of psychopharmacology beyond the characteristics of the particular medications, such as medication compliance and the importance of the therapeutic alliance and general principles of pharmacokinetics.
22. Counsels clients about how to communicate with providers regarding the risks and benefits of medication, method of adherence, and common side effects.

Assessments:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Objectives Assessed</th>
<th>Assessment Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 The Brain, Neurotransmitters, Basic Principles of Pharmacology</td>
<td>#1,2,3,4</td>
<td>Multiple choice, true/false questions</td>
</tr>
<tr>
<td>#2 What Color is your Brain?</td>
<td># 21,22-Communication, personality models</td>
<td>Quiz from What Color is Your Brain Book</td>
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<td>Assignment</td>
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<td>Assessment Tool</td>
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<tr>
<td>#3 Depression Case Study</td>
<td>#4, 8, 9, 10,11, 19</td>
<td>Multiple choice, true/false questions</td>
</tr>
<tr>
<td>#4 Depression Review Questions</td>
<td>#4, 8, 9, 10,11</td>
<td>Multiple choice, true/false questions</td>
</tr>
<tr>
<td>#5 Bipolar Review Questions</td>
<td>#4, 7, 17, 18, 19</td>
<td>Multiple choice, true/false questions</td>
</tr>
<tr>
<td>#6 Anxiety Case Study</td>
<td>#12, 15,16, 19</td>
<td>Case presentation essay</td>
</tr>
<tr>
<td>#7 Anxiety Review Questions</td>
<td>#12, 15,16, 19</td>
<td>Multiple choice, true/false questions</td>
</tr>
<tr>
<td>#8 OCD Case Study</td>
<td>#12, 13, 10, 19</td>
<td>Case presentation essay</td>
</tr>
<tr>
<td>#9 Psychotic Disorders Review</td>
<td>#4, 7,12,18,19</td>
<td>Multiple choice, true/false questions</td>
</tr>
<tr>
<td>#10 Case Study Autism</td>
<td>#19,20,21, 22</td>
<td>Case presentation essay</td>
</tr>
<tr>
<td>#11 Final Project Case Study</td>
<td>#1 through 22</td>
<td>Case presentation rubric and writing rubric</td>
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</tbody>
</table>

**Content of Course Which Addresses Technological Standards/Competence**

*Use of the internet for medical information and specific sites for valid information*

**Evaluation Plan/Grading Scale**

11 assignments, each worth 100 points, 5 Discussion questions, each worth 20 points. Final project worth 100 points based on rubrics below.

<table>
<thead>
<tr>
<th>Essential Elements</th>
<th>1 Misses Target</th>
<th>2 Does Not Meet Standard</th>
<th>3 Approaching Target</th>
<th>4 On Target</th>
<th>5 Completely Meets Standard</th>
<th>6 Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Lacks purpose</td>
<td>Unclear purpose</td>
<td>Limited expression of purpose</td>
<td>Purpose is clearly expressed</td>
<td>Purpose is clearly expressed and is justified</td>
<td>Purpose is clearly expressed; data is integrated</td>
</tr>
<tr>
<td>Development</td>
<td>Inappropriate response to thesis, or lacks thesis; no topic development</td>
<td>Undeveloped or vague thesis, theme or topic</td>
<td>Rudimentary development of thesis, theme or topic; limited in depth or clarity</td>
<td>Good development of thesis, theme or topic; conclusion is more than a summary</td>
<td>Fully developed thesis, theme or topic; writer draws a conclusion</td>
<td>Fully developed, original, insightful thesis, theme or topic &amp; conclusion</td>
</tr>
<tr>
<td>Content/Sources</td>
<td>Writer has not included appropriate content and/or sources</td>
<td>Writer has used limited resources, &amp;/or has relied on non-refereed sources</td>
<td>Writer has used limited, though appropriate, resources</td>
<td>Writer has used sufficient, appropriate sources to support thesis, theme or topic</td>
<td>Writer has used significant primary source material to support thesis, theme or topic</td>
<td>Writer has integrated and synthesized significant primary source material</td>
</tr>
<tr>
<td>Details</td>
<td>Virtually no relevant details</td>
<td>Few relevant</td>
<td>Details lack elaboration;</td>
<td>Details are adequate &amp;</td>
<td>Details are specific &amp;</td>
<td>Rich supporting details</td>
</tr>
<tr>
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<tr>
<td>Organization</td>
<td>Lacks organization</td>
<td>Unclear organizational strategy</td>
<td>Organizational strategy includes transitions</td>
<td>Logical progression of ideas</td>
<td>Logical &amp; controlled organization from beginning to end; non-formulaic</td>
<td>Writer expresses relationships among ideas; careful &amp; subtle organization</td>
</tr>
<tr>
<td>Sentences</td>
<td>Many fragments, fused sentences &amp;/or run-ons</td>
<td>Poor sentence structure</td>
<td>Complete sentences; some sentence variety</td>
<td>Sentence variety &amp; patterns are appropriate for style &amp; effect</td>
<td>Sentence variety &amp; patterns are used to enhance style &amp; effect</td>
<td></td>
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<tr>
<td>Word Choice</td>
<td>Extremely limited vocabulary</td>
<td>Limited vocabulary</td>
<td>Appropriate vocabulary</td>
<td>Effective diction</td>
<td>Varied, precise diction</td>
<td>Sophisticated diction</td>
</tr>
<tr>
<td>Grammar, Usage, Mechanics</td>
<td>Errors in grammar, usage &amp; mechanics interfere with communication</td>
<td>Errors in grammar, usage &amp; mechanics are distracting</td>
<td>Errors in grammar, usage &amp; mechanics disproportionate to length &amp; complexity of piece</td>
<td>Some errors in grammar, usage &amp; mechanics but they do not distract significantly from the overall quality of the piece</td>
<td>Few or no errors in grammar, usage or mechanics</td>
<td>Mastery of grammar, usage &amp; mechanics</td>
</tr>
<tr>
<td>Required Style, Format, Reference List (APA, MLA, Chicago, etc.)</td>
<td>Errors in citations, formatting &amp; writing interfere with communication, or work contains plagiarized content</td>
<td>Errors in citations, formatting &amp; writing are distracting</td>
<td>Several errors in citations, formatting &amp; writing, &amp;/or errors appear to be careless</td>
<td>Few errors in the application of required writing style, format, citations &amp;/or reference list</td>
<td>No errors in the application of the required style in any part of the paper</td>
<td>Mastery of all applicable style requirements throughout the work</td>
</tr>
</tbody>
</table>

This rubric has been developed for use by students as they craft their written work and by instructors as they assess student work. This rubric does not supersede instructions provided by instructors or contained on syllabi. Students should consult with their instructors to be sure they understand expectations and requirements for all written work, including the required style guide.

**Case Study Format to use for Assignments**


1. **Case History**
   1.1.1 Introduction
   2.1.2 History of Presenting Complaint
   3.1.3 Past Psychiatric History
   4.1.4 Past Medical History
   5.1.5 Family History
   6.1.6 Personal History and Development
2. **Mental State Examination**
3. **Physical Examination**
4. **Summary and Diagnosis**
5. **Formulation**
6. **Management**
Course Calendar/Agenda

Dates are posted within the online course front page regarding assignments and discussion forum participation timelines.

2011 AMHCA (CACREP) Standards for the Practice of Clinical Mental Health counseling met in this course:

A. Biological Bases of Behavior-Knowledge
   1. Understands the organization of the central nervous system
   2. Understands how drugs are absorbed, metabolized and eliminated.
   3. Possess knowledge about disorders and symptoms that may indicate the need for medication.
   4. Possesses working knowledge about antidepressants, antipsychotics, anxiolytics, mood stabilizers, cognitive enhances and drugs of abuse.

B. Biological Bases of Behavior-Skills
   1. Describes how the body metabolizes drugs and the names of drugs commonly used to treat mental disorders and drugs of abuse.
   2. Identifies the most common side effects for the most commonly used medications.
   3. Counsels clients about how to communicate with providers regarding the risks and benefits of medication, method of adherence, and common side effects.

C. Co-occurring Disorders Knowledge
   1. Possesses a working knowledge of the neurobiological basis of addiction, and the mechanisms that underlie substance use disorders.
   2. Understands how drugs work including routes of administration, drug distribution, elimination, dependence, withdrawal, dose response interaction, and how to interpret basic lab results.
   3. Understands treatment and clinical management of common co-occurring disorders (anxiety, depression, PTSD and trauma-related disorders).

Conceptual Framework

All course objectives address the hallmarks listed below.

College of Graduate Studies Hallmarks

- Leadership and advocacy
- Scholarship and action/application
- Reflection and innovation
- Professionalism and service
- Global awareness and social responsibility
University Policies and Procedures

- **ADA Policy:** Plymouth State University is committed to providing students with documented disabilities equal access to all university programs and facilities. If you think you have a disability requiring accommodations, you should contact the PASS office in Lamson library (535-2270) to determine whether you are eligible for such accommodations. Academic accommodations will only be considered for students who have registered with the PASS Office. If you have a Letter of Academic Accommodation for this course from the PASS office, please provide the instructor with that information privately so that adaptations can be made to meet your needs. Course materials online comply with the Web-based Intranet and Internet Information and Applications Standards in accordance with ADA Section 508.

- **Academic Integrity:** Academic integrity is the foundation of the pursuit of knowledge. All members of the academic community are expected to be dedicated to the pursuit of knowledge in an honest, responsible, respectful, and ethical manner. Every violation of academic integrity is an affront to the academic community. Violations of academic integrity make fair evaluation impossible and cast doubt upon the seriousness with which students accept the responsibility of acquiring an education. Members of the academic community are expected to report all instances of those violations of academic integrity that come to their attention. Both faculty and administration consider it their duty, as guardians of academic standards and intellectual honesty, to enforce the academic integrity policy by prosecuting all cases of violation of academic integrity to the fullest extent. Students are urged to consider that it is the toleration of violations of academic integrity, and not the reporting of it, that is dishonorable. Please refer to the Graduate Catalog for more information and the entire policy.

- **Sensitive Materials:** Material in this course, in some instances, may be sensitive or emotionally provocative. As you review the syllabus, or at any time during the course, please let your instructor know if you anticipate, or are having, a problem with any assignment or classroom activity. We can then discuss how this assignment or activity is necessary for meeting course competencies and whether an alternative assignment or activity can be considered. We can also discuss campus resources that you may find helpful in dealing with your concerns.

- **Plymouth State University Curtained Operations Information:** Plymouth State University normally remains open through inclement weather. Because most students live within minutes of the campus, every effort is made to avoid an official closing. There may be times, however, when an emergency or extreme weather conditions necessitate a general closing of the University.

Please sign up for PSU Alert Emergency Text Messaging at: plymouth.edu/alerts

Following are the PSU curtailed operations and/or class cancellation notification procedures:
In the event of severe weather or an emergency, the University Administration will do all it can to decide on and post notifications of class/event cancellations and/or facility
closures by 6:00 a.m. for classes running during the day. For canceling evening classes, the decision is usually made and communicated no later than 3:00 p.m. Every effort will be made to make the decision as early as possible. If you are wondering, call the storm line (603-535-3535) or check the PSU website.

Use your own judgment about travel during inclement weather; the best choice is the one that keeps you safe. Notify your instructor(s) if you have to miss a class.

- **Lamson Library and Learning Commons**
  Access to the IT Help Desk is available at 603-535-2929. Log in to MyPlymouth to access all of the Lamson Library and Learning Common resources and services. The Writing Center and the PASS office are located in the lower level of Lamson; the Help Desk is on the Main Floor.