Brain and Education
PSY 581 Section 900
Fall 2012: MA Online Cohort
3 credits
Location: Cyberspace
Office Hours: Online

Professor: M. Todd Allen, Ph.D.
E-mail: michael.allen@unco.edu
Office phone: 970 351 2532
Office hours: MWF 10-11 and Tues 1:30-2:30

Since this is a purely online class, the easiest way to contact me is via E-mail.

This course offers an overview of neuroscience research targeted at educators. Topics covered will include background on brain structure and function, neural communication and drug effects, attention, emotion, motivation, learning, language. Disorders commonly found in the classroom will be highlighted throughout.

Goals: By the end of the semester you should have some understanding of the basic structure and working of the brain for attention, emotion, motivation, learning and memory, and language. You should also understand the neural disorders that would be common in the classroom.

Objectives:
- To differentiate brain-based research on education from popular brain myths.
- To differentiate normal from abnormal brain development.
- To differentiate electrical from chemical communication in the brain.
- To apply knowledge about drug therapies to classroom disorders.
- To utilize various aspects of attention and emotion to improve student behavior and learning in the classroom.
- To apply the features of short and long term memory to improve learning.
- To apply metacognition and self-regulated learning to assist student learning.
- To be able to apply knowledge about the brain to disorders like ADHD and autism in a classroom setting.


Participation: I expect active participation from all students in the class. I expect students to have completed the appropriate chapter and article reading before you do the assignment and that you are prepared to give examples and discuss the topics on the discussion board. Your discussion board participation grade will be based on your own submissions and responses to others’ postings. To get the full 5 points you not only have to submit a response, but also respond to another student’s posting.
Assignments: I will post assignments and chapter readings on blackboard in the ASSIGNMENTS portion. These are to be submitted to me as a short paper. Each assignment is due by 11:59 PM on the date indicated.

Discussion Board: is found in the DISCUSSION BOARD Link on Blackboard. Each chapter will also have a discussion board on which is will pose questions or present issues for discussion. Active participation is expected from all students on all discussion boards. Simply agreeing with someone else’s posting is not considered active participation. The Discussion Board for a specific chapter will close at 11:59 PM on the date indicated.

Student Led Article Discussion: In addition to the reading in the textbook, I will provide some articles for reading and discussion. These will be found in the COURSE MATERIALS portion of blackboard. I will lead the discussion of most of the articles, but each student will be responsible for finding and leading the discussion of one article during the second half of the class. You will find a discussion board posting for STUDENT LED ARTICLE DISCUSSION. You will need to choose your topic and article and have them submitted for distribution at least one week prior to the due date for the discussion board for that chapter and topic.

Final Paper: Students will be asked to choose a topic from the reading or class discussion and find a current article or book that addresses applications to the classroom. A 5-10 page paper will be due on Dec 10. Details on the paper assignment are found in the ASSIGNMENTS portion of Blackboard.

Exams: Two exams will be in the form of short answer/essay questions covering the material from the two halves of the semester. Exam 1 will be due on Nov 17. Exam 2 will be due on Dec 11. Details on the Exams will be available one week prior to the due date in the ASSIGNMENTS portion of Blackboard.

STUDENTS WITH DISABILITIES: Any student requesting disability accommodation for this class must inform the instructor by giving appropriate notice. Students are encouraged to contact Disability Support Services at (970) 351-2289 to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner.

ACADEMIC DISHONESTY: The University of Northern Colorado’s Student Code of Conduct (http://www.unco.edu/dos/student_code_conduct/student_conduct.html) and Honor Code (http://www.unco.edu/dos/honor_code/index.html) strictly prohibit any form of academic misconduct. Academic misconduct includes but is not limited to plagiarism, cheating, fabrication, and knowingly or recklessly encouraging or making possible any act of plagiarism, cheating, or fabrication. Academic misconduct is an unacceptable activity in scholarship and is in conflict with academic and professional ethics and morals. All incidents of alleged plagiarism or other forms of academic dishonesty will be investigated and violations of academic integrity will result in a consequence that may be as severe as an F in the class and a recommendation for
expulsion. For more information on plagiarism and appropriate paraphrasing, please see: http://www.unco.edu/dos/honor_code/defining_plagiarism.html

Grading

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>Chapter Assignments</td>
<td>70</td>
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<tr>
<td>Chapter discussions</td>
<td>70</td>
</tr>
<tr>
<td>Leading article discussion</td>
<td>10</td>
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<tr>
<td>Midterm exam</td>
<td>20</td>
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<tr>
<td>Final exam</td>
<td>20</td>
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<tr>
<td>Paper</td>
<td>20</td>
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<td><strong>Total</strong></td>
<td><strong>210</strong></td>
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Letter Grade Breakdowns

- **A** 90%-100% = 189 and above
- **A-** 89-89.9% = 187-188
- **B+** 86-88.9% = 181 - 186
- **B** 80-85.9% = 168 - 181
- **B-** 79-79.9% = 166 - 167
- **C+** 76-78.9% = 160 - 166
- **C** 70-75.9% = 147 - 159
- **C-** 69-69.9% = 145 - 146
- **D+** 66-68.9% = 139 - 144
- **D** 60-65.9% = 126 - 138
- **D-** 59-59.9% = 124 – 125
- **F** less than 59% = 123 and below

Articles (in order of assignment) can be found in the COURSE MATERIALS folders


<table>
<thead>
<tr>
<th>Week</th>
<th>Chapter #</th>
<th>Unit Name</th>
<th>Unit Readings/ Activities</th>
<th>Due by 11pm</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Background, Anatomy &amp; Development</td>
<td>• Review course syllabus &lt;br&gt;• Readings: Chapter 1 Development of Neuropsychology &lt;br&gt;• Articles: Bruer and Mozart Effect Articles</td>
<td>Oct 21</td>
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<td>3</td>
<td>Background, Anatomy &amp; Development</td>
<td>• Readings: Chapter 3 Organization of the Nervous System &lt;br&gt;• Articles: Triune Brain Theory Article</td>
<td>Oct 24</td>
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<tr>
<td>2</td>
<td>23</td>
<td>Background, Anatomy &amp; Development</td>
<td>• Readings: Chapter 23 Brain Development &lt;br&gt;• Articles: Brain Dev and Cognitive Dev Article and Baby Einstein Article</td>
<td>Oct 30</td>
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<tr>
<td>3</td>
<td>4</td>
<td>Communication in the Brain</td>
<td>• Readings: Chapter 4 Electrical Activity &lt;br&gt;• Articles: Early Seizures</td>
<td>Nov 4</td>
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<td>6</td>
<td>Communication in the Brain</td>
<td>• Readings: Chapter 6 Imaging Brain Activity &lt;br&gt;• Articles: Poldrack Brain Imaging Article</td>
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<td>5</td>
<td>Communication in the Brain</td>
<td>• Readings: Chapter 5 Communication Between Neurons &lt;br&gt;• Articles: Ach and memory and Dopamine and Memory Article. &lt;br&gt;• Readings: Chapter 7 Drugs and Hormones &lt;br&gt;• Articles: Psychopharm and Young Children and Prescribing Trends articles.</td>
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<td>Communication in the Brain</td>
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<td>MIDTERM EXAM</td>
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<td>22</td>
<td>Attention, Emotion &amp; Learning</td>
<td>• Readings: Chapter 22 Attention &lt;br&gt;• Articles: Frontal Lobe and ADHD Article</td>
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<td>• Readings: Chapter 20 Emotion and Motivation &lt;br&gt;• Articles: Frontal Lobe and Autism</td>
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<td>6</td>
<td>18</td>
<td>Attention, Emotion &amp; Learning</td>
<td>• Readings: Chapter 18 Learning and Memory &lt;br&gt;• Articles: Poldrack Multiple Memory Systems and Classical Conditioning of Affect Articles</td>
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<td>7</td>
<td>19</td>
<td>Language &amp; Higher Order Cognition</td>
<td>• Readings: Chapter 19 Language &lt;br&gt;• Articles: Before and After Dyslexia Therapy Article</td>
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<td>11 &amp; 12</td>
<td>Language &amp; Higher Order Cognition</td>
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<td>16</td>
<td>Language &amp; Higher Order Cognition</td>
<td>• Readings: Chapter 16 Frontal Lobes &lt;br&gt;• Articles: Cog Neuroscience of Metacognition and TBI therapy Article.</td>
<td>Dec 9</td>
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<td>PAPER DUE</td>
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<td>FINAL EXAM</td>
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