



## Gifted LearningLinks Program Course Syllabus

**Instructor name: Dr. Christiansen**  
**E-mail address: xxx@xxx.xxx**

**Course Title:** *Mysteries of the Brain: A Journey into Neurological Disorders*

**Session Date:** 2010-2011 Academic Year

### **Course Description:**

“Alien” arms and legs? An ability to see only the mashed potatoes on the left side of your full dinner plate, but not the roast chicken or green beans on the right? Mathematical geniuses or brilliant artists who are also viewed as mentally retarded? People who can no longer recognize a spoon or lamp? These and many other conditions are the topic of this course, which explores a cross-section of neurological disorders. The human mind abounds with marvel, wonder, and potential for profound achievement. Yet the brain can also be home to seemingly strange, bizarre behaviors.

**Outcomes:** Upon successful completion of this course, students will:

- a. be familiar with a cross-section of neurological disorders;
- b. understand how neurologists, psychiatrists, evolutionary biologists, research scientists and others view these challenges that confront some people; and
- c. be able to informatively pursue further studies of neurological orders and engage in meaningful, intelligent discussion with others who, like you, share a desire to understand “mysteries of the brain.”

### **Resources and Materials:**

- Sacks, O. *The Man Who Mistook His Wife for a Hat* (Perennial, 1987) ISBN 0060970790
- Klawans, H. *Strange Behavior: Tales of Evolutionary Neurology* (Norton, 2001) ISBN 0393321843
- Excerpts, or adaptations, of additional materials will be noted in individual assignments and will be available or upload in pdf’s attached to such assignments.

### **CTD Statement on Third-Party Web Sites**

*Instructors are required to thoroughly review any third-party web sites they intend to use in their courses for inappropriate content. However, because web content continuously changes, CTD disclaims any responsibility for any of the content contained on third-party web sites used in course materials. If you become aware of anything that may be inappropriate, please notify CTD staff immediately.*

### **Schedule**

Note:

**(1) Unless noted otherwise, all written work submitted (“What do I need to turn in?”) should meet the following specifications: double-spaced, 11 pt. font (Arial, Times Roman, or Tahoma), and 1-1/4” margins on all sides. Also, all such work should be e-mailed to me .I will read, comment on, and grade your work, and return it to you, generally within 4-5 days.**

**(2) For each “Assigned Reading/Viewing,” see the corresponding “Assignments” page on website for my commentary on “Assigned Reading/Viewing” material.**

|               | Topic/Focus   | Assigned Reading/Viewing   | What do I need to post to the Discussion Board?   | What do I need to turn in?   |
|---------------|---|--|---|--|
| <b>Week 1</b> | Orientation to Online Learning<br><br>Interest Survey | Complete the “Interest Survey” noted on the “Assignments” page, under “Preliminary Assignment” | On the Discussion Board for Week 1 (go to the “Discussion Board” page), briefly what meaning you derive from the following: “By the deficits, we may know the talents, by the exceptions, we may discern the rules” (Laurence Miller) | In no more than two paragraphs (i.e., about 4-7 sentences each), explain how you would apply the following observation by J.B.S. Haldane to a study of neurological disorders: “The world shall perish not for lack of wonders, but for lack of wonder.” |
| <b>Week 2</b> | “The Man Who Mistook His Wife For A Hat”              | In, Sacks, read pp. 8-22   | On the Discussion Board for Week 2, state one question you have about the disorder Sacks discusses in this week’s reading.  | After doing this week’s reading, create a drawing that captures in your mind the disorder that brought Dr. P. to Dr. Sacks. Scan your drawing into a computer file and e-mail it to me.  |

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| <b>Week 3</b> | "Strange Behavior: Tales of Evolutionary Neurology" | In Klawans, read pp. 15-36, "Defending the Cavewoman"   | On the Discussion board for Week 3, briefly explain what Klawans means by "the window of opportunity for learning" in the subtitle to the assigned chapter. | In no more than about 1 typed page, define aphasia and explain (1) why all aphasias are not necessarily alike, and (2) how aphasia is relevant to the evolution of the brain. E-mail your written work to me.   |
| <b>Week 5</b> | "The Phantom Within"                                | Upload pdf (file above at top of syllabus, Week 5), also on the "Assignments" page, under Week 5)<br><br>from V.S. Ramachandran's <i>Phantoms in the Brain</i> ; read pp. 1-20, chapter 1 | Either on the Discussion Board for Week 4 or, if you prefer, via e-mail to me), state two questions that you have based on your reading of this chapter.    | During much of the 20th century, neurologists and psychiatrists distinguished between the brain and the mind.<br><br>In no more than 1-1/4 typed pages, explain why, based on your reading of Ramachandran, the author would reject this dichotomy, and briefly explain how he conceives of neurological disorders. |

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| <b>Week 6</b>    | “Two Sets of Brains”                | Read Klawans, ch. 9, pp, 154-164  | Either on the Discussion Board for Week 4 (or, if you prefer, via e-mail to me), briefly explain the author’s point regarding “two brains” and “something old, something new.” Give an example that supports your explanation.   | In no more than 1 typed page, explain Mrs. Covington’s Disorder: its symptoms, possible causes, and how Klawans viewed it.   |
| <b>Week 7</b>    | “The Man who fell out of Bed”       | Read the man who fell out of bed in Sacks, pages 55 - 58.                     |  | Explain the symptoms shown by the gentlemen in the article. Use the internet to help you come up with a hypothesis as to why this strange set of symptoms occurred.  |
| <b>Week 8-11</b> | “Witty Ticky Ray”/“Cupid’s Disease” | Read “Witty Ticky Ray,” pages 92 - 101, Sacks; Cupid’s Disease, pages 102-107 | In the end, Ray decides to split his time, being medicated on the week days, and drug free on the weekends. What do you think of this decision? Would you do the same if you were in his position, or something different? Post your answer to the discussion board and reply to one other person. | Written assignment on Tourette’s syndrome and the drugs that help with treating it.<br><br>How does it feel to be Ray – pretend to be Ray and write a letter to your parents from college, where you are enrolled as a first year student. |

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| <p><b>Week 8-11</b></p> | <p>Cupid's Disease</p> |                          | <p>Cupid's Disease - Both Ray and Natasha illustrate how mental disorders can be both a curse and a blessing. If you had a disorder that made you creative, able to make music, paint, write, etc...but came at the price of complete isolation, would you want to keep it, or treat it? In other words, say you were a great writer, but your behaviors were so odd and disturbing that you had few, if any friends, and little contact with anyone on a daily basis, would being a writer be important enough to forgo human contact?</p> <p>Post your answer and reply to two other comments.</p> |                            |

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| Week 12-13 | "The autistic artist" | Read Sacks, "The autistic artist" | <p>Have you ever stereotyped someone based upon how they initially act, or upon how they have been labeled by other people? What does this article say to you in terms of stereotypes and preconceptions? Write your ideas and respond to two others.</p> | <p>Autism can vary in symptom and degree of severity. Answer the following questions.</p> <ol style="list-style-type: none"> <li>1. What is the broad definition of autism?</li> <li>2. Differentiate between autistic disorder (also called "classic autism"), Rett's syndrome, and Asperger syndrome. Describe each and list typical symptoms.</li> <li>3. Have you ever experienced someone with classic autism, Rett's syndrome or Asperger syndrome. If so, what kind of experience did you have with that person? Do you feel any differently now that you have read the autistic artist? Why or why not? Does it tell you anything about first impressions and stereotypes?</li> </ol> |

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| <b>Week 14-15</b> | Tasting Shapes | Read the article "Tasking Shapes" by Richard Cytowic | Do you have a form of synesthesia? Many people do, but don't know it until they read the article. If you think you have synesthesia, describe it. How do you think it makes you different from those who don't? Does it help you in anyway? If you don't have synesthesia, hypothesize what it might be like? Can you think of ways that it might be beneficial in someone's life? Write one post and answer 2 others. | Pretend you have synesthesia and write a first person narrative about what it is like? How does it affect your life? Does it help you in anyway. Bonus points for creativity. |

GLL Sample

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| Week 16-18 | Final paper |                          |   | <p>For your final project, choose a neurological disorder that interests you and explore it in more detail</p> <p>Topics include:<br/>Aphasia, agnosia, split brain disorder, attention deficit disorder, asperger's disorder, tourette syndrome, or obsessive compulsive disorder.</p> <p>Write a 3 page, double spaced paper. The paper should include the following information: a description of the disorder, a description of the brain areas effected and any link to heredity, a description of current treatments, a bibliography with 5 resources, one which must be from a primary source.</p> |

**Student Evaluation and Grading Policies for Credit Courses Only:**

Students will receive a letter grade on each submitted written assignment, required postings to the Discussion Board, a participation grade based on our web-based classes that will be held throughout the course, and a final narrative evaluation after the course is complete.

GLL Sample