# *Topics in Cognitive Science* (PHI5327)
## Fall 2018 – Course Syllabus

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## Course Instructor Information

Classroom:    Partnership II Building, 3100 Technology Parkway, Conference Room 141
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## Course Overview

Humans perceive and interact within a complex world and we have developed a phenomenal ability to understand and succeed in this world. We engage in a large number of cognitive and collaborative processes all by storing, recalling, and utilizing information. The foundational question is how it is that the human mind/brain does all these things. *Cognitive Science* helps us to answer this question and this course will present an introduction to this field, a relatively recent scientific discipline emerging from the interaction of psychology, philosophy, computer science, neuroscience, linguistics, and anthropology. To answer these questions Cognitive Science draws upon a variety of theories and methods from these differing disciplines, but holds an invariant methodological assumption, that is, Cognitive Science can productively consider the brain and body as an information-processing system coupled with its environment and which serves specific and identifiable functions.

## Course Teaching Philosophy

My approach for this course is to view it more as an engaging dialogue among interested minds and less as a regurgitation of material. Within this seminar we will strive for a type of knowledge co-construction that can only emerge from a meaningful discussion of concepts from the readings. Each seminar should produce a complex narrative that we collectively weave together based upon our personal knowledge, the contributions from the readings, and the discussion during the class.

## Course Objectives

This course combines a variety of instructional methods, blending seminar discussions, lectures, class activities, and student presentations. Given the differing disciplines involved in this field, the course content will involve more of a representative approach of these varied areas of inquiry rather than an exhaustive review. As such, selected topics within the cognitive sciences will be discussed and analyzed. The overarching objective is to explore differing approaches to the study and conceptualization of cognition and how the cognitive sciences come to understand phenomena through a multidisciplinary research approach. Within this context there are a set of modules in which you will be exposed to ideas/approaches for differing aspects of cognition. For these modules you will have assigned readings made up of articles, chapters, and/or proceedings. As a result of fully participating in this course, you will obtain both *content* knowledge and skills and *process* knowledge and skills enabling you to demonstrate information fluency in the Cognitive Sciences:

### Content Knowledge and Skills
1) Discuss some of the major areas of study in the cognitive sciences
2) Understand the differing disciplinary angles within areas of inquiry in the cognitive sciences
3) Recognize how the merging of disciplines can help us understand cognition
4) Be able to conceptualize problems and research approaches (i.e., solutions) within cognitive science
5) Effectively integrate ideas across pertinent disciplines within cognitive sciences topics

### Process Knowledge and Skills
1) Through your course papers, you will understand how to access relevant information effectively and efficiently
2) Via your developing analyses of the readings and our seminar discussions, you will be able to evaluate information and its sources critically and incorporate selected information into your knowledge base
3) Through your writing assignments you will be able to determine the nature and extent of the information that is needed and use this information effectively to accomplish your specific purpose

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## Course Grading

The final course grade will be determined by the following criteria (described in more detail later in syllabus)

- Participation in Class Discussion and Article Q&As– 300 Points
- Class Presentations – 75 Points
- Semester Project Papers – 125 Points

**Total Points: 500**

Grades will be determined on a percentage scale. A+ 100 – 98; A 97.9 – 93; A- 92.9 – 90; B+ 89.9 – 88; B 87.9 – 83; B- 82.9 – 80; C+ 79.9 – 78; C 77.9 – 73; C- 72.9 – 70; D+ 69.9 – 68; D 67.9 – 63; D- 62.9 – 60; F Below 60.

| Week | Date | Class Topics and Readings |
|---|---|---|
| Week 1 | 08/22 | Course Introductions and Overview |
| **Module 1 – Remembering - *Understanding memory and our sense of self*** | | |
| Week 2 | 08/29 | Tulving (2002) and Tulving (1972) |
| Week 3 | 09/05 | Nelson (2003) and Conway (2009) |
| Week 4 | 09/12 | Ho & Dautenhahn (2008) and Szpunar (2010) |
| **Module 2 – Embodied Cognition – *Topics in how cognition extends beyond the mind*** | | |
| Week 5 | 09/19 | Wilson (2002) and Foglia & Wilson (2013) |
| Week 6 | 09/26 | Garbarini & Adenzato (2004) and Clark (2007) |
| Week 7 | 10/03 | **No Class** |
| Week 8 | 10/10 | Perry (2010) and Anderson, Richardson, & Chemero (2012) |
| **Module 3 – Interaction - *Exploring cognition during the social process*** | | |
| Week 9 | 10/17 | Frith & Frith (2012) and Saxe et al. (2002) |
| Week 10 | 10/24 | Zunshine (2008) and Knoblich & Sebanz (2008) |
| Week 11 | 10/31 | Carroll et al. (2009) and Dautenhahn (2007) |
| **Module 4 – Narrative – *Ideas in how we conceptualize our lives and our world*** | | |
| Week 12 | 11/07 | Polletta et al. (2011) and Ochs and Capps (1996) |
| Week 13 | 11/14 | Bruner (1991) and Herman (2007) |
| Week 14 | 11/21 | *HOLIDAY – No Class for Thanksgiving* |
| Week 15 | 11/28 | Cohn (2012) and Ryan (2010) |
| **Course Conclusion** | | |
| Week 16 | 12/05 | *Final Papers Due* |

<div align="center">**Detailed Description of Class Requirements**</div>

**Participation and Discussion (300 points total)**
This course is a graduate seminar; as such, a substantial part of the learning will take place as part of the give-and-take of class discussion and debate. Therefore, all course participants will have read and thought about the assigned materials prior to coming to class. In order to have a fulfilling discussion, it is essential that you give substantial thought to the articles and participate in the seminar by providing your own insights/ideas during the discussion. You are also required to come to class with a question and answer for each article assigned that evening; *that is, you have to turn in one typed question and answer (Q&A) for every assigned discussion article*. These Q&As should be well thought out and you should provide a well-developed answer to each question. **You MUST email these to me no later than 6:00pm the night of the class for which they are due. This should be a WORD document with the file name having your last name, and the last name of the first author on each article (e.g., Fiore_Zunshine_Knoblich_Homework)**. I recommend that you also bring a copy to class because your ideas will likely come up during our discussion. I will provide you with a separate handout explaining the critical thinking required for this course element. In addition to the weekly assigned articles for class discussion, supplementary articles are provided for each module. These articles provide additional foundational material and are meant to enrich your understanding of the topics covered in the seminar. You are expected to read these for each module so as to ground your knowledge of the fields associated with Cognitive Science. But Q&As are not required for the supplementary articles.

**Class Presentation on Articles (75 points)**

*Content Knowledge and Skills*
In addition to regular class participation, **one time** during the semester you will lead class discussion on one of the weekly article readings. This will require a PowerPoint presentation of the material. The purposes of this are first, to develop skill in organizing and presenting information and, second, to allow you to think more deeply about the material presented in the reading. Your presentation should provide an overview/summary of the paper along with criticisms/issues you would like to raise for discussion on this paper. A good presentation would integrate material across the readings and highlight the similarities and differences in the approaches presented in the papers. For example, you might want to note how the weaknesses in one of the approaches presented can be strengthened via an approach from one of the other papers. Essentially, do your best to show how these papers/approaches complement each other and help us understand a given issue.

*Process Knowledge and Skills*
Finally, in order to lead to a demonstration of information fluency in Cognitive Science and encourage multidisciplinary thinking, you are to use your own experience and/or area of inquiry as a way to enhance your presentation. So the latter portion of your presentation should discuss the paper from the context of your domain of interest and critically evaluate its strengths and weaknesses from that particular disciplines perspective. Related to this, you are to bring three "thought" questions for your reading that you will use to lead a discussion with the class and help students to similarly think critically about the readings. Given the goal of fostering multidisciplinary thinking you should use your personal area of interest as a stepping off point for these questions. Additionally, you should be comfortable enough with the material in your paper to be able to adequately field any questions that are asked during/after your presentation. You will need to supply a copy of your slides for each student in the class (using the printing function in PPT that prints 3 slides per page with the "notes" section adjacent).

**Semester Project Papers (125 points)**
For this project you are to choose a particular topic within the cognitive sciences and explore it via development of a conceptual issue or problem. You are to do this through an analysis of the relevant ideas via one of the following options:
(A) Literature review and conceptual integration of the ideas/issues through multidisciplinary theory development; or
(B) Research proposal where your proposal involves solving/addressing the problem area you have identified. Depending upon your interests this research can involve either an experiment or development of a model/simulation/technology.
The paper process will begin simply with a one paragraph development of an idea, followed by an outline for the paper as well as an agreed upon initial reading list for your paper. Note that a literature review is inherent in both of these options but that the level of detail and specificity for Option A and Option B will differ. For Option A, a more comprehensive review and integration of the field will be necessary given that this is the overall focus of the paper. For Option B, the requirement is for a brief critical literature review, followed by a proposed means for investigating some question of interest. The literature review for Option B does not need to be as comprehensive as a review article such as for Option A, but should cover the important literature related to the research you propose. NOTE: For both options, your literature review MUST BE interdisciplinary. You have to draw from at least three to four different disciplines that discuss the concept(s) associated with your paper topic. Further, you must be able to identify the similarities and differences in the ways these disciplines discuss the concept(s) of interest to you.