

## **1. The Basics**

### **Course Codes**

- Course Title: Cognitive Science
- Course: PSY 360
- Course #: 82001 & 81999

### **Course Dates**

- 10/11/17 - 12/01/17 (Fall Session B)

### **Credits**

- 3

### **Instructor**

- Name: Dr. Nicholas D. Duran
- Email address: [nicholas.duran@asu.edu](mailto:nicholas.duran@asu.edu)
- Office: West Campus, FAB S125
- Virtual Office Hours: Tuesdays 10:00-12:00 PM MST

### **Course Assistants**

You can meet with any of the course assistant during their scheduled office hours. These are virtual, online visits via Google Hangouts.

- Name: TBD
- Email address: TBD
- Virtual Office Hours: TBD MST

### **Course Description**

- Examines cognition from the varied perspectives of philosophy, linguistics, psychology, computer science (artificial intelligence), and neuroscience.

### **Prerequisites**

- PSY 101 (PGS 101) with C or better

### **Required Text**

- Bermúdez, J. L. (2014). Cognitive Science: An Introduction to the Science of the Mind. Cambridge University Press. ISBN: 1107653355 - 2nd Edition

Note: Be sure that you get the 2<sup>nd</sup> edition (if you want to purchase an older version, it is at your own risk). There are many used versions at places like Amazon and Barnes & Noble. There are also inexpensive options for renting this textbook. If you rent from Amazon (going for \$22.18 as of 09/18/17), use the free Amazon Kindle Reader to simulate the experience

of a physical book. And if you rent through a place like Barnes & Noble (\$15.44 as of 09/18/17), they'll send you a hardcopy version for 60 days.

## **2. Course Content**

### **Description**

In this course, we will explore historical and current arguments for how the mind works, integrating theories from philosophy, computer science, psychology, and neuroscience. The focus will be on the mind as "information-processor" and the many ways in which this process has been discussed and debated over the years. Such views range from mind as algorithmic computations over discrete mental states, to distributed processing over environmental regularities, to dynamical systems and embodied processes. Although these concepts may sound foreign now, the goal of the course is to help you develop a working knowledge of their relevance, and importantly, to develop an understanding of how these concepts are being used to make advances in learning and development, artificial intelligence, medicine, and understanding one of the greatest mysteries of the mind: consciousness.

To address these issues, course material in each module has been carefully selected as a "gentle" introduction, but it also meant to challenge your thinking. Several activities have also been designed to enhance your depth of understanding, including written discussion, peer engagement, and quizzes. But ultimately, it is your responsibility to carefully read and think about the issues introduced in each module. Core topics include:

- Module 1: Foundations of cognitive science, with an overview of history and the interdisciplinary focus of the field
- Module 2: Mind as information-processor, focusing on a computational-representational perspective
- Module 3: Mind and brain, covering topics ranging from neuroscience to computational models inspired by the brain (i.e., neural networks)
- Module 4: Mind, body, and environment, with focus on a dynamical systems approach and embodiment
- Module 5: The social mind, examining the development and operation of cognition as a socially embedded process
- Module 6: Thinking and reasoning, from psychological theory to "thinking" machines
- Module 7: Consciousness and building bridges, cutting-edge breakthroughs from cognitive science that help improve people's lives, and in understanding consciousness

### **Intended Outcomes (Learning Goals)**

Upon successful completion of this course you will be able to:

- (General Goal) Demonstrate a broad overview knowledge of cognitive science, including its historical foundations, its interdisciplinary focus within philosophy, computer science, psychology, and neuroscience, its theoretical implications, accomplishments, challenges, and relevance to our everyday life (e.g., business, technology, healthcare). Bottom-line: Develop a general appreciation for the many complexities of how the mind works.

- (LO1) Demonstrate a conceptual understanding of the core cognitive science topics listed above, including exposure to more abstract philosophical notions of mind.
- (LO2) Lay the groundwork for thinking like a cognitive scientist in research design and interpretation, including exposure to more technical aspects of mathematical modeling.
- (LO3) Learn about exciting paradigms and major advances in the study of cognitive science, while considering some of its real-world implications.

Content, activities, and assessments have been carefully selected to help you meet or exceed the learning goals. These include a mix of textbook and additional readings, videos and other web-based materials, group discussions, and quizzes.

### 3. Assessment and Grading

Your evaluation will be based on five major components intended to test your knowledge of basic material and give you important opportunities to express your understanding through a variety of methods. Across all five components, you can receive a maximum of 385 points. To receive an A- or better, you must exceed 346 ( $385 \times 0.90$ ) points or avoid losing 40 points or more (see table below for the percentage breakdown).

#### (1) Multiple-choice Quizzes (7 quizzes, 15 points each, 105 points total)

For each of the seven modules, you will answer 10 timed multiple-choice questions (worth 1.5 point each) to test your knowledge on the module content. You will have 25 minutes to complete each quiz before it is considered late. For every minute late, you will lose one point. To do well on these quizzes, you will have to read, watch, or listen to *\*ALL\** of the material in each module. You may use any resource at your disposal to answer the questions. To access each quiz, there will be a link within each module.

#### (2) Short Essays (7 short essays, 20 points each, 140 points total)

For each of the seven modules you will submit a short essay based on a prompt (i.e., thought question) that will be provided to you. To receive maximum points, you must draw upon the readings, lectures, and/or videos in some way in developing your response (see "Grading Rubric" below for specific details).

Each post should not exceed 500 words and be no fewer than 250 words. Statements made in your post must be supported and thus all information not your original idea or experience must include an in-text citation with an accompanying reference at the end of the post (use APA style: [click here](#) for additional information). Personal anecdotes are not sufficient unless you are able to describe and discuss how the information relates to the prompt topic.

Short essay submissions can be accessed by a link within each module.

#### *Short Essay Grading Rubric:*

- *Essay reflects a substantial, obvious attempt to understand and provide substantial insight through well supported statements (10 points)*
  - *Did you meet minimum length requirements?*
  - *Did you adequately display an understanding of basic facts?*

- *Did you go beyond just stating facts with novel insight (e.g., compare/contrast ideas, thought experiments, linking and integrating across multiple sources)?*
- *Course material is referenced and integrated effectively (6 points)*
- *Essay is written in an understandable, easy-to-follow manner that is free of spelling, grammar, and punctuation mistakes (4 points)*

### **(3) Generate Multiple Choice Question** (14 questions, 4 points each, 56 points total)

For each of the seven modules you are also required to generate TWO multiple-choice questions (4 points each) in the same format as the questions on your module quizzes. These must be novel questions based on any of the material in the current week's module.

Each multiple-choice question **MUST INCLUDE** a complete question with four response options, with one correct option and three distractor options – you must mark the correct answer with an asterisk. For the correct answer, you must indicate where in the course materials the answer can be confirmed as correct (e.g., “page XX in Bermudez textbook,” “on page XX of the Mind Hacks article,” at the X:XX time stamp in the Skinner video.”)

Your multiple-choice submissions can be accessed by a link within each module.

*Generate Multiple-choice Grading Rubric:*

- *Each question is novel and relates to material in the current week's module (2 point)*
- *Each question includes one correct option and three distractor options (1 point)*
- *Source where correct answer can be validated is clearly stated (1 point)*

### **(4) Yellowdig (Social Media Interaction)** (7 weeks, 12 points a week, 84 points total)

Yellowdig is a social media platform designed for higher education. Yellowdig integrates with Blackboard, allowing students and instructors to interact and share articles, web sites, and relevant videos that relate to each module's content. You can find the link to access Yellowdig in the navigation panel.

You must participate on Yellowdig on a weekly basis; however, you will have one grade for the whole course. Yellowdig automatically tallies your participation within the Yellowdig environment using point values for posts and comments. You will need to earn 12 participation points a week for a total of 84 points (12 points x 7 weeks) for full credit.

*Yellowdig Grading Rubric:*

- *To earn these participation points, students can:*
  - *Write a pin (aka post) with at least 50 words. Your pin can be anything that you think is valuable for your peers, such as a resource, strategy, or reflection (3 points each)*
  - *Comment on a peer's pin using at least 40 words (1 point each)*
- *In addition, students can earn points by:*
  - *Receiving "Instructor badges" for particularly meaningful posts (1 point each)*

## Grade Breakdown

Grade	Percentage
A+	98-100%
A	94 - 97%
A-	90 - 93%
B+	87 - 89%
B	82 - 86%
B-	80 - 81%
C+	77 - 79%
C	67 - 76%
D	60 - 67%
E/F	Below 60%
XE	Failure Due to Academic Dishonesty

## 4. Schedule

This is not a fully self-paced course. As you'll see in the course schedule, there are time-specific deadlines that must be met. You are free to work ahead **one module in advance**. For example, if we are currently in the schedule for Module 5, you'll be able to see Module 6. Module 7 will not be available until Module 5 is completed. The course starts with Module 1 and 2 available. Regular announcements will be posted as new modules become available.

For due dates, I made things as easy as possible for you to remember. All assignments are due on Fridays by 11:59pm. Remember- this is the absolute latest date and time I will accept work – **you are strongly encouraged to submit work well before the Friday deadline.**

ACTIVITIES/ASSIGNMENTS	POINTS	DUE DATE
		All assignments are due at 11:59pm on dates shown
MODULE 1: The Foundations of Cognitive Science (Start: 10/14/17)		
Yellowdig Posts	12	Fri 10/20
Quiz	15	Fri 10/20
Short Essay	20	Fri 10/20
Multiple Choice Questions x 2	8	Fri 10/20

<b>MODULE 2: Mind as Information-Processor (Start: 10/21/17)</b>		
Yellowdig Posts	12	Fri 10/27
Quiz	15	Fri 10/27
Short Essay	20	Fri 10/27
Multiple Choice Questions x 2	8	Fri 10/27
<b>MODULE 3: Mind and Brain (Start: 10/28/17)</b>		
Yellowdig Posts	12	Fri 11/03
Quiz	15	Fri 11/03
Short Essay	20	Fri 11/03
Multiple Choice Questions x 2	8	Fri 11/03
<b>MODULE 4: Mind, Body, and Environment (Start: 11/04/17)</b>		
Yellowdig Posts	12	Fri 11/10
Quiz	15	Fri 11/10
Short Essay	20	Fri 11/10
Multiple Choice Questions x 2	8	Fri 11/10
<b>MODULE 5: The Social Mind (Start: 11/11/17)</b>		
Yellowdig Posts	12	Fri 11/17
Quiz	15	Fri 11/17
Short Essay	20	Fri 11/17
Multiple Choice Questions x 2	8	Fri 11/17
<b>MODULE 6: Thinking and Reasoning: A Cognitive Psychology Perspective (Start: 11/18/17)</b>		
Yellowdig Posts	12	Fri 11/24

Quiz	15	Fri 11/24
Short Essay	20	Fri 11/24
Multiple Choice Questions x 2	8	Fri 11/24
<b>MODULE 7: Consciousness and Building Bridges (Start: 11/25/17)</b>		
Yellowdig Posts	12	Fri 12/01
Quiz	15	Fri 12/01
Short Essay	20	Fri 12/01
Multiple Choice Questions x 2	8	Fri 12/01

## 5. Additional Critical Information

### Workload

Expect to spend roughly 18 hours each week (approximately 18 hours for each module) preparing for and actively participating in this course.

### Communicating with the Instructor

**Before emailing your Instructor or CA**, post any general questions about the course on the “Hallway Conversations” discussion board in the navigation panel (on the left). Before posting, please check the syllabus, announcements, and existing posts to determine whether your question already has an answer. If you do not find an answer, post your question. Please note: if you email the Instructor or the CA about a question that should go on the “Hallway Conversations” discussion board or that can be answered by checking existing resources, you will automatically be redirected. **You can expect a response within 24 hours** for any question posted in “Hallway Conversations.”

For questions of a personal nature, you may email the Instructor or CAs. **You can expect a response within 48 hours** for emails sent to personal accounts.

### Late or Missed Assignments

Critical: The instructor **DOES NOT** accept late assignments. **Please do not even ask.** Published assignment due dates (Arizona Mountain Standard time) are firm. The instructor considers it ethically unfair to other students to give extensions to a select few that make the most noise. We all have busy lives with a number of responsibilities. All the assignment dates are available from the first day of class. Expect the unexpected; do not wait until the last minute to turn in assignments. Many, if not all issues that might require an extension, can be avoided with the proper preparation and due diligence.

**However**, the instructor does make **exceptions** for emergencies and extenuating circumstances. To make such a request, you **MUST** provide **official documentation**, and you **MUST** notify the instructor **BEFORE** an urgent situation arises, or as **SOON AS YOU**

CAN following the situation. All requests **MUST** be submitted to the instructor by email. If approved, the extended deadline will be at the instructor's discretion.

The following are examples of emergencies and extenuating circumstances, as well as the proper documentation that is needed:

- Delivery of baby: Email a copy of the birth certificate or birth announcement.
- Death in the family: Email a copy of the obituary or death certificate.
- Car accident: Email a copy of the police report or car insurance report.
- Illness: Email a note from the health care provider in which he/she states when you're not able to submit assignments.
- Serving in the military and engaged in some military action: Email a letter from your commanding officer on letterhead.
- An accommodation for religious practices due to University-sanctioned activities: Please follow the appropriate University policies to request an accommodation.

The following **ARE NOT** considered emergencies or extenuating circumstances:

- computer problems
- internet outages
- oversleeping
- forgetting the assignment
- needing to stay late for work
- working overtime
- doing extra work
- car trouble
- child care issues
- other commitments and obligations, etc.

Again, you will not be given an extension for any of the above. Please carefully read the following two sections "Submitting Assignments" and "Technical Problems" for advice on how to avoid common issues.

### **Submitting Assignments**

All assignments, unless otherwise announced, **MUST** be submitted to the designated area of Blackboard. Please do not submit an assignment via email, it is unreliable. It is also the student's responsibility to ensure that all coursework is submitted successfully and on time. It is not a known issue for assignments to "disappear" from Blackboard.

The following are critical precautions you should take to document that one's course work was submitted correctly and that it was double-checked:

- Take a screenshot of the assignment/test (displaying the submission date and time in Blackboard) and save the screenshot for later reference in case of any discrepancies
- For discussion posts, take a screenshot of the submitted post and entry, showing the date and time it was submitted.
- For writing assignments, take a screenshot of the Safe Assignment page that will show all the details of the completed assignment (accessible by clicking on the View/Complete link after submitting an assignment).
- For quizzes, take a screenshot of "My Grades" where the score is shown.

**A screenshot (with time stamp) will serve as confirmation and documentation that the assignment was submitted successfully, in case any issues arise.** To learn more about how to take a screenshot, visit: <http://take-a-screenshot.org/>.

### **Technical Problems**

It is the student's responsibility to know how to use Blackboard. If you need help, go to the "Service Center" tab on MyASU (<http://my.asu.edu>), contact ASU Help Desk at 480-965-6500 (available 24/7), or see the "24hr Technical Support" link in the navigation panel (on the left). It is not the instructor's responsibility to solve any technical issues that arise, including, but not limited to: loss of Internet connectivity, availability of Blackboard, faulty printers, computer crashes, or loss of USB drives. And again, these are not valid reasons for late work to be awarded credit.

### **Extra Credit Policy**

Extra credit is given at the instructor's discretion and is based on the average performance of the course rather than any individual student's performance. Extra credit opportunities, if made available, are announced at the end of the 6th module. Please also note that extra credit cannot be used to raise a grade from an A to an A+.

### **Challenging Incorrect Quiz Questions or Short Essay Grades**

*Quizzes:* If any quiz question is answered incorrectly by more than 50% of those who attempted to answer, I will automatically allow an opportunity for extra credit to compensate for missed points. If a quiz question is answered correctly by more than 50% of those who attempted to answer, and you answered incorrectly but feel you can justify your answer, you need to submit via email the following to your instructor: a) a detailed justification for why you believe your incorrect response is correct, and b) where in the course material your answer is supported as being correct (specific page numbers, time stamp from a video, etc.).

*Short Essay:* If you do not agree with the grade you received for your short essay, you need to first contact the CA that provided the assessment. You must provide detailed justification as to why you think you should receive a point adjustment *as it relates* to the criteria outlined in the syllabus. Also, note that it is highly likely that I have already reviewed CAs assessments of your post prior to your grade being posted.

### **Syllabus Disclaimer**

The syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule, but the possibility exists that unforeseen events will make syllabus changes necessary.

### **Academic Integrity**

The highest standards of academic integrity are expected of all students. You are expected to work independently on all tests and assignments. The failure of any student to meet these standards may result in referral to both the college and the Office of Student Rights and Responsibilities that address academic misconduct. This decision is up to the discretion of the instructor. Students are expected at all times to behave in accordance with the University Student Academic Integrity Policy. Violations of academic integrity include, but are not limited to, cheating, fabrication, tampering, plagiarism, or facilitating such activities. The University Student Academic Integrity Policy is available from the Office of the Senior

Vice President and Provost and from the deans of the individual colleges. For more information please visit <http://provost.asu.edu/academicintegrity>.

### **Accessibility Statement**

In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act as amended (ADAAA) of 2008, professional disability specialists and support staff at the Disability Resource Center (DRC) facilitate a comprehensive range of academic support services and accommodations for qualified students with disabilities.

Qualified students with disabilities may be eligible to receive academic support services and accommodations. Eligibility is based on qualifying disability documentation and assessment of individual need. Students who believe they have a current and essential need for disability accommodations are responsible for requesting accommodations and providing qualifying documentation to the DRC. Every effort is made to provide reasonable accommodations for qualified students with disabilities.

Qualified students who wish to request an accommodation for a disability should contact the DRC by going to <https://eoss.asu.edu/drc>, calling (480) 965-1234 or emailing [DRC@asu.edu](mailto:DRC@asu.edu). To speak with a specific office, please use the following information:

Tempe Campus

480-965-1234 (Voice)

West Campus

University Center Building (UCB), Room 130

602-543-8145 (Voice)

### **Technical Support**

This course uses Blackboard to deliver content. It can be accessed through MyASU at <http://my.asu.edu> or the Blackboard home page at <http://myasucourses.asu.edu>.

To monitor the status of campus networks and services, visit the System Health Portal at <http://syshealth.asu.edu/>.

To contact the Help Desk:

chat/email: <http://247support.custhelp.com/>

call toll-free at 1-855-278-5080, option 5, then option 3