



PY 032, SPRING 2012 PSYCHOLOGY OF LEARNING

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Hours: Mondays 2:00-4:00; Tuesdays 10:00-11:00 (*or by appt.*)
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COURSE DESCRIPTION

This course is designed to introduce students to the multiple dimensions of cognition and learning, ranging from the basic processes underlying learning to the contexts that promote motivation and engagement. It familiarizes students with key principles about learning and cognition which have emerged from cognitive and developmental science research. Classic theories, contemporary methodologies, and key empirical research related to learning will be discussed and analyzed in view of their application to educational and other applied settings.

COURSE GOALS

The following goals will be integrated throughout the course:

- ❖ Students will demonstrate an understanding of the range of cognitive theories and research that can inform the design of instruction, policy, and organizational learning.
- ❖ Students will demonstrate an understanding of the key principles of cognition and learning.
- ❖ Students will demonstrate an ability to apply the principles of learning in a real-world setting.

COURSE MATERIALS

- ❖ Martinez, M.E. (2010). *Learning and Cognition: The Design of the Mind*. Merrill: Upper Saddle River, NJ.
- ❖ Willingham, D. T. (2009). *Why Don't Students Like School? A Cognitive Scientist Answers Questions about How the Mind Works and What it Means for the Classroom*. Jossey-Bass: San Francisco, CA.
- ❖ Additional readings posted on course Blackboard Vista site. Email cms@bc.edu, if you have trouble accessing the materials on this site.

COURSE SCHEDULE

I. The Science of Learning				
LECT #	DATE	TOPIC	READINGS	DUE
1	17-Jan	Introduction to the Science of Learning	<ul style="list-style-type: none"> Martinez (Chapter 1) 	
2	24-Jan	Cognitive vs. Behavioral Approaches	<ul style="list-style-type: none"> Martinez (Chapter 2) 	"What is Knowing?" Reflection
II. Key Learning Principles				
3	31-Jan	Principle 1: Your head ain't made of straw, you know	<ul style="list-style-type: none"> Martinez (Chapter 8) Wickelgren, I. (2005). Autistic brains out of synch? <i>Science</i>, 308, 1856-1858. Ripley, A. (2005). Who says a woman can't be Einstein? <i>Time</i> magazine. 	Quiz 1
4	7-Feb	Principle 2: Don't forget, you're only human	<ul style="list-style-type: none"> Martinez (Chapter 3, pp. 36-56) Willingham (Chapter 1) 	Description of Work in Learning Context
5	14-Feb	Principle 3: An Inch is a Cinch, a Yard is Hard	<ul style="list-style-type: none"> Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. <i>Educational Psychologist</i>, 41, 75-86. 	Quiz 2
6	21-Feb	Principle 4: Slow and steady wins the race	<ul style="list-style-type: none"> Willingham (Chapters 5 & 8) Roher, D., & Pashler, H. (2010). Recent research on human learning challenges conventional instructional strategies. <i>Educational Researcher</i>, 39, 406-412. 	"Supporting my Learner(s)" Reflection
	28-Feb	MIDTERM EXAM		
	6-March	NO CLASS – Happy Spring Vacation! ☺		
7	13-March	Principle 5: Flashcards are your friend, <u>but not</u> your best friend	<ul style="list-style-type: none"> Willingham (Chapters 2, 4, & 6) Hirsch, E.D. (2003). Reading comprehension requires knowledge—of words and the world: Scientific insights into the fourth-grade slump and the nation's stagnant comprehension scores. <i>American Educator</i>, <i>Spring</i>, 10-22. 	
8	20-March	Principle 6: Thinking is more than remembering	<ul style="list-style-type: none"> Martinez (Chapter 5) 	"My Study Habits" Reflection
9	27-March	Principle 7: Learning without thought is labor	<ul style="list-style-type: none"> Willingham (Chapter 3) 	Quiz 3

		lost		
10	3-April	Principle 8: Sometimes you have to tear it down to build it up	<ul style="list-style-type: none"> • Ormrod, J. E. (2012). <i>Human Learning, 6th edition</i>, pp. 235-259. • Minstrell, J. (1982). Explaining the “at rest” condition of an object. <i>The Physics Teacher, 20</i>, 10-14. 	“Promoting Better Learning” Reflection
11	10-April	Principle 9: More heads are better than one	<ul style="list-style-type: none"> • Slavin, R.E. (2012). Classroom applications of cooperative learning. <i>APA Educational Psychology Handbook, Vol. 3: Application to Teaching and Learning</i>, pp. 359-378. 	
12	17-April	Principle 10: Some differences matter more than others	<ul style="list-style-type: none"> • Martinez (Chapter 9, pp. 296-309) • Willingham (Chapter 7) • Lyon, G. R., & Fletcher, J.M. (2001). Early Warning System. <i>Education Matters, Summer</i>, 23-29. 	“Learning Disorders” Interview & Reflection
13	24-April	Principle 11: You’ve gotta want it	<ul style="list-style-type: none"> • Martinez (Chapter 6) <p><i>Optional:</i></p> <ul style="list-style-type: none"> • Kuhn, D. (2007). How to produce a high-achieving child. <i>Phi Delta Kappan, 88</i>, 757-763. 	Quiz 4
14	1-May	Course Conclusion		Blitz Presentations
FINAL EXAM on MAY 8th @ 4:30				

GRADING

QUIZZES & EXAMS (55%)

Quizzes (10%)

Midterm (20%)

Final Exam (25%)

CRITICAL REFLECTIONS (30%)

ENGAGEMENT & PARTICIPATION (15%)

“Coffee & Donuts” or “Cookies & Milk”: Mandatory Office Hour (P/F)

Participation and Attendance (5%)

In-Class Assignments (5%)

Blitz Presentation (5%)

COURSE REQUIREMENTS

QUIZZES & EXAMS

Quizzes (Jan. 31, Feb. 14, March 27, April 24)

Midterm Exam (Feb. 28) *Final Exam* (May 8)

Quizzes will be used throughout the semester to assess your declarative knowledge of the information presented in the course. The quizzes will consist of multiple choice, true/false, and short answer questions covering material presented in lectures and the readings. Each quiz will cover all the material presented up to that point in the course, such that each subsequent quiz will test your knowledge of a greater amount of material. At the end of the semester, your average grade on all the quizzes will be factored into your final grade. A grade of 0 will be given for a quiz that is missed due to tardiness or absence. **NO MAKE-UPS** will be allowed.

Exams will be a combination of multiple choice short answer and essay questions (potentially with a take home portion) covering material presented in lectures and in the readings. The midterm exam will cover material from the first half of the semester. The **final exam will be cumulative**, covering information from the entire semester. It will be a combination of multiple choice short answer and essay questions covering material presented in lectures and in the readings. An emphasis will be placed on an ability to analyze and apply the knowledge acquired, rather than just factual recall.

The best way to prepare for quizzes and exams is to review your lecture notes at least once each week. If you are ever feeling unsure about the material, feel free to email me or come see me during office hours.

CRITICAL REFLECTIONS

Two reasons for studying cognition and learning are to gain a better understanding of the processes and products of learning as well as how to structure experiences to facilitate learning for yourself and others. These assignments are meant to support both of those objectives, while allowing you to connect your learning to a real context.

As part of the course you are **required to work in a learning context for at least 1 hour a week**. This experience can involve either adult or children learners as well as a variety of contexts (e.g., tutoring, coaching, advising or mentoring). It may be something you are already involved in (e.g., Jumpstart) or something you choose to do specifically to fulfill this course requirement. I expect you to arrange this yourself, but I can direct you to potential sites, if necessary.

Throughout the semester, you will have the opportunity to reflect on and apply course material to the learning context in which you are working. Approximately every other week, you will write a critical reflection **approximately 1-3 pages single-spaced** related to a topic currently being discussed in the course. The exact topic and guiding question(s) for each reflection paper will be posted on the course Blackboard site.

While these are personal reflections, I expect your write-up to be based on and supported by concepts discussed in the course. Thus, I will be **evaluate your reflections based on the thoughtfulness of your analysis, your use of specific examples from your learning context, your use of specific evidence and terminology from the course, and your integration of concepts from multiple lectures.**

Critical reflection papers will be scored as $\sqrt{-}$, $\sqrt{}$, $\sqrt{+}$, corresponding to a C, B, and A, respectively. At the end of the semester, your average grade on all the critical reflection assignments will be factored into your final grade.

ENGAGEMENT & PARTICIPATION

"Cookies & Milk" Meeting -- Mandatory Office Hours

The best way for me to support your learning is to get to know you better and for you to feel comfortable approaching me with questions. During the first three weeks of the semester, I will meet with each of you individually. A sign-up sheet will be available during lecture.

Participation and Attendance

Despite the size of the class, I expect you to be engaged in class and contribute to discussion. Constructive contributions derive from coming to class well prepared, with questions and suggestions based on the readings and/or their relation to your experience and professional goals. We will all learn more from lively and critical discussions.

Anyone seen **texting** during class **will receive a score of 0** for the participation requirement of the course (5%).

In-Class Assignments

In every class, there is a possibility that you will have a short writing assignment related to that day's readings and lecture. Sometimes these assignments will be completed individually and sometimes as groups. You will always be able to refer to your notes, textbooks, or other course readings to complete these assignments.

These assignments will be scored as $\sqrt{-}$, $\sqrt{}$, $\sqrt{+}$, corresponding to a C, B, and A, respectively. At the end of the semester, your average grade on all the writing assignments will be factored into your final grade. A grade of 0 will be given for an in-class assignment that is missed due to tardiness or absence. **NO MAKE-UPS** will be given for these assignments.

Blitz Presentation

To encourage you to reflect on your own learning during the course of the semester and help you retain key course concepts over time, you will develop a **1-minute presentation of the "ah-ha's for you from the course.** You may express your learning in any way that is personally meaningful to you (e.g., poem, song, video, graphic poster, etc.). I expect, however, for your presentation to be sufficiently concrete that your classmates will be able to recognize the course concepts you are communicating in your presentation. These presentations will be shared during the last lecture as part of our course conclusion.

You will be evaluated on a 0-10 scale based on the accuracy of the points you convey and your creativity and originality.

ADDITIONAL INFORMATION

LATE POLICY

Hard copies of all assignments must be handed in at the beginning of class on the day they are due. NO electronic submissions will be accepted. Assignments handed in after the start of class will be counted as one day late. Ten points will be deducted from the grade of any assignment turned in one day late and an additional five points will be deducted for each additional day that passes.

Note: Extensions must be requested *before the day* the assignment is due, and will be granted on a case-by-case basis.

ELECTRONICS POLICY

Phones must be put away in a bag (not on your person) and must be set on SILENT. Anyone seen **texting** during class **will receive a score of 0** for the attendance and participation requirement of the course (5%). This policy will help you focus your attention during lecture and help your classmates do the same.

Laptop computers will not be permitted in the classroom. Powerpoint slides will be posted on Blackboard by 8:00 a.m. on the morning of each class and can be printed out prior to class for note taking. Please see me at the start of the semester if you have a documented disability that requires use of a laptop computer for note-taking.

STUDENTS WITH DISABILITIES

Boston College students who need special resources to accommodate specific learning challenges should visit the Connors Family Learning Center www.bc.edu/connors or, for other special needs, one of the other offices at the university - for a list and email links (see <http://www.bc.edu/offices/odsd/disabilityservices/resources.html>).

If you have a disability and will be requesting accommodations for this course, please register with either Kathy Duggan (Kathleen.duggan@bc.edu) Associate Director, Academic Support Services, the Connors Family Learning Center (learning disabilities and ADHD) or Paulette Durrett (paulette.durrett@bc.edu), Assistant Dean for Students with Disabilities (all other disabilities). Advance notice and appropriate documentation are required for accommodations.

ACADEMIC HONESTY & PLAGIARISM STATEMENT

Students should consult the university policies on Academic Integrity (see <http://www.bc.edu/offices/stserv/academic/resources/policy.html#integrity>) and that of the Lynch School of Education (http://www.bc.edu/schools/lsoe/academics/phd_policies.html#integrity) for a discussion of academic integrity. There will be no exceptions to these policies. Please also note

specific additional www resources on the Responsible Conduct of Research (<http://www.bc.edu/research/oric/rcr.html>) as well as those within your individual disciplines.

ACADEMIC GRIEVANCES

Any student who believes he or she has been treated unfairly in academic matters should consult with the chairperson of the undergraduate or graduate department or his or her associate dean to discuss the situation and to obtain information about relevant grievance procedures.

ADDITIONAL MATERIALS

The following materials provide further description of the course assignments or grading procedures. They are handed out separately and/or posted on the course blackboard site at the appropriate times during the semester.

CRITICAL REFLECTION ASSIGNMENTS

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The critical reflection assignments are meant to encourage you to reflect upon and apply course material to the learning context in which you are working as well as to your own learning. Responses should be **1-3 pages single-spaced** and turned in at the beginning of the lecture on which they are due in hardcopy form.

While these are personal reflections, it is expected that they will be based on and supported by concepts discussed in the course. You will be evaluated based on the thoughtfulness of your analysis, your use of specific examples from your learning context, your use of specific evidence and terminology from the course, and your integration of concepts from multiple lectures.

1) WHAT IS KNOWING? Due January 24, 2012

Describe your view of knowledge and learning. Consider the following questions as you compose your response:

- a) What do you think it means to “know” something?
- b) What is learning and how do you know when you’ve learned something?
- c) What do you think distinguishes an expert from a novice in a given field?

2) DESCRIPTION OF WORK IN LEARNING CONTEXT Due February 7, 2012

Describe the learning context you have chosen to work in to fulfill the course requirements as well as the work you will be doing there. Be sure to address the following points in your response:

- a) The name and location of the learning context
- b) The name of a contact person/supervisor
- c) The days/times when you will be working
- d) A description of the learners and the goals of the learning context
- e) A description of what you will be doing in the learning context (e.g., working one-on-one, leading small groups, etc.)
- f) The resources that will be available to you to support your work (e.g., strict lesson plans, discussions with mentor, etc.)
- g) Your evaluation of how much flexibility you’ll have to design and/or adjust instruction

3) SUPPORTING MY LEARNER Due February 21, 2012

Reflect upon your experience so far in your learning context. Then, describe how the context currently supports learning and how it might be improved to better support learning. Consider the following questions as you compose your response:

- a) Are the instructional goals clear? How is it determined what the learner should learn when? Could this be informed by task analysis?
- b) Are there any indications that your learners are having trouble processing or retaining what is taught? Why might this be?
- c) How is the instruction designed to make the learning more manageable for the learner(s)? Could this be improved? If so, how?

4) MY STUDY HABITS Due March 20, 2012

Reflect upon the pros and cons of your own study habits. Consider the following questions as you compose your response:

- a) Before taking this course, what were your typical study habits?
- b) Why did you use these approaches?
- b) Do you think these approaches were effective? Why or why not?
- c) How might you change your study habits based on what you have learned in this course so far?

5) PROMOTING BETTER LEARNING Due April 3, 2012

Reflect upon the pros and cons of the instructional approach being used in your learning context. Then, propose how you would change the instruction, based upon what you've learned in this course, to better support learning. Consider the following questions as you compose your response:

- a) Does the current instructional approach support a variety of learning goals (e.g., automaticity, transfer, etc.)?
- b) Does the current instructional approach support long term retention?
- c) What possible misconceptions or barriers might the learner(s) have? How does the instruction address them?
- d) What approaches have you tried that affected learning (for the better or worse)?

6) LEARNING DISORDERS Due April 17, 2012

Interview someone who has a diagnosed learning disorder or who teaches individuals with learning disorders focusing on their perception of how the learning disorder interferes with learning and how they feel instruction and school could best be adapted to accommodate the unique needs of children with learning disorders. Describe the person's responses and reflect upon how they agree/disagree with the key learning principles you've learned about in this course.