

**RESEARCH TOPICS IN APPLIED COGNITIVE PSYCHOLOGY:
PERCEPTION AND PSYCHOMOTOR PERFORMANCE
PSYC 5932**



Communication

Instructor and Course Information

Spring 2017
Time: Th 7:00 – 9:50 PM
Location: Bayou 2237
Email: kelling@uhcl.edu

Instructor: Nicholas Kelling, Ph.D.
Office: Bayou 1508.4
Office Hours: Th 1:00 – 3:00 PM
By Appointment
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Applied Critical Thinking Statement

This course has been authorized by UHCL as an Applied Critical Thinking (ACT) Course which means that in addition to learning about the specified course content, students will be engaged with some or all of the Elements of Thought and Universal Intellectual Standards of critical thinking. The objective of an ACT course is to develop the student's ability to become skilled at analysis and evaluation by applying a set of intellectual tools that may be effectively used across all disciplines (as well as to the student's personal life). Based on the Foundation for Critical Thinking model (<http://www.criticalthinking.org/>), one model of critical thinking involves thinking for a purpose, asking questions, using information, applying concepts, drawing inferences and conclusions, identifying assumptions, anticipating implications and consequences, and recognizing points of view. The Universal Intellectual Standards that are applied to these Elements of Thought of critical thinking in order to develop Intellectual Traits include clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness.

Using This Syllabus

This syllabus contains most of the information that you need for understanding how the course is organized. If you have a question, **first** check the material in the syllabus and if you still need help, by all means ask.

Required Texts

Schmidt, R. A. & Lee, T.D. (2013). *Motor Learning and Performance: From Principles to Application*. Champaign, IL: Human Kinetics (ISBN 978-1450443616)

Course Description

The Perception and Psychomotor Performance course will be investigating how we develop skills regardless of domain (sports related, computer related, work related, etc). This course will focus on exactly how the brain, muscles, and sensory systems are involved in the process of skill development through learning, working memory, muscle memory, sensation, perception, focus, and attention. This course will use a multidisciplinary approach by examining elements from human performance, computing, and fitness along with a centralized foundation of psychology. Tying these elements together will require students to develop and utilize critical thinking and evaluation skills. Aiding in this development will be a semester long self-evaluation of a developed skill practiced throughout the semester. Students will be expected to make multiple reports both oral and written demonstrating an ability to generate a clear, concise, precise, and accurate message. By the end of this course, students should be able to effectively describe the issues of skill development as well as create an effective skill training program. Beyond understanding skill development, a successful student should be able to orchestrate clear instructions and detail intent in their successful communication of complex ideas. This course is open to all majors and will not require a background in psychology.

Central Question:

How can one effectively and efficiently learn a new skill?

Student Learning Objectives

1. *Clearly* demonstrate an understanding of skill development **concepts**; such as learning curves, cognitive facets, psychomotor neurology, sensation, and perception.
2. *Logically* utilize critical thinking to understand the **implications** of adapting skill development plans to variant individuals and different skills.
3. *Clearly* and *precisely* assess and measure skill development with a common **purpose**.
4. Use **relevant information** for the *logical* development and defense of skill development plans.
5. Demonstrate *clarity*, *precision*, and *significance* of written and oral communications aimed at addressing a singular, comprehensive **question at issue**.

Grade

Grades will be determined through multiple performance measures including quizzes and numerous reports.

The grade will consist of the following:

10 SEE-I Assignments (100 pts total) + 4 Journal Reports (100 pts) + Two Presentations (100 pts total) + Review Paper (200 pts)

A default plus minus grading scale will be used (e.g., 90%+=A's, 80-89.9%=B's, 70-79.9%=C's, 60-69.9%=D's, 59.9% or lower=F). However, I reserve the right to adjust the grades up depending on the distribution of scores, but this adjustment is in no way guaranteed and is unlikely. Grades will never be adjusted downward. Grades will be rounded to nearest tenth at the end of the semester.

Grade Items

SEE-I Assignments

Student Learning Objectives: 1, 2

For 10 weeks you will need to create a one page discussion of the readings. This document is not to be a summary of the work. Rather you must detail the important and critical issues of the reading and more specifically propose discussion questions. A template and example will be provided week 2 of the semester. This assignment **MUST BE UPLOADED TO BLACKBOARD by 6 PM the day of class**. No late submissions will be accepted nor submission submitted via email.

Journal

Student Learning Objectives: 2, 3

The main element of this class will be your development of a new skill. Further detail will be provided. However, throughout the process of gaining this skill, you will be required to maintain a journal documenting your weekly progress. You will be developing metrics so that you can measure your performance. Additionally, you are to detail training times, issues, successes, failures, and additional thoughts.

Demonstration Presentations

Student Learning Objectives: 2, 4

While students will be updating the class weekly regarding their skill progression, two formal presentations will be held. Mid semester a status presentation will be given to the class. During the final week of the course, you will need to present your findings and demonstrate your proficiency in your chosen skill. This presentation is to include your development of the skill over time shown by metrics you developed. Additionally, you must actually demonstrate your skill. However, a video recording will be acceptable for skills too cumbersome to bring into the classroom.

Review Paper

Student Learning Objectives: 1, 2, 3, 4, 5

The culmination of the class will be a review paper totaling approximately 10-15 pages. The purpose of this work will be to tie the relevant information from the course along with additional literature to the development of the skill you have chosen. Items such as skill acquisition, transfer, and retention discussed.

Additionally, further investigation of the critical facets of your particular skill should be identified. Finally, a skill development plan should be developed for teaching others your chosen skill. This plan is not an outline of how you learned, but rather a scientifically backed plan of how one should learn the chosen skill.

Critical Thinking Assessment

Student Learning Objective	Excellent	Acceptable	Unacceptable
1: Clear Understanding of Skill Concepts	Student demonstrates a clear understanding of the concept and its connection to other concepts	Student demonstrates a clear understanding of the concept	Student fails to demonstrate a clear understanding of the concept
2: Accurately Understand the Implications of Adaptation	Student demonstrates how the implications affect the adaptation to different types of individuals and different skill types	Student demonstrates how the implications affect the adaptation to different types of individuals or different skill types	Student fails to demonstrate how the implications affect the adaptation to different types of individuals or different skill types
3: Common Purpose of Assessment and Measurement	Student details an understandable (clear) and well detailed (precise) assessments or measurements	Student details an understandable (clear) assessments or measurements	Student fails to detail an understandable (clear) assessments or measurements
4: Use of Relevant Information for Logical Skill Development	Student provides solid science based evidence in defense of skill development suggestions which demonstrates no contradictions	Student provides solid science based evidence in defense of skill development suggestions which demonstrates minor contradictions	Student fails to provide solid science based evidence in defense of skill development suggestions or provides an argument with significant contradictions
5: Clear Communication of an Answer for a Comprehensive Question	Communications are understandable (clear), very detailed (precise), and focused on the most important elements (significant)	Communications are mostly understandable, well detailed, and primarily focused on the most important elements	Communications fail to be understandable, detailed, or primarily focused on the most important elements

Scores for each grade element will be based on an aggregation of each relevant Student Learning Objectives. The following assessment levels will be used

Excellent: 90% and above

Acceptable: 80-89%

Unacceptable: 79% and below

Intellectual Property

Taping lectures or classroom discussions is permitted. However, it is expected that students will request authorization from the instructor to tape a class. Notes and/or tapes of class lectures and discussions cannot be sold.

Disabilities

If you believe you have a disability requiring an accommodation, contact [Disability Services](#) at 281-283-2648 or disability@uhcl.edu as soon as possible and complete the registration process. To ensure your accommodations are in place for the entire semester, please request your accommodation letters from Disability Services and provide them to me at the beginning of the semester. The University of Houston System complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for students with a disability. In accordance with Section 504 and ADA guidelines, each University within the System strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them.

Writing Center

Please be aware that the University of Houston-Clear Lake offers writing assistance for all students through the Writing Center (<http://www.uhcl.edu/writing-center>).

Academic Honesty Policy

All UHCL students are responsible for knowing the standards of academic honesty. Please refer to the UHCL catalog and the Student Life Handbook for the University Academic Honesty Policy. Plagiarism, that is, using research without citations, or using a created product without crediting the source, will result in a grade penalty or failure of the course.

Incompletes

A grade of Incomplete ('I') may be given at the discretion of the instructor to students who are making satisfactory progress in a course. Incompletes are typically given for emergency situations which occur after the withdrawal date but prior to the end of the semester, and which prevent the student from completing course requirements. When assigning the grade of 'I,' instructors provide students with an Incomplete Grade Contract that outlines the work to be accomplished before the 'I' can be converted to a final grade and specifies a deadline date.

Changes

The instructor reserves the right to make appropriate changes in the syllabus. It is the student's responsibility to keep updated on course information if he or she is absent.

Courtesy

Respect and be considerate of others in the class. Please be on time. It should go without saying, but turn off all ringers, cell phone, PDA, etc., before entering the class and refrain from talking and texting. Headphones will not be allowed unless medically necessary. If you disturb the class, you may be asked to leave or incur an in-class punishment. Students are expected to be aware of and abide by all rules, regulations, and guidelines of the university and within the Student Life Handbook including but not limited to academic honesty and sexual harassment.

Please keep all communications in a professional manner. Any non-professional communications will be ignored. Please allow for 24 hours for responses by email.

Use of Class Products in Assessment

The University of Houston–Clear Lake may use your artifacts in this class to generate assessment data. Any works used will be used only for educational purposes.

SCHEDULE

Weeks	Topic	Readings Due
Jan 19th	Introduction	
26th	Training and Measurement Issues	Chapter 10, Schneider (1985), and Schmidt & Bjork (1992)
Feb 2nd	Ability vs Skills	Chapter 7
9th	Sensory and Motor Components of Skills	Chapters 4 and 5
16th	Processing Information, Decisions, and Attention*	Chapters 2 and 3
23rd	Motor Learning*	Chapters 6 and 8
Mar 2nd	Feedback*	Chapter 11
9th	Mid Semester Demonstrations	
16th	<i>SPRING BREAK</i>	
23th	Dual Task Skills*	Hazeltine et al (2002) Schimacher, et al (1999)
30th	High Performance Skills*	Mane & Dochin (1989) Frederiksen & White (1989)
Apr 6th	Automaticity*	Schneider & Chein (2003) Parr et al (2002)
13th	Skill Transfer*	Chapter 9
20th	Skill Variance*	Joslyn & Hunt (1998) Drake & Palmer (2000)
27th	Expertise*	Ericsson & Charness (1994 and 1995), Eccles et al
4th	PRESENTATIONS AND FINAL REPORTS*	
	Skill Due Dates	<u>*SEE-I Assignments Due</u>
Jan 26th	Skill Choice Due	
Feb 9th	Assessment Plan Due	
Feb 23rd	Submit Journal	
Mar 23rd	Submit Journal	
Apr 13th	Submit Journal	

This syllabus signifies a contract. I, as the instructor, will abide by the guidelines listed above. This removes the possibility of surprise. In return, I ask for assurance that you have read the guidelines in this syllabus as well as abide by them.

PLEASE RETURN THIS TO ME BY THE FIRST TEST OR YOUR GRADE WILL NOT BE POSTED.

By Signing Below, I acknowledge that I have read this syllabus and will abide by its guidelines.

Print Name and Date

Sign Name