PSYS 334 - Laboratory in Cognition (1 credit) – WEB

Course Details:

Professor: Dr. Andrew Mienaltowski (Dr. M'ski) Course Website: On Blackboard (wku.blackboard.com)
E-mail: **andrew.mienaltowski@wku.edu** Phone: (270) 681-0270
Office Hours: MW 3:30-5PM via Zoom or in person (1025 KTH). Additional times can be scheduled by appointment.

Required Materials: A textbook is **not** required. If you have your textbook from cognition, that might be helpful. General explanations for many cognitive phenomena are also available on Wikipedia. Journal articles illustrating research designs used in this course will be provided. WKU students have free access to Office 365: https://www.wku.edu/it/sms/microsoft_sa.php

You will need to sign up for an account with PsyToolkit (https://us.psytookit.org) using your WKU Topper email address. Do **NOT** use a personal email address unaffiliated with WKU. You will use this to do some minor coding work, and I can share tasks with you via this site. No prior coding experience is necessary. Instructions on how to create your account will be provided as part of the course.

Course Description: Laboratory emphasizing experimental design and data collection in cognitive psychology.
Pre-requisites for PSYS 334: Student must have completed PSYS/PSY 210 and 211 with a grade of C or better, or have permission of the instructor. PSYS 333 is also required but may be taken concurrently with PSYS 334.

Course Objectives: PSYS 334 is a lab course, so hands-on experiential learning will be emphasized. We will explore a number of research designs used to measure phenomena in cognitive psychology like attention, memory, decision making, interference, concept formation, and imagery. For each topic, we will review primary sources (journal articles) that introduce an experimental technique, and we will examine how the phenomenon of interest was operationalized and deployed in a lab. We will explore how to design cognitive tasks using stimulus presentation software. We will generate, process, and analyze data to address research questions posed by the tasks. We will also discuss techniques for clearly communicating our findings relative to the hypotheses that we are testing. More simply put, we will review, create, and experience cognitive psychology.

Below are the learning outcomes for the course:

- Identify experimental design techniques used to address research questions within cognitive psychology
- Investigate theories that underlie cognitive processes explored in laboratories
- Develop databases for response data collected during laboratory experiments
- Learn and apply principles of data filtering and aggregation in relation to the data collected within the laboratory
- Analyze data for laboratory experiments
- Communicate findings in both oral and written formats

Course Organization and Activities:
For this course, we will be discussing a number of important experiments in cognitive psychology. We will review journal articles that discuss 7 experiments. The journal articles will serve as a basis for the theories examined with these experiments. Readings will be posted to Blackboard, and you should review these along with videos that discuss them. As you read, note what the authors' main research questions are. Why are they predicting what they are? How are the authors operationalizing the psychological construct under investigation? What measurements are being taken?

Psychological tests have been created to examine the cognitive constructs that we are discussing. You will take part in mini-experiments that ask you to complete each task on PsyToolkit. PsyToolkit will hold all of your data and share it with me so that you do not have to upload files on Blackboard. I will show you how data are transformed to be useable to test hypotheses for each experiment. Through weekly videos, we will discuss how the tasks work and whether the data gathered support the main predictions of those who have developed major theories in cognitive psychology.

Throughout the term, there will be 7 activities that you will complete on Blackboard. Each is worth 18-20 points and will include short-answer and multiple-choice questions. In addition to these activities, you will earn points by participating in experiment tasks (9 tasks at 5 points per task).

Finally, for the second half of the semester, we will shift gears to coding projects so that you have an opportunity to see how cognitive tasks are developed. There are some tutorial videos within PsyToolkit and others that I will create to orient you to three different tasks before turning you lose to code your own version of a novel task.

To be clear, there are a few different assignment designations for this course:

- Task – A cognitive task that you complete given a web link from Dr. M'ski **[cannot be submitted late]**
- Activity – A set of questions or steps that require you to think about material presented to you in the readings or brief video lectures or reviews **[can be submitted up to 24 hours late, see policy below]**
- Project – A coded task developed given instructions by Dr. M'ski **[cannot be submitted late]**

Grading Breakdown:

Lab activities (7) …	130 points
Lab tasks (9 @ 5 points)…	45 points
Three programming projects …	75 points
Total	250 points

Grading Scheme: (no rounding)

224 to 250 points	=	A	(4.0)
199 to 223 points	=	B	(3.0)
174 to 198 points	=	C	(2.0)
149 to 173 points	=	D	(1.0)
< 149 points	=	F	(0.0)

Your overall grade in the course will be based on the number of points that you earn. It is up to you to obtain the grade that you want. There will be absolutely no rounding of points when assigning grades.

Late work policy:

Please note that your active participation in this course is important. **You must complete experiment tasks via the links posted to Blackboard by 3PM on Fridays**. Failure to do so will result in a zero (out of 5 points) for that task.

For activities, you should complete them by their appointed due date and time; however, **students can submit late activities within 24 hours of the original deadline without penalty**.

Late submissions will not be accepted for coding projects. These projects will require that you invest time consistently to complete them. If anxious about the projects when assigned, please reach out to Dr. Mienaltowski.

Illness/Covid-19 Policy on Late Work or Make-up Work:

Normally, absences due to illness require a few days to catch up. Covid-19 has lengthened an ill student's time away from class from a few days to sometimes two weeks. The modular approach to the course will facilitate keeping pace should one need to be absent for one to two weeks from class. Given that we do not have traditional exams that require keeping pace for 2-3 weeks in a row, we will work on getting you through the missed activities as a result of illness. Extensions due to illness do not give students an advantage and should not be perceived as unfair. Should an illness extend beyond two weeks, you may need to consider taking a medical withdrawal from the course. This requires a more thoughtful conversation on a case-by-case basis with the assistance of one's academic advisor. All university policies on missed work due to illness apply here.

Academic Integrity:

You are expected to complete your own work for this course so that activities, tasks, and projects reflect your own effort. All students are assumed to have read the Academic Offenses section of the Student Handbook. Academic offenses are taken extremely seriously and are reported to the Office of Student Life for further action. Specific violations include academic dishonesty, cheating, and plagiarism. Students who cheat or who submit plagiarized work (including code) will receive a zero on the activity and will be referred to the WKU Office of Judicial Affairs for an investigation and possible sanctions. Repeat offenders will receive a failing grade in the course. Note that using copies of another student's responses or code is also considered plagiarism and is prohibited. If you need assistance, please consult with Dr. Mienaltowski. Cheating and/or plagiarism often takes place because of time management issues. Please reach out to Dr. Mienaltowski if you are struggling to manage your time in this course or others. I am invested in your success and hope that you have a positive experience in this course.

Important information:

The university wants you to be aware that important information relevant to all of your courses can be found at this link: https://www.wku.edu/syllabusinfo/index.php

Students with Disabilities:

Students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Student Accessibility Resource Center, 1074 DSU (Downing Student Union);

https://www.wku.edu/sarc/ . Their phone number is (270) 745-5004. TDD: (270) 745-3030. Their email is sarc.connect@wku.edu . Please do not request accommodations directly from the instructor without a letter of accommodation from the SARC.

Title IX/Discrimination & Harassment:
WKU is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/ Assault Policy #0.2070 (www.wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf) and Discrimination/Harassment Policy #0.2040 (www.wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf). Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Executive Director, Office of Institutional Equity/Title IX Coordinator, Ena Demir, 270-745-6867 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121. Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and MUST report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

Online courses and Regular/Substantive Interaction:
The U.S. Department of Education requires that distance education courses must include regular and substantive interaction between students and faculty. For more information about Regular and Substantive Interaction at WKU, please visit the Regular and Substantive Interaction in Online and Distance Learning webpage (https://www.wku.edu/citl/rsi.php).

In this course, regular and substantive interaction will take place in the following ways:
- Individualized feedback will be given directly to students on their work within Blackboard
- Students will be able to ask questions of the instructor via e-mail, phone, and Zoom, as well as attend live office hours to seek assistance

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In this course, regular and substantive interaction will take place in the following ways:
- Weekly announcements
- Timely and detailed feedback on assignments provided within one week of submission
- Assignments scheduled throughout the course of the term on a regular, predictable schedule
- Availability of live office hours held in person an electronically to support student learning

Course Schedule

(exact dates and topics are subject to change given progress that we make in course, weather, unanticipated technical challenges that may emerge in the computer programming, or flu/Covid-19-related issues)

PSYS 334 Laboratory in Cognition			
Week	**Dates**	**Activity with Reading**	**Task**
Week 1	Jan 17-20	Syllabus and Orientation to Class	**Memory Task (5)**
Week 2	Jan 23-27	**Memory Activity (20)**	**Cueing Task (5)**
Week 3	Jan 30 - Feb 3	**Cueing Activity (18)**	**Visual Search Task (5)**
Week 4	Feb 6-10	**Visual Search Activity (18)**	**Stroop Task (5)**
Week 5	Feb 13-17	**Stroop Activity (20)**	**Flanker Task (5)**
Week 6	Feb 20-24	**Flanker Activity (18)**	**Mental Rotation Task (5)**
Week 7	Feb 27 - Mar 3	**Mental Rotation Activity (18)**	**Simon Effect Task (5)**
Week 8	Mar 6-10	**Simon Effect Activity (18)**	
	Mar 13-17	**Spring Break**	
Week 9	Mar 20-24	**Simon Effect Programming Tutorial**	
Week 10	Mar 27-31	**Simon Effect Project (25)**	**Simple RT Task (5)**
Week 11	Apr 3-7	**Tutorial on Programming Simple RT task**	
Week 12	Apr 10-14	**Simple RT Project (20)**	**Final Project Task (5)**
Week 13	Apr 17-21	Final Programming Project	
Week 14	Apr 24-28	Final Programming Project	
Week 15	May 1-4	Submit **final project (30)** due Thurs May 4	
All task participation and activities will be due on Fridays at 3PM except during final exam week, where the deadline is Thursday, May 4 at 3PM			
Coding project deadlines will also be specified when project instructions are provided.			