

General Education Foundations of Scientific Inquiry (FSI) Course Information Sheet

Please submit this sheet for each proposed course along with 1) a syllabus describing the key components of the course that will be taught regardless of the instructor and 2) assignment guidelines.

Department, Course Number, and Title _____

Indicate when the department anticipates offering this course in 2018-19 and give anticipated enrollment:

Fall: Enrollment____ Winter: Enrollment____ Spring: Enrollment____ Summer: Enrollment ____

As stated in the guidelines regarding courses in the Foundations of Scientific Inquiry (FSI), the aim of these course offerings is:

To ensure that students gain a fundamental understanding of how scientists formulate and answer questions about the operation of both the physical and biological world. These courses also deal with some of the most important issues, developments, and methodologies in contemporary science, addressing such topics as the origin of the universe, environmental degradation, and the decoding of the human genome. Through lectures, experiential learning opportunities such as laboratories, writing, and intensive discussions, students consider the important roles fields such as physics, genetics, chemistry, biology, earth and environmental sciences, evolution, astrophysics, ecology, and planetary and space sciences play in modern society.

General Education FSI Student Goals: Courses fulfilling the GE FSI will provide a minimum of five units and should align with some (not necessarily all) of the following seven general goals:

1. Students will acquire an informed appreciation of scientists, scientific research, and technology.
2. Students will experience the interdisciplinary nature of science.
3. Students will develop information literacy.
4. Students will actively engage in the scientific process of inquiry, analysis, problem-solving, and quantitative reasoning.
5. Students will make evidence-based decisions in a wide array of science and non-science contexts.
6. Students will develop scientific literacy by addressing current, critical issues and topics in science that are personally meaningful in daily life and/or connected to the needs of society.
7. Students will recognize fundamental scientific principles and the connections between different domains of science.

General Education FSI Student Learning Outcomes: Each course should have student learning outcomes listed in the syllabus. These outcomes may be tied to a specific discipline but should be associated with the seven broad categories listed above (please see **Appendix I** for a sample list of possible learning outcomes supporting each goal).

General Guidelines for GE FSI Courses: GE Courses may be upper or lower division, but they should have no prerequisites. Any student should be able to take them and understand the material with the background expected from all UCLA students. While the course may include material related to the history of science and the social and cultural implications of scientific research, **at least half** of the course should be devoted to students actively engaging in the scientific process of inquiry, analysis, problem-solving, and quantitative reasoning (Goal #4).

Please indicate the area/s which you believe this course should satisfy.

Life Science: Physical Science: Life Science Lab*: Physical Science Lab*:

**Please see the additional student learning outcomes and expectations for courses approved as GE FSI Labs.*

Please present a concise explanation of how your course satisfies these criteria.

Which of the seven student learning goals listed on page 1 are you addressing in your course?

What fundamental scientific principles does your class address? Are you making intentional connections between life and physical science disciplines in your course? Does your course explore any current, critical societal issues? If so, what are they?

What class activities (e.g. homework problems, quizzes, clicker questions, projects, etc.) have you designed to help students actively engage in the process of scientific inquiry, analysis, problem solving, and quantitative reasoning throughout the course?

For each course goal listed above, what are the student learning outcomes you will list in your syllabus? In addition, what types of assignments will be given to determine whether students achieve the learning outcomes? (Please provide a sample assignment, term paper/exam, essay prompt, or other form of assessment)

Additional Student Learning Outcomes for experiential learning courses approved as “GE FSI Labs”

GE FSI Lab Definition and Expectations: A hands-on laboratory, computer simulation, demonstration, or field experience that involves active participation in experimental observation, data generation and collection using the techniques, methodologies, and approaches of modern-day scientists. Any lab should be conducted under sufficient supervision by the instructor or a Teaching Assistant (TA). Furthermore, the instructor and TAs should meet regularly outside of class time (minimum weekly or biweekly) to practice performing the lab procedures and/or to review the experimental results. Courses fulfilling the GE FSI Lab requirement will provide a minimum of four units and should align with some (not necessarily all) of the following eight general goals:

1. Students will design, implement, and evaluate an experimental strategy for answering scientific questions, testing a hypothesis, or solving a problem.
2. When possible, students will replicate experiments to allow testing for and interpretation of statistical significance.
3. Students will apply commonly used mathematical concepts and statistical methods (e.g., basic addition, subtraction, multiplication, division, averages, standard deviation, t-test for significance) in their analysis of different types of scientific data they collect.
4. Students will visually depict a quantitative dataset as a chart, graph, table, or mathematical equation.
5. Students will concisely summarize trends and patterns deduced from quantitative and qualitative data to make informed conclusions about their experimental results.
6. When interpreting their results, students will distinguish between the most important and extraneous findings (i.e. identify those that are critical to addressing a question, solving a problem, or supporting/refuting a hypothesis).
7. When interpreting their results, students will infer relationships between controls and experimental variables as well as assess causality and correlation among variables.
8. Students will troubleshoot experimental procedures or methods of analysis to develop a sound scientific rationale for deducing what went wrong and why.

Please present a concise explanation of how your course satisfies these criteria.

How will students in this course actively experiment and engage in the hands-on process of gathering, analyzing, and interpreting data? How will progress towards meeting the student learning outcomes for “labs” be measured/assessed? In other words, what types of assignments will be given to determine whether students are achieving the learning outcomes?

Psychology of (Ir)Rational Decisions: Learning to make better choices and outsmart your biases

Instructor: Alexandra Stolyarova, M.A., C.Phil.

Email: astolyarova@psych.ucla.edu

Office hours: TBA

Course website: <https://ccle.ucla.edu/>

Are our decisions always based on logical, rational calculations? Or are we likely to use mental shortcuts and succumb to the power of emotions? Why are we so prone to making rushed, illogical decisions, only to regret them later?

In this seminar, we will explore systematic biases and heuristics that people have when making decisions. Equipped with an understanding of the scientific method, experimental design and hypothesis testing, we will critically evaluate scholarly articles that address the issue of irrational behavior. We will talk in depth about many judgment and decision fallacies and paradoxes and discuss psychological and evolutionary reasons for their persistence in human behavior. By the end of this course, you will learn to recognize your own and others' biases and limitations and acquire practical skills and strategies to make better judgments and choices.

LEARNING OBJECTIVES

- To recognize systematic biases and heuristics that people have when making decisions and suggest ways to overcome these limitations and inconsistencies.
- To identify and explain perspectives on irrational behavior from a variety of scientific fields.
- To acquire practical skills to make better judgments and choices and overcome decision biases.
- To better understand yourself and others by applying psychological findings to your everyday lives.
- To understand the scientific process and be able to formulate and test a hypothesis.
- To differentiate between a scientific theory, hypothesis, fact, or law.
- To evaluate research claims critically, whether they come from scientists or from the popular media.
- To communicate scientific findings clearly, both orally and in writing.
- To identify and explain how findings in Psychology influence society, technology and education.

READINGS

There is no required textbook for this course. Instead, we will read a selection of scholarly journal articles.

Required (and optional) readings for each week are listed on pages 7-12 of the syllabus. Full texts can be accessed for free through the UCLA Library or the course website (CCLE).

REQUIREMENTS

Participation – 20%

Applied psychology essays – 20%

Journal article presentation – 10%

Paper proposal presentation – 10%

Final paper – 40% total:

- 1) Written proposal / topic overview and preliminary references – 5%
- 2) Draft of introduction – 5%
- 3) Improved introduction and draft of design – 5%
- 4) Improved introduction, design and draft of expected results – 5%
- 5) Final submission (abstract, introduction, design, expected results, references) – 20%

Extra Credit – up to 3% (see below)

Participation (20%):

This course will employ an active learning approach and much of its value will come from your participation in class discussions. To maximize the benefit that you and your classmates receive from this course, please carefully read all of the required readings for each class before coming to class and always arrive on time. There are three ways to earn participation points:

- 1) In-class discussion: raise questions, respond to my questions and critique assigned readings during class.
 - 2) Course discussion board: discuss course material (or anything else you find interesting and relevant) with each other. You should post any questions relating to the course materials on the discussion board and share interesting articles or internet resources you come across that are relevant. I will regularly monitor the discussion board and answer questions as needed. Your participation will also be counted when you post answers to others' questions.
 - 3) Email questions about assigned readings and posted slides to me prior to class.
- You can earn a maximum of 2 participation points (2%) each week. Note that simply showing up to class (attending) does not count toward participation points in this seminar.

Applied psychology essays (20%)

You have two options of fulfilling this requirement:

- 1) You must write four brief (about 1-page long) essays applying the new knowledge acquired in class to your daily life. For each essay, pick a topic (e.g., bias, effect, fallacy) that we discussed in class and describe a decision that you or someone you know (this can also be a fictional, but well known, character, such as Harry Potter) made either succumbing to or overcoming a given bias. Please explain whether the decision was rational or not in your opinion. If the decision was irrational, why was it made?
- 2) You must write four brief (about 1-page long) essays summarizing research findings in a manner accessible to a lay audience (of non-scientists). Learning to read and understand scientific papers takes time and practice, but learning how to convey main findings to someone not familiar with the scientific method and technical terminology is even more challenging. Try it! You can pick any paper from this syllabus or find your own. Here are some examples of successful science communication:

<https://www.scientificamerican.com/article/rats-experience-feelings-of-regret/>

<https://news.nationalgeographic.com/news/2014/06/140608-regret-rats-neuroscience-behavior-animals-science/>

<https://mappingignorance.org/2015/06/29/should-physicians-think-unconsciously/>

Note that you can use a combination of options 1 and 2, any combination (including all of one type) is equally fine. Each essay is worth 5% of your grade. Please consult the SCHEDULE at the end of the syllabus for due dates. All essays should be submitted on CCLE. You can submit them before the due date, but no late submissions will be accepted.

Journal article presentation (10%)

Throughout the quarter, each of you will lead a discussion on one of the assigned (or optional) experimental papers. You may choose to present individually or in a small group (2-3 people). Note that if you choose the group presentation, all members will be assigned the same grade. You will sign up for presentations during week 1 (you do not to pick a paper at this time, but you must choose a topic). Presentations will begin in week 2. You must read your chosen paper and meet with me either in person or via audio/video-chat (ex., phone, Skype, Zoom, Hangouts, etc.) at least once during the week preceding your presentation. It is your responsibility to email or text me to set up the meeting time. You will also need to make PowerPoint Slides to use as a reference during your presentation. Aim for your presentation to be approximately 15-20 min.

Paper proposal presentation (10%)

Your Final Paper is the major writing assignment in this course (see below). I will provide you will many opportunities to receive feedback from me. You will also benefit from feedback from your peers. You will choose the topic for your final paper early during the course and in week 5 you will present your paper proposal to your classmates. Each of you will have 10 min to present your ideas and get helpful comments from your peers: aim for a 5 min presentation, followed by 5 min for questions. You will need to make PowerPoint Slides to use as a reference during your presentation. Please prepare at least 3 slides: 1 – Introduction to your topic, 2 – Design of your task or experiment, 3 – Hypothetical results you may expect.

Final paper (40% total)

At the end of the quarter, you will submit a paper that includes an abstract, substantive literature review, a proposed task/experiment (you may include more than one), and expected results. The goal of the paper will be for you to learn how to think like a scientist: to explore a concept discussed in class, develop a hypothesis, and design an experiment to test that hypothesis. The papers can be about any topic explored in class. Your final submission should be 15-20 pages, including references and title page, double-spaced and with 2-inch margins. The paper will be similar in format to the empirical/experimental papers that we will read and discuss during class. You will be given many opportunities to receive feedback from me and your classmates. You will write and re-write several drafts (see below), each new draft incorporating feedback you received on the previous submission. When you submit the final draft of your paper you will have received feedback and comments on most of the components of your paper. All written submissions should be uploaded on CCLE and will be checked for plagiarism.

Written proposal / topic overview and preliminary references (5%)

During week 3, you should submit a written proposal for your paper. This will include the topic you have chosen and preliminary references. You should include at least 5 references. Two or three should come from class readings. You will need to find additional papers in peer-reviewed journals (I will introduce you to journal databases).

Draft of introduction (5%)

During week 4, you should submit a draft of the introduction for your paper. It should outline your topic of study, include a literature overview, and clearly state the hypotheses that you will be testing.

Improved introduction and draft of design (5%)

During week 6, you will submit an improved version of the introduction and a draft of your proposed task/experiment design. By this time, you will have received feedback from me and your peers. Please incorporate it.

Improved introduction, design and draft of expected results (5%)

This draft, submitted during week 8, will also include the description of results that you expect to obtain after conducting your experiment. You must explain why you expect these results given the papers you have read and cited.

5) Final submission (abstract, introduction, design, expected results, references) (20%)

You must submit the final draft of your paper with all parts during the Finals week. You must incorporate the feedback you received on previous submissions.

Extra credit (up to 3%):

Research Participation. You may participate in research experiments conducted at UCLA in order to earn extra credit in this class. Serving as a participant will give a glimpse into how research studies are conducted. Posting and scheduling of experiments is handled via the Psychology Department Subject Pool system at <http://ucla.sona-systems.com/>. More information on how to use the system is at <http://www.psych.ucla.edu/undergraduate/subject-pool-experiment-participation/sona-instructions-for-undergraduate-participants>. Also see the handout attached to the syllabus. Please register with the SONA system during Week 1. Otherwise, you will not be able to take part in the online pretesting survey and there may not be enough experiments to participate in at the end of the session. Also, you must select the correct course in order for your credit to appear on your Credit Balance Report at the end of the quarter. I will give you 1 point of extra credit (1%) for each 2 hours of research participation up to a total of 3 points (6 hours).

Students who are 1) UCLA students under 17 years of age and 2) non-UCLA students under 18 are not eligible to participate in research for credit. If you are not eligible to participate, you may earn extra credit points by writing summaries of 3 research articles (1 point for each article). The articles you choose to summarize can be from the list of optional readings on the syllabus or papers in any peer-reviewed journal relevant to the material discussed in class. Guidelines on writing an abstract can be found on the course website.

GRADING SCALE

I do not grade on a curve. Your grade is based on how successful you are at mastering the material, not how well you did compared to your peers. If you ever feel that an assignment or specific question is unfair or confusing, please speak with me so that I can address this concern ASAP. I

am committed to making the assessment of your learning comprehensive and fair. My letter grading scale is below.

A+	97% +	B+	87-89%	C+	77-79%	D+	67-69%
A	93-96%	B	83-86%	C	73-76%	D	63-66%
A-	90-92 %	B-	80-82%	C-	70-72%	D-	60-62%

Please note that grades on the border (e.g. 89.5%) will be rounded to the nearest whole number: .50 and above rounds up, everything below 0.50 rounds down.

COURSE POLICIES

Missed assignments: No makeup work will be accepted. Class attendance is mandatory. If serious unforeseen circumstances arise that impair your ability to finish assignments on time, please contact me as soon as possible so that I can accommodate you.

Students with special needs: I will work with the Center for Accessible Education (CAE) to provide equal access to this class for all students. Special services must be approved by the CAE coordinator and can be accessed by completing the appropriate service request form. Service guideline information is available at the CAE web site: <http://www.cae.ucla.edu>.

Academic dishonesty: All academic dishonesty will be handled according to UCLA guidelines. Cheating and plagiarism will result in a zero on an assignment and will be reported to the Dean of Students.

SCHEDULE

Please note: This syllabus (and especially the schedule) is subject to change. If the syllabus is updated for any reason, the class will be notified by email and the updated syllabus will be posted to the course website.

Required (and optional) readings for each week are listed on pages 7-12 of the syllabus. Full texts can be accessed through UCLA library or course website (CCLE). All written assignments should be submitted through CCLE by 11:59pm on Sunday of the respective week.

	Topic	Common deadlines
Week 1	<i>Introduction to (Ir)Rational Decision Making. How do Psychologists Study the Mind?</i>	Required Readings, Sign up for Journal Article Presentation
Week 2	<i>Decisions, Fast and Frugal: Benefits and Pitfalls of Heuristics</i>	Required Readings, Applied Psychology Essay 1
Week 3	<i>The “Better-than-Average” Effect, Illusory Superiority and Overconfidence</i>	Required Readings, Written proposal for Final Paper
Week 4	<i>The “Framing Effect”, Emotions and Context-Dependent Preferences</i>	Required Readings, Draft of Introduction
Week 5	<i>Peer-Review Panel</i>	Paper Proposal Presentation, Applied Psychology Essay 2
Week 6	<i>When the Past Affects the Future: Regret, Counterfactuals, and The Sunk Cost Effect</i>	Required Readings, Improved Introduction and Draft of Design
Week 7	<i>About Time: Delays, Impatience and the “Planning Fallacy”</i>	Required Readings, Applied Psychology Essay 3
Week 8	<i>Risky Business: Decisions under Uncertainty and Ambiguity Aversion</i>	Required Readings, Improved Introduction, Design and Draft of Expected Results
Week 9	<i>Evolutionary Perspective and Decision Biases in Non-Human Animals</i>	Required Readings, Applied Psychology Essay 4
Week 10	<i>How to Make Better Choices? Strategies for Overcoming Flaws and Biases</i>	Required Readings
Finals week		Final submission (abstract, introduction, design, expected results, references) of the Final Paper (TBD)

READING LIST

Reviews, chapters, opinions and experimental papers are required. Further explorations are optional.

Week 1. Introduction to (Ir)Rational Decision Making. How do Psychologists Study the Mind?

READ THE SYLLABUS AND NOTES TO INTRODUCTORY SLIDES

Reviews, chapters and opinions:

Maccoun, R. (2002). Why a psychologist won the Nobel Prize in economics. *American Psychological Society Observer*, 15.

Ariely, D., Norton, M. I. (2011). From thinking too little to thinking too much: a continuum of decision making. *Interdisciplinary Reviews: Cognitive Science*, 2, 39–46.

Chapter 2: “Psychological Research” from Psychology by Dr. Rose Spielman. This book is available online for free through the Open Textbook Library:

<https://open.umn.edu/opentextbooks/BookDetail.aspx?bookId=207>

Further explorations. Optional:

DeMartino et al. (2006). Frames, biases, and rational decision making in the human brain. *Science*, 13, 684-687.

Week 2. Decisions, Fast and Frugal: Benefits and Pitfalls of Heuristics

Reviews, chapters and opinions:

Shah, A. J., Oppenheimer, D. M. (2008). Heuristics made easy: An effort-reduction framework. *Psychological Bulletin*, 134, 207-222.

Gigerenzer, G., & Gaissmaier, W. (2011). Heuristic decision making. *Annual Review of Psychology*, 62, 451–482. doi:10.1146/annurev-psych-120709-145346.

Experimental papers:

Johnson, E.J., Goldstein, D. (2003). Do defaults save lives? *Science*, 302, 1338-1339.

Tversky, A., Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5, 207-232.

Schwarz et al. (1991). Ease of retrieval as information: Another look at the availability heuristic. *Journal of Personality and Social Psychology*, 61, 195–202.

Week 3. The “Better-than-Average” Effect, Illusory Superiority and Overconfidence

Reviews, chapters and opinions:

Moore, D. A., Healy, P. J. (2008). The Trouble with Overconfidence. *Psychological Review*, 115(2), 502-517.

Experimental papers:

Kruger, J., Dunning, D. (1999). Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77(6), 1121-1134.

Svenson, O. (1981). Are we all less risky and more skillful than our fellow drivers? *Acta Psychologica*, 47(2), 143-148.

Weinstein, N. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 39, 806-820.

Klayman et al. (1999). Overconfidence: It depends on how, what, and whom you ask. *Organizational Behavior and Human Decision Processes*, 79, 216-247.

Week 4. The “Framing Effect”, Emotions and Context-Dependent Preferences

Reviews, chapters and opinions:

Lerner et al. (2015). Emotion and decision making. *Annual Review of Psychology*, 66, 799-823.

Tversky, A., Simmons, I. (1993). Context-dependent preferences. *Management Science*, 10, 1179-1189.

Experimental papers:

Lerner et al. (2004). Heart strings and purse strings: Carryover effects of emotions on economic decisions. *Psychological Science*, 15(5), 337-341.

Pochesptsova et al. (2009). Deciding without resources: Resource depletion and choice in context. *Journal of Marketing Research*, 46, 344-355.

Rothman et al. (1993). The influence of message framing on intentions to perform health behaviors. *Journal of Experimental Social Psychology*, 29, 408-433.

Further explorations. Optional:

Englich et al. (2006). Playing dice with criminal sentences: The influence of irrelevant anchors on experts' judicial decision making. *Personality and Social Psychology Bulletin*, 32, 188-200.

Mikels et al. (2016). Messages that matter: Age differences in affective responses to framed health messages. *Psychology and Aging*, 31(4), 409-414.

Week 5. Peer-Review Panel

There are no assigned readings for this week. During week 5 you will present proposals for your final paper to your classmates and receive feedback. Each of you will have 10 min to present your ideas and get helpful comments from your peers: aim for a 5 min presentation, followed by 5 min for questions. You will need to make PowerPoint Slides to use as a reference during your presentation. Please prepare at least 3 slides: 1 – Introduction to your topic, 2 – Design of your task or experiment, 3 – Hypothetical results you may expect.

Week 6. When the Past Affects the Future: Regret, Counterfactuals, and The Sunk Cost Effect

Reviews, chapters and opinions:

Byrne, R. (2002). Mental models and counterfactual thoughts about what might have been. *Trends in Cognitive Science*, 6, 426–431.

Experimental papers:

Medvec et al. (1995). When less is more: Counterfactual thinking and satisfaction among Olympic medalists. *Journal of Personality and Social Psychology*, 69, 603-610.

Arkes, H. R., Blumer, C. (1985). The psychology of sunk cost. *Organizational Behavior and Human Decision Processes*, 35, 124-140.

Staw, B. M. (1976). Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Performance*, 16(1), 27-44.

Sweis et al. (2018). Sensitivity to “sunk costs” in mice, rats, and humans. *Science*, 361, 178–181.

Further explorations. Optional:

Arkes, H. R., Ayton, P. (1999). The sunk cost and Concorde effects: Are humans less rational than lower animals? *Psychological Bulletin*, 125(5), 591-600.

Sweis et al., (2018). Mice learn to avoid regret. *PLOS Biology*, 16(6): e2005853.

Steiner, A., Redish, A. D. (2014). Behavioral and neurophysiological correlates of regret in rat decision-making on a neuroeconomic task. *Nature Neuroscience*, 17, 995–1002.

Roese, N.J. (1997). Counterfactual thinking. *Psychological Bulletin*, 121, 133-148.

Week 7. About Time: Delays, Impatience and the “Planning Fallacy”

Reviews, chapters and opinions:

Berns et al. (2007). Intertemporal choice - toward an integrative framework. *Trends in Cognitive Science*, 11, 482-488.

Experimental papers:

- Buehler et al. (1994). Exploring the "planning fallacy": Why people underestimate their task completion times. *Journal of Personality and Social Psychology*, 67(3), 366-381.
- Loewenstein, G. (1987). Anticipation and the valuation of delayed consumption. *The Economic Journal*, 97, pp. 666-84.
- Zhong et al. (2010). You are how you eat: Fast food and impatience. *Psychological Science*, 21(5), 619-622.
- Ersner-Hershfield et al. (2008). Saving for the future self: Neural measures of future self-continuity predict temporal discounting. *Social Cognitive and Affective Neuroscience*, 4, 85– 92.

Further explorations. Optional:

- Luhmann et al. (2011). Intolerance of uncertainty and decisions about delayed, probabilistic rewards, *Behavior Therapy*, 42, 378-386.

Week 8. Risky Business: Decisions under Uncertainty and Ambiguity Aversion

Reviews, chapters and opinions:

- Kahneman, D., Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the Econometric Society*, 263-291.

Experimental papers:

- Gottlieb et al. (2007). The format in which uncertainty information is presented affects decision biases. *Psychological Science*, 18, 240–246.
- Fox, C. R., Tversky, A. (1995). Ambiguity aversion and comparative ignorance. *The Quarterly Journal of Economics*, 3, 585- 603.
- Curley et al. (1986). Psychological sources of ambiguity avoidance. *Organizational Behavior and Human Decision Processes*, 38, 230-256.
- Venkatraman et al. (2014). An overall probability of winning heuristic for complex risky decision processes: choice and eye fixation evidence. *Organizational Behavior and Human Decision Process*, 125, 73-87.

Further explorations. Optional:

- Einhorn, H. J., Hogarth, R. M. (1986). Decision making under ambiguity. *The Journal of Business*, 59, S225-S250.
- Weber, E.U., Hsee, C. (1988). Cross-cultural differences in risk perception, but cross-cultural similarities in attitudes towards perceived risk. *Management Science*, 44, 1205-1217.
- Fischhoff, B. (1975). Hindsight \neq foresight: The effect of outcome knowledge on judgment under uncertainty. *Journal of Experimental Psychology: Human Perception and Performance*, 1, 288-299.
- Shafir et al. (2008). Perceptual accuracy and conflicting effects of certainty on risk-taking behavior. *Nature*, 917-921.

Week 9. Evolutionary Perspective and Decision Biases in Non-human Animals

Experimental papers:

- Rode et al. (1999). When and why do people avoid unknown probabilities in decisions under uncertainty? Testing some predictions from optimal foraging theory. *Cognition*, 72(3), 269-304.
- Ermer et al. (2008). Relative status regulates risky decision making about resources in men: Evidence for the co-evolution of motivation and cognition. *Evolution and Human Behavior*, 29, 106-118.
- Chen et al. (2006). How basic are behavioral biases? Evidence from capuchin-monkey trading behavior. *Journal of Political Economy*, 114, 517–537.
- Brosnan, S. F., de Waal, F. B. M. (2003). Monkeys reject unequal pay. *Nature*, 425, 297-299.

Further explorations. Optional:

- Ghirardato, P., Marinacci, M. (2002). Ambiguity made precise: A comparative foundation. *Journal of Economic Theory*, 102(2), 251-289.
- Rode, C., Wang, X.T. (2000) Risk-sensitive decision making examined within an evolutionary framework. *American Behavioral Scientist*, 43, 926–939.
- Wang, X. T., Johnston, V. S. (1995). Perceived social context and risk preference: A re-examination of framing effects in a life-death decision problem. *Journal of Behavioral Decision Making*, 8(4), 279-293.
- Brosnan et al. (2005). Tolerance for inequity increases with social closeness in chimpanzees. *Proceedings of the Royal Society B*, 272, 253-258.
- van Wolkenten et al. (2007). Inequity responses of monkeys modified by effort. *Proceedings of the National Academy of Science*, 104, 18855-18859.

Week 10. How to Make Better Choices? Strategies for Overcoming Flaws and Biases

Reviews, chapters and opinions:

- Soll et al. (2015). Outsmart your own biases. *Harvard Business Review*, 64-71.
- Milkman et al. (2009). How can decision making be improved? *Perspectives on Psychological Science*, 4(4), 379-383.
- Nisbett et al. (1987). Teaching reasoning. *Science*, 238, 625-631.

Experimental papers:

- Payne et al. (1988). Adaptive strategy selection in decision making. *Journal of Experimental Psychology: Learning, Memory and Cognition*. 14, 534-552.

Broder, A., Schiffer, S. (2006). Adaptive flexibility and maladaptive routines in selecting fast and frugal decision strategies. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 32, 904-918.

Dijksterhuis et al. (2006). On making the right choice: The deliberation-without-attention effect. *Science*, 311, 1005-1007.

Further explorations. Optional:

Beshears, J., Gino, F. (2015). Leaders as decision architects. *Harvard Business Review*, 52-62.

Payne et al. (2008). Boundary conditions on unconscious thought in complex decision making. *Psychological Science*, 19, 1118-1123.

Wilson, T.D., Brekke, N. (1994). Mental contamination and mental correction: Unwanted influences on judgments and evaluations. *Psychological Bulletin*, 116, 117-142.



New Course Proposal

Psychology 98TB Psychology of (Ir)Rational Decisions: Learning to make better choices and outsmart your biases

Course Number Psychology 98TB

Title Psychology of (Ir)Rational Decisions: Learning to make better choices and outsmart your biases

Short Title

Units Fixed: 5

Grading Basis Letter grade only

Instructional Format Seminar - 3 hours per week

TIE Code SEMT - Seminar (Topical) [T]

GE Requirement Yes

Major or Minor Requirement No

Requisites Enforced: Satisfaction of entry-level Writing requirement. Freshmen and sophomores preferred.

Course Description Seminar, three hours. Requisite: satisfaction of Entry-Level Writing requirement. Freshmen/sophomores preferred. Critical evaluation of scholarly articles that address irrational behavior, focusing on heuristics and fallacies in human decision-making and strategies for overcoming such flaws and biases. Discussion, with substantial writing component, examining psychological and evolutionary reasons for irrationality.

Justification Part of the series of seminars offered through the Collegium of University Teaching Fellows

Syllabus File [PSYCH 98TB_Stolyarova_Syllabus.docx](#) was previously uploaded. You may view the file by clicking on the file name.

Supplemental Information Instructor (Alexandra Stolyarova) UID: 804391939

Professor Alicia Izquierdo is the faculty mentor for this course. UID: 204388459

Approved by the Collegium of University Teaching Fellows Faculty Advisory Committee on April 19, 2019

Grading Structure Participation ? 20%
Applied psychology essays ? 20%
Journal article presentation ? 10%
Paper proposal presentation ? 10%
Final paper ? 40% total:
1) Written proposal / topic overview and preliminary references ? 5%
2) Draft of introduction ? 5%
3) Improved introduction and draft of design ? 5%
4) Improved introduction, design and draft of expected results ? 5%
5) Final submission (abstract, introduction, design, expected results, references) ? 20%
Extra Credit ? up to 3% (see below)

Effective Date Winter 2020

Discontinue Date Summer 1 2020

Instructor Name

Title

Quarters Taught Fall Winter Spring Summer

Department Psychology

Contact Name

MICHELLE CHEN

E-mail

mchen@teaching.ucla.edu

[Routing Help](#)

ROUTING STATUS

Role: L&S FEC Coordinator - Ries, Mary (mries@college.ucla.edu) - 61225

Status: Pending Action

Role: CUTF Coordinator - Chen, Michelle L (mchen@teaching.ucla.edu) - 53042

Status: Approved on 8/14/2019 1:35:05 PM

Changes: Grading Structure

Comments: on behalf of Professor Kathleen L. Komar, Chair, CUTF Faculty Advisory Committee

Role: Initiator/Submitter - Chen, Michelle L (mchen@teaching.ucla.edu) - 53042

Status: Submitted on 8/12/2019 12:19:39 PM

Comments: Initiated a New Course Proposal

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