Term Information

Effective Term	Spring 2015

General Information

Course Bulletin Listing/Subject Area	Psychology
Fiscal Unit/Academic Org	Psychology - D0766
College/Academic Group	Arts and Sciences
Level/Career	Graduate
Course Number/Catalog	8881
Course Title	Cognitive and Affective Influences in Decision Making
Transcript Abbreviation	CogAffect In Dec
Course Description	This course will provide an introduction to recent trends in decision research. We make choices and perceive risk based on cognitive, affective, and motivational factors that influence how we perceive meaning and construct our preferences. The course will cover theoretical distinctions and their application to practical domains such as health, finances, and the environment.
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	14 Week, 7 Week, 4 Week (May Session)
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites	Prerequisite: Permission of instructor
Exclusions	

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	42.0101
Subsidy Level	Doctoral Course
Intended Rank	Masters, Doctoral

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Students will learn knowledge of the theory and questions being addressed in the study of affect/emotion and numeracy/number processing
- Students will learn how to critique the research of others
- Students will learn how to translate descriptive theories of judgment and decision making into prescriptive advice

Content Topic List

- Understanding current theory in decision making
- Developing prescriptions for decision making
- Evaluating/critiquing others' research

Attachments

- Psych 8881 Syllabus seminar CognitiveAffectiveInfluencesInDecisionMaking.doc: syllabus

(Syllabus. Owner: Paulsen,Alisa Marie)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Paulsen,Alisa Marie	10/28/2013 05:40 PM	Submitted for Approval
Approved	Vasey,Michael William	10/30/2013 10:48 AM	Unit Approval
Approved	Haddad,Deborah Moore	10/30/2013 11:09 AM	College Approval
Pending Approval	Hanlin,Deborah Kay Hogle,Danielle Nicole Jenkins,Mary Ellen Bigler Nolen,Dawn Vankeerbergen,Bernadette Chantal	10/30/2013 11:09 AM	ASCCAO Approval

Cognitive and Affective Influences in Decision Making
Psychology 8881; semester, year ~~– 3 units~~
Dr. Ellen Peters

Overview
This course will provide an introduction to recent trends in decision research. We make choices and perceive risks in the world around us based on cognitive, affective, and motivational factors that influence how we perceive meaning and (sometimes) influence how we construct our preferences. The present course will cover theoretical distinctions starting with the role of valenced affect and discrete emotions in decisions. Integral as well as incidental sources of affect and emotion will be considered. Although recent research has discussed risk perceptions as primarily based in feelings, we will also cover important cognitive influences such as the role of number processing in risk perceptions and decisions. Both situational factors as well as individual differences will be considered in this course because, as the eminent learning theorist Hobart Mowrer once said, "To understand or predict what a rat will learn to do in a maze, one has to 'know both the rat and the maze" (Mowrer, 1960, p. 10). Finally, we will discuss descriptive theory as well as its application to practical domains such as health and the environment, including the recently popularized notion of "choice architecture."

Meetings	**Instructor E. Peters**
Day, time	235 Psychology
Room	688-3477
Class number xxx, 3 units	peters.498@osu.edu

Requirements
In addition to class attendance, readings, and participation, students will be required to prepare a proposal involving a focused literature review combined with a proposed empirical project that will shed light on an existing question in the literature.

Goals and procedures
Do we have well-established preference or labile ones? Can emotions be rational? Are cognition and emotion separate systems? How does your numeric ability influence your feelings about choice options? How does it influence some common judgment and decision biases? What does psychological theory say about how to help people to improve their decisions? These are some of the questions we will explore in this course, an introduction to emerging themes in judgment and decision making. The lectures and discussions will be coordinated to complement your weekly reading, which <u>you should do before each class session</u>.

Course components and grading

Grading will be based on your cumulative point total for the components listed below. There will be no grading curve; all students can earn an "A" if they acquire enough points.

(1) <u>A brief proposal</u> = 50% of your grade

You will write a mini-NSF-style proposal (typed, double-spaced, and up to 15 pages). <u>Alternative:</u> You can work with another student in class on this proposal, but note that I will expect joint projects to be significantly better than individual ones and will grade accordingly. Joint proposals, I think, have the potential to produce something much more interesting, but they are also more difficult to do well, so choose carefully.

The final proposal is due xxx at the beginning of class (Week 15). The paper will count for 50 points. Further details on the assignment are on the last page of this syllabus.

(2) <u>Class participation</u> = 50% of your grade

- A sizable portion of material covered in class will supplement the assigned readings. It is important, therefore, to attend and participate in each class. Although I will lecture for part of the time, each class will include some discussion of interesting questions and ideas. I expect that everyone will have something to contribute and I encourage you to come to class prepared to discuss the readings either by raising questions and comments about the articles or by relating the material to your own research, experience, or current events.

- Finally, on the Xday prior to each class time (by 5pm), you should email me with 2-3 comments or questions about the readings. You should bring a written copy of your comments or questions to each class period as well.

- Your class participation will be worth the other 50 points of your final grade. I will determine your points based on your comments/questions above and how much effort you put into making the class work. If you feel uncomfortable about class participation, for whatever reason, come see me in the first 2 weeks of class and we will find some way around that.

Grades for all components of the course will be converted to percentages and averaged using the weights given above. Your final grade will be computed using the OSU standard grading scheme summarized below.

E	D	D+	C–	C	C+	B–	B	B+	A–	A
<60%	≥60%	≥67%	≥70%	≥73%	≥77%	≥80%	≥83%	≥87%	≥90%	≥93%

Overview of topics and schedule – All required readings will be posted on Carmen. Note: There may be some changes to the reading schedule. Material sometimes takes longer than expected and sometimes students want to stay with particular topics for more time than originally allotted. Any schedule adjustments will be announced in class.

Weeks 1 and 2 (1/10 and 1/17): Introduction/Overview

Readings for Week 2:

1. Weber, E.U. & Johnson, E.J. (2009). Mindful judgment and decision making. *Annual Review of Psychology, 60*, 53-85. Read all sections except Memory (p 62-65), Learning (p70-72), and subsections Choice From External Search through Goal Framing (p 60-62).
2. Over, D. (2004). Rationality and the normative/descriptive distinction. In D.J. Koehler & Harvey, N. *Blackwell Handbook of Judgment and Decision Making* (pp 3-18). Malden MA: Blackwell Publishing Ltd.

Week 3 (1/24): How does integral affect (a faint whisper of emotion) influence risk perceptions and decisions?

1. Slovic, P., Finucane, M.L., Peters, E., & MacGregor, D.G. (2002). The affect heuristic. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and Biases: The Psychology of Intuitive Judgments* (pp. 397-420). New York: Cambridge University Press.
2. Loewenstein, G.F., Weber, E.U., Hsee, C. K., & Welch, E.S. (2001). Risk as feelings. *Psychological Bulletin, 127*(2), 267-286.

Week 4 (1/31): Four functions of affect. How does the act of judging and deciding influence affect and choice in turn?

1. Peters, E. (2006). The functions of affect in the construction of preferences. In S. Lichtenstein & P. Slovic (Eds.), *The construction of preference*, (pp. 454-463). New York: Cambridge University Press.
2. Luce, M.F., Payne, J.W., & Bettman, J.R. (1999). Emotional trade-off difficulty and choice. *Journal of Marketing Research, 36*, 143-159.

Week 5 (2/7): Do incidental affect and arousal unknowingly shape risk perceptions and decisions?

As information:

1. Johnson, E. J., & Tversky, A. (1983). Affect, generalization, and the perception of risk. *Journal of Personality and Social Psychology, 45*, 20-31.

As a motivator of information processing and decisions:

2. Ariely, D. & Loewenstein, G. (2006). The heat of the moment: The effect of sexual arousal on sexual decision making. *Journal of Behavioral Decision Making, 19*, 87-98.
3. Isen, A. (2008). Some ways in which positive affect influences decision making and problem solving. In M. Lewis, Haviland-Jones, J.M., & Barrett, L.F. (Eds.), *Handbook of Emotions* (Vol. 3, pp. 548-573). New York, NY: Guilford Press.

Week 6 (2/14): Does valenced affect matter?: The role of discrete emotions
(We'll end class with Christopher Hsee at 4pm in PSY035)

1. Lerner, J.S. & Tiedens, L.Z. (2006). Portrait of the angry decision maker: How appraisal tendencies shape anger's influence on cognition. *Journal of Behavioral Decision Making, 19*, 115-137.
2. Peters, E., Burraston, B., & Mertz, C.K. (2004). An emotion-based model of stigma susceptibility: Appraisals, affective reactivity, and worldviews in the generation of a stigma response. *Risk Analysis, 24*, 1349-1367.
3. Connolly, T. & Zeelenberg, M. (2002). Regret in decision making. *Current Directions in Psychological Science, 11*, 212-216.

Week 7 (2/21): Dual process theories and criticisms

1. Kahneman (2003). Maps of bounded rationality: Psychology for behavioral economics. *The American Economic Review, 93*, 1449-1475.
2. Keren, G. & Schul, Y. (2009). Two is not always better than one: A critical evaluation of two-system theories. *Perspectives on Psychological Science, 4*, 533-550.
3. Frank, M.J., Cohen, M.X., & Sanfey, A.G. (2009). Multiple systems in decision making: A neurocomputational perspective. *Current Directions in Psychological Science, 18*, 73-77.

Week 8 (2/28): Numeracy goes beyond comprehension

1. Peters, E., Vastfjall, D., Slovic, P., Mertz, C. K., Mazzocco, K., & Dickert, S. (2006). Numeracy and decision making. *Psychological Science, 17*(5), 407-413.
2. Cokely, E.T. & Kelley, C.M. (2009). Cognitive abilities and superior decision making under risk: A protocol analysis and process model evaluation. *Judgment and Decision Making, 4*, 20-33.

Week 9 (3/7): Numeracy goes beyond comprehension (cont)
(The short paragraph for your proposal is due prior to the beginning of class. Send it electronically in .doc or .docx format)

1. Galesic, M. & Garcia-Retamero, R. (2011). Do low-numeracy people avoid shared decision making? *Health Psychology, 30*, 336-341.
2. Keller, C. (2011). Using a familiar risk comparison within a risk ladder to improve risk understanding by low numerates: A study of visual attention. *Risk Analysis, 31*, 1043-1054.

Week 10 (3/14) No class - Spring break

Week 11 (3/21) No class – I am at a professional conference

Week 12 (3/28) Numeracy impact on health, finances, and the environment

1. Zikmund-Fisher, B.J., Mayman, G., Fagerlin, A. (2013, in press). Patient numeracy: What do patients need to recognize, think or do with health numbers? In J. Schulkin and B. Anderson (Eds.), *Numerical Reasoning in Judgments and Decision Making about Health*.
2. Soll, J.B., Keeney, R.L., & Larrick, R.P. (2012, in press). Consumer misunderstanding of credit card use, payments, and debt: Causes and solutions. *Journal of Public Policy & Marketing*.

3. Kahan, D. M., Peters, E., Wittlin, M., Slovic, P., Ouellette, L. L., Braman, D., & Mandel, G. (2012). The polarizing impact of science literacy and numeracy on perceived climate change risks. *Nature Climate Change, 2*, 732-745.

Week 13 (4/4): Numeracy and improving comprehension and use of numbers

1. Peters, E., Dieckmann, N.F., Västfjäll, D., Mertz, C.K., Slovic, P., & Hibbard, J. (2009). Bringing meaning to numbers: The impact of evaluative categories on decisions. *Journal of Experimental Psychology: Applied*, *15*, 3, 213–227.
2. Fagerlin, A., Ubel, P.A., Smith, D.M., & Zikmund-Fisher, B.J. (2007). Making numbers matter: Present and future research in risk communication. *American Journal of Health Behavior*, *31*, 47–56.
3. Peters, E., Baker, D.P., Dieckmann, N.F., Leon, J., & Collins, J. (2010). Explaining the effect of education on health: A field study in Ghana. *Psychological Science*, *21*(10) 1369–1376.

Week 14 (4/11): Number intuitions

1. Furlong, E.E. & Opfer, J.E. (2009). Cognitive constraints on how economic rewards affect cooperation. *Psychological Science*, *20*, 11-16.
2. Peters, E., Slovic, P., Västfjäll, D., & Mertz, C.K. (2008). Intuitive numbers guide decisions. *Judgment and Decision Making*, *3*(8), 619-635.

Week 15 (4/18): Choice architecture and papers due

1. Sunstein, C.R. & Thaler, R.H. (2003). Libertarian paternalism is not an oxymoron. *The University of Chicago Law Review, 70*(4), 1159-1202.
2. Marteau, T.M., Ogilvie, D., Roland, M., Suhrcke, M., & Kelly, M.P. (2011). Judging nudging: Can nudging improve population health? *British Medical Journal, 342*, 263-265.
3. Whitman, G. (2010). The risk of the new paternalism. *Cato Unbound*. Lead essay.

Optional readings

Week 2 - Optional reading (Introduction/Overview):

- Lichtenstein, S., & Slovic, P. (Eds.) *The construction of preference*. New York: Cambridge University Press. 2006.
- Baron (2004). Normative models of judgment and decision making. In D.J. Koehler & Harvey, N. *Blackwell Handbook of Judgment and Decision Making* (pp 19-36). Malden MA: Blackwell Publishing Ltd.

Week 3 – Optional reading (Integral affect):

- Loewenstein, G. & Lerner, JS. (2003). The role of affect in decision making. In Davidson R, Goldsmith H, & Scherer K. *Handbook of Affective Science*. Oxford: Oxford University Press; 2003. p. 619-642.
- Wilson, R. & Arvai, J. (2006). When less is more: How affect influences preferences when comparing low and high-risk options. *Journal of Risk Research, 9*(2), 165–178.
- Oatley, K. & Jenkins, J.M. (1996). Chapter 4: What is an emotion? p. 95-132. In *Understanding Emotions*.
- Russell, J.A. (2003). Core affect and the psychological construction of emotion. *Psychological Review, 110*, 145-172. (see affective quality)

Week 4 - Optional reading (Functions and Act of judging/deciding):

- Han, P.K.J., Klein, W.M.P., Lehman, T., Killam, B., Massett, H., & Freedman, A.N. (2011). Communication of uncertainty regarding individualized cancer risk estimates: Effects and influential factors, *Medical Decision Making, 31*, 354-366.
- Hsee, C. K., & Rottenstreich, Y. (2004). Music, pandas, and muggers: On the affective psychology of value. *Journal of Experimental Psychology: General, 133*, 23-30.
- Rottenstreich, Y., & Hsee, C. K. (2001). Money, kisses, and electric shocks: On the affective psychology of risk. *Psychological Science, 12*(3), 185-190.
- Shiv, B., & Fedorikhin, A. (1999). Heart and mind in conflict: The interplay of affect and cognition in consumer decision making. *Journal of Consumer Research, 26*(3), 278-292.
- van Dijk, E. & Zeelenberg, M. (2006). The dampening effect of uncertainty on positive and negative emotions. *Journal of Behavioral Decision Making, 19*, 171–176.

Week 5 - Optional reading (Incidental affect and arousal):

- Bodenhausen, G. V., Kramer, G. P., & Süsser, K. (1994). Happiness and stereotypic thinking in social judgment. *Journal of Personality and Social Psychology, 66*, 621-632.
- Ditto, P. H., Pizarro, D. A., Epstein, E. B., Jacobson, J. A., & MacDonald, T. K. (2006). Visceral influences on risk taking behavior. *Journal of Behavioral Decision Making, 19*(2), 99–113.

Week 6 – Optional reading (Discrete emotions):

- DeSteno, D., Petty, R.E., Wegener, D.T., & Rucker, D.D. (2000). Beyond valence in the perception of likelihood: The role of emotion specificity. *Journal of Personality and Social Psychology, 78*, 397-416.
- Lerner, J. S., Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific influences on judgment and choice. *Cognition & Emotion, 14*, 473-493.

- Lerner, J.S., Gonzalez, R.M., Small, D.A., & Fischhoff, B. (2003). Effects of fear and anger on perceived risks of terrorism: A national field experiment. *Psychological Science, 14*, 144-150.
- Smith & Ellsworth (1985).
- Wardman, J.K. (2006). Toward a critical discourse on affect and risk perception *Journal of Risk Research, 9*(2), 109–124.

Week 7 - Optional reading (Dual process theories and criticisms):

- Cunningham, W. A., & Zelazo, P. D. (2007). Attitudes and evaluations: a social cognitive neuroscience perspective. *TRENDS in Cognitive Sciences, 11*, 97-104.
- Kruglanski, A.W. & Gigerenzer, G. (2011). Intuitive and deliberate judgments are based on common principles. *Psychological Review, 118*, 97-109.
- Petty, R.E. & Wegener, D.T. (1999). The elaboration likelihood model: Current status and controversies. (pp. 37-72) In S. Chaiken & Y. Trope (Eds). *Dual-process theories in social psychology*.
- de Neys, W. (2006). Dual processing in reasoning: Two systems but one reasoner. *Psychological Science, 17*, 428-433.
- Carpenter, S., Peters, E., Isen, A. M., & Västfjäll, D. (2013). Positive feelings facilitate working memory and complex decision making among older adults. *Cognition & Emotion, 27*(1), 184-192.

Weeks 8 and 9 - Optional reading (Numeracy):

- Lipkus, I.M., Peters, E., Kimmick, G., Liotcheva, V., & Marcom, P. (2010). Breast cancer patients' treatment expectations after exposure to the decision aid program, Adjuvant Online: The influence of numeracy. *Medical Decision Making, 30*(4), 464-73.
- Dieckmann, N.F., Slovic, P., & Peters, E. (2009). The use of narrative evidence and explicit probability by decision makers varying in numeracy. *Risk Analysis, 29*(10), 1473-1488.
- Bruine de Bruin, W., Parker, A. M., & Fischhoff, B. (2007). Individual differences in adult decision-making competence. *Journal of Personality and Social Psychology, 92*, 938-956.
- Lyons, I.M. & Beilock, S.L. (2012). When math hurts: Math anxiety predicts pain network activiation in anticipation of doing math. *PloS ONE, 7*, e48076, 1-6.
- Fagerlin, A., Zikmund-Fisher, B. J., Ubel, P. A., Jankovic, A., Derry, H. A., & Smith, D. M. (2007). Measuring numeracy without a math test: Development of the subjective numeracy scale. Medical Decision Making, 27(5), 672-680.
- Lipkus, I. M., Samsa, G., & Rimer, B. K. (2001). General performance on a numeracy scale among highly educated samples. Medical Decision Making, 21(1), 37-44.
- Cokely, E.T., Galesic, M., Schulz, E., Ghazal, S., Garcia-Retamero, R. (2012). Measuring risk literacy: The Berlin Numeracy Test. *Judgment and Decision Making, 7*, 25-47.
- Ask me if you're interested in other reading about numeracy measures

Week 12 - Optional reading (Impact of numeracy):

- Nelson, W., Reyna, V.F., Fagerlin, A., Lipkus, I.M., & Peters, E. (2008). Clinical implications of numeracy: Theory and practice. Annals of Behavioral Medicine, 35, 261–274.

- Gigerenzer, G., Gaissmaier, W., Kurz-Milcke, E., Schwartz, L.M., & Woloshin, S. (2008). Helping doctors and patients make sense of health statistics. Psychological Science in the Public Interest, 8(2), 53-96.
- Reyna, V. F., Nelson, W.L., Han, P.K., & Dieckmann, N.F. (2009). How numeracy influences risk comprehension and medical decision making. Psychological Bulletin, 135 (6) 943-973.
- Smith, J.P., McArdle, J.J., Willis, R. (2010). Financial decision making and cognition in a family context. The Economic Journal, 120(548), F363-F380.
- Rowell, A. & Bregant, J. (October 15, 2012). Numeracy and legal decision making. Available at SSRN: http://ssrn.com/abstract=2163645 or http://dx.doi.org/10.2139/ssrn.2163645

Week 13 - Optional reading (Numeracy and improving comprehension/use):

- Lipkus, I. (2007). Numeric, verbal, and visual formats of conveying health risks: Suggested best practices and future recommendations. *Medical Decision Making, 27*(5), 696-713.
- Peters, E., Hibbard, J.H., Slovic, P., & Dieckmann, N.F. (2007). Numeracy skill and the communication, comprehension, and use of risk and benefit information. *Health Affairs, 26*(3), 741-748.
- Garcia-Retamero, R. & Galesic, G. (2009). Communicating treatment risk reduction to people with low numeracy skills: A cross-cultural comparison. *American Journal of Public Health, 99*, 2196-2202.
- Hibbard, J.H. & Peters, E. (2003). Supporting informed consumer health care choices: Data presentation approaches that facilitate the use of information in choice. *Annual Review of Public Health, 24*, 413-433.
- Fong, G.T., Krantz, D.H., & Nisbett, R.E. (1986). The effects of statistical training on thinking about everyday problems. *Cognitive Psychology, 18*, 253-292.
- Miyake, A., Kost-Smith, L.E., Finkelstein, N.D., Pollock, S.J., Cohen, G.L., & Ito, T.A. (2010). Reducing the gender achievement gap in college science: A classroom study of values affirmation. *Science, 330*, 1234-1237.

Week 14 - Optional reading:

- Thomas, M. & Morwitz, V. (2009). Heuristics in numerical cognition: Implications for pricing. In V.R. Rao (Ed.), *Handbook of Pricing Research in Marketing* (pp 132-149). Cheltenham UK: Edward Elgar.
- Dehaene, S. (2009). Origins of mathematical intuitions: The case of arithmetic. *The Year in Cognitive Neuroscience, Annals of the New York Academy of Sciences, 1156*, 232–259.
- Dehaene, S. & Marques, J.F. (2002). Cognitive Euroscience: Scalar variability in price estimation and the cognitive consequences of switching to the Euro. *Quarterly Journal of Experimental Psychology, 55*(3), 705-731.
- Dehaene, S. (1997). Chapter 1: Talented and gifted animals. *Number Sense*. New York: Oxford University Press.

Week 15 - Optional reading:

- Johnson, E. J., Suzanne, S., Dellaert, B. G. C., Fox, C. R., Goldstein, D. G., Haubl, G., Larrick, R. P., Peters, E., Payne, J. W., Schkade, D., Wansink, B., & Weber, E. U. (2012). Beyond nudges: Tools of a choice architecture. *Marketing Letters, 23*, 487-504.
- Johnson, E.J. & Goldstein, D. (2003). Do defaults save lives? *Science, 302*, 1338-1339.

- Fisman, R. (2010). Nudges go wrong. *Slate*. Retrieved from: http://www.slate.com/toolbar.aspx?action=print&id=2251658

Academic Misconduct:

All students at the Ohio State University are bound by the Code of Student Conduct (see http://studentaffairs.osu.edu/pdfs/csc_12-31-07.pdf). Violations of the code in this class will be dealt with according to the procedures detailed in that code. Specifically, alleged cases of misconduct will be referred to the Committee on Academic Misconduct. It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations.

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/pdfs/csc_12-31-07.pdf.

For good, concise, plain-English advice on how to stay out of academic trouble, see Ten Suggestions for Preserving Academic Integrity at http://oaa.osu.edu/coamtensuggestions.html

If you miss a deadline:

Students missing the weekly question/comment, final paper, or other deadline because of legitimate illness, injury, or serious emergency must do both of the following things:

1. Contact me in person, by email, or by phone (email is best) before the deadline.

2. Provide written documentation of your illness, injury, or emergency from an authoritative source (e.g., a physician's note, a police report, a funeral announcement).

Remedial actions (if any) are at my discretion. Deadline extensions are not guaranteed, even if both of the above actions are taken.

Students with disabilities:

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; http://www.ods.ohio-state.edu/.

Your Proposal (Submit electronically in .doc or .docx format)

You will write a mini-NSF-style proposal (typed, double-spaced, and up to 15 pages) on a topic related to this course. The proposal will count for half your grade. It is intended to get you to think more deeply about the research topics in this course and to consider their relevance for your own research. The proposal should relate clearly to one or more of our course topics.

- A short paragraph in .doc or .docx format proposing your topic and a reading list (of 3-5 scholarly references) is **due before class in Week x, x**. Be sure to tell me how it relates to this course (if it's not obvious) and that it is independent of proposals done for other courses (e.g., 708).
- **The final proposal is due before class on Week x, x.**

Your Project Description (see below) should be a maximum of 15 pages long. The paper should be double spaced in 12-point font. Figures and tables should be integrated into the text rather than being placed at the end. Cite and format references in APA style. Include page numbers in bottom right corner of each page.

Your early drafts are likely to be longer, and you should revise your paper multiple times so that it is tighter in its construction and better written. Quality of writing is important and will affect proposal grades. Quality of writing includes spelling and proofreading, clarity of expression, good sentence structure, logical organization, and many other intangibles. You should credit other authors for ideas that you use, but put it in your own words, where possible, rather than relying on a lot of quotes. It will read better if you do this.

Suggested number of pages (this is only a guideline):
Title page (separate page)
Project summary (1/2 – 1 page; see below for description)
Project description (see below for description; 15 pages maximum)
    Introduction: Background and Theory (3-5 pages)
    Proposed Research with figures and tables embedded (7-11 pages)
    Significance and Broader Impacts (1/2 - 1 page)
References (separate pages)

Project Summary: The proposal must contain a summary of the proposed research, not more than one page in length. It should be written in the third person and include an overview of your rationale for the proposed study(ies), a statement of hypotheses to be tested, methods to be employed, and anticipated results. It must clearly address in separate statements (within the one-page summary): the intellectual merit of the proposed activity and its potential broader impacts.

The Project Description should provide a clear statement of the work being proposed and must include: (1) a review of the relevant literature and rationale for the proposed research including hypotheses (and the relation of the proposed studies to your own work in progress, if applicable), (2) descriptions of your proposed study or studies (e.g., conditions, sample sizes, procedures, measures), (3) proposed analyses and anticipated results, and (4) a brief discussion of the potential implications of the research. On this last point, up to a page of the proposal should be devoted to the project's potential broader impacts, including its potential benefits to the advancement of science and/or to society at large.

Let me know if you would like to see an example of a previously-funded NSF proposal focused on affect or on numeracy.