ARIZONA STATE UNIVERSITY
GENERAL STUDIES COURSE PROPOSAL COVER FORM

Course information:
Copy and paste current course information from Class Search/Course Catalog.

Academic Unit: College of Liberal Arts & Sciences
Department: Psychology

Subject: PSY  Number: 394  Title: Special Topics: Neuroeconomics  Units: 3

Is this a cross-listed course? No
If yes, please identify course(s): 

Is this a shared course? No  If so, list all academic units offering this course:

Course description:
This course will provide the conceptual and empirical foundations of neuroeconomics. The course will focus on the psychological and neural basis of choice and valuation, and their implications for policy.

Requested designation: Social and Behavioral Sciences–SB

Note: a separate proposal is required for each designation requested

Eligibility:
Permanent numbered courses must have completed the university’s review and approval process.
For the rules governing approval of omnibus courses, contact the General Studies Program Office at (480) 965-0739.

Area(s) proposed course will serve:
A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study.

Checklists for general studies designations:
Complete and attach the appropriate checklist
- Literacy and Critical Inquiry core courses (L)
- Mathematics core courses (MA)
- Computer/statistics/quantitative applications core courses (CS)
- Humanities, Fine Arts and Design core courses (HU)
- Social and Behavioral Sciences core courses (SB)
- Natural Sciences core courses (SG/SG)
- Global Awareness courses (C)
- Historical Awareness courses (H)
- Cultural Diversity in the United States courses (C)

A complete proposal should include:
- Signed General Studies Program Course Proposal Cover Form
- Criteria Checklist for the area
- Course Syllabus
- Table of Contents from the textbook, and/or lists of course materials

Contact information:
Name: Cindy Theisman  Phone: (480) 965-9376
Mail code: 1104  E-mail: cindy.theisman@asu.edu

Department Chair/Director approval: (Required)
Chair/Director name (Typed): Dr. Clark Presson,
Director of Undergraduate Studies
Date: 9/12/13

Chair/Director (Signature):

Rev. 1/94, 4/95, 7/98, 4/00, 1/02, 10/08, 11/11/12/11, 7/12
Arizona State University Criteria Checklist for

SOCIAL AND BEHAVIORAL SCIENCES [SB]

Rationale and Objectives

The importance of the social and behavioral sciences is evident in both the increasing number of scientific inquiries into human behavior and the amount of attention paid to those inquiries. In both private and public sectors, people rely on social scientific findings to assess the social consequences of large-scale economic, technological, scientific, and cultural changes.

Social scientists' observations about human behavior and their unique perspectives on human events make an important contribution to civic dialogue. Today, those insights are particularly crucial due to the growing economic and political interdependence among nations.

Courses proposed for General Studies designation in the Social and Behavioral Sciences area must demonstrate emphases on: (1) social scientific theories and principles, (2) the methods used to acquire knowledge about cultural or social events and processes, and (3) the impact of social scientific understanding on the world.
**ASU-[SB] CRITERIA**

A SOCIAL AND BEHAVIORAL SCIENCE [SB] course should meet all of the following criteria. If not, a rationale for exclusion should be provided.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>Identify Documentation Submitted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1. Course is designed to advance basic understanding and knowledge about human interaction.</td>
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<td>syllabus</td>
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<td></td>
<td></td>
<td>2. Course content emphasizes the study of social behavior such as that found in:</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>syllabus</td>
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<tr>
<td></td>
<td></td>
<td>- ANTHROPOLOGY</td>
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<td>- ECONOMICS</td>
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<td></td>
<td>- CULTURAL GEOGRAPHY</td>
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<td>- HISTORY</td>
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<td>Psychology</td>
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<td>3. Course emphasizes:</td>
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<td></td>
<td>a. the distinct knowledge base of the social and behavioral sciences (e.g., sociological anthropological).</td>
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<td>OR</td>
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<td></td>
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<td>b. the distinct methods of inquiry of the social and behavioral sciences (e.g., ethnography, historical analysis).</td>
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<td></td>
<td>syllabus, course schedule</td>
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<td></td>
<td>4. Course illustrates use of social and behavioral science perspectives and data.</td>
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<tr>
<td></td>
<td></td>
<td>syllabus</td>
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</tbody>
</table>

**THE FOLLOWING TYPES OF COURSES ARE EXCLUDED FROM THE [SB] AREA EVEN THOUGH THEY MIGHT GIVE SOME CONSIDERATION TO SOCIAL AND BEHAVIORAL SCIENCE CONCERNS:**

- Courses with primarily fine arts, humanities, literary, or philosophical content.
- Courses with primarily natural or physical science content.
- Courses with predominantly applied orientation for professional skills or training purposes.
- Courses emphasizing primarily oral, quantitative, or written skills.
<table>
<thead>
<tr>
<th>Criteria (from checksheet)</th>
<th>How course meets spirit (contextualize specific examples in next column)</th>
<th>Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students will read and discuss about the neural and psychological basis of economic activity</td>
<td>See syllabus. Readings will provide an understanding of neural and psychological basis of choice and valuation</td>
</tr>
<tr>
<td>2</td>
<td>Course content emphasizes the study of economic choice and valuation</td>
<td>See syllabus. Readings will provide relevant material. Essays are intended to emphasize implications for public policy</td>
</tr>
<tr>
<td>3</td>
<td>Course includes material on the methods of economics and experimental psychology</td>
<td>See Course Schedule, &quot;Methodology&quot;, and &quot;Analysis and Models&quot;</td>
</tr>
</tbody>
</table>
PSY 394 Neuroeconomics
Syllabus - Spring 2014

Room: CC 227
Time: Tu 4:30 – 7:15 pm
Email: Federico.Sanabria@asu.edu

Instructor: Federico Sanabria
Office Hours (PSY 216A): Tu 1-4, Fr 4-5

Text Book


Course Description

Neuroeconomics is a new interdisciplinary field of experimental research aimed at explaining how individuals allocate finite resources, on the basis of our current understanding of brain and behavior. It combines theories and methods from behavioral and cognitive neuroscience, experimental analysis of behavior, cognitive psychology, and behavioral economics. This course will cover the main conceptual, theoretical, and methodological issues associated with neuroeconomic research, with a focus on their implications for policy.

Goals

At the end of this course you should understand:

- The conceptual and philosophical problems associated with neuroeconomic research.
- The basic experimental and analytic methods of neuroeconomic research.
- The fundamental neurobiology of choice and valuation.
- The economic and behavioral models of choice and valuation.
- The implications of neuroeconomic findings on policy making.

Requirement and Expectations

Your presence and attention is expected at EVERY class meeting. If you miss a class, you are responsible for getting the notes and assignments from your classmates. Competence in written and oral discourse will be evaluated. You are expected to read all assigned material prior to the scheduled class discussion, and to identify contents that need clarification. You may be evaluated on this material even if it was not directly discussed in class. Basic quantitative skills (i.e., high-school algebra) are expected.

Participation

Your participation in class, through appropriate comments and/or questions, is required. Class discussions are an integral part of the course. I expect to hear you formulate a question, an
answer, or an idea at least once a week—if I don’t, your grade will suffer. I do not take
attendance, but I do regularly call names at random to ask questions. If your name is called and
you are not there, participation points will be taken off.

Weekly Questions

Each Monday before noon you will upload to Blackboard one question for each reading assigned
to that week. The question must be on the topic that was least clear to you in the reading. Your
question should reflect the amount of thought you put in trying to answer it yourself. Simply
asking, for instance, “what are the basal ganglia?” does not count as a valid question. You must
explain what is it you understood, what sources you consulted (Google, Wiki, other textbooks,
etc.) Typically, a valid question is articulated in a short paragraph. You are allowed to skip 2
assignments. Bring a copy of your question to class.

Essays

You will upload two essays to Blackboard, one on March 4th and one on the day of the final
exam. The topic of the essays will be the potential practical implications of the material read in
the first half (first essay) and second half (second essay) of the semester. The essay should reflect
your understanding of the material and your capacity to apply it to practical issues not
contemplated in the course.

Essays will be formatted as Microsoft Word documents. They will be 3 pages long, double-
spaced, 1-inch margin.

Punctuality

Late assignments WILL NOT be accepted. Problems accessing Blackboard, copying files,
printing, etc., are not valid excuses for late assignments. Assignments sent by e-mail will only be
accepted with previous authorization of the instructor. If you foresee any difficulties in
complying with a due date, contact the instructor immediately.

Grading

Participation in class: 33%    Weekly questions: 33%    Essays: 34%

Letter grades will not be assigned for individual tests or assignments. Percents will be provided
to help you estimate your final grade outcome. Final Course grades will be assigned as follows:

A  90% and above  B  80-89%  C  70-79%
D  60-69%  F  59% or below

“Borderline” scores (<2%) will be pushed up ONLY when outstanding class attendance and
participation has been demonstrated.
Disability Resources for Students

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Resource Center at 480-965-1234 (Voice), 480-965-9000 (TDD), or Disability-Q@asu.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and with a DRC Disability Access Consultant.
## Course Schedule

FNA = Foundations of Neuroeconomic Analysis  
NDMB = Neuroeconomics: Decision Making and the Brain

<table>
<thead>
<tr>
<th>Day</th>
<th>Topic</th>
<th>Assignment</th>
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</thead>
<tbody>
<tr>
<td>1/14</td>
<td>Introduction and Syllabus</td>
<td>Read FNA Ch. 1, 2</td>
</tr>
<tr>
<td>1/21</td>
<td>Conceptual Issues 1</td>
<td>Read FNA Ch. 3, 4</td>
</tr>
<tr>
<td>1/28</td>
<td>Conceptual Issues 2</td>
<td>Read FNA Ch. 5, 6</td>
</tr>
<tr>
<td>2/4</td>
<td>Conceptual Issues 3</td>
<td>Read NDDB Ch. 1, 2, 6</td>
</tr>
<tr>
<td>2/11</td>
<td>Methodology</td>
<td>Read NDDB Ch. 3, 4, FNA Ch. 7</td>
</tr>
<tr>
<td>2/18</td>
<td>Analysis and Models 1</td>
<td>Read NDDB Ch. 8, 9; Turn in First Essay</td>
</tr>
<tr>
<td>2/25</td>
<td>Neuroscience and Choice</td>
<td>Read NDDB Ch. 8, 9</td>
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<tr>
<td>3/4</td>
<td>Fundamentals of Choice 1</td>
<td>Read NDDB Ch. 10, 11</td>
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<tr>
<td>3/11</td>
<td>NO CLASS: SPRING BREAK</td>
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<tr>
<td>3/18</td>
<td>Fundamentals of Choice 2</td>
<td></td>
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<tr>
<td>3/25</td>
<td>Neurobiology of Choice 1</td>
<td>Read NDDB Ch. 19, 21</td>
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<tr>
<td>4/1</td>
<td>Neurobiology of Choice 2</td>
<td>Read NDDB Ch. 22, 23, 25</td>
</tr>
<tr>
<td>4/8</td>
<td>Fundamentals of Valuation</td>
<td>Read FNA Ch. 12, NDDB Ch. 8, 9</td>
</tr>
<tr>
<td>4/15</td>
<td>Neurobiology of Valuation 1</td>
<td>Read FNA Ch. 13, 14, NDDB Ch. 15</td>
</tr>
<tr>
<td>4/22</td>
<td>Neurobiology of Valuation 2</td>
<td>Read NDDB Ch. 17, 20, 24</td>
</tr>
<tr>
<td>4/29</td>
<td>Implications for Policy</td>
<td>Read FNA Ch. 15, 16, 17</td>
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<tr>
<td>TBD</td>
<td></td>
<td>Turn in Second Essay</td>
</tr>
</tbody>
</table>
Foundations of Neuroeconomic Analysis
Paul W. Glimcher

Contents
Introduction: Wherefore Neuroeconomics?

Section 1: The Challenge of Neuroeconomics
Chapter 1: Standing at the Threshold

Section 2: Philosophical Constraints on Neuroeconomic Analyses
Chapter 2: Epistemological Constraints on Consilience
Chapter 3: Economic Kinds: Understanding the Abstractions and Esthetics of Economic Thought
Chapter 4: Using Psychology to See the Brain in Economics
Chapter 5: Behavioral Economics: Exceeding the Limits of Traditional Neoclassical Models
Chapter 6: Because, Not As If

Section 3: The Choice Mechanism
Chapter 7: Neurobiological Kinds: Understanding the Abstractions of Neurobiological Thought
Chapter 8: Hard-EU and the Rudiments of a Standard Model
Chapter 9: Stochasticity and the Separation of Utility from Choice
Chapter 10: The Implications of Neuronal Stochasticity and Cortical Representation for Behavioral Models of Choice
Chapter 11: Putting the Choice Mechanism Together, A Summary

Section 4: Valuation
Chapter 12: The Problem of Value
Chapter 13: The Basics of Dopamine: How We Learn and Store Value
Chapter 14: Locating and Constructing Subjective Value in the Front of the Brain
Chapter 15: Beyond Neoclassics: Behavioral Neuroeconomics

Section 5: Summary and Conclusion
Chapter 16: Foundations of Neuroeconomic Models
Chapter 17: Conclusions

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Neuroeconomics, 2nd Edition
Decision Making and the Brain

The fully revised second edition of this award-winning title remains the only comprehensive reference on the neurobiology of decision making, edited and authored by the founders of the field.

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Neuroeconomics, 2nd Edition

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1. Basic Methods from Neoclassical Economics
2. Experimental Economics and Experimental Game Theory
4. Estimation and Testing of Computational Psychological Models
5. Introduction to Neuroscience
6. Experimental Methods in Cognitive Neuroscience
Section 2: Neural and Psychological Foundations of Economic Preferences
8. The Computation of Stimulus Values in Simple Choice
9. Valuation for Risky and Uncertain Choices
10. Valuation, Intertemporal Choice, and Self-Control
11. Social Preferences and the Brain
12. Neuroeconomics of Emotion and Decision Making
13. Multitarget Valuation Signals and Common Neural Currencies
14. Pharmacology of Economic and Social Decision Making
Section 3: Learning and Valuation

Add to Wish List

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