INDEPENDENT STUDY PROGRAM PETITION

ISP PROPOSAL

Student: ___________________________ MSC: ______________
(Please print)

Cell Phone #: ________________________ YOS: Sophomore

Pertinent Background: I am a current sophomore interested in pursuing a degree in Decision Neuroscience. I am interested in studying an interdisciplinary subject that includes elements of neuroscience, psychology, and economics.

Goals of proposal; reasons for applying:

The subjects I am interested in are included in the CNS, Biology, and Economics majors. Through the Independent Study Program, I tailor my course selection to better fit my major of interest, which encompasses a subset from each of the three majors.

Faculty Advisers: (Indicate Chairman)

Ralph Adolphs (Chair), Peter Bossaerts, and Colin Camerer

Agreement with ISP Study Proposal:

Student: ___________________________ Date: 5/27/10

Faculty Adviser: ____________________ Date: 5/28/10

Peter Bossaerts (Chairman)

Dean of Students: ____________________ Date: 6/1/2010

Chair, Curriculum Committee: ______________ Date: 6/4/2010
California Institute of Technology

INDEPENDENT STUDY PROGRAM PETITION

ISP CONTRACT

Course #: _______________________

Student: _______________________

Responsible Faculty Adviser: _______________________

Subject Area: Decision Neuroscience

Time Period: 2009 to 2012

Units of ISP Credit: 182

Course Description:
Decision Neuroscience is an interdisciplinary subject of behavioral biology, neuroscience, psychology, and economics. It is the study of how people make choices, what influences these choices, and how to predict the choices people make.

Student Commitments:
Student will meet with advisers at least once a term to discuss courses, progress, and other major/career related topics. Student must attain 18 units of ISP credit to graduate.

Adviser Commitments:
Adviser will meet with the student at least once a term to discuss courses, progress, and other major/career related topics. Advisers will also monitor the student's progress to ensure that she is passing well.

Method of Grading:
Grades or Pass/Fail as deemed appropriated by student and advisers

Agreement with above contract:

Student: _______________________

Date: 5/27/10

Chairman, Student's Advisory Committee:

Evaluation by Chairman: _______________________

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California Institute of Technology

ISP PROGRAM APPROVAL FORM

Student Name: 


Sophomore Year

<table>
<thead>
<tr>
<th>Term</th>
<th>Course #</th>
<th>Units/ Term</th>
<th>Title of Description</th>
<th>Instructor</th>
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<td>1,2</td>
<td>Ph 2ab</td>
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<td>CNS/SS/Psy/Bi 102B</td>
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<td>Brains, Minds, and Society</td>
<td>Bossaerts, Camerer, Koch, Rangel</td>
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<td>Consciousness</td>
<td>Koch</td>
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<td>Ec/Ps 172</td>
<td>9</td>
<td>Game Theory</td>
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<td>An 150a</td>
<td>9</td>
<td>The Caltech Project</td>
<td>Ensminger</td>
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Junior Year

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<td>CNS 150</td>
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<td>Introduction to Neuroscience</td>
<td>Kennedy, Lester, Adolphs</td>
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<td>1</td>
<td>CS 1</td>
<td>9</td>
<td>Introduction to Computer Programming</td>
<td>Vanier</td>
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<td>CNS/SS/Psy/Bi 102A</td>
<td>9</td>
<td>Brains, Minds, and Society</td>
<td>Bossaerts, Camerer, Koch, Rangel</td>
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<td>Computer Programming Language</td>
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<td>2</td>
<td>CNS/SS 251</td>
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<td>Human Brain Mapping: Theory and Practice</td>
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Senior Year

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<td>En 84</td>
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<td>HSS electives</td>
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<td>HSS electives</td>
<td>tbd</td>
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* This schedule may change depending on when courses are offered. A list of proposed requirements for the major are on the next page.

Approved: Committee of Three

[Signature]

Peter Bossaerts

Date: 26 May 2010
Independent Study Program: Decision Neuroscience

Required Courses:*

Choose one from:
- ACM/ESE 118 Methods in Applied Statistics and Data Analysis
- Ma 112ab Statistics

At least 12 units from:
- BEM 190 Undergraduate Research Project
- Bi 22 Research in Biology
- CNS 180 Research in Computation and Neural Systems
- Ec/PS 190 Undergraduate Research
- Ec/PS 160abc Laboratory Experiments in the Social Sciences
- Bi/CNS 162 Cellular and Systems Neuroscience Laboratory

Required:
- Ec 11 Introduction to Economics (completed)
- PS 12 Introduction to Political Science (completed)
- En 84 Writing Science

- Bi/CNS 150 Introduction to Neuroscience
- CNS/SS/Psy/Bi 102 ab Brains, Minds, and Society

- CNS/Psy/Bi 131 The Psychology of Learning and Motivation
- CNS/SS 251 Human Brain Mapping: Theory and Practice

- PS/Ec 172 Game Theory
- Ec 122 Econometrics
- CS 1 Introduction to Computer Programming
- CS 11 (or ACM 11) Computer Language Shop (or Intro to Matlab and Mathematica)
- CS/CNS 171 Introduction to Computer Graphics Laboratory

Choose 45 additional units from:
- ACM 11 Introduction to Matlab and Mathematica
- An 135 Primate Behavior
- An 150 ab The Caltech Project
- BEM 101 Introduction to Accounting
- BEM 103 Introduction to Finance
- BEM 106 Competitive Strategy
- BEM 110 Venture Capital
- BEM 116 Advanced Business Strategy for Technology
- BEM/Ec 146 Organization Design
- Bi 152 Introduction to Neuroethology
- Bi 156 Molecular Basis of Behavior
- Bi 199ab Special Topics in Computational Biology
- Bi 202 Neurobiology of Disease
- Bi/CNS 184 The Primate Visual System
- CNS 100 Introduction to Computation and Neural Systems
CNS/Bi 256 Decision Making
CNS/Bi/Ph/CS 187 Neural Computation
CNS/Bi/Psy 120 The Neuronal Basis of Consciousness
CNS/Bi/SS/Psy 176 Cognition
CS/CNS/EE 154 Artificial Intelligence
CNS/SS 252 Experimental Design and Research Methods in Cognitive Neuroscience
CNS/SS/Psy 110 abc Cognitive Neuroscience Tools
CS/CNS 176 Introduction to Computer Graphics Research
Ec 116 Contemporary Socioeconomic Problems
Ec 121 ab Theory of Value
Ec 131 Market Design
Ec 132 Auctions
Ec/PS 160abc Laboratory Experiments in the Social Sciences
HPS/PL 134 Current Issues in Philosophical Psychology
Ma 12 Chance
PS/Ec 173 Cooperation and Social Behavior
SS 201 abc Analytical Foundations of Social Science
SS 205 abc Foundations of Economics
SS 218 Neuroscience Applications to Economics and Politics
BEM 190 Undergraduate Research Project
Bi 22 Research in Biology
CNS 180 Research in Computation and Neural Systems
Ec/PS 190 Undergraduate Research
Ec/PS 160abc Laboratory Experiments in the Social Sciences
Bi/CNS 162 Cellular and Systems Neuroscience Laboratory

This adds to a total of 182 units for the ISP major.

** This list may be changed if a course is not available prior to my expected graduation date. Changes must be approved by the Committee of Three and the Dean of Students.

Approved: Committee of Three

Peter Bossaerts

Date: 7/6/2010

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June 8, 2010

RE: Decision Neuroscience Major for

To the Curriculum Committee:

I have discussed closely with her plans for an independent major in Decision Neuroscience. Together with her other advisors, we have put together a curriculum that I believe both satisfies the rigors that any major at Caltech should, and is specifically tailored to take advantage of the highly interdisciplinary array of courses we offer relevant to Decision Neuroscience.

I strongly endorse planned curriculum.

Sincerely,

Ralph Adolphs, Ph.D.
Bren Professor of Psychology and Neuroscience