The nature of what we call consciousness and the nature of what we call reality are central questions in both science and Buddhism. While the encounter between Buddhism and Western science can be traced back to the 19th-century, it garnered momentum and renown when, thirty years ago, the Dalai Lama suggested that a dialogue between Buddhist practitioners and Western scientists might be of interest and benefit to both the Buddhist and scientific communities. While science and religion are not generally considered to be natural collaborators, the dialogue that ensued has catalyzed new strands of research, most notably in the area of the neuroscience of meditation and emotion. Coming from our two disciplinary perspectives (Buddhist studies and neuroscience), we have found ourselves intrigued, excited, and at the same time critical of the Buddhism/science dialogues. We will, in our own way, carry on this dialogue among ourselves, first by laying the necessary groundwork in our respective fields, and then by exploring areas of convergence and divergence around key themes. The process will include reflection on fundamental epistemological and metaphysical commitments in traditional Buddhist thought and in contemporary science.

The first two-thirds of the semester will present basic concepts and assumptions in the fields of Buddhism, neuroscience, and physics as they relate to the study of mind and consciousness. On the Buddhist side this will entail a look at the fundamental tenets of Buddhism, including Buddhist cosmology, soteriology, and metaphysics; Buddhist philosophy of mind, self, and consciousness; and Buddhist meditation theory. On the science side this will include concepts central to evolutionary biology, chemistry, and physics; nervous-system structure and function; approaches to the relationship between brain physiology and "mind," "self," and "consciousness"; and Western scientific perspectives on the mind-matter relation more generally. The last part of the semester will explore areas of convergence and divergence, returning to such themes as: (1) varying accounts of the emergence of self and mind (both evolutionary and phenomenological perspectives), (2) the problem of free will and determinism, (3) the origins of life and the distinction between sentience and insentience, (4) death, and (5) the meaning of life.

There are two lectures and one discussion section meeting each week.

**Lecture times:** Tues. and Thurs. 2:00 to 3:30 PM – 60 Evans

**Instructors:**
- David Presti
  Department of Molecular and Cell Biology and Cognitive Sciences Program
- Robert Sharf
  East Asian Languages and Cultures and Group in Buddhist Studies

249 Life Sciences Addition (LSA) 3121 Dwinelle Hall
phone and voicemail: 510-643-2111 presti@berkeley.edu
phone and voicemail: 510-642-6369 rsharf@berkeley.edu

**Office hours:**
- David Presti – 249 LSA
  Wednesdays: 11:00 to 11:45 AM
  Thursdays: 11:00 to 11:45 AM
- Robert Sharf – 3121 Dwinelle
  Tuesdays: 3:45 to 5:00 PM

**Readings:** The course reader, which contains most of the readings for the course, is available at Krishna Copy Center, 2001 University Ave., Ph. (510) 540-5959. Additional readings will be distributed via the class bCourse site.
The GSIs are here to help you get the most from this class. You are encouraged to get to know and talk with your GSI. Your GSI will see you in weekly discussion section and will also be available to meet with you during weekly office hours. Don’t be shy!

**Discussion section times and locations:**

<table>
<thead>
<tr>
<th>Section</th>
<th>Day</th>
<th>Time</th>
<th>Location</th>
<th>GSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Fri.</td>
<td>12-1</td>
<td>247 Dwinelle</td>
<td>Pickens</td>
</tr>
<tr>
<td>102</td>
<td>Tues.</td>
<td>9-10</td>
<td>237 Cory</td>
<td>Pickens</td>
</tr>
<tr>
<td>103</td>
<td>Mon.</td>
<td>11-12</td>
<td>79 Dwinelle</td>
<td>Beer</td>
</tr>
<tr>
<td>104</td>
<td>Mon.</td>
<td>10-11</td>
<td>179 Stanley</td>
<td>Beer</td>
</tr>
</tbody>
</table>

**Prerequisites:** A desire to learn! There are no University course prerequisites for this class.

**Attendance** at the lectures and in discussion section is **required**. There is no textbook for the course, and much of the material presented in lecture is not available elsewhere. But beyond that, we believe there are important concepts and ideas that are best transmitted in-person. There is more to learning than memorizing facts, particularly in a course such as this one, even if memorizing facts is important. In addition, you will find it impossible to do well on the weekly assignments, quizzes, and exams, if you are missing class.

**Assignments** will consist of weekly readings and short writing assignments. The writing assignments will be one-page essays (1” margins, 10-12 point font, 1.5 to 2 line spacing). In grading the assignments we are looking for three things, namely: (1) clear evidence that you did the assigned reading(s) and are keeping up with lectures; (2) clear evidence that you took time to reflect on the assigned reading(s) and think through your response; (3) the paper, even though it is just a few paragraphs, should be clearly organized and written, free of grammatical mistakes, spelling errors, typos, and so on. Some of the assignments are quite challenging, and we do not expect you to understand everything you read. We only expect you to give it a good try.

The short assignments must be handed in at the start of the lecture on the day they are due. *These papers are never accepted late.* Should you miss class due to unforeseen, legitimate, and documented circumstances (e.g., a medical emergency), you will be given an alternative makeup assignment.

**Exams and Quizzes** will consist of multiple choice, short-answer, and essay questions, drawing from material in lectures, discussion sections, and required readings. We will distribute lists of key terms and concepts to help you prepare for all quizzes and exams.

**Midterm Exam:** Thursday March 9, during the usual class time and place: 2:00 to 3:30, 60 Evans.

**Final Exam:** Monday May 8, 11:30 AM to 2:30 PM (Exam Group 2). The final exam covers material from the entire semester of lectures and readings.

**Important Note:** We cannot change the dates and times for these exams, and there are no makeups! Mark your calendars now. If you are unable to accommodate these exam dates, you should not enroll in the class.
Grading: Your grade in this class is based on in-class quizzes and writing assignments (50%), exam performance (midterm exam: 15%; final exam: 25%), and discussion section attendance and performance (10%). Your letter grade in the course will reflect your acquisition of knowledge and understanding of the material, and the time and effort you put into the course. Importantly, you will not be competing against fellow students—we do not curve letter grades to conform to a predetermined distribution. If everyone does well, everyone could receive good grade. If everyone does poorly, then everyone could get a poor grade. Rather than devoting energy to worrying about where grade cut-offs are, if you are truly interested in this subject and in getting the most from this class, we urge you to engage seriously from the beginning, keep up with the readings and assignments, come to all lectures and sections, and immerse yourself in the material. You will be rewarded with an understanding of some really fascinating topics. Good grades will be a natural side effect.

University holidays: no discussion sections or lectures on these days:
Mon., February 20 - Presidents Day
Mon., March 27 to Fri., March 31 – Spring Recess

Honor Code: The student community at UC Berkeley has adopted the following Honor Code:
“As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others.” The hope and expectation is that you will adhere to this code.

Use of Electronics in Class: The use of laptop computers in class is not allowed. The only exception is for note taking, and only if you sit in the first row (or, if necessary, the first two rows) of the classroom. No exceptions! Cell phones must be turned off at the start of class. No texting!

Collaboration and Independence: Reviewing lecture and reading materials and studying for exams can be enjoyable and enriching things to do with fellow students. This is recommended. However, unless otherwise instructed, homework assignments are to be completed independently and materials submitted as homework should be the result of one’s own independent work.

Academic Integrity: There is a zero-tolerance policy toward plagiarism or any other form of academic dishonesty in this course. This means that anyone found taking credit for work that is not his or her own, or cheating in any other way, will receive a failing grade for the entire course. Note that ignorance of the policy is not considered a mitigating circumstance, so if you have any question about what counts as plagiarism or how to properly attribute sources, speak with one of the GSIs or instructors. For additional information on plagiarism and how to avoid it, see: http://gsi.berkeley.edu/teachingguide/misconduct/prevent-plag.html

Communication and E-mails: We like teaching this class—the material is quite amazing. We enjoy being available during office hours and after lectures to answer questions and further discuss the material. We greatly prefer in-person contact to email. We are available in office hours and following lectures for brief questions and discussion. Questions of importance or ones that require detailed answers must be addressed in person. Always be sure to see us in person about important issues. For example, it is not an acceptable excuse to say something like: “Well, I sent you an email and never heard back.” E-mail is a wonderful tool and very convenient, but it is not a substitute for direct personal contact, especially when such contact is easy, as it is with us.

Thanks again for your interest in this subject. We hope you have a very enjoyable and fulfilling experience in this class this semester!
Course Schedule: Topics, Readings, Assignments

*Note, this list is tentative and subject to revision. You are responsible for keeping up with changes, which will be announced in lecture and through the bCourse site.*

Reading numbers (#) refer to the list of readings as numbered in the “Table of Contents” in the Course Reader. In the Course Reader, the readings are listed and printed in alphabetical order according to the last name of the first author.

Week 1:

Jan 17 Course logistics; What is consciousness?

Jan 19 The "What-it-is-likeness" of Consciousness
Reading: #24 (Nagel 1974)
Youtube videos to watch:
https://www.youtube.com/watch?v=gZxLUNHEmPw
https://www.youtube.com/watch?v=a05kge19D2Q

**Assignment 1 (due Thursday Jan 19 at beginning of lecture):** Can you find any flaws in Nagel's argument? (Something to think about: what are his assumptions, and how might they be challenged?)

Week 2:

Jan 24 Historical trajectory of physical science.
Reading: #21 (Kuhn 1962)

**Assignment 2 (due Tuesday Jan 24 at beginning of lecture):** Kuhn’s article addresses the issue of predictability in scientific discovery. Reflect on why the discovery of the planet Uranus was not predictable, while the discovery of the planet Neptune was predictable.

Jan 26 Consciousness: terminological issues
Reading: #3 (Blackmore 2005)

Week 3:

Jan 31 Historical trajectory of biological science
Reading: #19 (Koshland 2002)

Feb 2 Introduction to Buddhism I
Reading: #12 (Gethin 1998, Chapters 1 and 2)

**Quiz 1 (on material covered to date).**

Week 4:

Feb 7 Toward a science of consciousness
Readings: #27 (Pollan 2013); #36 (Cambridge Declaration on Consciousness)
Feb 9  Introduction to Buddhism II
           Reading: #12 (Gethin 1998, Chapter 3)

**Assignment 3: TBA**

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**Week 5:**

Feb 14  Neuroscience and consciousness
           Readings: #30 (Raichle 2006); #9 (Freeman 2015)

**Assignment 4: TBA**

Feb 16  Buddhist cosmology
           Reading: #12 (Gethin 1998, Chapters 5 and 6)

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**Week 6:**

Feb 21  Expanding a science of consciousness
           Readings: #15 (Hameroff 2006); #11 (Gefter & Hoffman 2016)

Feb 23  Action and causality
           Reading: #26 (Ouspensky 2002)

**Assignment 5:** What (if anything!) can Osokin do to get out of his situation?

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**Week 7:**

Feb 28  Quantum physics and reality
           Readings: #43 (Zeilinger 2000); #35 (Stapp 1996)

**Assignment 6: TBA**

March 2  Meditation
           Reading: #12 (Gethin 1998, Chapter 7); #5 (Buddhaghosa 2010); #42 (Young 1982)

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**Week 8:**

March 7  Exam review

March 9  Midterm Exam

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**Week 9:**

March 14  Steps toward a dialogue with Buddhism
           Readings: #6 (Dalai Lama 2005); #18 (Jinpa 2010); #22 (Lopez 2010)

March 16  Madhyamaka
           Readings: #8 (Dennett 1981); #10 (Garfield 2009), #17 (*Heart Sutra*)

**Assignment 7: TBA**
Week 10:

March 21  Radical empiricism I
Readings: #13 (Greyson 2012); #4 (Borjigin et al. 2013); #37 (Tucker 2008); #38 (Tucker 2016)

Assignment 8: TBA

March 23  Yogācāra
Readings: #41 (Waldron 2006); #39 (Varela et al. 1991)

Spring Recess

Week 11:

April 4  Radical empiricism II
Readings: #29 (Radin et al. 2012); #20 (Kripal & Coyne 2014); #6 (Carroll 2016)

April 6  Religion and the Mysticism Debates
Reading: #21 (Sharf 2000)

Quiz 2

Week 12:

April 11  Psychedelics and non-ordinary states of consciousness
Readings: #28 (Presti 2017); #14 (Griffiths et al. 2006)

Assignment 9: TBA

April 13  Vikalpa, conceptual construction, and the measurement problem
Readings: TBA

Week 13:

April 18  TBA

April 20  Zen
Readings: #16 (Harding 1986); #25 (Nagel 1976); #1 (App 1995)

Assignment 10: TBA

Week 14:

April 25  TBA

April 27  World construction, play and ritual theory
Readings: #2 (Bateson 1972); #40 (Vygotsky 1978)