

PSY 1050 / UGB 257S Consciousness
2008-09, 2nd Term
Department of Psychology
The Chinese University of Hong Kong

1. Course Description: What is the course about?

Consciousness is arguably the most important yet mysterious nature of human existence. This course is designed to provide a broad survey of the various topics related to consciousness. We will discuss the scientific study, philosophical implications, and applications of various topics, including attention, visual awareness, brain decoding and mind reading, imagery, dreaming, hypnosis, meditation, qualia, attention, illusions, unconscious perception, machine consciousness etc.

2. Learning Approach: How does the course help you learn about consciousness?

Through interactive lectures students will obtain the basic understanding of different topics related to consciousness and the scientific tools in its study. Tutorials will include a variety of activities, including group discussions, games, demos, video viewing, etc., to help you further understand and reflect on issues related to the study of consciousness and on the implications of those issues in real life.

3. Prerequisites: What knowledge do you need before taking this course?

No courses have to be taken as the prerequisite.

4. Contact Information of Teaching Members

Lecturer:	
Name:	Prof. Alan Chun-Nang Wong
Office Location:	Sino Building 334
Telephone:	2609-6505
Email:	alanwong@psy.cuhk.edu.hk
Lecture Time & Venue:	Monday 2:30-4:15pm (CKB LT3)
Consultation Hours:	Wed 2:30-4:30pm
Website:	http://www.psy.cuhk.edu.hk/en/people/alanwong/index.html

Teaching Assistants:		
Name:	Sarah Wan	Tony Cheng
Office Location:	SB 317	SB 351
Telephone:	2609-6199	2609-6521
Email:	slywan@psy.cuhk.edu.hk	tthcheng@psy.cuhk.edu.hk
Tutorial Venue:	Wed 1:30-2:15pm (CKB LT3)	Wed 1:30-2:15pm (CKB LT3)
Consultation Hours:	Wed 2:30-3:30pm (or by appointment)	Fri 12-1pm (or by appointment)

5. Course Content

Topics	Contents/fundamental concepts
1. Introduction	What it means to understand consciousness; different approaches to the study of consciousness; the use of psychology and neuroscience methods.
2. Sleep	Circadian rhythm; sleep stages and functions; different disorders including insomnias, parasomnias, hypersomnia, apnea, narcolepsy, cataplexy, and hypnagogic hallucinations
3. Dream	Dreams and dream cycles; dream theories; dream interpretation; lucid dream.
4. Drug and Biofeedback	Drug types and mechanisms; history of biofeedback; controversies involved.
5. Hypnosis and Biofeedback	History, procedures, applications, and controversies about hypnosis; meditation types and physiological correlates.
6. Unconscious perception and ESP	History, effects, applications, and theoretical considerations; implicit learning
7. Brain decoding and mind reading	How to read peoples' minds by monitoring their brain activities? Applications and debates about brain decoding.
8. Attention: awareness of things out there	How do we become aware or unaware of events out there? Change blindness; attentional blink; inhibition of return.
9. Creations of the mind	How does our mind create our subjective perception of the environment? Binocular rivalry and multi-stable perception; perceptual fill-in; phantom limb; visual imagery; illusions.
10. Time perception	Perceiving time at different scales; expansion and contraction of time; models of time perception.
11. Do animals and machines have consciousness	What methods have been proposed to test for the existence of consciousness in non-humans? How to produce a conscious agent? Theoretical issues.
12. Human vs. Animals	Neural correlates of consciousness; strength and limitations of the neuroscience approach
13. Conclusion	After knowing so much, do we understand consciousness now? What else do we need to know and ask about?

6. Expected Learning Goals and Outcomes

Learning Goals and Outcomes:
1. Understand the phenomena related to consciousness
2. Equip with the research methods in experimental psychology
3. Develop critical thinking skills in consciousness studies
4. Apply and relate consciousness studies to daily issues

7. Learning Activities

	Interactive Lecture	Tutorial	Web Discussion	Self-directed Study
Time per week	2 hours	1 hour	1 hour	2 hours
Venue	In class	In class	Out of class	Out of class
No. of sessions in total	12 lectures	10 tutorials	8 discussions	--
Attendance	Optional	Optional	Mandatory	--
Teaching Member(s)	Lecturer	Teaching assistants	Lecturer and teaching assistants	Self-initiated by students
Matching with learning goals and outcomes (LGO)	<ul style="list-style-type: none"> √ LGO 1 √ LGO 2 √ LGO 3 √ LGO 4 	<ul style="list-style-type: none"> √ LGO 1 √ LGO 3 √ LGO 4 	<ul style="list-style-type: none"> √ LGO 3 √ LGO 4 	<ul style="list-style-type: none"> √ LGO 1 √ LGO 2 √ LGO 3 √ LGO 4

Four different types of learning activities will be adopted in this course:

I. **Interactive Lectures**

- Present an overview of consciousness-related concepts, terminologies, theories and experimental findings, both classical and contemporary
- Discuss in the class controversial topics about the scientific study of consciousness.
- Engage the class in interactive activities in consolidating understanding on consciousness-related psychological concepts, terminologies, and theories.

II. **Tutorials**

- Introduce, through demonstrations, games, videos, etc, different scientific attempts to study consciousness.

III. **Web Discussions**

- Express and comment on paper ideas.
- Discuss either daily life issues or fictional scenarios, and explore and apply concepts, terminologies and theories related to consciousness.

IV. **Self-directed Studies**

- Let students take responsibility for design, direct and regulate their own learning about consciousness, to consolidate knowledge, critical thinking skills, and personal reflection on consciousness-related topics to pursue further learning.

8. Assessment Scheme

Assessment Mode:	Matching of learning goals:
<p>Students will be assessed in the form of:</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p>1. Formative assessment (measures what you have learnt at different stages during the course)</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>2. Authentic assessment (measures various abilities that you can apply to address real-life problems or fictional scenarios)</p> </div>	<p>Each assessment mode matches with the following learning goals:</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p>√ Learning Goal / Outcome 1</p> <p>√ Learning Goal / Outcome 2</p> <p>√ Learning Goal / Outcome 3</p> <p>√ Learning Goal / Outcome 4</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>√ Learning Goal / Outcome 3</p> <p>√ Learning Goal / Outcome 4</p> </div>

Assessment Scheme	Description	Weight	Matching with assessment mode (AS)
Web discussions	Information, ideas, and comments regarding selected topics. - 8 Discussions (4%)	32%	√ AM 1 √ AM 2
Paper assignment	This assignment provides a chance for students to research more deeply into specific consciousness-related topics, reflecting on the scientific and/or daily-life implications of theories or findings. - Outline (18%) - Final paper (50%)	68%	√ AM 2

Note:

- The final paper should consist of no more than 5 pages (not including references) with 1-inch margins and double-line spacing. See the paper guideline document for further details.

9. Learning resources

Class notes:

Due to the wide range of topics involved and the surge of scientific studies of consciousness in recent years, there is not a single textbook for this class. Instead class handouts will be provided.

Other recommended readings:

Reading is listed in later sessions. Beginners' readings will be highlighted and you may begin with them to start understanding more about certain topics.

10. Course Updates

A course website (site address will be announced later) will be adopted in this course for posting course notes, announcements, web discussions, submitting on-line assignments, etc.

For students who are not familiar with the platform of the course website, you are recommended to read the instructions and guidelines of how to use it when the address is announced.

11. Feedback for evaluation

Students are welcome to give comments and feedback at any time during the class. Stop by to talk to the instructor or teaching assistants. You can also send us emails or post your comments on the course website.

Around Week 7 of the course, we will ask you to give us comments and feedback through an open-ended questionnaire. Some questions will be like "things that you like and do not like about this course", "suggestions on enhancing the course", and etc.

12. Some suggested paper topics and readings (* denotes beginners' reading)

MindPapers Website <<http://consc.net/mindpapers/>> - This link contains a large number of references (and some with text also!) related to the study of mind and consciousness.

More General Books about Consciousness

Baars, B. J. (1988). *A cognitive theory of consciousness*. New York: Cambridge University.

Baars, B. J., Banks, W. P., & Newman, J. B. (2003) (Ed.). *Essential sources in the scientific study of consciousness*. Cambridge, MA: MIT

Block, N., Flanagan, O. & Güzeldere, G. (1997). *The nature of consciousness: Philosophical debates*. MIT Press, Cambridge.

Chalmers, D. J. (1995). The puzzle of conscious experience. *Scientific American*, 273(6), 80-86.

Crick, F. (1994). *The Astonishing Hypothesis: The Scientific Search for the Soul*. New York: Charles Scribner's Sons

Cohen, J. D., & Schooler, J. W. (Eds.). (1997). *Scientific approaches to consciousness*. Mahwah, NJ: L. Erlbaum Associates.

Dennett, D. C. (1991). *Consciousness explained*. Little, Brown & Co, Boston.

Dennett, D., & Kinsbourne, M. (1992). Time and the Observer: the Where and When of Consciousness in the Brain. *Behavioral and Brain Sciences*, 15, 183-247.

* Farthing, G. W. (1992). *The psychology of consciousness*. Englewood Cliffs, NJ: Prentice Hall.

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- Hobson, J. A. (1999). *Consciousness*. New York: Scientific American Library.
- Nagel, T. (1974) "What Is It Like to Be A Bat?" *Philosophical Review*. 83, 435-450.
- * Wallace, B., & Fisher, L. E., (1999). *Consciousness and behavior*. Boston, MA: Allyn and Bacon.
- Velmans, M., & Schneider, S. (2007). (Eds). *The Blackwell Companion to Consciousness*. Malden: Blackwell.
- Zelazo, P.D., Moscovitch, M., & Thompson, E. (2007). (Eds). *The Cambridge Handbook of Consciousness*. Cambridge: Cambridge University Press.

Sleep and Dream

- * W & F (1999) pp.154-169, 178-180.
- * F (1992) pp.221-240, 289-313.
- Bentley, E. (2000). *Awareness: biorhythms, sleep, and dreaming*. New York: Routledge.
- Hartman, E. (1998). *Dreams and nightmares : the new theory on the origin and meaning of dreams*. New York : Plenum. (pp.225-299)
- Hobson, J. A. (1988). *The Dreaming Brain*. New York: Basic Books.
- Moffitt, A., Kramer, M., & Hoffmann, R. (1993). *The functions of dreaming*. Albany, NY: State University of NY.
- Pressman, M. R., & Orr, W. C. (1997). *Understanding Sleep: The Evaluation and Treatment of Sleep Disorders*. Washington, DC: American Psychological Association.
- Strauch, I., & Meier, B. (1996). *In search of dreams: results of experimental dream research*. Albany, NY: State University of NY.

Meditation and Biofeedback

- * W & F (1999) Chs 5-6.
- Austin, J. H. (1998). *Zen and the brain: toward and understanding of meditation and consciousness*. Cambridge, MA: MIT Press.
- Robbins, J. (2000). *A symphony in the brain : the evolution of the new brainwave biofeedback*. New York: Atlantic Monthly

Drugs

- * W & F (1999) Ch 3.
- Grinspoon, L., & Bakalar, J. B. (1979). *Psychelelic drugs reconsidered*. New Yourk: Basic Books.
- Hobson, J. A. (2001). *The dream drugstore : chemically altered states of consciousness*. Cambridge, MA: MIT.

Hypnosis

- * W & F (1999) Ch 4.
- Erikson, M. H. (1980). *The nature of hypnosis and suggestion*. New York: Irvington.
- O'Hanlon, W. H. (1987). *Taproots : underlying principles of Milton Erickson's therapy and hypnosis*. New York: Norton.
- 李中瑩 (2003). 情緒舒導學：現代心理治療技巧中的NLP治療法。

Unconscious perception and ESP

- * C & S (1997) pp.125-134.
- * W & F (1999) Ch 9.
- Alvarado, C. S. (1998). *ESP and altered states of consciousness: An overview of conceptual and research trends*. *Journal of Parapsychology*, 62, 27-63.
- Parker, A. (1975). *States of mind: ESP and altered states of consciousness*. London: Malaby Press.
- Stoerig, P., & Cowey, A. (1997). Blindsight in man and monkey. *Brain*, 120(Pt 3), 535-559.

Brain Decoding and Mind Reading

- * Nicolelis MA. (2003). Brain-machine interfaces to restore motor function and probe neural circuits. *Nat Rev Neurosci*, 4(5), 417-22.
- Spiers, H. J., & Maguire, E. A. (2007). Decoding human brain activity during real-world experiences. *Trends in Cognitive Sciences*, 11(8), 356-365.

Attention

- * Mack, Arien & Rock, Irvin (2003). Inattention blindness: An overview. *Current Directions in Psychological Science* 12 (5):180-184.
- * Simons, D. J. (2000) Attentional capture and inattention blindness. *Trends in Cognitive Sciences*, 4, 147-155.
- Beck, Diane; Rees, Geraint; Frith, Christopher D. & Lavie, Nilli (2001). Change blindness and change awareness. *Nature Neuroscience* 4.
- Noë, Alva (2005). What does change blindness teach us about consciousness? *Trends in Cognitive Science* 9 (5):218.

Creations of the Mind

- * Kim, C.-Y., Blake, R. (2005). Psychophysical magic: rendering the visible “invisible”. *Trends in Cognitive Sciences*, 9(8), 381-388.
- * Blake, R., & Logothetis, N. K. (2002). Visual competition. *Nat Rev Neurosci*, 3(1), 13-21.
- Ninio, Jacques & Philip, Franklin (2001). *The Science of Illusions*. Ithaca: Cornell University Press.
- Pylyshyn, Zenon (2004). Imagery. In R L. Gregory (ed.), *Oxford Companion to the Mind*. Oxford University Press.

Time Perception

- * Eagleman, D. M. (2008). Human time perception and its illusions. *Current Opinion in Neurobiology*, 18, 131-136.
- 柯萊恩(Stefan Klein)著，陳素幸譯 (2008)。生命的時間學。

Non-human Intelligence

- * The World First Self-Aware Robot and the Success of Mirror Image Cognition (Lecture at the Karlsruhe University and the Munich University, Germany), 8-Nov.-200
- * Turing, Alan M. (1950). Computing machinery and intelligence. *Mind* 59 (October):433-60.
- Fetzer, J. H. (2005). *The evolution of intelligence: are humans the only animals with minds*. Chicago and La Salle: Open Court.
- Harnad, Stevan (1991). Other bodies, other minds: A machine incarnation of an old philosophical problem. *Minds and Machines* 1:43-54.

Human vs. Animals

- * Libet, B., Gleason, C. A., Wright, E. W., and Pearl, D. K. (1983). Time of conscious intention to act in relation to onset of cerebral activity (readiness-potential). The unconscious initiation of a freely voluntary act. *Brain*, 106:623-642.
- * Kohler et al. (2002). Hearing sounds, understanding actions: Action representation in mirror neurons. *Nature*, 297, 846-848.

13. Course schedule

Week	Lecture		Tutorial	
	Date	Topic	Date	Topic
1	Jan 5	L1: Introduction	Jan 7	N/A
2	Jan 12	L2: Sleep	Jan 14	Paper Workshop 1 (Whole class)
Web Discussion: Be A Sleep Doctor				
3	Jan 19	L3: Dream	Jan 21	Can you be easily hypnotized? (Exercise: Session 1)
Web Discussion: Dream Interpretation				
4	Jan 26	<i>Lunar New Year Holiday</i>	Jan 28	<i>Lunar New Year Holiday</i>
5	Feb 2	L4: Drugs and Biofeedback	Feb 4	Can you be easily hypnotized? (Exercise: Session 2)
Web Discussion: Mind-Enhancing Products				
6	Feb 9	L5: Hypnosis and Meditation	Feb 11	Meditation (Exercise: Whole class)
Web Discussion: Myths About Hypnosis				
7	Feb 16	L6: Unconscious Perception and ESP	Feb 18	Paper Consultation
Web Discussion: ESP – Believe It or Not?				
8	Feb 23	L7: Brain Decoding and Mind Reading	Feb 25	Brain Ethics (Debate: Session 1)
9	Mar 2	L8: Attention	Mar 4	Brain Ethics (Debate: Session 2)
10	Mar 9	L9: Creations of the Mind	Mar 11	Machine Intelligence Tests (Game: Session 1)
Assignment: Paper Outline (Due on Mar 10)				
11	Mar 16	L10: Time Perception	Mar 18	Machine Intelligence Tests (Game: Session 2)
Web Discussion: Mind Tricks in Art				
12	Mar 23	L11; Animal and Machine Intelligence	Mar 25	Paper Consultation
Web Discussion: Robots in Movies				
13	Mar 30	L12: Human vs. Animals	Apr 1	Paper Consultation
Web Discussion: Consciousness Ranking Across Species				
14	Apr 6	L13: Conclusion	Apr 8	Paper Consultation
15	Apr 13	<i>Easter Holiday</i>	Apr 15	Paper Consultation

14. Academic honesty and plagiarism

The University places very high importance on honesty in academic work, and has a policy of zero tolerance on plagiarism. Guidelines on academic honesty are on the website on "Honesty in Academic Work: A Guide for Students and Teachers"
<http://www.cuhk.edu.hk/policy/academichonesty/>.

Guideline about plagiarism

Any assignment (i.e., project, essay, or paper) that shows evidence of plagiarism will be marked down severely. In simple terms, plagiarism is copying passages and/or ideas from other sources without referencing those sources. Moreover, when you report someone else's ideas/findings you must put it in your own words and not merely copy full sentences or parts of sentences from the source article. It is your responsibility as a scholar-in-training to cite the ideas and work of others correctly. Please visit the following websites for discussions of how to recognize and avoid plagiarism.

<http://ec.hku.hk/plagiarism/introduction.htm>

<http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>

<http://www.hamilton.edu/writing/style/plagiarism/plagiarism.html>

If you commit plagiarism in an assignment, and it is your first offence in the course, the penalty will range from a minimum of a single letter grade reduction in score on the assignment to a maximum of failure on the assignment. A second offence within the same course will result in a minimum penalty of a single letter grade reduction in the course grade to a maximum penalty of course failure. The specific penalty applied is up to the discretion of the professor. In all cases of plagiarism, the student's name will be recorded in a central database maintained by the general office. If a student is referred for plagiarism in more than one course, or more than one instance in the same course, the student's case will be forwarded to the university administration for follow-up action.

Detecting plagiarism

The Senate Committee on Teaching and Learning requires that all student assignments in undergraduate programmes should be submitted via CUPIDE (the Chinese University Plagiarism IDentification Engine System). Obviously, this policy will only apply to assignments in the form of a computer-generated document that is principally text-based (i.e., excluding calculations in science, brief laboratory reports, drawings in fine arts and architecture, etc.).

- Each student must upload a soft copy of the completed assignment to the plagiarism detection engine CUPIDE, at the URL: <http://cupide.cse.cuhk.edu.hk/student>
- The system will issue a receipt which also contains a declaration of honesty, which is the same as that in <http://www.cuhk.edu.hk/policy/academichonesty/p09.htm>
- The declaration should be signed, and the receipt stapled to a hard copy of the assignment, which should be handed in before the assignment due date.
- Assignments without the receipt will not be graded by teachers.

(To be signed by students at the beginning of the semester)

I promise that all assignments submitted to this course across the entire semester will be original except for source material explicitly acknowledged. I also acknowledge that I am aware of University policy and regulations on honesty in academic work, and of the disciplinary guidelines and procedures applicable to breaches of such policy and regulations as contained in the website <http://www.cuhk.edu.hk/policy/academichonesty/>.

Signature

Date

Name

Student ID

Course code

Course Title