

1069 PSYCH 461: Hon Sem - Beh Neuroscience

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Location PAS 4288
Times Thursday, 1230-220

Required Text

readings as assigned

Course Description

This is a course about space, broadly defined. We will begin by looking at ancient views of space and place, spend some time looking (briefly and mercifully) at the more recent philosophy and physics of space, and then we will dive into the psychological and neuroscientific literature on place and space. We will end the course by considering some real world applications of what we've learned. How does our mental representation of space influence our architecture, our cities, our views and treatment of the natural world?

Course Objectives

The main objective of the course is carry out a detailed, multidisciplinary analysis of psychological space and spatial cognition. Students will also have opportunities to advance their skills in writing and public presentation.

Tentative Schedule

Week 1. Introduction. What is space? (Ellard)
Week 2. Case studies in animal navigation (Ellard)
Week 3. Case studies in human navigation (Ellard)
Week 4. Perception of spatial layout (Ellard)
Week 5. Perception for movement (Ellard)
Week 6. Psychological studies of human wayfinding (Class)
Week 7. Psychological studies of animal wayfinding (Class)
Week 8. Place cells in the hippocampus (Class)
Week 9. Maps in the human brain (Class)
Week 10. Brains, isovists, and architecture (Class)
Week 11. The design of cities and the spatial brain (Class)

Week 12. Our inconvenient brains (Class)

Course Requirements

30% Take-home essay (Due October 26)

30% Final paper (Due on last day of term)

30% Class presentations. Each student will help to prepare one class, as a member of a team of 3-4 students. Half of the grade will be based on your preparation for the seminar and half will be based on the presentation itself.

10% Participation. I will do my best to keep an accurate record of in-class participation. Your participation grade will be based on attendance (5%) and on your questions and comments during class (5%). Questions don't necessarily have to be frequent or brilliant (mine are neither!) but I will reward you for evidence that your mind as well as your body is in attendance.

Grading Policy

Students who do not attend their scheduled times for class presentation will receive a mark of zero unless they present evidence of medical or compassionate excuse.

Students who return the take-home essay late will be penalized by 5%/day, weekend days included.

The final

Attendance Policy

Students are encouraged to attend all classes. A percentage of your grade will depend on regular attendance and participation in class discussion.

Academic Integrity

Note on avoidance of academic offences: All students registered in the courses of the Faculty of Arts are expected to know what constitutes an academic offence, to avoid committing academic offences, and to take responsibility for their academic actions. When the commission of an offence is established, disciplinary penalties will be imposed in accord with Policy #71 (Student Academic Discipline). For information on categories of offences and types of penalties, students are directed to consult the summary of Policy #71 which is supplied in the Undergraduate Calendar (section 1; on the Web at <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>).

If you need help in learning how to avoid offences such as plagiarism, cheating, and double submission, or if you need clarification of aspects of the discipline policy, ask your TA or course instructor for guidance. Other resources regarding the discipline policy are your academic advisor and the Undergraduate Associate Dean. Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>.

