



## PSYC 3370a: Animal and Human Minds 2014

### Tuesdays and Thursdays

9.25- 10.40am, B650

### Instructor:

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### Office Hours:

Tuesday and Thursday, 3-5 pm, or by appointment (but I am not available on Wednesdays)

### Teaching Assistants:

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### Course description:

This course will consider the evolution of cognition and behaviour from an 'embodied, embedded, extended' perspective. Drawing on the fields of animal behaviour, comparative psychology, neuroscience, cognitive science, robotics, artificial life and developmental psychology, we will consider the following interlinked themes:

1. The issues of animism and anthropomorphism, where we will explore the psychological attributes that cause us to (a) attribute life to inanimate objects and (b) attribute human motivations and feelings to other animals. What is the basis for such attributions? Are they justified on evolutionary grounds? How does this influence how we approach the study of animal minds from a scientific perspective?
2. The evolution of brains: Why did brains evolve? What are they good for? Why do brain sizes vary so widely across the animal kingdom? What is the real job that the brain does?
3. The psychological, physiological and bodily mechanisms that can explain why animals do the things that they do. This will be used to illustrate that just because an animal looks as if it's thinking about the world in a human-like way, this need not be the case,

nor does it make animals any less interesting as a consequence. It will also highlight how our assumptions about the complexity of the mechanism underlying behaviour need not be as complex as the behaviour it produces.

4. An examination of the underlying philosophies that influence how we think about cognitive processes. In particular, the contrast between a Cartesian stance on the mind and cognitive processes and a more Pragmatic “Embodied and Extended” stance. Or, more simply, why brains aren’t the whole story, and why cognitive systems aren’t all in the head.
5. Whether we humans also ‘anthropomorphize’ our own behaviour, and can be mistaken about our minds, and what we use them for.
6. How humans are ‘natural born cyborgs’ whose minds extend beyond our bodies, incorporating aspects of our environments as an integral part of our cognitive system.
7. The contrast between evolutionarily extended cognition (cognitive integration theory) and other theories that approach human behaviour from an evolutionary perspective.

In essence then, this class asks some general questions about cognitive evolution, and how we can think about the minds of other animals (and indeed if they have them at all). In so doing, it highlights the particular ways in which we characterize our own psychology, and thus suggests ways that these can be reconfigured and transformed. giving us new insights into how we have become the creatures that we are today.

## Textbook:

For the first part of the course, we will be using is a book written specifically to accompany the lectures: Barrett, L. (2011) *Beyond the Brain: How Body and Environment Shape Animal and Human Minds*. Princeton University Press, New Jersey. This is available from University book shop, and it is also available on-line at Amazon as an e-book. The second part of the course, where we focus more specifically on humans will be accompanied by readings from the primary literature, and other sources. These will be posted as we approach this section of the course.

I expect you to read the material before class and to arrive prepared. By this I mean you should have prepared a question, comment or idea inspired by the reading, and you should be prepared to share with the class, if and when you are called upon. What this also means, then, is that if you’re prepared to put in the effort to engage with the material, you can ensure that the course covers those aspects of the field that you find most interesting, and would like to know more about. There is nothing you specifically need to know here—this is an advanced undergraduate course, not one designed to deliver fundamental principles—and I’m assuming you are taking it by choice, because you are curious and interested in the topic area.

All material presented in the books, readings and lectures will be considered fair game for the exam. If any of you should decide to ask the fateful question: “will this be on the exam?”, the answer will always be: “well, it is now”, so that’s fair warning.

Material dealt with in the lectures will often extend and comment on the material presented in the book: it will not be a straight translation of the book material. I will not be supplying additional notes to cover this material, except in week 3, where I will supply you with a document, via Moodle, covering different approaches to the study of animal cognition, as these will also serve as a guide to your written assignment. Otherwise, you are expected to take your own notes in class.

## **Coursework and Assessment:**

The course will be assessed by one written assignment (worth 35%), one mid-term exam worth (30%) and one final exam (35%).

## **Written Assignment:**

### **Reading closely, critically and constructively**

(first draft: 1000 words, approx. 3 pages)

The aim here is to get you to work within tight constraints and put together a cogent but concise, critical yet constructive assessment of a paper from the primary literature. During the first few weeks of the course, we will discuss several possible approaches to the study of animal psychology, and examine a number of papers to assess their strengths and weaknesses.

Your task will be to perform a similar analysis on EITHER an article of your own choosing (please check with me first so that I can assess whether the paper is appropriate) OR using one of several papers selected for the purpose that I will post on Moodle.

In this assignment, you will attempt the following (a) identify the approach used (which will be covered in class) (b) assess the strengths and weaknesses of the study's design and analysis with respect to the question addressed and (c) assess whether the conclusions are well justified or whether alternative interpretations are possible and, if so, what these might be. By sharpening the skills involved in reading published articles closely, identifying their assumptions (both explicit and hidden), spotting any potential flaws in logic and understanding what constitutes good science, you will be acquiring skills of logical reasoning, the ability to weigh evidence appropriately, an understanding of good experimental/study design, and an understanding of what good science entails.

As the explicit aim here is to help you develop your skills at producing clear, well thought out arguments, you will have the chance to re-write your assignment, using the comments I provide, in order to improve them. Any re-written work will be remarked and if you do better, you will be awarded this as your final grade for this component. If you end up doing worse, you will receive your best mark as your final grade for this component. Re-writing is therefore a no-cost exercise for you: **you can only do better, you cannot do worse.**

In order to ensure this remains manageable, given class size (and more importantly, the fact, the time-management skills of the average undergraduate are, in my experience, utterly woeful), we will run this as follows:

1. You will hand in a draft of your report by **FRIDAY OCTOBER 10th**. This will be marked and receive a grade. If you are happy with this grade, then you do not need to rewrite the report and the mark will be entered as your mark for this component of the course. You can, of course, hand your report in earlier if you wish, and give yourself more re-writing time if needed.
2. If you are not happy with your mark, and wish to improve, then you can re-write your report, and hand it back to me by **FRIDAY NOVEMBER 13th**.

You can, of course, come and speak to me at any time about any aspect of your assignment either during office hours, or by making an appointment.

#### A NOTE ON FORMATTING:

I **DO NOT** expect your papers to conform to any specific format (e.g., APA). I ask only that they are printed double-spaced in a sensible, legible font; that your name is clearly shown on the front page; that any sources and references used are fully referenced at the end of your essay, using the following format:

Other, A.N. (date) Title of article. Journal Title Vol. No: Page numbers.

Other, A.N. (date) Title of book. Publisher, Publisher Location.

Other, A.N. (date) Title of book chapter. (Title of book, Editors), Publisher, Location.

Please use in-text citations in your essay (Author, Date) and note that Wikipedia and most websites do not constitute suitable sources for assignments of this nature.

**IMPORTANT:** you should note that merely ‘cosmetic’ revisions (i.e., improvements to spelling and grammar alone, with no attempt to revise content are unlikely to receive a higher mark).

## Mid-Term Exam:

This will be a multiple-choice exam that you will take in class on October 30th and will test you on material covered between weeks 2 (week beginning September 9th) and 6 (week beginning October 7th) inclusive. That is, chapters 1-8 of *Beyond the Brain*, plus any other material covered in the lectures.

## Final Exam:

This will be a multiple-choice exam covering the material covered by chapters 9-11 of *Beyond the Brain*, plus all remaining lectures and associated material from weeks 7 (week beginning October 28th) to 14 (week beginning December 2nd). The date of the final exam will be Tuesday December 9th, 2-5pm (in our usual classroom).

## Grading:

Final letter grades for the course will be determined using the following scheme:

A+	91-100	C+	67-69
A	85-90	C	63-66
A-	81-84	C-	60-62
B+	77-80	D+	56-59
B	73-76	D	50-55
B-	70-72	F	<50

## Basis of Grading for Assignment 1:

**To get an A-grade your assignment should have:**

- a clear statement of the issue at hand and clear organization
- adequate support and reasoning for its claims
- be interesting and thoughtful
- show logical transitions within and between paragraphs that contribute to a fluent style of writing.
- make a cogent and logical argument
- have few, if any, mechanical, grammatical, spelling, or diction errors.
- demonstrate a command of language in a clear and direct manner.
- uses sources and examples intelligently, correctly, and fairly.

**A B-grade assignment shares most characteristics of the above but:**

- may have some minor lapses in organization and the development of its argument.
- may lack appropriate or adequate evidence for some of its claims.
- may contain some sentence structures that are awkward or ineffective.
- may have minor mechanical, grammatical, or diction problems.
- may be less distinguished in its use of language.
- may make some good points but not really provide any significant insights.

**C-grade assignments will show the following, compared to a B-grade assignment :**

- may have a weaker thesis and less effective development of ideas and examples.
- may contain some lapses in organization.
- may contain shifts in voice that make the essay harder to follow.
- may have poor or awkward transitions within or between paragraphs.
- may have less varied sentence structures that tend toward monotony.

- may have more mechanical, grammatical, and diction problems.
- is likely to be less distinguished in its handling of the topic.
- may use sources in ways that are inappropriate or awkward.

**D-grade or Failed assignments are seriously flawed. They are likely to:**

- have no clear thesis or central topic.
- display random organization.
- lack adequate support or specific development.
- include irrelevant details.
- fail to fulfill the assignment or be unfairly brief.
- contain major and repeated errors in diction, syntax, grammar, punctuation, or spelling.
- plagiarize.

# Syllabus:

Week beginning	Topic	Reading
Week 1 SEPTEMBER 4th	Introduction	
Week 2 9th & 11th	Anthropomorphism & Anthropocentrism	Ch. 1 & 2 Beyond the Brain
Week 3 16th & 18th	Studying Animal Minds	Assigned readings & Notes on Moodle
Week 4 23th & 25th	Small Brains, Smart Behaviour	Ch. 3 & 4 Beyond the Brain
Week 5 OCTOBER 30th Sept & 2nd	When do You Need a Big Brain?	Ch. 5 & 6 Beyond the Brain
Week 6 7th & 9th	Metaphors and Minds	Ch. 7 & 8 Beyond the Brain
Week 7 14& 16th	World in Action	Ch. 9 & 10 Beyond the Brain
Week 8 21st and 23rd	Wider than the Sky	Ch. 11 Beyond the Brain
Week 9 28th and 30th	Embodied cognition in humans: it's (often) not what you think it is...	Reading(s) on Moodle

Week beginning	Topic	Reading
Week 10 NOVEMBER 4th and 6th	Evolution of the hybrid mind	Reading(s) on Moodle
Week 11 13th (no class on the 11th)	Natural born cyborgs	Reading(s) on Moodle
Week 12 18th and 20th	Things to think with	Reading(s) on Moodle
Week 13 25th and 27th	Stone Age Minds? Or Thoroughly Modern Minds?	Reading(s) on Moodle
Week 14 2nd and 4th December	Ask not what's in our head, but what your head's inside of	Reading(s) on Moodle