A. Course overview

This seminar takes a look at different scientific approaches to the study of human difference and diversity. Given our focus on neuroscientific, psychological, and behavioural research, we address issues at the intersection of nature and nurture. Although research on alleged cognitive differences between different races has fortunately been largely abandoned, research on sex and gender based neuroscientific and cognitive differences is thriving.

We start out with discussing how feminist and other social values can legitimate function within scientific research. Then we look at the ideas of innateness and genetic information, and contrast evolutionary psychology with evolutionary approaches emphasizing diversity. Biological research on phenotypic plasticity goes beyond the nature-nurture dichotomy, and we will see how the investigation of neuroplasticity and epigenetics provides a way for culture to influence neurophysiology, including in the case of neuropsychiatric conditions.

We critically discuss brain organization theory, which postulates a female brain and a male brain, including what neuroimaging can tell us about cognitive differences. By looking at alternative scientific approaches (e.g., cultural neuroscience), we will discuss how to properly represent cognitive variation and to investigate cultural influences on neurocognition. In the context of how biological sex, sexuality, and gender are related, we will encountered challenges to the gender binary and the sex binary, including intersex conditions. We conclude with a look at the neurodiversity movement about mental disabilities (e.g., autism) and the question of whether normalcy can be defined in evolutionary terms.

B. Prerequisites

The class is organized such that specific background knowledge in philosophy of biology or science is not required, though interests in cognitive science (or the life sciences) are desirable.

Formal prerequisite: To enrol as an undergraduate in a 400 level PHIL course (e.g., PHIL 415), you must have previously completed two philosophy classes (incl. one class at the 200-level or higher), or obtain the instructor’s permission. Feel free to contact me to get permission to enrol.
C. Required texts

The required readings consist of journal articles and book chapters, and are listed below in Section L. A substantial part of the readings can be accessed online via our course website.

D. Course requirements

<table>
<thead>
<tr>
<th>PHIL 415</th>
<th>PHIL 510</th>
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<tr>
<td>Oral presentation</td>
<td>20%</td>
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<tr>
<td>Four brief responses</td>
<td>20%</td>
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<tr>
<td>Shorter essay</td>
<td>20%</td>
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<tr>
<td>Term paper draft</td>
<td>10%</td>
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<tr>
<td>Term paper (final version)</td>
<td>20%</td>
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<tr>
<td>Participation</td>
<td>10%</td>
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Oral presentation (20%, PHIL 415 only): Every student in PHIL 415 has to give one oral presentation. Your task as a presenter is to briefly summarize this meeting’s readings (highlighting points that you find particularly relevant) but primarily to start the discussion by having prepared some questions (e.g. about problematic issues in the readings). I ask you to (a) prepare a short handout and email me a draft in advance so that I can provide comments, and to (b) make copies of the final version for the whole class, so that everyone has a summary of your presentation.

Four brief critical responses (5% each): You have to submit four brief critical responses, two before reading week, and two after reading week but no later than April 2. A critical response is about 300 words in length, and should not just summarize the readings. Instead, it should identify an issue that was not fully clarified in the reading and/or your critical response to one point from the reading. With some of the more scientific readings, you may also explain what philosophical issues or other questions it raises. A brief response has to be submitted by the beginning of the class where the reading is assigned, and if several readings are assigned for that date, the brief response can focus on one of them.

Apart from writing critical responses to one of the assigned readings, you may also write a brief response to one of the papers or book chapters from the additional literature I make available.

Shorter essay (20%): You have to write a shorter essay, which is due on Tuesday, February 25 at 11am. The recommended format is that you track down a popular science article relevant to our topics (e.g., something from the popular press) and write an essay on it that summarizes some core points in this article and critically discuss it, for instance how it differs from more reputable science, what problems the popular science presentation raises, or how it relates to the literature we have read in class. Feel free to consults with me about the popular article you want to discuss before starting with the writing of the essay.

Approximate length of the shorter essay paper: 1200–1600 words if you are an undergraduate student (registered in PHIL 415); 2000–2400 words if you are a graduate student (registered in PHIL 510).

Term paper (draft 10%, final version 20% in 415 and 30% in 510): You have to write a term paper, the final version of which is due on Monday, April 27 at noon. A draft, which need not be a full-length version, is due on Friday, April 10 at noon. I will assign a grade to this draft and provide comments relevant for you to write the final version. The term paper should critically discuss an issue from our class, ideally using some of the assigned readings or some of the additional literature that I make available, where of course you are free to find and discuss
You are encouraged to discuss term paper topics and ideas with me before starting with the writing of the term paper draft.

Approximate length of the final version of the term paper: 1600–2400 words if you are an undergraduate student (registered in PHIL 415); 2800–4000 words if you are a graduate student (registered in PHIL 510).

Participation (10% in 415, 20% in 510): Attendance and active participation is important for this class. It is the responsibility of each student to come to class prepared to actively engage in discussion. Each of you will probably have picked up different points from the readings or have questions or objections, so please share them! You can also obtain participation credit by starting topics and replying to posts at the discussion forum on our website.

E. Course website

The course has a website at https://eclass.srv.ualberta.ca/course/view.php?id=56357. A good deal of our assigned readings can be accessed from this site, and I use it to post presentation handouts and additional material. The site also contains a discussion board. Let me know if you audit the class (or upon login at https://eclass.srv.ualberta.ca do not see PHIL 415 / 510 under ‘Course Overview’), so that I can add you to the list of online participants.

F. Schedule of classes

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tr>
<td>Jan 7</td>
<td>Rose et al., ‘Should scientists study race and IQ?’</td>
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<td>Jan 9</td>
<td>Chapter 7 of Schiebinger, Has Feminism Changed Science?</td>
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<td>Jan 14</td>
<td>Wylie and Hankinson Nelson, ‘Coming to terms with the values of science: insights from feminist science scholarship’</td>
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<td>Jan 16</td>
<td>Intemann, ‘Distinguishing between legitimate and illegitimate values in climate modeling’</td>
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<td>Jan 21</td>
<td>Pages 49–58 and 68–77 of Kourany, Philosophy of Science after Feminism</td>
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<td>Jan 23</td>
<td>Griffiths, ‘What is innateness?’</td>
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<td>Jan 28</td>
<td>Buller, ‘Evolutionary psychology: a critique’</td>
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<td>Jan 30</td>
<td>Sections 3, 4b and 4c(iv) of Brown et al., ‘Evolutionary accounts of human behavioural diversity’ Smith, ‘Endless forms: human behavioural diversity and evolved universals’</td>
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<tr>
<td>Feb 4</td>
<td>Chapter 3 of Robert, Embryology, Epigenesis, and Evolution: Taking Development Seriously</td>
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<td>Feb 6</td>
<td>Section 5 (skip pp. 157–158) and Section 6 of Brigandt, ‘Evo-devo and the limits of philosophical accounts of mechanistic explanation’ Pages 278–290 of Jordan-Young, Brain Storm: The Flaws in the Science of Sex Differences</td>
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<tr>
<td>Date</td>
<td>Reading/Assignments</td>
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| Feb 11 | Masterpasqua, ‘Psychology and epigenetics’  
Rutten and Mill, ‘Epigenetic mediation of environmental influences in major psychotic disorders’ |
| Feb 13 | Richardson, ‘Plasticity and programming: feminism and the epigenetic imaginary’  
Last opportunity to submit brief response #2 |
| Feb 25 | Winter term reading week                                                            |
| Feb 27 | Hoffman, ‘What, if anything, can neuroscience tell us about gender differences?’ |
| Mar  3 | Jordan-Young and Rumiati, ‘Hardwired for sexism? Approaches to sex gender in neuroscience’  
Joel and Fausto-Sterling, ‘Beyond sex differences: new approaches for thinking about variation in brain structure and function’ |
| Mar  5 | Kaplan, ‘When socially determined categories make biological realities’  
vvan Anders et al., ‘Biological sex, gender, and public policy’ |
| Mar  10 | Hyde et al. ‘The future of sex and gender in psychology: five challenges to the gender binary’ [makes sure to read pages 183–188] |
| Mar  12 | Ainsworth, ‘Sex and gender redefined’  
Kessler, ‘The medical construction of gender: case management of intersexed infants’ |
| Mar  17 | van Anders, ‘Beyond masculinity: testosterone, gender/sex, and human social behavior in a comparative context’  
Fine et al., ‘Sex-linked behavior: evolution, stability, and variability’ |
| Mar  19 | Kim and Sasaki, ‘Cultural neuroscience: biology of the mind in cultural contexts’ |
| Mar  24 | Gatzke-Kopp, ‘Diversity and representation: key issues for psychophysiological science’ |
| Mar  26 | Baron-Cohen, ‘The extreme male brain theory of autism’  
Pages 86–95 of Sample, ‘Autism and the extreme male brain’ |
| Mar  31 | Silberman, ‘Neurodiversity rewires conventional thinking about brains’  
Fenton and Krahn, ‘Autism, neurodiversity and equality beyond the ‘normal’’ |
| Apr  2 | Amundson, ‘Against normal function’  
Last opportunity to submit brief response #4 |
| Apr  7 | Dussauge and Kaiser, ‘Re-queering the brain’ |
| Apr 10 | Draft of term paper due at noon |
| Apr 27 | Term paper (final version) due at noon |
G. Academic integrity and plagiarism

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards and to uphold the policies of the university in this respect. Students are urged to familiarize themselves with the Code of Student Behaviour and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the university.

The Code of Student Behaviour defines plagiarism as follows (summary):

No Student shall submit the words, ideas, images or data of another person as the Student’s own in any academic writing, essay, thesis, project, assignment, presentation or poster in a course or program of study.

Students should consult the information provided by the Office of the Dean of Students regarding avoiding cheating and plagiarism in particular and academic dishonesty in general. If in doubt about what is permitted in this class, ask the instructor. An instructor or coordinator who is convinced that a student has handed in work that he or she could not possibly reproduce without outside assistance is obliged, out of consideration of fairness to other students, to report the case to the Associate Dean of the Faculty (see the Academic Discipline Process).

The library also has information on citing and avoiding plagiarism.

H. Sexual Violence Policy

It is the policy of the University of Alberta that sexual violence committed by any member of the University community is prohibited and constitutes misconduct. Resources and more information can be found at https://www.ualberta.ca/campus-life/sexual-violence.

I. Student Services

The university provides various services, including Student Accessibility Resources (exam and classroom accommodations for students with a disability, chronic health condition, or anxiety disorders), the Academic Success Centre (e.g., note-taking and writing skills), the Centre for Writers (writing support, in the basement of Assiniboia Hall), Health and Wellness Support (including Counselling & Clinical Services and the Sexual Assault Centre), and the Office of the Student Ombuds (advice and support to students facing academic, discipline, interpersonal and financial difficulties).

J. Attendance, Absences, and Missed Grade Components

Regular attendance is essential for optimal performance in any course. In cases of potentially excusable absences due to illness or domestic affliction, notify your instructor by e-mail within two days. Regarding absences that may be excusable and procedures for addressing course components missed as a result, consult the “Attendance” and “Examinations” sections of the Academic Regulations of the University Calendar. Be aware that unexcused absences will result in partial or total loss of the grade for the “attendance and participation” component(s) of a course, as well as for any assignments that are not handed-in or completed as a result.
K. Recording of lectures

Audio or video recording of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Recorded material is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the instructor.

L. Bibliography of readings


*The University of Alberta acknowledges that we are located on Treaty 6 territory, and respects the histories, languages, and cultures of the First Nations, Métis, Inuit, and all First Peoples of Canada, whose presence continues to enrich our vibrant community.*
Policy about course outlines can be found in Evaluation Procedures and Grading System of the University Calendar.