Increasingly, political science research is required to keep apace with developments in the life sciences. The availability of sophisticated neuroimaging tools, along with rapidly advancing understandings of the functioning of the brain, presents new opportunities and challenges for social scientists. This course introduces final year students to the concept of neuropolitics and to the tools and approaches from the cognitive neurosciences that may have important applications in theory and in policy practice. Participants will explore the potential and the perils of the incorporation of insights from the cognitive neurosciences into the study of social and political attitudes and behaviours.

Participants will first be introduced to ongoing debates about the relationship between the brain, biology and behaviour; given an introduction to basic functional neuroanatomy and to the range of tools and approaches with potential for application in a neuropolitical study. The class will then proceed to critically examine the strengths and weaknesses of a neuropolitical approach with respect to a series of cases: for example, decision-making; voting behaviour; identity and group-relations;
and public policy. A session on neuroethics will address the potential ethical issues that arise in neuropolitical studies.

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Learning Outcomes
Participants in the neuropolitics seminar will:

- Develop a critical understanding of the contribution of a neuropolitical approach to the social sciences.
- Develop a basic understanding of functional neuroanatomy and the relevance of this knowledge for social scientists.
- Develop a critical understanding of the strengths and weaknesses of key methods and tools applied in neuropolitical research.
- Develop analytical skills and ability to lead and contribute to group learning in a timely and effective manner.
- Develop the ability to identify a research puzzle, to develop an appropriate and ethical experimental approach to the problem identified and to formulate research hypotheses.

Teaching Methods
A 4th year only master-class, this class will entail a total of 20 contact hours, delivered in 10*2 hours seminars. Students will undertake further directed learning in the form of participation in a journal club, throughout the teaching period, and will receive formative feedback on their participation in this task.

Detailed readings accompany each week’s topic (see below).

Assessment
Students will be assessed by:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Word count limit</th>
<th>Weighting</th>
<th>Submission date (all course work is due at 12 noon on the date of submission)</th>
<th>Return of feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal Club Initial Synopsis</td>
<td>500</td>
<td>10%</td>
<td>14/2/17</td>
<td>7/3/17</td>
</tr>
<tr>
<td>Experimental Work Up</td>
<td>1500</td>
<td>50%</td>
<td>3/4/17</td>
<td>24/4/17</td>
</tr>
<tr>
<td>Journal Club leadership and contributions to other’s journal clubs</td>
<td>-</td>
<td>25%</td>
<td>ongoing</td>
<td>27/4/17</td>
</tr>
<tr>
<td>Journal Club Final Synopsis</td>
<td>500</td>
<td>15%</td>
<td>6/4/17</td>
<td>27/4/17</td>
</tr>
</tbody>
</table>
Your overall course mark is derived by weighting each component as specified and calculating an average. To pass the course, you need to achieve a mark of at least 40 for the course overall.
Journal Club

Students will develop their individual critical and group-work skills by leading their own journal clubs on an allocated article and by contributing to the journal clubs of class members. Students will be responsible for leading discussions around allocated papers - in journal clubs. All of the discussions will run concurrently. Overall the journal club accounts for 50% of the available marks for this course. This is broken down into 3 parts, as follows.

Part 1: Journal Club Initial Synopsis (10% of overall course mark)
Students will be required to post a brief initial synopsis of their allocated article (500 words) and to encourage others to discuss it.

*Please note that unless you post an initial synopsis it will be impossible for you to do component 3. This means that even if you post it 5 days late and receive 0 marks due to lateness it is still very much worth doing!*

Part 2: Journal Club Leadership and contribution (25% of overall course mark): Students are required to lead their own discussion groups and to contribute to the discussions run by others. A minimum of 2 posts in other people’s discussions are required. There is no word limit nor specific deadline for these posts but regular engagement in discussions is one of the assessment criteria.

Part 3: Journal Club Final Synopsis (15% of overall course mark) All students will post a short final summary of the discussion in their journal club (word limit 500 words). Penalties for late submission apply.

Professor Cram will allocate time in seminars 1 & 2 to introduce, explain and respond to queries on the assessment methods. Each week a short period of time will be allocated to monitoring progress in relation to the assessment methods, particularly with reference to the journal club.

Experimental Work-Up (50% of overall course mark)

Students will develop their analytical and methodological skills by identifying a theoretical or empirical puzzle which might benefit from a neuropolitical approach, identifying an appropriate method of investigation, including any ethical dimensions, and hypothesizing the anticipated results. **1500 words. Penalties for late submission apply.**

Experimental Work Up Submission

Coursework is submitted online using our electronic submission system, ELMA. You will not be required to submit a paper copy of your work. Marked coursework, grades and feedback will be returned to you via ELMA. You will not receive a paper copy of your marked coursework or feedback.
Communication and feedback

You are strongly encouraged to use email for routine communication with lecturers. We shall also use email to communicate with you, e.g., to assign readings for the second hour of each class. All students are provided with email addresses on the university system, if you are not sure of your address, which is based on your matric number, check your EUCLID database entry using the Student Portal.

This is the ONLY email address we shall use to communicate with you. Please note that we will NOT use ‘private’ email addresses such as yahoo or hotmail; it is therefore essential that you check your university email regularly, preferably each day.

More serious personal problems are best dealt with by your Personal Tutor or Student Support Officer, who will let us know, for example, if you have been ill or, for some other serious reason, unable to keep up with the work for part of the course.

Please check Learn regularly for announcements and individual messages.
Reading Materials and Resource List


Course Schedule

Course Lectures and Readings

<table>
<thead>
<tr>
<th>Week 1</th>
<th>18 Jan 2017</th>
<th>Neuropolitics: Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 2</td>
<td>25 Jan 2017</td>
<td>NRLABS Session (divided into 2 groups)</td>
</tr>
<tr>
<td>Week 3</td>
<td>1 Feb 2017</td>
<td>Brain, Biology and Behaviour</td>
</tr>
<tr>
<td>Week 4</td>
<td>8 Feb 2017</td>
<td>Neuropolitical Methods and Approaches</td>
</tr>
<tr>
<td>Week 5</td>
<td>15 Feb 2017</td>
<td>Introduction to Functional Neuroanatomy</td>
</tr>
<tr>
<td>Week 6</td>
<td>22 Feb 2017</td>
<td>NO CLASS – INNOVATIVE LEARNING WEEK</td>
</tr>
<tr>
<td>Week 7</td>
<td>1 Mar 2017</td>
<td>Neuropolitics of Public Policy and Decision Making</td>
</tr>
<tr>
<td>Week 8</td>
<td>8 Mar 2017</td>
<td>Neuropolitics of Group Behaviour and Identity</td>
</tr>
<tr>
<td>Week 9</td>
<td>15 Mar 2017</td>
<td>Is Your Brain Wired for Politics?</td>
</tr>
<tr>
<td>Week 10</td>
<td>22 Mar 2017</td>
<td>Neuroethics</td>
</tr>
<tr>
<td>Week 11</td>
<td>29 Mar 2017</td>
<td>Neuropolitics: Contribution, Limits and Future Directions</td>
</tr>
</tbody>
</table>
Week 1  Neuropolitics: Introduction

Laura Cram, Director of NR Labs neuropolitics research, will introduce the concept of neuropolitics and the ethos of this trans-disciplinary seminar-based course. She will discuss the potential benefits and pitfalls inherent in the experimental exploration of the brain-mind-action nexus with reference to typical political science studies. The assessment methods will be explained and participants will have a chance to clarify their expectations of the course. The class leader’s expectations of the participants and of their shared contributions to seminar discussions will also be underlined. Key readings from the course list will be allocated as journal club texts and will be studied throughout the course.

http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1076&context=poliscifacpub


Hibbing, J. R. (2013). Ten Misconceptions Concerning Neurobiology and Politics. Perspectives on Politics. 11(02), 475-489


Week 2 NRLABS Session (divided into 2 groups)

SEE SPECIFIC INSTRUCTIONS POSTED ON LEARN FOR GROUP ALLOCATION

This week the class will be divided into two groups.

Participants will get an introduction to the neuropolitics course from Professor Cram and the chance to visit the neuropolitics research lab and get some hands on experience of the experiments that we run there.

Group 1 will meet first with Professor Cram in David Hume Tower LG.10 and then attend their NRlabs session in the second hour.

Group 2 will attend the NRlabs session first and will then meet with Professor Cram in David Hume Tower LG.10

Please check the list below for your group allocation.

Group 1
11 10 – 12 00 David Hume Tower LG.10
12 10 – 13 00 NRlabs: 2F2, 18 Buccleuch Place.

Group 2
11 10 – 12 00 NRlabs: 2F2, 18 Buccleuch Place.
12 10 – 13 00 David Hume Tower LG.10

Dr Robin Hill, the lab manager, will meet students at NRlabs and will brief each group of students on the procedures involved.

Students should make their way to:
NRlabs Neuropolitics
Research
University of
Edinburgh
Flat 2F2
18 Buccleuch Place
Edinburgh
EH8 9LN

Please arrive strictly on time for your session to allow maximum hands-on experience for all participants. There is a bell on the door, please ring for entry.
**Week 3 Brain, Biology and Behaviour**

To understand the role that the brain plays in shaping or responding to our thoughts and behaviours or to physiological or environmental factors, we explore the relationship between brain, biology and behaviour. Participants are not expected to become experts in the intricacies of neuroscience but a basic understanding of how the brain functions, the terminology used to describe the brain and the concept of brain plasticity will aid participants when reading the neuropolitics literature.


Those with strong constitutions might enjoy the video lessons from the atlas of functional neuroanatomy [http://www.atlasbrain.com/enx/atlas_main.html](http://www.atlasbrain.com/enx/atlas_main.html). Try the lesson on the hemispheres to get an insight into the structure of the brain.

**Week 4 Neuropolitical Methods and Approaches**

So far we have discussed the idea that a better understanding of the relationship between the brain, the mind and the environment in which they operate might provide new insights into our understanding of political attitudes and behaviours. How then might we test this hypothesis? This week some of the NRLabs neuropolitics research staff will join Laura Cram to introduce the concept of experimental political science and to introduce some of the methods that they use to explore the potential for a neuropolitical approach to enrich the study of cooperative decision-making; identity, inclusion and trust relationships and political attitudes and behaviours. The use of behavioural games, physiological hormone-testing, functional brain imaging (using functional Magnetic Resonance Imaging (fMRI) and Electro Encephalography (EEG)), eye-tracking and face-emotion coding will be discussed.


**Week 5 Introduction to Functional Neuroanatomy**

Functional neuroanatomy refers to the idea that particular areas of the brain have been found to be associated with particular functions - for example, visual, auditory and
motor functions (though, of course the interconnections between neuroanatomical areas are just as interesting). There is also some evidence that certain areas of the brain are closely linked to specific cognitive functions such as the sense of uncertainty, the judgment of value, empathic processing, the experience of fear or of pain. This week participants are going to be doing some prep for the class by doing some colouring in and by finding out ahead of the session what some of the key brain areas relevant for the study of politics might be.


Hughes, B. L., & Beer, J. S. (2012). Orbitofrontal cortex and anterior cingulate cortex are modulated by motivated social cognition. Cerebral Cortex, 22(6), 1372-1381.


Some of the earliest studies to apply the insights of cognitive neuroscience to the process of decision-making came from behavioural economists. Already utilizing insights from psychology to develop a more nuanced understanding into what sometimes appeared to be counter-intuitive economic behaviour, neuroeconomists took a step further and sought to examine the neural correlates of decision-behaviour. Many similar questions, concerning the propensity of actors to engage in rational v pro-social behaviours, the impact of decision-contexts and the significance of uncertainty and risk also pre-occupy political scientists and public policy analysts. This week we examine the relationship between decision, uncertainty and the brain.


Central to the notion of humans as political animals is the importance of group belonging and sociality. Whether as part of a family, a sporting community, an interest group or political party, an ethnic, national or international organization – formal or informal – elective or determined by birth or compulsion – the group and our identification with the group is a central aspect of the human political experience. This week we explore the relationship between the brain, belonging and behaviour. We also look at the concept of the ‘social brain’.


**Week 9  Is Your Brain Wired for Politics?**

How does our brain structure relate to our political behaviour? This is a controversial topic, with some going so far as to suggest a biological underpinning, if not determinant, of political orientations. This week we ask what the brain can and can’t tell us about political behaviour. We examine evolutionary understandings of political behaviour and ask how much traction these have in explaining contemporary practice.


### Week 10 Neuroethics

Human experimentation inevitably raises ethical issues. In this session, a general discussion of research ethics and their importance will be conducted. Issues such as informed consent and data protection will be discussed. The issue of deception in psychological experiments will be tackled. Participants will also discuss the specific ethical issues which pertain to collection of neurological data and to its use in practice, for example in legal cases and in public decision processes. Topics such as brain decoding, or ‘brain reading’ and their ethical dimensions will also be discussed.


### Week 11 Neuropolitics: Contribution, Limits and Future Directions

This week participants will reflect on what they have learned about the field of neuropolitics and will evaluate its place in and potential contribution to the field of political science. The issues likely to arise as this field develops further, potential new
avenues for exploration, new areas of application and additional/emerging methodological tools will be discussed. The potential pitfalls and problems inherent in the field will also be explored. Participants will feedback and reflect on what they have learned from their individual journal club experience.

**Appendix 1 – General Information**

**Students with Disabilities**

If you are a student with a disability (including those with specific learning difficulties such as dyslexia), you should get in touch with the Student Disabilities Service as soon as possible. You can find their details as well as information on all of the support they can offer at: [http://www.ed.ac.uk/student-disability-service](http://www.ed.ac.uk/student-disability-service)

The School welcomes disabled students with disabilities and is working to make all its courses as accessible as possible. If you have a disability special needs which means that you may require adjustments to be made to ensure access to lectures, tutorials or exams, or any other aspect of your studies, you can discuss these with your Student Support Officer or Personal Tutor who will advise on the appropriate procedures.

Further guidance and information for Students with Disabilities can also be found in your Programme Handbook.

**Learning Resources for Undergraduates**

The Study Development Team at the Institute for Academic Development (IAD) provides resources and workshops aimed at helping all students to enhance their learning skills and develop effective study techniques. Resources and workshops cover a range of topics, such as managing your own learning, reading, note-making, essay and report writing, exam preparation and exam techniques.

The study development resources are housed on ‘LearnBetter’ (undergraduate), part of Learn, the University’s virtual learning environment. Follow the link from the IAD Study Development web page to enrol: [www.ed.ac.uk/iad/undergraduates](http://www.ed.ac.uk/iad/undergraduates)

Workshops are interactive: they will give you the chance to take part in activities, have discussions, exchange strategies, share ideas and ask questions. They are 90 minutes long and held on Wednesday afternoons at 1.30pm or 3.30pm. The schedule is available from the IAD Undergraduate web page (see above).

Workshops are open to all undergraduates but you need to book in advance, using the MyEd booking system. Each workshop opens for booking two weeks before the date of the workshop itself. If you book and then cannot attend, please cancel in advance through MyEd so that another student can have your place. (To be fair to all students, anyone who persistently books on workshops and fails to attend may be barred from signing up for future events).

Study Development Advisors are also available for an individual consultation if you have specific questions about your own approach to studying, working more effectively, strategies for improving your learning and your academic work. Please note, however, that Study Development Advisors are not subject specialists so they cannot comment on the content of your work. They also do not check or proof read students’ work.
To make an appointment with a Study Development Advisor, email iad.study@ed.ac.uk

(For support with English Language, you should contact the English Language Teaching Centre).

**External Examiner**
The External Examiner for Years 3 and 4 of the Politics and International Relations programme will be confirmed at a later date.
Appendix 2 - Course Work Submission and Penalties

Penalties that can be applied to your work and how to avoid them.

There are three types of penalties that can be applied to your course work and these are listed below. Students must read the full description on each of these at: http://www.sps.ed.ac.uk/undergrad/current_students/teaching_and_learning/assessment_and_regulations/coursework_penalties

Make sure you are aware of each of these penalties and know how to avoid them. Students are responsible for taking the time to read guidance and for ensuring their coursework submissions comply with guidance.

- Incorrect submission Penalty
  When a piece of coursework is submitted to our Electronic Submission System (ELMA) that does not comply with our submission guidance (wrong format, incorrect document, no cover sheet etc.) a penalty of 5 marks will be applied to students work.

- Lateness Penalty
  If you miss the submission deadline for any piece of assessed work 5 marks will be deducted for each calendar day that work is late, up to a maximum of seven calendar days (35 marks). Thereafter, a mark of zero will be recorded. There is no grace period for lateness and penalties begin to apply immediately following the deadline.

- Word Count Penalty
  The penalty for excessive word length in coursework is one mark deducted for each additional 20 words over the limit.
  Word limits vary across subject areas and submissions, so check your course handbook. Make sure you know what is and what is not included in the word count.
  Again, check the course handbook for this information.
  You will not be penalised for submitting work below the word limit. However, you should note that shorter essays are unlikely to achieve the required depth and that this will be reflected in your mark.

ELMA: Submission and Return of Coursework

Coursework is submitted online using our electronic submission system, ELMA. You will not be required to submit a paper copy of your work.

Marked coursework, grades and feedback will be returned to you via ELMA. You will not receive a paper copy of your marked course work or feedback.

For details of how to submit your course work to ELMA, please see our webpages here. Remember, there is a 5 mark incorrect submission penalty, so read the guidance carefully and follow it to avoid receiving this.
Extensions: New policy-applicable for years 1-4

From September 2016, there will be a new extensions policy that applies to all courses in the school from years one to four.

If you have good reason for not meeting a coursework deadline, you may request an extension. Before you request an extension, make sure you have read all the guidance on our webpages and take note of the key points below. You will also be able to access the online extension request form through our webpages.

- Extensions are granted for 7 calendar days.
- Extension requests must be submitted no later than 24 hours before the coursework deadline.
- If you miss the deadline for requesting an extension for a valid reason, you should submit your coursework as soon as you are able, and apply for Special Circumstances to disregard penalties for late submission. You should also contact your Student Support Officer or Personal Tutor and make them aware of your situation.
- If you have a valid reason and require an extension of more than 7 calendar days, you should submit your coursework as soon as you are able, and apply for Special Circumstances to disregard penalties for late submission. You should also contact your Student Support Officer or Personal Tutor and make them aware of your situation.
- If you have a Learning Profile from the Disability Service allowing you potential for flexibility over deadlines, you must still make an extension request for this to be taken into account.

Exam Feedback and Viewing Exam Scripts:
General exam feedback will be provided for all courses with an examination. General feedback will be uploaded to the relevant course learn page within 24 hours of the overall marks for the course being returned to Students.

Students who sit the exam will also receive individual feedback. The relevant Course Secretary will contact students to let them know when this is available and how to access it.

If students wish to view their scripts for any reason, they must contact the relevant Course Secretary via email to arrange this.

Plagiarism Guidance for Students: Avoiding Plagiarism
Material you submit for assessment, such as your essays, must be your own work. You can, and should, draw upon published work, ideas from lectures and class discussions, and (if appropriate) even upon discussions with other students, but you must always make clear that you are doing so. Passing off anyone else’s work (including another student’s work or material from the Web or a published author) as your own is plagiarism and will be punished severely.
When you upload your work to ELMA you will be asked to check a box to confirm the work is your own. All submissions will be run through ‘Turnitin’, our plagiarism detection software. Turnitin compares every essay against a constantly-updated database, which highlights all plagiarised work. Assessed work that contains plagiarised material will be awarded a mark of zero, and serious cases of plagiarism will also be reported to the College Academic Misconduct officer. In either case, the actions taken will be noted permanently on the student's record. For further details on plagiarism see the Academic Services’ website:

http://www.ed.ac.uk/academic-services/staff/discipline/plagiarism

Data Protection Guidance for Students

In most circumstances, students are responsible for ensuring that their work with information about living, identifiable individuals complies with the requirements of the Data Protection Act. The document, Personal Data Processed by Students, provides an explanation of why this is the case. It can be found, with advice on data protection compliance and ethical best practice in the handling of information about living, identifiable individuals, on the Records Management section of the University website at:

http://www.ed.ac.uk/schools-departments/records-management-section/data-protection/guidance-policies/dpforstudents