UCL - INSTITUTE OF ARCHAEOLOGY

COURSE NUMBER: ARCL0124

Evolution of the Human Brain and Behaviour
2019-20

Masters Option Module: 15 credits

First Essay deadline (50% of module marks): **Monday 11th November**
Target return date for First Essay: **Monday 2nd December**
Second Essay deadline (50% of module marks): **Friday 13th December**
Target return date for Second Essay: **Monday 13th January**

Lectures/seminars will be held
1600-1800 on Wednesdays in IoA 410.
Co-ordinator: James Steele, j.steele@ucl.ac.uk

James Steele’s office hours for teaching-related matters during Term One, 2019-20:
**WEDNESDAYS, 1300-1400** (excluding Reading Week).

Please see the last page of this document for important information about submission and marking procedures, and links to the relevant webpages.
1 OVERVIEW

The purpose of this handbook

This handbook contains basic information about the content and administration of this course. If you have queries about the objectives, structure, content, assessment or organisation of the course, please consult the Course Co-ordinator. Further important information, relating to all courses at the Institute of Archaeology, is to be found at http://www.ucl.ac.uk/archaeology/handbook/common/ and in the general MA/MSc handbook. It is your responsibility to read and act on it. It includes information about originality, submission and grading of coursework; disabilities; communication; attendance; and feedback.

Short course description

This course will examine the evidence for the evolution of the human brain, of social and technical intelligence, and of the cognitive dimensions of cultural transmission. Students will assess the evidence from a wide range of disciplines including not only archaeology and anthropology, but also cognitive neuroscience and neuroanatomy, comparative and developmental psychology, primatology and evolutionary biology, to investigate how and why human brains are adapted to a culturally-constructed niche involving the learned use of (and dependence on) languages, artefacts, and social norms. By the end of the course, students will be familiar with the strengths and limitations of the different forms of evidence available for tracking the evolution of this distinctively human adaptive strategy.

Core readings

There is no set course textbook. Core readings (required and suggested) are listed below for each week’s topic, and in order to gain an understanding of the core ideas of this course it is sufficient to read these. To facilitate access, these recommendations are largely restricted to articles available online.

Methods of assessment

This course is assessed by means of TWO standard essays (1,800-2,200 words each). The structure and deadlines for each assessment are specified below. If students are unclear about the nature of an assignment, they should contact the Course Co-ordinator. The Course Co-ordinator will be willing to discuss an outline of their approach to the assessment, provided this is planned suitably in advance of the submission date. Work which exceeds the stated word limit will be penalized.

Workload

There will be 20 hours of lectures and seminars for this course. There will also be up to four hours of individual tuition/discussion of assessment topics offered to each student, to be timetabled separately. Students will be expected to undertake around 100 hours of reading for the course, plus 60-70 hours preparing for and producing the assessed work. This should add up to a total workload of 188 hours for the course.

Prerequisites

There are no formal prerequisites for this course, which is normally however only open to students on Masters programmes hosted by the Departments of Archaeology and of Anthropology.
Course timetable

Twenty lectures/seminars, Wednesdays 4-6 pm:

Each week, the first period will be given over to discussion of the listed topic, which will have been introduced by the lecturer in the second period of the previous week, and to a further mini-lecture on more advanced aspects of that topic. Students should read the essential readings listed under the relevant topic, and at least two other articles from that list, in advance of the discussion period, and come prepared to contribute to the discussion.

Week 1: 2nd October. Course overview
  Lecture: Brain energy metabolism and the evolution of diet
Week 2: 9th October. Discussion: Brain energy metabolism and the evolution of diet
  Lecture: Social and ecological factors in primate brain evolution
Week 3: 16th October. Discussion: Social and ecological factors in primate brain evolution
  Lecture: Landscape knowledge and the evolution of the foraging mind
Week 4: 23rd October. Discussion: Landscape knowledge and evolution of the foraging mind
  Lecture: The evolution of co-operation and social norms
Week 5: 30th October. Discussion: The evolution of co-operation and social norms
  Lecture: Early technology, skill and inventiveness

READING WEEK: 4th-8th November (NO TEACHING)

First assignment due Monday 11th November

Week 6: 13th November. Discussion: Early technology, skill and inventiveness
  Lecture: What is special about the human brain?
Week 7: 20th November. Discussion: What is special about the human brain?
  Lecture: The evolution of language and speech
Week 8: 27th November. Discussion: The evolution of language and speech
  Lecture: The ‘human revolution’
Week 9: 4th December. Discussion: The ‘human revolution’
  Lecture: Dynamics of cultural evolution
Week 10: 11th December. Discussion: Dynamics of cultural evolution
  Lecture: Conclusions and future research directions

Second assignment due Friday 13th December
2. DETAILS OF COURSE AIMS, OBJECTIVES AND ASSESSMENT

Aims, objectives and learning outcomes

The aims of this course are to:

1) Undertake an in-depth study of biological, psychological and archaeological evidence relating to the patterns and processes of evolution of the human brain and behaviour.
2) Examine the wide range of methods and theory applied to the question of the evolution of the human brain and behaviour, and to consider possibilities for productive integration.

On successful completion of this course a student should have developed:

1) A detailed knowledge of biological, psychological and archaeological evidence of the evolution of the human brain and behaviour.
2) Enhanced written and oral skills in communicating complex ideas and data-sets derived from a range of academic disciplines.
3) The ability to critically evaluate evidence and arguments regarding issues in the evolution of the human brain and behaviour.

On successful completion of the course students should have further developed skills and abilities in:

1) Assimilation and critical reflection on complex information or technological
2) Evaluation and application of acquired knowledge
3) Oral and written communication

Assessments


EITHER

Write an essay (1,800-2,200 words) explaining the relationship between individual and social learning in the transmission of anatomically-modern human hunter-gatherer cultural traditions in a food- or technology-related task.

Your submission should identify a characteristic hunter-gatherer learning ‘challenge’ in the chosen domain, and explain how its solution involves both individual skill acquisition/deployment and social learning in the reproduction of a culturally transmitted ‘solution’. Illustrate your answer with two specific case studies, one from the archaeological record, and one from the ethnographic record. Your answer should consider the implications for the evolution of the human brain and cognition.

OR

Write an essay (1,800-2,200 words) summarising the similarities and differences of behaviour, life history, and neuroanatomy in two extant non-human primate species.

Your submission should include relevant quantitative data for each species on behaviour, life history strategy, distribution, and anatomical specialization. You may want to chose two species for comparison which are sufficiently distantly-related (in phylogenetic terms) for distinctive adaptations to have had time to emerge. Discuss the relationship between the social and ecological challenges that each species faces in its natural habitat, and any specializations found in brain structure and/or any specific capabilities identified in controlled psychological experiments.
Readings for Assignment 1

Because of the potential breadth of research questions and research methodologies, there is no single set of readings for any of these assignments. Students may consult with the Course Coordinator to discuss their own ideas about possible topics and approaches.

Assignment 2 Deadline: Friday 13\textsuperscript{th} December 2019

EITHER

Write a critique of existing work, and outline a new experimental research design (1,800-2,200 words).

You are to critique an existing published experiment and design a new experiment, or a series of experiments, that will shed new light on the evolution of human cognition. Your research design must be original, although it is likely to build on previous work done by other investigators (you must always indicate in what ways you are building on or testing others’ pre-existing work). You may choose which aspect of human cognitive evolution you wish to investigate (for instance, you might investigate some well-focused aspect of one of the following: brain energy metabolism and the evolution of diet; the biological or cultural evolution of environmental knowledge, or of technical skill; the biological or cultural evolution of social norms; the biological or cultural evolution of language). You may choose your preferred methodology, but you are advised to restrict yourself to one approach (for instance, lab experiments in social groups; brain imaging studies; computer simulations; naturalistic behavioural observations with a suitable control condition; lab experiments involving samples of individuals carrying out some specific task; etc.)

Your submission should include the following elements: a statement of the problem and its relevance to human cognitive evolution; a review and critique of one or more of the most relevant recent findings in the field; an explicit statement of the hypothesis that you wish to test; a description of the materials and methods you will use to run your experiments and to analyse the results; and a statement demonstrating your awareness of relevant UCL guidelines on research ethics.

OR

Write a report on a new statistical analysis which you have carried out, and which is relevant to some aspect of primate (including human) brain evolution (1,800-2,200 words).

You will critique an existing debate on some aspect of primate (including human) brain and behavioural evolution, where some of the disagreement relates to differences in data quality, sample selection, choice and coding of variables, and/or analytical methods used. You will then carry out an analysis of existing published data, demonstrating your understanding by reproducing the results of one or more published investigation, and also asking a new question which the existing data can also be used to address. Discuss how your new approach might, given further work, be a useful contribution to the debate. You might, for instance, want to look at some specific aspect of debates on the absolute and relative brain sizes of fossil hominins; the selection pressures of social versus foraging challenges in primate brain evolution; the adaptive evolution of specific human brain systems such as the prefrontal cortex; the ways in which the costs of the 'expensive brain' have been met by other innovations and trade-offs; or ways of quantifying the cognitive demands of tasks which can be partially reconstructed from archaeological evidence.
Readings for Assignment 2

Because of the potential breadth of research questions and research methodologies, there is no single set of readings for any of these assignments. Students may consult with the Course Co-ordinator to discuss their own ideas about possible topics and approaches. For the development of a research design, a good start would be to make a close reading of the ‘materials and methods’ sections of some recent published studies in the relevant sub-field (and any associated Supplementary Information files), and consider how you might adapt those methods to address your own research problem. For the first essay option (the experimental research design), UCL research ethics guidelines are available online at: http://ethics.grad.ucl.ac.uk.

Advice Individual discussions of your proposed submissions will be scheduled well in advance of the deadlines, to help you to evaluate your strategy for each assignment and so that additional resources can be identified which might help you to submit an effective piece of work. In addition, if students are unclear about the nature of an assignment, they should discuss this with the Course Co-ordinator. The Course Co-ordinator is willing to discuss an outline of the student's approach to the assignment, provided this is planned suitably in advance of the submission date. Students are not permitted to re-write and re-submit assessed coursework after the submission deadline in order to try to improve their marks.

Essay length (word count) The following should not be included in the word-count: bibliography, captions and contents of tables and figures, appendices. See last page of this Handbook for further details.

Coursework submission procedures

- All coursework must normally be submitted both as hard copy and electronically unless instructed otherwise
- You should staple the appropriate colour-coded IoA coversheet (available in the IoA library and outside room 411a) to the front of each piece of work and submit it to the red box at the Reception Desk
- All coursework should be uploaded to Turnitin by midnight on the day of the deadline. This will date-stamp your work. It is essential to upload all parts of your work as this is sometimes the version that will be marked.
- Instructions are given below. Please note that the procedure has changed for 2019-20, and work is now submitted to Turnitin via Moodle.

1. Ensure that your essay or other item of coursework has been saved as a Word doc., docx. or PDF document. Please include the module code and your candidate number on every page as a header.
2. Go into the Moodle page for the module to which you wish to submit your work.
3. Click on the correct assignment (e.g. Essay 1),
4. Fill in the “Submission title” field with the right details: It is essential that the first word in the title is your examination candidate number (e.g. YGBR8 Essay 1),
5. Click “Upload”.
6. Click on “Submit”
7. You should receive a receipt – please save this.
8. If you have problems, please email the IoA Turnitin Advisers on ioa-turnitin@ucl.ac.uk, explaining the nature of the problem and the exact module and assignment involved. One of the Turnitin Advisers will normally respond within 24 hours, Monday-Friday during term. Please be sure to email the Turnitin Advisers if technical problems prevent you from uploading work in time to meet a submission deadline - even if you do not obtain an immediate response from one of the Advisers they will be able to notify the
relevant Module Coordinator that you had attempted to submit the work before the deadline.

**Communication** If any changes need to be made to the course arrangements, these will normally be communicated by email. It is therefore essential that you consult your UCL e-mail account regularly.

3 **ONLINE RESOURCES**

The full UCL Institute of Archaeology coursework guidelines are given here: http://www.ucl.ac.uk/archaeology/handbook/common/marketing.htm. The full text of this handbook is available on Moodle.

**Moodle** The Moodle resources for this course can be found at http://moodle.ucl.ac.uk/course/search.php?search=ARCL0124. The course handbook, lecture slides, and extra references and resources as appropriate, will be available here for download.

4 **ADDITIONAL INFORMATION**

**Libraries and other resources** In addition to the Library of the Institute of Archaeology, another library in UCL with holdings of particular relevance to this degree is the UCL Science Library.

**Attendance** A register will be taken at each class. Regular attendance is expected. If you are unable to attend a class, please notify the Course Co-ordinator by email. Departments are required to report each student’s attendance to UCL Registry at frequent intervals throughout each term.

**Information for intercollegiate and interdepartmental students** Students enrolled in Departments outside the Institute should collect hard copy of the Institute’s coursework guidelines from Judy Medrington’s office.

**Dyslexia** If you have dyslexia or any other disability, please make your lecturers aware of this. Please discuss with your lecturers whether there is any way in which they can help you. Students with dyslexia are reminded to indicate this on each piece of coursework.

**Feedback** In trying to make this course as effective as possible, we welcome feedback from students during the course of the year. All students are asked to give their views on the course in an anonymous questionnaire which will be circulated at one of the last sessions of the course. These questionnaires are taken seriously and help the Course Co-ordinator to develop the course. The summarised responses are considered by the Institute’s Staff-Student Consultative Committee, Teaching Committee, and by the Faculty Teaching Committee.

If students are concerned about any aspect of this course we hope they will feel able to talk to the Course Co-ordinator, but if they feel this is not appropriate, they should consult their Personal Tutor, the Academic Administrator (Judy Medrington), or the Chair of Teaching Committee (Dr. Bill Sillar).

5 **CORE READINGS AND SUPPLEMENTARY READINGS FOR DISCUSSION CLASSES**

These will be circulated as a list to students attending the course.
APPENDIX A: POLICIES AND PROCEDURES 2019-20 (PLEASE READ CAREFULLY)

This appendix provides a short précis of policies and procedures relating to courses. It is not a substitute for the full documentation, with which all students should become familiar. For full information on Institute policies and procedures, see IoA Student Administration section of Moodle: https://moodle.ucl.ac.uk/course/view.php?id=9992 For UCL policies and procedures, see the Academic Regulations and the UCL Academic Manual: http://www.ucl.ac.uk/srs/academic-regulations ; http://www.ucl.ac.uk/academic-manual/

GENERAL MATTERS

ATTENDANCE: A minimum attendance of 70% is required. A register will be taken at each class. If you are unable to attend a class, please notify the lecturer by email.

DYSLEXIA: If you have dyslexia or any other disability, please discuss with your lecturers whether there is any way in which they can help you. Students with dyslexia should indicate it on each coursework cover sheet.

COURSEWORK

SUBMISSION PROCEDURES: You must submit a hardcopy of coursework to the Co-ordinator’s pigeon-hole via the Red Essay Box at Reception (or, in the case of first year undergraduate work, to room 411a) by stated deadlines. Coursework must be stapled to a completed coversheet (available from IoA website; the rack outside Room 411A; or the Library). You should put your Candidate Number (a 5 digit alphanumeric code, found on Portico. Please note that this number changes each year) and Course Code on all coursework. It is also essential that you put your Candidate Number at the start of the title line on Turnitin, followed by the short title of the coursework (example: YBPR6 Funerary practices).

LATE SUBMISSION: Late submission is penalized in accordance with UCL regulations, unless permission for late submission has been granted. The penalties are as follows: i) A penalty of 5 percentage marks should be applied to coursework submitted the calendar day after the deadline (calendar day 1); ii) A penalty of 15 percentage marks should be applied to coursework submitted on calendar day 2 after the deadline through to calendar day 7; iii) A mark of zero should be recorded for coursework submitted on calendar day 8 after the deadline through to the end of the second week of third term. Nevertheless, the assessment will be considered to be complete provided the coursework contains material than can be assessed; iv) Coursework submitted after the end of the second week of third term will not be marked and the assessment will be incomplete.

GRANTING OF EXTENSIONS: Please note that there are strict UCL-wide regulations with regard to the granting of extensions for coursework. You are reminded that Module Coordinators are not permitted to grant extensions. All requests for extensions must be submitted on a the appropriate UCL form, together with supporting documentation, via Judy Medrington’s office and will then be referred on for consideration. Please be aware that the grounds that are acceptable are limited. Those with long-term difficulties should contact UCL Student Disability Services to make special arrangements. Please see the IoA website for further information. Additional information is given here: http://www.ucl.ac.uk/srs/academic-manual/4/extenuating-circumstances/

TURNITIN: Date-stamping is via Turnitin, so in addition to submitting hard copy, you must also submit your work to Turnitin by midnight on the deadline day. If you have questions or problems with Turnitin, contact ioa-turnitin@ucl.ac.uk.

RETURN OF COURSEWORK AND RESUBMISSION: You should receive your marked coursework within four calendar weeks of the submission deadline. If you do not receive your work within this period, or a written explanation, notify the Academic Administrator. When your marked essay is returned to you, return it to the Course Co-ordinator within two weeks. You must retain a copy of all coursework submitted.

WORD LENGTH: The following should not be included in the word-count: title page, contents pages, lists of figure and tables, abstract, preface, acknowledgements, bibliography, lists of references, captions and contents of tables and figures, appendices. Penalties will only be imposed if you exceed the upper figure in the range. There is no penalty for using fewer words than the lower figure in the range: the lower figure is simply for your guidance to indicate the sort of length that is expected. In the 2019-20 session penalties for overlength work will be as follows:: For work that exceeds the specified maximum length by less than 10% the mark will be reduced by five percentage marks, but the penalised mark will not be reduced below the pass mark, assuming the work merited a Pass. For work that exceeds the specified maximum length by 10% or more the mark will be reduced by ten percentage marks, but the penalised mark will not be reduced below the pass mark, assuming the work merited a Pass.

CITING OF SOURCES and AVOIDING PLAGIARISM: Coursework must be expressed in your own words, citing the exact source (author, date and page number; website address if applicable) of any ideas, information, diagrams, etc., that are taken from the work of others. This applies to all media (books, articles, websites, images, figures, etc.). Any direct quotations from the work of others must be indicated as such by being placed between quotation marks. Plagiarism is a very serious irregularity, which can carry heavy penalties. It is your responsibility to abide by requirements for presentation, referencing and avoidance of plagiarism. Make sure you understand definitions of plagiarism and the procedures and penalties as detailed in UCL regulations: http://www.ucl.ac.uk/current-students/guidelines/plagiarism

RESOURCES

MOODLE: Please ensure you are signed up to the course on Moodle. For help with Moodle, please contact Charlotte Frearson (c.frearson@ucl.ac.uk)