



# ANTH151

## Human Evolution and Diversity

S2 Day 2015

*Dept of Anthropology*

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#### Disclaimer

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## General Information

Unit convenor and teaching staff

Unit Convenor

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Credit points

3

Prerequisites

Corequisites

Co-badged status

Unit description

This unit explores the evolution of our species, what makes humans distinct, and how we have developed the biological, cultural and technological diversity we now see around us. The unit examines new research, highlighting the most recent discoveries and theoretical breakthroughs, encouraging students to learn more about the major debates and important theories in the study of human evolution. Specifically, the unit provides students with a background in evolutionary theory, genetics, anthropology, paleoarchaeology, and comparative primatology in order to address a number of topics: the development of the human brain; bipedalism; language; families; social life; sexuality; reproduction; hunting; diet; clothing; art; stone tools and technology; domesticated plants and animals; cities; and the first civilisations. The unit also demonstrates how an evolutionary perspective offers new insights into modern human diversity, including both cultural and biological differences among us. The unit does not require a background in the biological or evolutionary sciences. It provides an excellent foundation for understanding and evaluating important contemporary issues such as whether sexuality is hardwired, how technology affects us, if genetic racial differences are significant, what makes our species distinct, and how humans might look in the future.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

Introduce students to certain key concepts and theories in the study of human evolution

including the most important debates and new developments in the field.

Provide a clear sense of how paleoanthropologists conduct research and draw conclusions about extinct species and ways of life from material evidence.

Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.

Improve students' ability to employ theoretical concepts, evidence, and analysis in general by specifically exercising these abilities on the materials covered in this unit.

Actively participate in group discussions and examinations of material related to human evolution (such as facsimile remains, site surveys, and material culture).

Analyze and express your judgement about significant debates in the study of human evolution.

## General Assessment Information

All assessment scores will be available through iLearn. Please be patient with our markers as the large number of students makes it necessary for us to complete a lot of marking -- and then sit down to compare marks across different markers. Please make sure that your marks appear by the end of the semester, but recognise that it may take two weeks to finish large assessments that are hand marked. No quiz marks will be posted until the quiz closes.

## Assessment Tasks

Name	Weighting	Due
<u>Tutorials</u>	10%	Throughout semester
<u>Quiz or survey</u>	2%	1 or 7 August, midnight
<u>Literature Review</u>	20%	11 September, 5 pm
<u>The reading game</u>	20%	weekly
<u>Outline essay</u>	23%	23 October, 5 pm
<u>Final exam</u>	25%	TBA (exam period)

## Tutorials

Due: **Throughout semester**

Weighting: **10%**

Everyone must be enrolled in and attend a tutorial; your tutor assigns your mark for the tutorial and bears primary responsibility for marking your written work. You should have already enrolled in a tutorial when you enrolled in the course. If you need to enrol in a tutorial or have to change

times, do so at Macquarie University's online student portal.

Tutorial times and locations may be subject to change; please see the online listings for these tutorials.

10% of the marks are for tutorial participation and completion, and essay extensions are dependent on your tutor's assessment of your satisfactory attendance (see Assessment policy below). So be sure to attend, and to sign the roll sheet at each session.

The purpose of tutorials in this course is to foster informed discussion. Therefore, you **MUST** read the assigned material before your tutorial; if a Tutor finds that you have persistently not read the material, you will not have your attendance counted. The tutorial program is parallel to the lectures, but you cannot get the material in the tutorials without doing the tutorial activities. Many of the tutorials are built upon activities that involve handling facsimile human remains (that is, replicas of skulls, bones and tools), so physical attendance is essential. If you find the material difficult or there are things you don't understand in the readings, bring your questions to discuss. Make a note of the important issues that the readings and lectures pose for you and raise them at your tutorial.

Tutorial attendance and assessment: All students may miss up to two tutorials without needing explanation. Any more misses (three or more) will result in a reduction of your final mark.

On successful completion you will be able to:

- Introduce students to certain key concepts and theories in the study of human evolution including the most important debates and new developments in the field.
- Provide a clear sense of how paleoanthropologists conduct research and draw conclusions about extinct species and ways of life from material evidence.
- Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.
- Improve students' ability to employ theoretical concepts, evidence, and analysis in general by specifically exercising these abilities on the materials covered in this unit.
- Actively participate in group discussions and examinations of material related to human evolution (such as facsimile remains, site surveys, and material culture).
- Analyze and express your judgement about significant debates in the study of human evolution.

## Quiz or survey

Due: **1 or 7 August, midnight**

Weighting: **2%**

Students have the option, for the first assessment, of participating in an online survey or taking a quiz. The survey is longer than the quiz -- 79 statements which the survey asks whether you

agree with or not -- but full credit is automatic for anyone doing the survey. The quiz is pass/fail. A mark of more than 50% gives the student full credit.

The **survey must be completed by 1 August midnight** to get full credit.

If you do not take the survey, the **quiz must be completed by 7 August midnight** to get full credit for the pass/fail quiz.

On successful completion you will be able to:

- Introduce students to certain key concepts and theories in the study of human evolution including the most important debates and new developments in the field.
- Improve students' ability to employ theoretical concepts, evidence, and analysis in general by specifically exercising these abilities on the materials covered in this unit.

## Literature Review

Due: **11 September, 5 pm**

Weighting: **20%**

See the iLearn site for complete description and advice.

The literature review is a library-based assignment that can be conducted online, especially using the Macquarie University Library's extensive database and journal collection.

Students will find a recent article in a scientific journal referred to as the 'target article' (peer reviewed and published in the last five years). They will also find five additional sources linked to this article, either because they are cited in the target article's References or because they cite the target article (or in the References of one of the articles CITING the target article). This process may be made easier using the 'Web of Science' database, available through the Library's database collection. There is a tutorial video available on how to do this through iLearn.

The student must copy all citations accurately, write IN HIS OR HER OWN WORDS a summary of the crucial finding or research result (around 200 words EACH), and the reason for its importance in relation to the other articles. (See the samples for suggested formats.) Some articles may contradict the 'target article', but try to keep article summaries concise and highlight their significance in relation to each other.

At the end of the reviews, complete the assignment with a 200-word or less analysis of the debate. All word and page numbers are estimates, they are not LIMITS, nor are they MINIMUMS. The whole assignment usually takes four pages or less to complete. If you are much over or under this, you may not be providing enough information or, alternatively, may be providing too much.

All written assignments will be submitted through Turnitin, and all will be screened for plagiarism and unacknowledged citation. Because you are expected to quote (and indicate that things are quotes), there is no maximum or minimum Turnitin similarity score that is above or below reproach. In other words, we will look carefully if we suspect there is an issue, and no material may be copied without proper citation.

On successful completion you will be able to:

- Provide a clear sense of how paleoanthropologists conduct research and draw conclusions about extinct species and ways of life from material evidence.
- Actively participate in group discussions and examinations of material related to human evolution (such as facsimile remains, site surveys, and material culture).
- Analyze and express your judgement about significant debates in the study of human evolution.

## The reading game

Due: **weekly**

Weighting: **20%**

Starting after the lecture in Week 3, students will be expected to participate in the Reading Game.

The Reading Game is an online game which requires you to write at least one multiple choice question and answer five each week.

Doing the minimum each week (answer 5 and write 1) guarantees a passing mark. Students will be moved up from that passing mark for exceptional performance (answering more questions, writing more questions, evaluating many questions, or writing questions that are evaluated very favourably by your classmates).

Some of the best questions will be added to the final exam; at least 20% of the final exam will be based on questions taken from the Reading Game (although the convenor reserves the right to edit the questions, including to make them more difficult).

The convenor will also use questions from the Reading Game to review the class's progress and levels of understanding.

Irrelevant questions, 'joke' questions, and questions that do not apply to the subject should be flagged by other students. They will be deleted by the convenor and will not count towards passing this assessment task.

On successful completion you will be able to:

- Introduce students to certain key concepts and theories in the study of human evolution including the most important debates and new developments in the field.
- Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.

- Improve students' ability to employ theoretical concepts, evidence, and analysis in general by specifically exercising these abilities on the materials covered in this unit.

## Outline essay

Due: **23 October, 5 pm**

Weighting: **23%**

See iLearn for complete information and advice for completing the assessment.

Using skills practiced in the Literature review, the student will prepare an Outline essay, which involves developing the essential elements of a good essay in outline form. The Outline essay will involve choosing one of the Outline essay topics, or proposing a topic based on a lecture topic or reading in our unit outline, and preparing an introduction (approximately one page), an outline of evidence and how the argument would be structured (citing the sources), conclusion which discusses the implications, reservations and importance of the argument and a references cited list. The whole document should be less than four pages.

If the student is uncertain about how to prepare the Outline essay, or the way that it will be evaluated, see the information on assessment tasks in iLearn.

On successful completion you will be able to:

- Provide a clear sense of how paleoanthropologists conduct research and draw conclusions about extinct species and ways of life from material evidence.
- Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.
- Improve students' ability to employ theoretical concepts, evidence, and analysis in general by specifically exercising these abilities on the materials covered in this unit.
- Analyze and express your judgement about significant debates in the study of human evolution.

## Final exam

Due: **TBA (exam period)**

Weighting: **25%**

The exam will be held during the University's examination period after the semester. You must be available for any date scheduled by the University in this period, as only those absent for reasons beyond their control can qualify for a late exam. The precise date will be posted by the university eight weeks before the exam in draft form, and in final form approximately four weeks before the examinations commence.

The final exam is cumulative.

On successful completion you will be able to:

- Introduce students to certain key concepts and theories in the study of human evolution including the most important debates and new developments in the field.
- Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.
- Improve students' ability to employ theoretical concepts, evidence, and analysis in general by specifically exercising these abilities on the materials covered in this unit.

## Delivery and Resources

Anth 151 is primarily a lecture and tutorial class, with hands-on examination of facsimile human remains and other lab-based activities conducted in tutorials.

Technology used and required:

Students will need to have access to the iLearn section, as handouts, FAQs, video links, and a host of other resources will be available through iLearn. The online discussion sections for Anth 151 historically have been very active as students help each other to understand key concepts. The unit convenor makes extensive use of online slides, videos, Prezis, and other resources.

Readings

All readings for the unit will be available through the iLearn space for the units. Students will not be able to complete the unit without these materials. Students will also find the weekly review sheets for key concepts and additional information about assessment tasks in each weekly section of iLearn.

Lecture times

Lectures are Wednesdays from 12 to 2pm in the Lotus Theatre (W6D). Students are strongly encouraged to attend lectures, but if scheduling or unforeseen circumstances are an issue, all lectures are taped through Echo 360, and slide shows (including video links and other materials), available through iLearn.

Teaching and Learning Strategy

The course as a whole is designed to convey the excitement, theoretical innovation, and new discoveries emerging in the study of human evolution. A clearer understanding of evolutionary processes allows students to appreciate the role of evolution in shaping humans and other organisms and to better evaluate contemporary arguments that make use of evolutionary theory or research. By the end of the unit, students should have a greater appreciation of the diversity of methods used to study human evolution, some of the most important debates within the field, and the distinctiveness of human beings among animals.

The course provides an excellent foundation for further, more specialized study in anthropology at the 200-level, but it also provides a robust understanding of human evolution that might contribute to students' continued study of such fields as health, psychology, politics, Aboriginal



studies, and a host of other specialties. Although each week focuses roughly on a different time period in human evolution, the issues brought up in each will be extended to contemporary human life.

For example, although the discussion of Technology in Week Eight focuses on the emergence of complex stone tools, especially the contrast between Neandertal material culture and the technology of comparable archaic *Homo sapiens*, we will also be discussing how technological innovation affects the evolutionary development of humans up until the present. By examining how we came to be as a species, our ancestors and nearest relatives, we come to a deeper understanding of human nature itself, including the variation that exists within our species—both biological and cultural.

Evolutionary theory is one of the most powerful explanatory mechanisms for understanding all life, but it is also prone to being abused; the thorough background provided in this unit may lead students to be more sceptical around certain types of evolutionary arguments without repudiating evolutionary theory itself. In addition, this unit on evolution and diversity provides a foundation for thinking about the relationship of culture to biology, of nature to nurture, and of psychology to social life.

The questions posed by the origins of humanity are too big and difficult to solve with only half the evidence at our disposal, so we will become better practiced at understanding human holistically, one of the most important characteristics of anthropology. Students will do best if they realise that, to some degree, many of the key issues in the evolutionary history of our species and in the nature of our species' diversity are still subject to debate, although anthropologists and other scientists may agree on the broader outlines.

## Information

Extensive support materials are provided through iLearn. Please consult iLearn with initial questions as the students are likely to find many resources there

## Unit Schedule

**Lecture program (please see reader or iLearn for full list of readings):**

Week One: Introduction 1.1 Introduction to unit requirements 1.2 Basics of evolutionary biology

Week Two: Natural selection and genetics 2.1 Darwin on natural selection 2.2 Updating Darwin: neo-Darwinism & the genetics revolution

Week Three: Humans among primates 3.1 Primates: origin and distinctive niche 3.2 The perils of comparison: chimpanzees, for example...

Week Four: Early hominids and bipedalism 4.1 Bipedalism: why walk on two feet? 4.2 The evidence of human evolution in paleoarchaeology

Week Five: Genus *Homo*: brain & dietary change 5.1 Brains, human & others (Guest lecturer: Prof. Ken Cheng) 5.2 How diet affects the brain: evolution & development

Week Six: Sex & reproduction 6.1 Human sexuality in evolutionary perspective 6.2 Human

reproduction: is anything natural?

Week Seven: The first technology 7.1 Lithic technology: Paleolithic innovations 7.2 Fire, clothes & other human tricks: what could Neandertals do?

Week Eight: Language origins & development 8.1 The ability to communicate: do other animals talk? 8.2 Language change

Week Nine: NO MEETING! No lectures and no tutorials. Make sure to finish Outline Essay for submission during Week Ten.

Week Ten: The epic of humanity 19 October 10.1 The rise of anatomically modern humans 10.2 Getting out of Africa

Week Eleven: Food domestication and urbanisation 11.1 The Neolithic Revolution: growing our own food 11.2 The social ape & the first cities

Week Twelve: Human variation: genes, races and cultures 12.1 Modern human variation: are we all that different? 12.2 Traces of human adaptation

Week Thirteen: Is evolution over? 13.1 Do culture & technology replace selection?: genetic evidence 13.2 Future humans

## Tutorial program (please see reader or iLearn for full list of readings):

Note: No meeting the first or seventh weeks!

Tutorial One: Evolutionary dynamics and adaptation Gould, Stephen Jay, and Elisabeth S. Vrba. 1982. 'Exaptation—a missing term in the science of form.' *Paleobiology* 8(1): 4-15.

Tutorial Two: Our nearest primate relatives: skulls, 'culture'? 'A Guide to the Cultures of Chimpanzees.' From *Scientific American* 2001, Vol. 284.

Tutorial Three: Traces in the ash: the Laetoli footprints Laetoli footprint materials.

Tutorial Four: Food for thought: evolution, brain and diet Leonard, William R. 2003. 'Food for Thought: Dietary Change Was a Driving Force in Human Evolution.' *Scientific American* (updated from December 2002): 62-71.

Tutorial Five: Mating strategies: the evolution dating game Small, Meredith F. 1997. 'Our Babies, Ourselves.' *Natural History Magazine* (October): 42-51 (reprinted in *Annual Editions: Anthropology* 06/07, pp. 100-106) together with accompanying sidebars by LeVine et al.).

Tutorial Six: Stone tools Foley, Robert, and Marta Mirazón Lahr. 2003. 'On Stony Ground: Lithic Technology, Human Evolution, and the Emergence of Culture.' *Evolutionary Anthropology* 12: 109-122.

Tutorial Seven: Reinventing language Diamond, Jared M. 1991. 'Reinvention of Human Language.' *Natural History* 5/91: 22-28. Reprinted in *Through the Looking Glass: Readings in General Anthropology*. Second edition. 2000. Pp. 26-35.

Tutorial Eight: Out of Africa Jurmain, Robert, Lynn Kilgore, and Wenda Trevathan, with Russell L. Ciochon. 2008. The Origin and Dispersal of Modern Humans. In *Introduction to Physical*

Anthropology. Eleventh edition. Pp. 352-377. Thomson-Wadsworth.

Tutorial Nine: Out modern ecological niche Mann, Charles. 2002. '1491.' The Atlantic Monthly (March): 1-13.

Tutorial Ten: Is race a useful concept? George W. Gill and Jonathan Marks. 1998 and 1994. 'Issue 1: Is Race a Useful Concept for Anthropologists?' In Taking Sides: Clashing Views on Controversial Issues in Anthropology. Third edition. Kirk M. Endicott and Robert L. Welsch, eds. Pp. 2-15. Dubuque, Iowa: McGraw-Hill/Dushkin.

Tutorial Eleven: Current selective pressures Ward, Peter. 2009. 'What Will Become of Homo sapiens?' Scientific American 300 (1): 68-73.

## Learning and Teaching Activities

### 'Australian students' understandings of evolution: an active learning approach to human evolution'

This research project explores how Australian students understand evolutionary processes through a large, online survey administered in the first week of class, and an exercise in Week 2 tutorials. The survey will be used to highlight for students how their initial concepts or understandings of evolution might not be accurate. Likewise, the exercise will help us to provide a clearer sense of how key concepts need to change. The research project is approved under MQ Human Research Ethics Committee (HREC#5201400723-R).

### 'Innovations in hands-on anthropology: 3D printed bone fragments'

This Innovation and Scholarship Program grant-supported project uses 3D printed facsimile bone fragments to provide innovative workshops supporting key learning objectives. These workshops are optional and will be offered throughout the semester. The research project is approved under MQ Human Research Ethics Committee (MQ HREC#: 5201300516).

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy [http://mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy [http://mq.edu.au/policy/docs/grievance\\_management/policy.html](http://mq.edu.au/policy/docs/grievance_management/policy.html)

Disruption to Studies Policy [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of

Policy Central.

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: [https://students.mq.edu.au/support/student\\_conduct/](https://students.mq.edu.au/support/student_conduct/)

## Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](http://ask.mq.edu.au).

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

## IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use Policy](#). The policy applies to all who connect to the MQ network including students.

## Graduate Capabilities

### Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We

want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

### **Learning outcome**

- Analyze and express your judgement about significant debates in the study of human evolution.

### **Assessment tasks**

- Tutorials
- Literature Review
- Outline essay

## **Capable of Professional and Personal Judgement and Initiative**

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

### **Learning outcomes**

- Introduce students to certain key concepts and theories in the study of human evolution including the most important debates and new developments in the field.
- Provide a clear sense of how paleoanthropologists conduct research and draw conclusions about extinct species and ways of life from material evidence.
- Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.
- Improve students' ability to employ theoretical concepts, evidence, and analysis in general by specifically exercising these abilities on the materials covered in this unit.

### **Assessment tasks**

- Tutorials
- Quiz or survey
- Literature Review
- The reading game
- Outline essay
- Final exam

## Learning and teaching activities

- This research project explores how Australian students understand evolutionary processes through a large, online survey administered in the first week of class, and an exercise in Week 2 tutorials. The survey will be used to highlight for students how their initial concepts or understandings of evolution might not be accurate. Likewise, the exercise will help us to provide a clearer sense of how key concepts need to change. The research project is approved under MQ Human Research Ethics Committee (HREC#5201400723-R).
- This Innovation and Scholarship Program grant-supported project uses 3D printed facsimile bone fragments to provide innovative workshops supporting key learning objectives. These workshops are optional and will be offered throughout the semester. The research project is approved under MQ Human Research Ethics Committee (MQ HREC#: 5201300516).

## Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally and socially.

This graduate capability is supported by:

## Learning outcome

- Analyze and express your judgement about significant debates in the study of human evolution.

## Assessment tasks

- Tutorials
- Literature Review
- Outline essay

## Learning and teaching activities

- This research project explores how Australian students understand evolutionary processes through a large, online survey administered in the first week of class, and an exercise in Week 2 tutorials. The survey will be used to highlight for students how their initial concepts or understandings of evolution might not be accurate. Likewise, the exercise will help us to provide a clearer sense of how key concepts need to change. The research project is approved under MQ Human Research Ethics Committee

(HREC#5201400723-R).

## Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

### Learning outcomes

- Introduce students to certain key concepts and theories in the study of human evolution including the most important debates and new developments in the field.
- Provide a clear sense of how paleoanthropologists conduct research and draw conclusions about extinct species and ways of life from material evidence.
- Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.
- Actively participate in group discussions and examinations of material related to human evolution (such as facsimile remains, site surveys, and material culture).
- Analyze and express your judgement about significant debates in the study of human evolution.

### Assessment tasks

- Tutorials
- Quiz or survey
- Literature Review
- The reading game
- Outline essay
- Final exam

### Learning and teaching activities

- This research project explores how Australian students understand evolutionary processes through a large, online survey administered in the first week of class, and an exercise in Week 2 tutorials. The survey will be used to highlight for students how their initial concepts or understandings of evolution might not be accurate. Likewise, the



exercise will help us to provide a clearer sense of how key concepts need to change.

The research project is approved under MQ Human Research Ethics Committee (HREC#5201400723-R).

- This Innovation and Scholarship Program grant-supported project uses 3D printed facsimile bone fragments to provide innovative workshops supporting key learning objectives. These workshops are optional and will be offered throughout the semester. The research project is approved under MQ Human Research Ethics Committee (MQ HREC#: 5201300516).

## Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

### Learning outcomes

- Provide a clear sense of how paleoanthropologists conduct research and draw conclusions about extinct species and ways of life from material evidence.
- Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.
- Improve students' ability to employ theoretical concepts, evidence, and analysis in general by specifically exercising these abilities on the materials covered in this unit.
- Actively participate in group discussions and examinations of material related to human evolution (such as facsimile remains, site surveys, and material culture).

### Assessment tasks

- Tutorials
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### Learning and teaching activities

- This research project explores how Australian students understand evolutionary



processes through a large, online survey administered in the first week of class, and an exercise in Week 2 tutorials. The survey will be used to highlight for students how their initial concepts or understandings of evolution might not be accurate. Likewise, the exercise will help us to provide a clearer sense of how key concepts need to change. The research project is approved under MQ Human Research Ethics Committee (HREC#5201400723-R).

- This Innovation and Scholarship Program grant-supported project uses 3D printed facsimile bone fragments to provide innovative workshops supporting key learning objectives. These workshops are optional and will be offered throughout the semester. The research project is approved under MQ Human Research Ethics Committee (MQ HREC#: 5201300516).

## Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

### Learning outcomes

- Provide a clear sense of how paleoanthropologists conduct research and draw conclusions about extinct species and ways of life from material evidence.
- Improve students' ability to employ theoretical concepts, evidence, and analysis in general by specifically exercising these abilities on the materials covered in this unit.
- Actively participate in group discussions and examinations of material related to human evolution (such as facsimile remains, site surveys, and material culture).

### Assessment tasks

- Tutorials
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- Final exam

### Learning and teaching activities

- This Innovation and Scholarship Program grant-supported project uses 3D printed

facsimile bone fragments to provide innovative workshops supporting key learning objectives. These workshops are optional and will be offered throughout the semester. The research project is approved under MQ Human Research Ethics Committee (MQ HREC#: 5201300516).

## Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

### Learning outcomes

- Provide a clear sense of how paleoanthropologists conduct research and draw conclusions about extinct species and ways of life from material evidence.
- Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.
- Analyze and express your judgement about significant debates in the study of human evolution.

### Assessment tasks

- Tutorials
- Literature Review
- The reading game
- Outline essay
- Final exam

## Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

## Learning outcomes

- Introduce students to certain key concepts and theories in the study of human evolution including the most important debates and new developments in the field.
- Help them to understand, evaluate, and employ evolution-based explanations for contemporary features of human life, anatomy, and behaviour, including the limits on those explanations.
- Analyze and express your judgement about significant debates in the study of human evolution.

## Assessment tasks

- Tutorials
- Quiz or survey
- Literature Review
- The reading game
- Outline essay
- Final exam

## Socially and Environmentally Active and Responsible

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

## Learning outcome

- Introduce students to certain key concepts and theories in the study of human evolution including the most important debates and new developments in the field.

## Assessment tasks

- Tutorials
- Quiz or survey
- The reading game
- Final exam

## Changes from Previous Offering

The unit is largely the same as the version offered with high student satisfaction in 2014. The assessment tasks have been reweighted in importance to reflect student feedback, and the program of weekly quizzes has been replaced by use of The Reading Game, a more interactive,

less time intensive assessment task. The Reading Game should reward students who are most diligent and working steadily (the midterm used until 2013 tended to reward those who handled stress well and 'crammed' for the midterm). The online video tutorials, including those about the assessment tasks, were new for last year (2012). We also have new resources made available through collaboration with Open Universities Australia; these resources include high quality video tutorials for some of the key concepts in the first half of the semester and a free ebook (new in 2014, but undergoing expansion this year) with many key concepts. Tutorial formats have been substantially updated, and the preliminary survey added new last year (2014). The research project built around some tutorial activities to improve quality of delivery has been added this year. We hope that students especially enjoy the survey and learning about class responses during the course of the semester.

## Changes since First Published

Date	Description
01/08/2015	Update to some erroneous information about the availability of readings, the changes to the unit (which had not been changed from 2014 version), and minor details.