

ANAT2521

Evolution of Human Structure

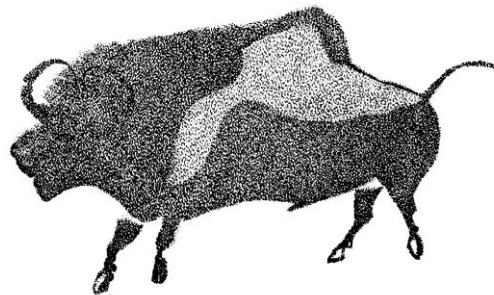
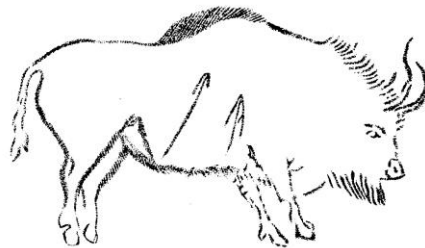
Abbreviated Preliminary Notes

Course Authority: Prof. Ken Ashwell

Dept of Anatomy, School of Medical Sciences

Summer session, 2015

(January 5 to 28)



Course authority: Prof. Ken Ashwell (k.ashwell@unsw.edu.au, 9385 2482), Department of Anatomy, School Of Medical Science, Room 447, Wallace Wurth Building.

Lectures will be held in **LG02 of the Wallace Wurth Building**. Practical Classes will be held in **101 (Gross Anatomy Laboratory) in the Wallace Wurth Building**. The venues for tutorials will be advised.

IMPORTANT NOTES:

- **Students must wear enclosed shoes (i.e. no thongs or sandals) in the Dissecting Room.**
- **No eating, drinking or smoking in the Dissecting Room.**
- **Mobile phones must be switched off during lectures and classes.**

Official Communication By Email

All students in ANAT2521 are advised that email is the official means by which the School of Medical Sciences at UNSW will communicate with you. All email messages will be sent to your official UNSW email address and, if you do not wish to use the University email system, you **MUST** arrange for your official mail to be forwarded to your chosen address. The University recommends that you check your email at least every other day. Facilities for checking email are available in the School of Medical Sciences and in the University Library.

Plagiarism

The School of Medical Sciences will not tolerate plagiarism in submitted written work. The University regards this as academic misconduct (please see the following website where this policy is displayed: <https://student.unsw.edu.au/conduct>) and imposes severe penalties. Evidence of plagiarism in submitted assignments, etc. will be thoroughly investigated and may be penalized by the award of a score of zero for the assessable work. Flagrant plagiarism will be directly referred to the Division of the Registrar for disciplinary action under UNSW rules.

The attention of students is drawn to the following extract from the above website:

"The basic principles are that you should not attempt to pass off the work of another person as your own, and it should be possible for a reader to check the information and ideas that you have used by going to the original source material. Acknowledgment should be sufficiently accurate to enable the source to be located speedily."

The following are some examples of breaches of these principles:

- a) Quotation without the use of quotation marks. It is a serious breach of these rules to quote another's work without using quotation marks, even if one then refers to the quoted source. The fact that it is quoted must be acknowledged in your work.
- b) Significant paraphrasing, e.g., several sentences, or one very important sentence, which in wording are very similar to the source. This applies even if the source is mentioned, unless there is also due acknowledgment of the fact that the source has been paraphrased.
- c) Unacknowledged use of information or ideas, unless such information or ideas are commonplace.
- d) Citing sources (e.g., texts) which you have not read, without acknowledging the 'secondary' source from which knowledge of them has been obtained.

Appropriate citation of sources therefore includes surrounding any directly quoted text with quotation marks, with block indentation for larger segments of directly-quoted text. The preferred format for citation of references is an author-date format with an alphabetically arranged bibliography at the end of the assignment. Note that merely citing textbooks or website URLs is unlikely to yield a bibliography of satisfactory standard. The internet should be avoided as a primary source of information. Inclusion of appropriate journal articles, both primary research publications and reviews, is usually expected.

H&S – Safety Guidelines

Generic safety rules for the School of Medical Sciences can be found at the URL below.

<http://medicalsciences.med.unsw.edu.au/staff/health-safety/hs-soms>

Applications for Consideration

Students who miss an assessment through illness or misadventure must submit an application for consideration within **three working days**. Full details for the application (e.g., Medical Certificate, etc.) are available at <https://student.unsw.edu.au/special-consideration>

Problems With The Course

If you have any problems or grievances with the course you should, in the first instance, consult the Course Authority. If you are unable to resolve the difficulty, you can consult the Department of Anatomy's nominated Grievance Resolution Officer, who is currently Dr Priti Pandey, p.pandey@unsw.edu.au.

Course aims

The aims of this course are to:

1. *Provide the student with an understanding of the major biological (physical and evolutionary) attributes of non-human primates and humans.*
2. *Assist the student to develop a deeper appreciation of the place of humans in the natural world and their relationship to other primates.*
3. *Provide the student with some knowledge and skills from the field of biological anthropology.*
4. *Help the student to appreciate the importance and relevance of the study of human origins for an understanding of modern human structure, development and disease.*

Student learning outcomes

Students should complete the course knowing (among other things):

1. *Some basics of primate and human anatomy, especially of the skeleton, muscles and brain.*
2. *Anatomical features of the order primata and of major groups of primates.*
3. *The elements of evolutionary biology and the evidence for human evolution.*
4. *The broad patterns of evolution for the primates and humans, including major evolutionary trends.*
5. *The basis for human physical variation across the world and its effect on human diet and disease.*
6. *The evolutionary basis of modern human structure, with particular reference to the upper and lower limb, brain, birth canal and vocal apparatus.*

The University of NSW has developed a list of attributes that its graduates should possess upon graduation (the 'graduate attributes'). The curriculum and assessment of this course have been designed to help students to develop these capabilities/attributes. Students satisfactorily completing the course will have gained knowledge and skills that contribute directly to them acquiring these attributes during their study at UNSW. One way this has occurred is through curriculum mapping of this course (see below: Assessment).

For a science based general education course, the UNSW graduate attributes are as follows:

1. *Research, inquiry and analytical thinking abilities.* Technical competence and discipline specific knowledge. Ability to construct new concepts or create new understanding through the process of enquiry, critical analysis, problem solving, research and inquiry.
2. *Capability and motivation for intellectual development.* Capacity for creativity, critical evaluation and entrepreneurship. Ability to take responsibility for and demonstrate commitment to their own learning, motivated by curiosity and an appreciation of the value of learning.
3. *Ethical, Social and Professional Understanding.* Ability to critically reflect upon broad ethical principles and codes of conduct in order to behave consistently with a personal respect and commitment to ethical practice and social responsibility. Understanding of responsibility to contribute to the community. Respect and value social, multicultural, cultural and personal diversity.
4. *Communication.* Effective and appropriate communication in both professional (intra and inter disciplinary) and social (local and international) contexts.

5. *Teamwork, collaborative and management skills.* Ability to recognize opportunities and contribute positively to collaborative scientific research, and to perceive the potential value of ideas towards practical applications. Demonstrate a capacity for self-management, teamwork, leadership and decision making based on open-mindedness, objectivity and reasoned analysis in order to achieve common goals and further the learning of themselves and others.
6. *Information literacy.* Ability to make appropriate and effective use of information and information technology relevant to their discipline.

This course and the required assessments will assist the student to develop skills in all of these areas.

Assessment: one poster assignment, two spot tests, final theory exam

- The poster/oral presentation is worth 20% of the final mark and will be assessed by the tutor. Students will be assessed both on the poster itself and the oral presentation. Each of these components will have equal weighting in determining the final mark for the paired tasks.
- The two spot tests will each be worth 20% of the final mark. The first spot test will be held at approximately 50% of the course duration and the second at course end. Each will cover the preceding half of the practical classes.
- The final theory examination is worth 40% of the final mark and will be assessed by the course authority. The 2 hour examination will include 40 multiple choice questions and 3 short essay questions.

Lecture and Practical/Tutorial Schedule

WEEK 1

Day 1	Monday 5th January	5 hours
10-11	Lecture 1	Introduction to Primate Biology (KA)
11-12	Lecture 2	Elements of Genetics (CL)
12-1	Lecture 3	Diversity and Evolution (CL)
2-3	Lecture 4	Ethics of Human Remains and Forensic Anthropology (CL)
3-4	Film	Ape and Human Behaviour
Day 2	Tuesday 6th January	5 hours
10-11	Lecture 5	Principles of Paleoanthropological Techniques (KA)
11-1	Practical 1	Primate Musculoskeletal Anatomy
2-3	Lecture 6	The Origin and Early Evolution of Primates (KA)
3-3.30	Lecture 4 cont.	Interpreting human bones (CL)
Day 3	Wednesday 7th January	5 hours
10-11	Lecture 7	Early Hominins (KA)
11-12	Lecture 8	<i>Homo ergaster</i> and <i>Homo erectus</i> (KA)
12-1	Films	Portrayals of Human Ancestors
2-3	Lecture 9	Archaic <i>Homo sapiens</i> (KA)
3-4	Tutorial 1	Group Orientation and Choosing of Poster Topics

WEEK 2

Day 4	Monday 12th January	5 hours
10-11	Lecture 10	Modern <i>Homo sapiens</i> (KA)
11-1	Practical 2	Cranial Anatomy of Australopithecines and Early Humans
2-3	Lecture 11	Humans in Australia (CL?)
3-4	Lecture 12	Humans in the Americas (KA)
Day 5	Tuesday 13th January	5 hours
10-11	Lecture 13	Evolution of Human Behaviour (KA)
11-12	Lecture 14	Origin and Mechanics of Bipedalism (CL)
1-3	Practical 3	The Human Lower Limb and Bipedal Locomotion
3-4	Lecture 15	Human Sexuality and the Problems of Human Childbirth (CL)
Day 6	Wednesday 14th January	5 hours
10-12	Practical 4	Human Childbirth
1-2	Lecture 16	The Comparative Anatomy and Function of the Hand (CL)
2-4	Practical 5	The Human Hand and Tool Use

WEEK 3

Day 7	Monday 19th January	5 hours
10-11	Spot test 1 (based on practical classes 1 to 4)	
11-12	Lecture 17	The Hominin Brain (KA)
1-3	Practical 6	The Human Brain
3-4	Lecture 18	Language, Speech and the Human Face (lecture/film)(KA)

The remainder of week 3 is allowed for poster preparation.

WEEK 4

Day 8	Tuesday 27th January	5 hours
10-12	Practical 7	The Human Face and the Functional Anatomy of Language
12-1	Lecture 19	Variation and Adaptation of Modern Humans (CL)
2-3	Lecture 20	Changing Patterns of Disease During Human History (KA)
		Food and Diet (CL)
3-4	Lecture 21	Syphilis, Tuberculosis and HIV/AIDS (KA)

Day 9	Wednesday 28th January	5 hours
10-11	Lecture 22	Malaria and Human Variation (CL)
11-1	Tutorial 2	Presentation of Group Posters
2-4	Tutorial 3	Presentation of Group Posters (continued)

Day 10	Thursday 29th January	3 hours
10-12	Final examination	
3-4	Spot test 2 (based on practical classes 5 to 7)	

KA – Prof Ken Ashwell

CL – Dr Carol Lazer

Library Resources

The course will not require any special library resources. Students will be accessing eJournals to prepare their poster/oral presentations.

Laboratory Resources

All practical classes will take place in the Gross Anatomy Laboratory (101) of the Department of Anatomy, School of Medical Sciences. All models and specimens required for the course are already available in the collections of the Department of Anatomy.

Online Resources

Adaptive tutorials will be provided for the students to reinforce concepts introduced during lectures and practical classes. These will be developed by the course authority using Moodle and the SmartSparrow platform.

Prerequisites

The course has been given a level 2 identifier, but can be taken at any level, even level 1. There are no prerequisites for the course because all necessary knowledge (e.g. elementary genetics and principles of evolution) is included within the course structure. This has been done to maximize the accessibility of the course for students with non-scientific backgrounds.