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School of Medical Sciences

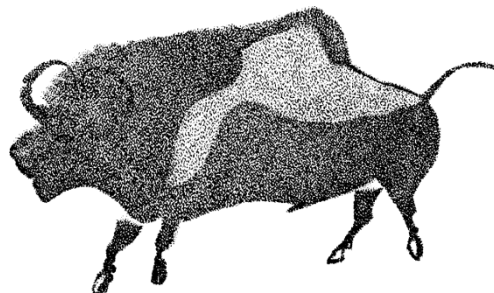
Evolution of Human Structure

ANAT2521

Course Outline

Summer Semester 2019

January 9 to February 2



Course Authority:

Professor Ken Ashwell

CRICOS Provider Code 00098G

Please read this outline in conjunction with the following pages on the [Medical Sciences website](#):

- [Advice for Students](#)
- [Learning Resources](#)

(or see "STUDENTS" tab at medicallsciences.med.unsw.edu.au)

Course authority: Prof. Ken Ashwell (k.ashwell@unsw.edu.au, 9385 2482),
Department of Anatomy, School of Medical Science, Room 261, Wallace Wurth

Lectures: **Wallace Wurth LG02**

Practical Classes: **Wallace Wurth 101 E (Gross Anatomy Laboratory)**

Tutorials: **Wallace Wurth LG02**

IMPORTANT NOTES

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

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

At the completion of this course, students should be able to:

1. Demonstrate knowledge of primate and human anatomy, especially of the skeleton, muscles and brain and the evidence for human evolution.
2. Apply laboratory techniques in biological anthropology to research a cutting-edge topic in the field.
3. Demonstrate knowledge of the basis for human physical variation across the world, its effect on human diet and disease and relate this to modern human societies.
4. Communicate findings in biological anthropology research to an audience of peers.

5. Demonstrate critical thinking in researching the literature on a topic in current biological anthropology research.

The University of NSW has developed a list of graduate attributes (see <https://medicallsciences.med.unsw.edu.au/students/undergraduate/advice-students>).

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

ASSESSMENT

one laboratory project assignment, two spot tests, final theory exam

- The laboratory project assessment is worth 20% of the final mark and will be assessed by the tutor. Students will be assessed on: a) the laboratory project and its written report; and b) the oral presentation. Each of these components will have equal weighting (i.e. 10% for the laboratory project & written report and 10% for the oral presentation) 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. Spot tests are held in 101 E (Gross Anatomy Lab) of the Wallace Wurth Building.
- The final theory examination is worth 40% of the final mark and will be assessed by the course authority. The 2 hour examination on Friday 1 February 2019 will include 40 multiple choice questions and 3 short essay questions.

RESOURCES

- The course will not require any special library resources. Students will be accessing eJournals to prepare their project reports/oral presentations.
- All practical classes, tutorials and spot-tests will take place in the Gross Anatomy Laboratory (101) E 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.
- Adaptive tutorials will be provided for the students to reinforce concepts introduced during lectures and practical classes. These have been 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.

Lecture and Practical/Tutorial Schedule

WEEK 1		
Day 1	Wednesday 9 January (4.5 hours) – lectures location WWLG02 Lectures 1 and 2 and Practical 1a are intended for those who have no prior knowledge of biology and/or anatomy	
9.50-10	Welcome	Welcome to the course
10-11	Lecture 1	Elements of Genetics (CL)
11-12	Lecture 2	Diversity and Evolution (CL)
12-1	Practical 1a	Basic Musculoskeletal Anatomy (KA)
2-3.30	Lecture 3	Ethics of Human Remains and Forensic Anthropology (EL) Interpreting bones (EL)
Day 2	Thursday 10 January (5 hours) – lectures location WWLG02	
10-11	Lecture 4	Primate Biology (KA)
11-12	Lecture 5	Principles of Paleoanthropological Techniques (KA)
12-1	Film	Ape Behaviour
2-3	Lecture 6	The Origin and Early Evolution of Primates (KA)
3-4	Practical 1b	Primate Biology (KA)
Day 3	Friday 11th January (5 hours) – lectures location WWLG02	
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 (KA)
2-3	Lecture 9	Archaic <i>Homo sapiens</i> (KA)
3-4	Tutorial 1	Group Orientation and Choosing of Research Topics (KA)
WEEK 2		
Day 4	Monday 14th January (5 hours) – lectures location WWLG02	
10-11	Lecture 10	Modern <i>Homo sapiens</i> (KA)
11-1	Practical 2	Cranial Anatomy of Australopithecines and Early Humans (KA)
2-3	Lecture 11	Evolution of Human Behaviour (KA)
3-4	Lecture 12	Humans in the Americas (KA)
Day 5	Tuesday 15th January (5 hours) – lectures location WWLG02	
10-11	Lecture 13	Early Australians (CL)
11-12	Lecture 14	Origin and Mechanics of Bipedalism (CL)

1-3	Practical 3	The Human Lower Limb and Bipedal Locomotion (CL)
3-4	Lecture 15	Human Sexuality and the Problems of Human Childbirth (CL)
Day 6	Wednesday 16th January (5 hours) – lectures location WWLG02	
10-12	Practical 4	Human Childbirth (CL)
1-2	Lecture 16	The Comparative Anatomy and Function of the Hand (CL)
2-4	Practical 5	The Human Hand and Tool Use (CL)
WEEK 3		
Day 7	Monday 21st January (5 hours) – lectures location WWLG02	
10-11	Spot test 1 (based on practical classes 1 to 4) (KA)	
11-12	Lecture 17	The Hominin Brain (KA)
1-3	Practical 6	The Human Brain (KA)
3-4	Lecture 18	Language, Speech and the Human Face (lecture/film) (KA)
Day 8	Tuesday 22nd January (5 hours) – lectures location WWLG02	
10-12	Practical 7	Human Face and Functional Anatomy of Language (CL)
12-1	Lecture 19	Variation and Adaptation of Modern Humans (CL)
1-1.30	Lecture 20	Food and Diet (CL)
2-3	Lecture 21	Malaria and Human Evolution (CL)
WEEK 4		
Day 9	Tuesday 29th January (3 hours) – lectures location WWLG02	
10-11	Spot test 2 (based on practical classes 5 to 7) (KA)	
11-12	Lecture 22	Changing Patterns of Disease during Human History (KA)
12-1	Lecture 23	Syphilis, Tuberculosis and HIV/AIDS (KA)
Day 9	Wednesday 30th January (up to 4 hours) WWLG02	
10-2	Tutorial 2/3	Presentation of Laboratory Projects (KA)
Day 10	Friday 1st February (2 hours) – examination location WWLG02	
9.45-12.00	Major In-session test (KA)	

KA – Prof Ken Ashwell

CL – Dr Carol Lazer

EL – Dr Estelle Lazer