

AY 202: HUMAN EVOLUTION

Course Objectives

The course is aimed at conveying an appreciation and understanding of human biological and cultural evolution by identifying the roots of human distinctiveness and the evolutionary selective pressures responsible for the emergence of these traits.

Course Description

AY 202 introduces students to the study of human evolution- palaeoanthropology, a branch of anthropology that seeks to understand human uniqueness by studying the human past using scientific methods. The course will critically examine the hominin fossil and cultural evidence. Emphasis will be placed on the reconstruction of human behavior from archaeological and anatomical evidence and on evaluating how scientific theories about human evolution have been built, piece by piece, from a variety of sources. The time range covered in this course is from about 7 million to 40,000 years ago. The course will be accompanied by periodic excursions to the National Museum to examine actual hominin and cultural specimens.

Delivery: 16 lectures; 4 seminars

Assessment:

Coursework, 40%

- 1) take one written test (15%).
- 2) seminar presentations (10%). A team of students will research on the outlined module, prepare for, and lead panel discussions.

write a final paper on a particular topic that integrates your ecological, anthropological and palaeoanthropological experiences and/ or observations in northern Tanzania with a topic of palaeoanthropological interest (15%). The length of the paper should be 7 pages, double spaced.

Final Examination, 60%.

Course Outline

Module 1 Basic Evolutionary Terms and Concepts

- 1.1 Evolutionary Theory: meaning and process of evolution, the modern synthesis, evolution in action, lines of evidence
- 1.2 Is human evolution different?

READINGS: Campbell, B. G. and Loy, J. D. 2000, Chpts 1 and 2; Klein, R. 2009, Chpt 1.; Baryy, I., et. al. 2007, Chpts 2-3.

Module 2 Classification and Nomenclature: Who Are We and What's Our Place in Nature?

- 2.1 humanity defined (bipedalism, large brain size, reduction of anterior teeth and enlargement of cheek teeth, culture)
- 2.2 classification of humankind

READING: Campbell, B. G. and Loy, J. D. 2000, Chpt 3; Klein, R. 2009, Chpt 1.

Module 3 Plio-Pleistocene Hominins (7-1.0 million years ago)

- 3.1 climate and hominin evolution
- 3.2 genus *Sahelanthropus*
- 3.3 genus *Orrorin*
- 3.4 genus *Ardipithecus*
- 3.5 genus *Australopithecus*: adaptive radiation
- 3.6 genus *Kenyanthropus*
- 3.7 genus *Homo*: adaptive radiation of early and late *Homo*

READING: Campbell, B. G. and Loy, J. D. 2000, Chpts 6-11; Baryy, L., et. al. 2007, Chpts 8-10.

Module 4 Early Tool Use and Manufacture (2.5 million-500K years ago)

- 4.1 culture-history: terminology and nomenclature
- 4.2 stone tool industrial complexes: Oldowan and Acheulian
- 4.3 which hominin species made the early stone tools?
- 4.4 raw material procurement and utilization
- 4.5 techno-typological continuity and change

READING: Campbell, B. G. and Loy, J. D. 2000, Chpt 9; Klein, R. , 2009, pgs. 251-260.

Module 5 Inferred Early Hominin Behaviors and Activities

- 5.1 osteodontokeratic culture
- 5.2 home base/central place or what?
- 5.3 meat eating: hunting versus scavenging
- 5.4 food sharing and division of labor;
- 5.5 use and control of fire
- 5.6 language capabilities?

READING: Campbell, B. G. and Loy, J. D. 2000, Chpts 9-13; Klein, R. 2009, pgs. 251-252.

Module 6 Archaic *Homo* and the Peopling of the World (500,000-12K years ago)

- 6.1 "Archaic" *Homo* species: *H. neandertalensis*, *H. heidelbergensis*
- 6.2 origins and dispersal of anatomically modern humans
- 6.3 subsistence and symbolic behavior, and land-use patterns
- 5.2 evolution of artistic capabilities

5.3 language capabilities?

5.4 symbolic behaviors: stylized burials, rock art, bodily adornment

READING: Campbell, B. G. and Loy, J. D. 2000, Chpts 14-16; Barry, L., et. al. 2007,

Chpts 11-12.

Module 7 Middle and Later Stone Age Tool Use and Manufacture

7.1 culture-history: terminology and nomenclature

7.2 stone tool industrial complexes: Middle and Later Stone Age

7.3 raw material procurement and utilization

7.4 techno-typological continuity and change

READING: Campbell, B. G. and Loy, J. D. 2000, Chpt 17

Module 8 Field Instruction at Olduvai Gorge, Laetoli, and Eyasi Basin

8.1 Laetoli: lecture and visiting field information center, hominin and animal footprint sites

8.2 Olduvai Gorge: lecture, visiting field museum, and walk-about to classic localities where hominins and evidence for their activities were found FLK Zinj site, second fault, shifting sand and Maasai boma at Olduvai Gorge

8.3 Eyasi Basin (Lake Eyasi): lecture, visiting Skull site, Mumba rock shelter, rock art sites, and Pastoral Neolithic sites along the lake.

8.4 Eyasi Basin (Lake Eyasi): lecture and visiting one of the remaining big game hunter foragers, the Hadzabe and go hunting and gathering with them as well as visiting Datog pastorlists .

Main Textbook:

Campbell, B. G. and Loy, J. D. 2000 *Humankind Emerging*. Boston: Allyn and Bacon.

Other Readings:

Barry, L., Robert, J. and Kilgore, L. 2007 *Understanding Humans: Introduction to Physical Anthropology and Archaeology*. Wadsworth, Belmont CA.

Boyd, R. and J. Silk 1997 *How Humans Evolved*. WW Norton and Co.

Jones, S. et. al. 1992 *The Cambridge Encyclopedia of Human Evolution*. Cambridge: Cambridge Univ. Press.

Johanson, D. and B. Edgar 1996 *From Lucy to Language*. New York: Simon and Schuster Editions.

Klein, R.G.. 1999 *The Human Career: Human Biological and Cultural Origins*. Second Edition. Chicago: The University of Chicago Press.

Leakey, M.D. 1971 *Olduvai Gorge III*. Cambridge: Cambridge Univeristy Press

Leakey, M.G., et al., 1995 *New Four-Million Year Hominin Species From Kanapoi and Allia Bay, Kenya*. *Nature*, vol. 376: 565-571.

Lewin, R. 1998 *Principles of Human Evolution*. Blackwell Sciences, Inc.

Tobias, P. V., M. A. Raath, J. Moggi-Cecchi, and G. A. Doyle (eds.) 2001 *Humanity from African Naissance to Coming Millennia*. Italy: Firenze University Press.

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