

ANTH 2810/UGEB 2502/ANTH5810 Human Evolution (2022-2023 Term 1)

Teacher: Prof. Wengcheong Lam

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Lecture time and venue: Wed 2:30 pm -4:15 pm, T.C. Cheng Bldg C3

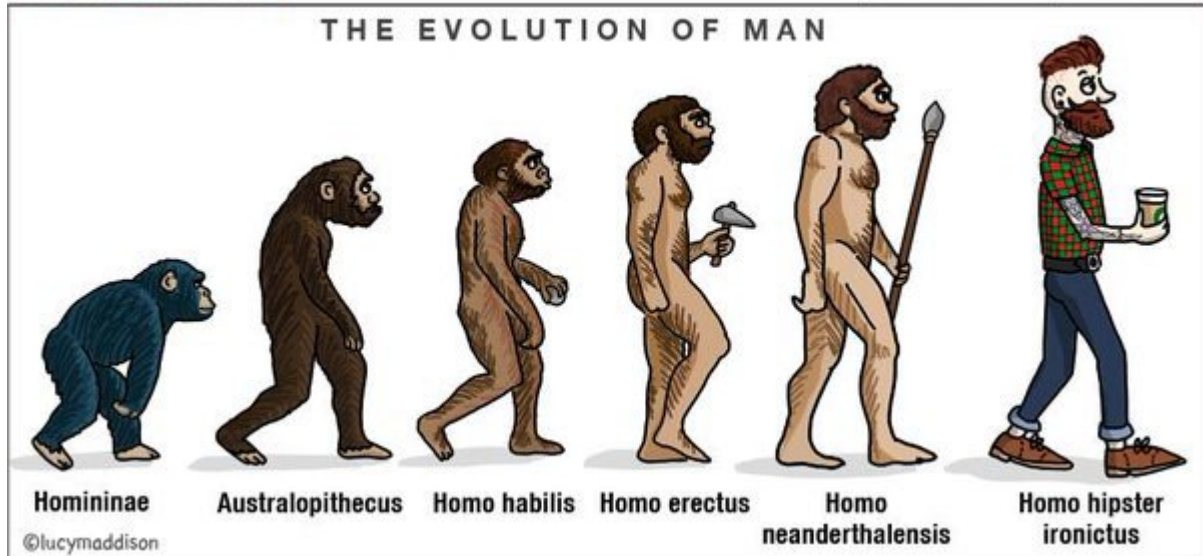
Language: Cantonese

TA: Alvin Ao

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Course description:

What is “human”? Who are our ancestors and where did they come from? Are Africans good at sports and Asians better in mathematics? Do men (male human beings) usually have genes showing more tendency for violent behaviour? How did the dietary change in human evolution impact on current public-health issue? To what extent our sexual-orientation was determined by genes from an evolutionary perspective? Anthropologists are all interested in human beings and attempt to address these big questions from various approaches. Even though some of these human phenomena would have been shaped by culture, it has become more and more clear that certain human behaviours are coded by our genes and caused by “human evolution”.

This course aims to offer basic knowledge on the origin, basic mechanism, evolution, and variation of human beings. Some key issues in physical anthropology will be discussed. The course includes the following major contents:

- Basic understanding of evolution, natural selection, and Darwinism.
- Fundamental knowledge about the evolution of human beings (i.e., from *Australopithecus* to *Homo sapiens*)
- Anthropometry: the measurement of human evolution and diversity
- Concepts of human variation: genes, inheritance, environmental and cultural adaptations.
- The use and abuse of physical anthropology concepts
- Sociobiology

Learning outcomes:

After taking this course, students are expected to:

1. Basic terminology and knowledge background for the study of physical anthropology and biological evolution.
2. Understanding the basic theories about human evolution and the dynamics between human physical body, natural selection, and cultural evolution.
3. Understanding the basic trajectory of the physical evolution of human beings and how this process has shaped our culture in present-day.
4. Understanding the diversity of human beings as the foundation of cultural diversity, be able to critically evaluate misunderstanding and biases in conventional ideas such as “racial differences” and “social Darwinism”.
5. Be able to critically examine current social, political, and public-health issues from the perspective of human-evolution, and become more sensitive to contemporary issues like environment conservation and racial (sexual) discrimination

Class requirement

Two 1-hour lectures and one 45-min tutorial per week for one semester

Course assessment:

- (1) Quiz (15%)
- (2) Overall performance and participation at tutorials (25%)
- (3) Mid-term classroom test: (25%)
- (4) Final paper (35%)

Lecture topics and reading materials

Week 1: 7th September. 2022

Introduction: Why human evolution and diversity matters?

No reading material for this week

Week 2: 14th September. 2022

Origin and secrets of life mechanism: gene, DNA, cells, organs, and species

Readings:

Turnbaugh et al. 2002 *Understanding Physical Anthropology and Archaeology*: 45-64.
West Publishing Company.

Week 3: 21th September. 2022

Natural selection: Darwinism and other theories on human evolution

Readings:

博伊德 & 西爾克. 2021 人類的演化. 北京: 商務印書局 Pp. 1-23.

Week 4: 28th September. 2020

Basic anatomy: Stories of our 206 pieces of bones

Reading:

Lieberman, Daniel E.

2013 The Story of the Human Body: Evolution, Health, and Disease. New York: Pantheon Books, (Chapter 1 Pp.11-29).

黃新美 1983 體質人類學基礎 pp. 45-80. 廣州：科學普及出版社。[please just skim through this part to let yourself be familiar with those bone terminologies]

Since learning bone identification is very time-consuming, for students who are interested in this topic, please check

White, Tim, Michael Black and Pieter Folkens

2011 *Human Osteology* 3rd Edition. Academic Press.

Library on-line source: <http://www.eskeletons.org/>

Week 5: 5th October. 2022

Basic anthropometry: the measurement of human evolution, race, and diversity

Reading:

Keevak, Michael

2011 *Becoming Yellow - A Short History of Racial Thinking*. Princeton University Press, Princeton. (Chapter 1 and 4; Pp. 23-42, 101-123). (for students who want to read Chinese, please see 成為黃種人：一部東亞人由白變黃的歷史 UL ; HT1523 .K4412 2015)

*For students who are interested in anthropometry, see

Ulijaszek, S. J. and C. G.N. Mascie-Taylor 1994 *Anthropometry: the Individual and the Population*, pp. 130-140. Cambridge, New York: Cambridge University Press.

黃新美 1983 體質人類學基礎 pp. 83-111, 129-133。廣州：科學普及出版社。

Please note that this part is not compulsory.

Week 6: 12th October. 2022

Standing up: Early human beings and bipedalism (*Australopithecus* and *Homo habilis*)

Reading:

Lieberman, Daniel E.

2013 The Story of the Human Body: Evolution, Health, and Disease. New York: Pantheon Books, (Chapter 2).

博伊德 & 西爾克. 2021 人類的演化. 北京: 商務印書局 Pp. 237-266.

Week 7: 19th October. 2022

Mid-term

Week 8: 26th October 2022

Power of fire and tools: technological evolution of *Homo erectus*

Reading:

博伊德 & 西爾克. 2021 人類的演化. 北京: 商務印書局 Pp. 267-290.

瓊斯.馬丁 2019 飯局的起源：我們為甚麼喜歡分享食物. 北京: 三聯書店 Pp.83-116.

Week 9: 2nd November 2022

“Brain eating”: food, culture, and emergence of *Homo sapiens*

Reading:

博伊德 & 西爾克. 2021 人類的演化. 北京: 商務印書局 Pp. 291-328.

Wrangham, Richard

2009 *Catching Fire: How Cooking Made Us Human*. Basic Books. (Chapter 5)

Week 10: 9th November 2022

Are we born to be equal? Sexuality and human variation

Reading:

Turnbaugh et al.2002 *Understanding Physical Anthropology and Archaeology*: 90-111. West Publishing Company.

Stein and B. Rowe 2003 *Physical Anthropology* (8th edition): pp.472-484. WCB/McGraw-Hill.

Week 11: 16th November 2020

Be born destined (1): DNA, mutation, and migration of *Homo Sapiens*

Reading:

博伊德 & 西爾克. 2021 人類的演化. 北京: 商務印書局 Pp. 329-362.

1994 *The Bell Curve: Intelligence and Class Structure in American Life*. New York: Free Press. **Read 1-50** (please just skim through this part)

Week 12 23th November 2022

Be born destined (2): IQ, violence, homo-sexuality

Herrnstein, Richard, and Charles Murray

1994 *The Bell Curve: Intelligence and Class Structure in American Life*. New York: Free Press. **Read 269-315, 369-386** (please just skim through this part; if you are interested in the details, you are welcome to read the part in the middle).

Week 13: 30th November 2022

Life stories told by bones: forensic anthropology

Reading:

GABBATISS, JOSH

2017 Is Violence Embedded in Our DNA? *Sapiens* 2017 Jul 12.

<https://www.sapiens.org/evolution/human-violence-evolution/>

Larsen, Clark Spencer

1997 *Injury and violence death, in Bioarchaeology – Interpreting Behaviour from the Human Skeleton* pp. 109-160. Cambridge University Press.

Tutorials: (all tutorials are compulsory)

Week 1

No tutorials

Week 2

Is the “planet of the apes” coming? Evaluation using the concept from lecture 2

Week 3:

Practice of Punnett square and discussion of natural selection

Week 4

Hands-on anatomical exercise (skull and teeth)

Week 5

Hands-on anatomical (pelvis and limb bones) and anthropometric exercise

Week 6

Video: Hunter-gatherers’ live

Discussion: Bipedalism and lessons from hunter-gatherers

Week 7

No tutorials---mid term

Week 8

Hands-on exercise and discussion: the impact of tool making on human evolution

Week 9

Hands-on exercise of homo-erectus bones

Week 10

Discussion of sexual dimorphism and hands-on exercise of Neanderthal bones

Week 11

Hands-on exercise of Homo-sapiens and debate of “Out of Africa”.

Week 12

Debate of the “The Bell Curve”.

Week 13

No tutorial