



**Introduction to Biological Anthropology
Anthropology 2E03
Spring 2020**

CONTACT INFORMATION

Instructor: Dr. Katie Whitaker
Email: whitakek@mcmaster.ca

COURSE DESCRIPTION

This course examines the field of biological anthropology and introduces students to the theories, concepts and real-world applications of the discipline. We will explore the evolutionary basis of our bushy and tangled family tree and examine the ways in which variation has shaped us as a species and as individuals.

COURSE OBJECTIVES

Be able to analyse and evaluate scholarly work.
Have a solid understanding of basic evolutionary principles.
Be able to identify the fundamental traits that make us all “human”.

LEARNING OUTCOMES

To recognize and analyse evidence and processes in human biological and social development.
To think and write critically.
To increase and expand your interest in bioanthropology.

REQUIRED MATERIALS

The assigned readings will be journal articles. These can be found in the Readings folder in the Content section on Avenue2Learn. We may not always discuss these specifically, however feel free to ask questions if anything is unclear.

ASSESSMENTS

| <u>Assessment</u> | <u>Grade Percentage</u> | <u>Due Date</u> |
|---------------------------------|-------------------------|-----------------------------------------------------------------------------------|
| Scavenger Hunt | 2% BONUS | 11:59PM May 12 |
| Lecture Responses | 20% | All completed by June 20 |
| Article Summaries | 25% | May 21 by 10:00pm |
| Fossil Presentation + Responses | 15% + 5% | Post presentation by June 4 at 10:00pm; Respond to questions by June 8 at 10:00pm |
| Questions for Classmates | 10% | June 4 at 10:00pm to June 6 at 10:00pm |
| Final Take-Home Exam | 25% | June 15-18 |

COURSE SCAVENGER HUNT 2% BONUS

On the course website you will find an optional quiz which is focussed on being aware and understanding the content of the course. The aim is to make sure you are familiar with the course rules with respect to expectations as well as the various documents found in the Content section. You will have an unlimited number of attempts to get 100% on the quiz, but it must be completed by 11:59pm on May 12. If you achieve 100% you will receive a 2% bump to your final mark.

LECTURE RESPONSES 20%

As it is not possible to have the usual back and forth that you get in an in-class setting, these lecture responses are the opportunity to participate in lectures. In the Discussion section (under Communications) of the course site, there are series of three questions associated with each lecture. Make sure you listen to the lecture and do the readings before answering them. I am looking for your own words and opinions. Feel free to add further comments or questions in the general question section of each lecture discussion section. All lecture questions must be completed by June 20 at 10:00pm.

ARTICLE SUMMARIES 25%

Choose **one article** from those tagged with a # (first four articles in the lecture schedule) and **create two summaries. The first will be a one-page summary.** Make sure you state the thesis or research question and provide an overview of the content of the article. Refer to the first lecture for more details. You must reference throughout, referring to the article by author last name and year (ie. Smith (2018) states..) NOT the article title or author first name, and if using specific information or quotes you must include a specific page number in your reference. **Please read and understand the *Article Summaries – Things Not to Do* lecture and be sure to not do those things in your summary.** Please let me know if any of these things are unclear as they will affect

your mark if you do them. Refer to the Article Summaries Rubrics for additional marks information. Refer to the Style Guide for specific details about the required style, layout and referencing format. **The second summary is a tweet of that same article.** You must follow all of the rules that you would for an original tweet (140 characters (not including spaces), only use short forms that are considered common knowledge). For this part, your goal is to get right to the point. What was the purpose of the article and what did they find; these are what you need to determine. Stay general, if you include quotes or the author's last name, you need to include a full reference which means learning to paraphrase concisely will save you the characters you need. Make sure you reference your article in a separately-paged Reference List and create a single overall title page. Finally, **complete and include the Article Summary Checklist** (in the Contents section). This is mandatory for the acceptance of your paper and forms the basis of 50% of your mark (do not mark something as yes if you have not done it. Fix your paper, then write yes). The summaries are due together, as a package, on June 4 by 10:00pm. Please remember, incorrect referencing formats will result in an automatic 5% deduction from your mark.

Example of a tweet for: Buckberry JL and DM Hadley. 2007. An Anglo-Saxon execution cemetery at Walkington Wold, Yorkshire. *Oxford Journal of Archaeology* 26: 309-29.

"Did criminals receive different burials in England in the past? Yes, they were buried prone in the 8th century and comingled in the 10th." (116 characters)

FOSSIL PRESENTATION + RESPONSES 15% + 5%

Read the topic options in the course Content document **Fossil Presentation Topics** and e-mail me by May 14 at 10:00pm with your choice, first come, first served. You must clear your choice with me as only one student can do each topic. Please see the Presentation Rubrics for marks breakdown. Your assignment is to create a short 5 (five) minute PowerPoint presentation that details what your fossil is and what controversies or significance it may have to evolution. Be sure to touch on its initial discovery, the meaning behind its name, its features (morphological and other), its proposed time range, its proposed place in our evolutionary bushy tree and potential disagreements or controversies. This will be a combination of visual slides (so definitely include pictures and maps) and audio (you can either record yourself giving the presentation with the slides also visible or you can record just your audio with the slides). Your first slide will be a title page with a unique title and your name, and the final slide will be a reference list, using the required format detailed in the Style Guide. Please only use peer-reviewed sources, exceptions include National Geographic and the Smithsonian Magazine, but no blogs or Wikipedia (please get in touch with me prior to finishing your presentation if this is unclear). You will upload your presentation to the appropriate Discussion section (under Communications) on A2L by 10:00pm on June 4. Your classmates will then have until June 6 at 10:00pm to ask you questions about your presentation. You will then have until June 8 at 10:00pm to respond to those questions to earn 5%.

QUESTIONS FOR CLASSMATES 10%

In connection with the lecture questions, it is difficult to create an atmosphere where you and your classmates can interact with one another. These questions provide the opportunity to connect and learn from others. You are required to ask a **minimum of 10 (ten) questions** once your classmates have posted their FOSSIL PRESENTATIONS. You will have from June 4 at 10:00pm to June 6 at 10:00pm to post your questions. Questions posted after this time will not count.

FINAL 25%

This exam, though based on the entire course, will not simply be a recitation of course content. The exam will consist of essay questions that require you to extrapolate data and think critically. As a result of the labs along with the lectures and the assigned readings, you will have developed these skills throughout the course and as long as you have reviewed all of these components (which will enable you to draw in examples and create a discussion), this should be straightforward. No outside reading or research is required. There will be a review during the last class, and you are free to discuss any concerns and questions you have with me.

Lecture Outline

****Lectures will be posted by 6pm on the date identified below unless there are extenuating circumstances which will be communicated to the class ****

| DATE | LECTURE TOPIC | READINGS |
|--------|--------------------------------------------------|--------------------------------------------------------------|
| MAY 5 | COURSE INTRODUCTION + HISTORY OF HUMAN EVOLUTION | |
| MAY 7 | EVOLUTION | #JONES 2013; #RUBICZ <i>ET AL.</i> 2010 |
| MAY 12 | HUMAN VARIATION | #WEISS 1998; #JABLONSKI AND CHAPLIN 2017 |
| MAY 14 | INTRODUCTION TO DNA | HYLAND 2018; JENSEN <i>ET AL.</i> 2019 |
| MAY 19 | POPULATION GENETICS | GREEF 2007 |
| MAY 21 | PRIMATES | BÖHME <i>ET AL.</i> 2019 |
| MAY 26 | HOMININS | STRAIT <i>ET AL.</i> 2013; HAILE-SELASSIE <i>ET AL.</i> 2019 |

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|-------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------|
| MAY 28 | HOMO | ANTÓN 2020; STRINGER 2016; RIZAL ET AL. 2020 |
| JUNE 2 | MIGRATION + ANCESTRY | CAROTENUTO ET AL. 2016; DAVIS ET AL. 2019; CLARKSON ET AL. 2020 |
| JUNE 4 | HUMAN HEALTH AND SOCIAL CHANGE | BOCQUET-APPEL 2011; EMBER ET AL. 2015 |
| JUNE 9 | FOREIGN DNA | HUBLIN 2017; HAWKS 2017; WOLF AND AKEY 2018 |
| JUNE 11 | DISEASE, EVOLUTIONARY CONSEQUENCES AND CLIMATE CHANGE | MYERS ET AL. 2013; ELGUERO ET AL. 2015 |
| JUNE 15 | REVIEW AND WRAP UP | HENDRY ET AL. 2017; ROBERTS 2010 |
| JUNE 15-18 | FINAL TAKE-HOME EXAM | |

Journal Articles

Jones CB. 2013. Constraints on speciation in human populations: phenotypic diversity matters. *Human Biology Review* 2: 263-279.

Rubicz R, M Zlojutro, G Sun, V Spitsyn, R Deka, KL Young and MH Crawford. 2010. Genetic architecture of a small, recently aggregated Aleut population: Bering Island, Russia. *Human Biology* 82: 719-36.

Weiss KM. 1998. In search of human variation. *Genome Research* 8: 691-7.

Jablonski NG and G Chaplin. 2017. The colours of humanity: the evolution of pigmentation in the human lineage. *Philosophical Transactions of the Royal Society B* 372: 20160349.

Hyland C. 2018. A critical evaluation of DNA analysis for paleopathological research. *JUST* 6: 1-8.

Jensen TZT, J Niemann, KH Iversen, AK Fotakis, S Gopalakrishnan, AJ Vågene, MW Pedersen, M-HS Sinding, MR Ellegaard, ME Allentoft, LT Lanigan, AJ Taurozzi, SH Nielsen, MW Dee, MN Mortensen, MC Christensen, SA Sørensen, MJ Collins, MTP Gilbert, M Sikora, S Rasmussen and H Schroeder. 2019. A 5700-year-old human genome and oral microbiome from chewed birch pitch. *Nature Communications* 10: 5520.

Greeff JM. 2007. Deconstructing Jaco: Genetic heritage of an Afrikaner. *Annals of Human Genetics* 71: 674-88.

Böhme M, N Spassov, J Fuss, A Tröscher, AS Deane, J Prieto, U Kirscher, T Lechner and DR Begun. 2019. A new Miocene ape and locomotion in the ancestor of great apes and humans. *Nature* 575: 489-93.

- Strait DS, P Constantino, PW Lucas, BG Richmond, MA Spencer, PC Dechow, CF Ross, IR Grosse, BW Wright, BA Wood, GW Weber, Q Wang, C Byron, DE Slice, J Chalk, AL Smith, LC Smith, S Wood, M Berthaume, S Benazzi, C Dzialo, K Tamvada and JA Ledogar. 2013. Viewpoints: Diet and dietary adaptations in early Hominins: the hard food perspective. *American Journal of Physical Anthropology* 151: 339-355.
- Haile-Selassie Y, SM Melillo, A Vazzana, S Benazzi and TM Ryan. 2019. A 3.8-million-year-old hominin cranium from Woranso-Mille, Ethiopia. *Nature* 573: 214-19.
- Antón S. 2020. All who wander are not lost. *Science* 368: 34-35.
- Stringer C. 2016. The origin and evolution of *Homo sapiens*. *Philosophical Transactions B* 371: 20150237.
- Rizal Y, KE Westaway, Y Zaim, GD van den Bergh, EA Bettis III, MJ Morwood, OF Huffman, R Grün, R Joannes-Boyau, RM Bailey, Sidarto, MC Westaway, I Kurniawan, MW Moore, M Storey, F Aziz, Suminto, J-X Zhao, Aswan, ME Sipola, R Larick, JP Zonneveld, R Scott, S Putt and RL Ciochon. 2020. Last appearance of *Homo erectus* at Ngandong, Java, 117,000-108,000 years ago. *Nature* 577: 381-85.
- Carotenuto F, N Tsikaridze, L Rook, D Lordkipanidze, L Longo, S Condemi and P Raia. 2016. Venturing out safely: The biogeography of *Homo erectus* dispersal out of Africa. *Journal of Human Evolution* 95: 1-12.
- Davis LG, DB Madsen, L Becerra-Valdivia, T Higham, DA Sisson, SM Skinner, D Stueber, AJ Nyers, A Keen-Zebert, C Neudorf, M Cheyney, M Izuho, F Iizuka, SR Burns, CW Epps, SC Willis and I Buvit. 2019. Late Upper Paleolithic occupation at Cooper's Ferry, Idaho, USA, ~16,000 years ago. *Science* 365: 891-97.
- Clarkson C, C Harris, B Li, CM Neudorf, RG Roberts, C Lane, K Norman, J Pal, S Jones, C Shipton, J Koshy, MC Gupta, DP Mishra, AK Dubey, N Boivin and M Petraglia. 2020. Human occupation of northern India spans the Toba super-eruption ~74,000 years ago. *Nature Communication* 11, 961: 14668-74.
- Bocquet-Appel JP. 2011. The agricultural demographic transition during and after the agriculture inventions. *Current Anthropology* 52 (S4): S497-S510.
- Ember CR, M Ember and PN Peregrine. 2015. *Human Evolution and Culture*. Pearson; Boston: 286-99.
- Hublin J-J. 2017. The last Neanderthal. *Proceedings of the National Academy of Science* 114: 10520-10522.
- Hawks J. 2017. Neanderthals and Denisovans as biological invaders. *Proceedings of the National Academy of Science* 114: 9761-9763.
- Wolf AB and JM Akey 2018. Outstanding questions in the study of archaic hominin admixture. *PLoS Genetics* 14: e1007349.
- Myers SS, L Gaffikin, CD Golden, RS Ostfeld, KH Redford, TH Ricketts, WR Turner and SA Osofsky. 2013. Human health impacts of ecosystem alteration. *Proceedings of the National Academy of Science* 110: 18753- 60.
- Elguero E, LM Délicat-Loembet, V Rougeron, C Arnathau, B Roche, P Becquart, J-P Gonzalez, D Nkoghe, L Sica, EM Leroy, P Durand, FJ Ayala, B Ollomo, F Renaud and F Prugnolle. 2015. Malaria continues to select for sickle cell trait in Central Africa. *Proceedings of the National Academy of Science* 112: 7051-54.

Hendry AP, KM Gotanda and EI Svensson. 2017. Human influences on evolution, and the ecological and societal consequences. *Philosophical Transactions of the Royal Society B* 372: 20160028.

Roberts C. 2010. Adaptation of populations to changing environments: Bioarchaeological perspectives on health for the past, present and future. *Bulletins et mémoires de la Société d'anthropologie de Paris* 22: 38-46.

COURSE POLICIES

Student Expectations: You are expected to read this outline in its entirety and follow all guidelines as they are clearly set out. If you have any questions, ask them as soon as possible. I will not necessarily be checking my e-mail the night before an assignment is due so please plan accordingly. Although we will be discussing evolution throughout this course, we will be maintaining a scientific focus. We will not be debating the merits or the accuracy of evolution in comparison to religious thought. You are free to have whatever opinions you may have on the matter but please leave these non-scientific perspectives at the (online) door, as this is not the appropriate forum for them. This class will be a respectful place; no insulting language or actions will be tolerated.

Communication with Dr. Whitaker: Feel free to e-mail me regarding concerns, however please read through the course outline first, as often, the answer can be found here or amongst the other course documents. If, in fact, your answer can be found within the course documents, I will direct you there to find your answer. In composing your e-mail you must send it from your McMaster account (I am not allowed to reply to personal e-mail accounts), include your course number in the subject field and write a formal e-mail, addressing myself in a respectful manner (ie. Hi Dr. Whitaker), use complete sentences and sign your e-mail with your full name and student number. Please do not simply attach assignments to blank emails or write as though you are sending a text to your friend. I will try to answer e-mails in a timely manner, usually within 48 hours, though I will not be checking or responding to e-mails from 6pm on Friday to 9am on Monday.

Course Content: Please review all of the documents that can be found within the Course Content section of the course website. This includes assignment rubrics, checklists and the Style Guide. You are expected to know and understand this content as a lot of what is contained in these documents will have a major effect on your marks. Be sure to very carefully read through the Style Guide, as it details all aspects of the required referencing format. If any of these aspects or documents are unclear, please e-mail me ASAP so that I can clarify any issues you have. You **MUST** follow the required referencing style for your assignments that require a reference list, failing to do so will result in an **automatic 5% deduction** from your assignment mark.

Late Policy: You are expected to submit all work on time. If an assignment is late, 10% will be deducted for every 24 hours past the due date (specifically received by 10:00pm) and will not be accepted after three days (72 hours after the deadline). After this time a mark of zero will be entered. There are, on occasion, extenuating circumstances that make it difficult to submit on time. The situation must be communicated to me by e-mail at least 48 hours before the assignment is due and depending on the circumstances, documentation may be necessary to be granted an extension. Please do not e-mail me the night before an

assignment is due for an extension, under almost all circumstances it will not be granted. Please contact me if you have any questions or concerns or if any of this is not clear. You must have a response from Dr. Whitaker indicating the granting of an extension as confirmation it has been accepted. **ALWAYS** keep a backup copy of your work!

Submitting Assignments by E-mail: You are still expected to submit all assignments on time, which is by 10:00pm on the specified date. In submitting your assignment compose an e-mail (refer to the section above on Communication with Dr. Whitaker) and include your assignment as a single WORD attachment (no other formats will be accepted). Please name the attachment in the format Your Last Name Assignment Type (ie. Whitaker Article Summary).

Regrading Assignments: If you feel you deserve a different mark on an assignment, please use the following procedure: **take 24 hours to consider your assignment.** Read through all of the comments and think about what aspects you understand and agree with and where you have concerns. After 24 hours compose a written explanation of why you feel you deserve a different mark (not what mark you think you deserve) by specifically referring to your paper and the grading rubric for your specific assignment. Do not discuss your work in relation to other students', but rather within the context of the work you have put into it and the assignment expectations. E-mail your explanation as an attachment and also include a copy of your marked assignment. You can expect a response within 72 hours, however, keep in mind your mark could remain the same, be increased, or possibly decreased upon a secondary review.

Academic Conduct: You are expected, as a university student, to abide by and follow the student code of conduct. This means you will submit only your own, original work. If it is found that you have been less than honest in your submission you may receive a mark of zero for the assignment or the course and may possibly face further penalties. Just don't do it.

Avenue to Learn: In this course we will be using Avenue to Learn. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

McMaster Student Absence Form (MSAF) policy

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work". Please note these regulations have changed beginning Spring/Summer 2015.

If you have any questions about the MSAF, please contact your Associate Dean's office.

[http://academiccalendars.romcmaster.ca/content.php?catoid=11&navoid=1698#Requests for Relief for Missed Academic Term Work](http://academiccalendars.romcmaster.ca/content.php?catoid=11&navoid=1698#Requests_for_Relief_for_Missed_Academic_Term_Work)

Academic Skills Counselling and **Services for Students with Disabilities** are available through the [Student Accessibility Services \(SAS\)](#)

Tel: 905-525-9140 x28652

Email: sas@mcmaster.ca

Website: [Student Accessibility Services](#)

Academic Dishonesty

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g., the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, Appendix 3, [Academic Integrity](#)

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g., the submission of work that is not one’s own for which other credit has been obtained. (*Insert specific course information, e.g., style guide*)
2. Improper collaboration in group work. (*Insert specific course information*)
3. Copying or using unauthorized aids in tests and examinations.

FACULTY OF SOCIAL SCIENCES E-MAIL COMMUNICATION POLICY

Effective September 1, 2010, it is the policy of the Faculty of Social Sciences that all e-mail communication sent from students to instructors (including TAs), and from students to staff, must originate from the student’s own McMaster University e-mail account. This policy protects confidentiality and confirms the identity of the student. It is the student’s responsibility to ensure that communication is sent to the university from a McMaster account. If an instructor becomes aware that a communication has come from an alternate address, the instructor may not reply at his or her discretion.

Email Forwarding in MUGSI:

<http://www.mcmaster.ca/uts/support/email/emailforward.html>

*Forwarding will take effect 24-hours after students complete the process at the above link

(Approved at the Faculty of Social Sciences meeting on Tues. May 25, 2010)

AODA

If you require this information in an alternate/accessible format, please contact Marcia Furtado at 905-525-9140 extension 24423 or email furtam1@mcmaster.ca

Religious, Indigenous and Spiritual Observances (RISO)

The University recognizes that, on occasion, the timing of a student’s religious, Indigenous, or spiritual observances and that of their academic obligations may conflict. In such cases, the University will provide reasonable academic accommodation for students that is consistent with the Ontario Human Rights Code.

Please review the [RISO information for students in the Faculty of Social Sciences](#) about how to request accommodation.

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.