Western SocialScience

Anthropology

The University Of Western Ontario
Department of Anthropology

ANTHROPOLOGY 2238B-001:
READING LIFE AND DEATH THROUGH THE HUMAN BODY

Course value: 0.5 credit
January – April 2018
TENTATIVE COURSE OUTLINE (15 June 2017)

Course Instructor: Dr. Andrea Waters-Rist (awaters8@uwo.ca)
Office: SSC 3427
Office hours: TBA

Class time: Wednesdays, 10:30 am - 1:30 pm
Class location: B&GS 0153

Prerequisites: Any first-year Social Science, Health Sciences, or Science course.
Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Course Description: While alive our bodily tissues store a tremendous amount of information. These clues can be used to tell a lot about a person's life and death. This information is explored in three contexts: Living Individuals, Recently Deceased Individuals (focus on forensic applications), and Older Deceased Individuals (focus on archaeological applications).

Scope of the course:
This course explores the tremendous amount of information that becomes stored in our bodily tissues throughout life; information that can then be used to tell a lot about a person's life and in some cases their death. Did you know your teeth may contain a record of diseases you experienced as a child? Or that the sport you play may cause distinctive changes to your bones? Or that chemical markers contained in all of our body tissues can reveal if and where you've moved during your life? DNA further contains a remarkable amount of information about your sex, genetic diseases, and biological ancestry. Put this together and we can learn a significant amount about a person, whether alive or dead, useful in a range of disciplines such as forensics, archaeology and anthropology, sociology, psychology, history, and the medical sciences.

In order to appeal to all these disciplines this course will explore the information contained in the human body in three contexts: Living Individuals, Recently Deceased Individuals, with a focus on forensic applications, and Older Deceased Individuals, with a focus on archaeological and paleoanthropological applications. By beginning with living individuals, and moving

backwards in time to fossilized remains of our genus, students will see how the loss of various tissues impacts the amount of information we are able to recover. Yet, even with just a lone tooth or small bone fragment, even without DNA, what we can discern is a testament to decades of rigorous, multidisciplinary, and innovative research that should inspire students to ask questions and develop research that pushes the boundaries of knowledge within their own discipline.

Whether you are training to become a biological anthropologist, sociologist, medical clinician, forensic specialist, historian, or biochemist this course will teach you to look at the body as a valuable source of information in variety of ways.

Learning Outcomes:
On successful completion of this course, students will be able to:
1. Read, summarize and critically evaluate literature from academic and popular sources.
2. Understand the linkages between modern, forensic, and archaeological research about the human body.
3. Learn basic human anatomy and apply this knowledge in a variety of contexts.
4. Understand the applications of different methodological techniques for human identification, individuation, and behaviour reconstruction.
5. Understand the intertwined existence of biology and culture and the value of cross-disciplinary contributions from anthropology, biology, archeology, sociology, genetics, geology, pathology, kinesiology, and chemistry in understanding the modern or deceased human.

Grading Breakdown:
1) Human Anatomy, Biology, and Growth Quiz: 10%
2) Mid-Term Exam: 35%
3) Forensic Decomposition, Postmortem Interval, Cause of Death Quiz: 10%
4) Final Exam: 45%
Student evaluation for this course will be based on two in-class quizzes and two exams. The quizzes will be multiple choice and short answer questions and each is worth 10% of your final grade. The quizzes will require memorization of the key systems and elements in human anatomy (quiz 1), and fundamental processes in forensic research (quiz 2). The midterm will be worth 35% of the course grade. The final exam will be worth 45% of the course grade. Both exams will be completely multiple choice.

Required readings:
Readings are listed in the weekly schedule below. Students can access the readings by [TBA].

Preliminary Weekly Schedule

	Theme	Topic	Assignment/ Test	Readings
Week 1: Jan. 10	Introduction	- Introduction (reading to be reviewed in detail as intro to course)	--	1. Steadman, D. 2003. The pawn shop mummified head: discriminating among forensic, historic, and ancient contexts. Chapter 21 in "Hard Evidence: Case Studies in Forensic Anthropology", 2nd ed., edited by Steadman (13 pages)
Week 2: Jan. 17	The Human Body	- Human Anatomy	--	1. Chapter from a Human Biology textbook that outlines the organization and regulation of body systems. 2. Chapter from a Human Biology & Anatomy textbook that outlines the musculoskeletal system.
Week 3: Jan. 24	The Living	- Human Biology - Human Growth	--	1. Chapter 1 (Introduction) from "Human Biology: An Evolutionary and Biocultural Perspective", 2nd ed., 2012, edited by Stinson, Bogin, O'Rourke. 2. Chapter 12 (Growth Variation: Biological and Cultural Factors) from Human Biology: An Evolutionary and Biocultural Perspective, 2nd ed., 2012, edited by Stinson, Bogin, O'Rourke.
Week 4: Jan. 31	The Living	- Human Nutrition	Anatomy, Biology, Growth Quiz (at start of class; 10% of final grade)	1. Chapter 7 (Human Nutritional Evolution) from Human Biology: An Evolutionary and Biocultural Perspective, 2nd ed., 2012, edited by Stinson, Bogin, O'Rourke. 2. Katz, D. L., & Meller, S. (2014). Can we say what diet is best for health? Annual review of public health, 35, 83-103.
Week 5: Feb. 7	The Living	- Human Health, Stress and Disease	--	1. Huber, Machteld, J. André Knottnerus, Lawrence Green, Henriëtte van der Horst, Alejandro R. Jadad, Daan Kromhout, Brian Leonard, et al. 2011. "How should we define health?" British Medical Journal 343. 2. Chapter 10 (Stress and Human Biology) from Human Biology: An Evolutionary and Biocultural Perspective, 2nd ed., 2012, edited by Stinson, Bogin, O'Rourke.
Week 6: Feb. 14			Midterm exam (35% of final grade)	
READING WEEK				

Week 7: Feb. 28	The Recently Deceased	- The Postmortem Interval (PMI) - The Process of Decomposition	--	1. Chapter 5 (Estimating Time Since Death) in "Introduction to Forensic Anthropology", 4th ed., 2010, by Byers. 2. Shirley, N.R., Wilson, R.J., & Jantz, L.M. 2011. Cadaver use at the University of Tennessee's anthropological research facility. Clinical Anatomy, 24(3), 372-380.
Week 8: Mar. 7	The Recently Deceased	- Cause and Manner of Death - Basics of Bone Trauma - Postmortem Changes to Bone	--	1. Chapter 11 (Death, Trauma, and the Skeleton) in "Introduction to Forensic Anthropology", 4th ed., 2010, by Byers. 2. Chapter 5 (Taphonomic Applications in Forensic Anthropology) in "Forensic Taphonomy, Taphonomic Applications in Forensic Anthropology", 1996, by Ubelaker, edited by Haglund and Song.
Week 9: Mar. 14	The Recently Deceased	- Estimation of Sex and Age-at-Death - Forensic Dentistry	Forensic Decomposition, PMI, Cause of Death Quiz (at start of class; 10% of final mark)	1. Chapter 3 (Skeletal Age Estimation) in the Human Skeleton in Forensic Medicine, 3rd ed., 2013, edited by Iscan and Steyn. 2. Chapter 4 (Sex Estimation) in the Human Skeleton in Forensic Medicine, 3rd ed., 2013, edited by Iscan and Steyn. 3. Pretty, L.A., Sweet D. 2001. A look at forensic dentistry – Part 1. The role of teeth in the determination of human identity. British Dental Journal, 190(7): 359-366.
Week 10: Mar. 21	The Recently Deceased and Archaeological Individual	- Modern and Ancient DNA - Morphological Attribution of Ancestry	--	1. Chahal, A, E. Molto and J. Kenkel 2009. Mitochondrial DNA and Forensic Identification. In: DNA: A Practical Guide, D. Rose and L. Goos (eds). Thompson-Carswell. 2. O'Rourke, D. and Enk, J. 2012. Genetics, Geography, and Human Variation, in "Human Biology: An Evolutionary and Biocultural Perspective", 2nd ed. 2012, by Stinson, Bogin and O'Rourke). 3. Chapter 7 (Attribution of Ancestry) in "Introduction to Forensic Anthropology", 4th ed., 2010, by Byers.
Week 11: Mar. 28	The Archaeological Individual	- Stable Isotopes and Trace Elements to Reconstruct Diet	--	1. Katzenberg, M.A. 2007. Stable isotope analysis: a tool for studying past diet, demography, and life history. In: Biological Anthropology of the Human Skeleton, 2nd ed., 411-441. 2. White C.D., Schwarcz H.P. 1989. Ancient Maya diet: as inferred from isotopic and elemental analysis of human bone. Journal of Archaeological Science, 16(5), 451-474.

Week 12: Apr. 4	The Archaeological Individual	- Stable Isotopes to Reconstruct Birthplace, Migration and Mobility		1. Bentley, R.A. 2006. Strontium isotopes from the earth to the archaeological skeleton: a review. Journal of archaeological method and theory, 13(3), 135-187. 2. Evans, J. A., Chenery, C. A., & Fitzpatrick, A. P. 2006. Bronze Age childhood migration of individuals near Stonehenge, revealed by strontium and oxygen isotope tooth enamel analysis. Archaeometry, 48(2), 309-321.
Week 13: Apr. 11	The Archaeological Individual	- Methods to Reconstruct Activity Patterns (long bone shape; muscle attachments; pathological lesions)	--	1. Shaw, C.N., Stock, J.T. 2013. Extreme mobility in the Late Pleistocene? Comparing limb biomechanics among fossil Homo, varsity athletes and Holocene foragers. Journal of human evolution, 64(4), 242-249. 2. Palmer, J.L.A., Hoogland, M.H.L., Waters-Rist, A.L. 2014. Activity Reconstruction of Post-Medieval Dutch Rural Villagers from Upper Limb Osteoarthritis and Entheseal Changes. International Journal of Osteoarchaeology, 26(1): 78–92
Final Exam (worth 45% of final grade) to be scheduled by the Registrar's office in the April exam period				

General University Policies:

All students should familiarize themselves with Western's current academic policies regarding accessibility, plagiarism and scholastic offences, and medical accommodation. These policies are outlined (with links to the full policies) at:
http://anthropology.uwo.ca/undergraduate/course_information/academic_policies.html

Mental Wellbeing: Students who are in emotional/mental distress should refer to Mental Health@Western http://uwo.ca/health/mental_wellbeing/index.html for a complete list of options about how to obtain help.