

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

COURSE OUTLINE**Course Instructor:** Dr. Andrea Waters-Rist (awaters8@uwo.ca)**Office:** SSC 3427**Office hours:** Wednesdays, 3:00-5:00 pm, or by appointment**Class time:** Wednesdays, 10:30 am - 1:30 pm**Class location:** B&GS 0153**Teaching Assistant:** Amanda James (ajames94@uwo.ca)**Office:** SSC 3407**Office hours:** Refer to course site in Owl.**Prerequisites:** Any first-year Social Science, Health Science, 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 an enormous 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 Long-Ago Deceased Individuals (focus on archaeological applications).

Scope of the course:

This course explores the enormous 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 Long-Ago Deceased Individuals, with a focus on archaeological applications. By beginning with living individuals, and moving backwards in time to the fossilized remains of our species, 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, archaeology, 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: 30%
- 3) Forensic Decomposition, Postmortem Interval, Cause of Death Quiz: 10%
- 4) Final Exam: 50%

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 30% of the course grade. The final exam will be worth 50% of the course grade. Both exams will be completely multiple choice. The mid-term exam will be based upon course content from weeks 1-5. The final exam will be based upon course content from weeks 7 through 13 only, and thus is non-cumulative, however an understanding of the content from weeks 1-5 will be necessary to fully comprehend the content from weeks 7-13.

Required readings:

Readings are listed in the weekly schedule below. Students can access all the readings via the OWL system. A few of the book chapters are also available as a downloadable online book via Western libraries.

University Policies and Information:

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

Course Policies:Use of Electronic Devices:

Laptops may be used during lectures for note taking or other course-related purposes. Voice recorders are not allowed without express permission. Cell-phones, iPods, MP3 players and other such devices are not permitted to be used during class. Disruptive use of electronic devices during lecture time may result in instruction to leave the classroom. No electronic devices of any kind (including laptops) are allowed during tests and examinations.

Missed Tests:

Refer to the link above for policies regarding the make-up of missed quizzes or exams. There will be no exceptions to those policies, and make-up tests/exams will only be offered once the Academic Counselling Office has approved special accommodation.

OWL Portal:

This course is supplemented by the OWL learning management system. On the course site you will find links to course content (including readings), course announcements, lecture slides, and supplementary material.

Classroom Behaviour:

Classroom discussion must remain respectful. Students being disrespectful will be asked to leave for the remainder of the class. Repeated disrespectful behaviour will result in the notification to and possible involvement of the Dean of the student's Home Faculty.

Students who do not complete readings and attend all lectures should not expect to do well in this course.

In this class you will read about and see images and videos of dead bodies, in various states of decay. This will only be done for learning purposes, and requires all of us to behave maturely and respectfully. If the idea of seeing images and videos of dead bodies upsets you, this may not be the right course for you. If at any time an image or video is shown that disturbs or upsets you, feel free to look away from the screen and occupy yourself with something else until you feel well enough to reengage with the lecture. You are also free to step out of the room for however long you need.

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 D.
Week 2: Jan. 17	The Human Body	- Human Anatomy	--	1. Scanlon, VC & Sanders, T. 2007. Chapter 1 (Organization and General Plan of the Body) in Essentials of Anatomy and Physiology. 2. Scanlon, VC & Sanders, T. 2007. Chapter 6 (The Skeletal System) in Essentials of Anatomy and Physiology. <i>Optional</i> (you need to know elements and compounds for this course): 3. Scanlon, VC & Sanders, T. 2007. Chapter 2 (Some Basic Chemistry) in Essentials of Anatomy and Physiology.
Week 3: Jan. 24	The Living	- Human Biology - Human Growth	--	1. Chapter 1 (Introduction) from “Human Biology: An Evolutionary and Biocultural Perspective”, 2 nd 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”, 2 nd 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”, 2 nd 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, MJ., Knottnerus, A., Green, L., van der Horst, H., Jadad, AR., Kromhout, D., Leonard, B., 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”, 2 nd ed., 2012, edited by Stinson, Bogin, O’Rourke. 3. Seeman, E. 2002. Osteoporosis II: Pathogenesis of bone fragility in women and men. The Lancet 359: 1841-1850.
Week 6: Feb. 14	Midterm Exam (30% of final grade; entire class)			
READING WEEK				

Week 7: Feb. 28	The Recently Deceased	<ul style="list-style-type: none"> - The Postmortem Interval (PMI) - The Process of Decomposition 	--	<ol style="list-style-type: none"> 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	<ul style="list-style-type: none"> - Cause and Manner of Death - Basics of Bone Trauma - Postmortem Changes to Bone 	--	<ol style="list-style-type: none"> 1. Chapter 11 (Death, Trauma, and the Skeleton) in "Introduction to Forensic Anthropology", 4th ed., 2010, by Byers. 2. Chapter 1 (Advancing Forensic Taphonomy: Purpose, Theory, and Process, by Sorg and Haglund) in "Advances in Forensic Taphonomy: Method, Theory, and Archaeological Perspectives", edited by Haglund, WD and Sorg, MH.
Week 9: Mar. 14	The Recently Deceased	<ul style="list-style-type: none"> - Estimation of Sex and Age-at-Death - Forensic Dentistry 	Forensic Decomp., PMI, & Cause of Death Quiz (at start of class; 10% of final mark)	<ol style="list-style-type: none"> 1. Chapter 3 (Skeletal Age Estimation) in "The Human Skeleton in Forensic Medicine", 3rd ed., 2013, edited by Isçan and Steyn. 2. Chapter 4 (Sex Estimation) in "The Human Skeleton in Forensic Medicine", 3rd ed., 2013, edited by Isçan 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	<ul style="list-style-type: none"> - Modern and Ancient DNA - Morphological Attribution of Ancestry 	--	<ol style="list-style-type: none"> 1. Chapter 1 (A Genetics Primer) in "DNA: A Practical Guide", D. Rose and L. Goos (eds). Thompson-Carswell. 2. Chapter 4 (Genetics, Geography, and Human Variation) in "Human Biology: An Evolutionary and Biocultural Perspective", 2nd ed., 2012, edited by Stinson, Bogin, O'Rourke. 3. Chapter 7 (Attribution of Ancestry) in "Introduction to Forensic Anthropology", 4th ed., 2010, by Byers.
Week 011: Mar. 28	The Archaeological Individual	<ul style="list-style-type: none"> - Stable Isotopes and Trace Elements to Reconstruct Diet 	--	<ol style="list-style-type: none"> 1. Turner, B.L. and Livengood, S.V., 2017. Methods for Reconstructing Diet. In: Food Research: Nutritional Anthropology and Archaeological Methods, edited by Chrzan J and Brett J. Pp. 159-182. 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. 3. Holder, S., Dupras, T.L., Jankauskas, R., Williams, L. and Schultz, J. 2017. Reconstructing diet in Napoleon's Grand Army using stable carbon and nitrogen isotope analysis. American Journal of Physical Anthropology 163(1): 53-63.

Week 12: Apr. 4	The Archaeological Individual	- Stable Isotopes to Reconstruct Birthplace, Migration and Mobility - Guest lecture by A. James	--	1. Beard, B., Johnson, C. 2000. Strontium Isotope Composition of Skeletal Material Can Determine the Birth Place and Geographic Mobility of Humans and Animals. <i>Journal of Forensic Sciences</i> 45(5): 1049-1061, 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. <i>Archaeometry</i> , 48(2), 309-321. 3. TBA (a chapter from the book "Resurrecting Pompeii" by Estelle Lazer)
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. <i>Journal of human evolution</i> 64(4): 242-249. 2. Palmer, J.L.A., Hoogland, M.H.L., Waters-Rist, A.L. 2016. Activity Reconstruction of Post-Medieval Dutch Rural Villagers from Upper Limb Osteoarthritis and Enteseal Changes. <i>International Journal of Osteoarchaeology</i> , 26(1): 78-92. 3. Thomas, A. 2014. Bioarchaeology of the Middle Neolithic: Evidence for archery among early European farmers. <i>American Journal of Physical Anthropology</i> 154(2): 279-290.
Final Exam (worth 50% of final grade) to be scheduled by the Registrar's office in the April exam period				

General University Policies:

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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.