**Seminar in Biocultural Anthropology: Anthropology of Hormones**

Ant 612-001 | Spring 2021 | 3 credit hours

Seminar

Dr. Holly Horan

**Fridays, 1:00-3:30 pm**

**Face-to-Face:** Ten Hoor RM 351

-OR-

**Zoom:** https://uasystem.zoom.us/j/91436902441

**Course Overview**

In this class, we will engage with a wide range of anthropological (and related) literature to consider the role of human hormones across the life course. This class will employ a developmental origins of health and disease framework, with a special emphasis on the perinatal and early infant period. Together, we will examine how different human hormonal processes impact health and development within this acute timeframe, how health behaviors and contextual factors impact these hormonal processes and explore the long-term implications of these hormonal processes (and their variants) on health and wellbeing. We will also identify and investigate a research question using existing research to produce a publishable manuscript.

**Reading Material**

Reading and media materials will be available in the appropriate weekly folder on Blackboard.

**Learning Objectives:**

In this course, students will learn to:

1. Understand and remember key concept, terms, and theoretical paradigms for how anthropologists and multidisciplinary teams investigate human hormones.
2. Critically evaluate bodies of literature in academic and popular outlets that discuss connections between human hormones, health, and well-being.
3. Integrate ideas from this class and previous courses (and possibly research experiences) to demonstrate their understanding of how human hormonal processes shape human health outcomes.

**Student Learning Outcomes**

Upon completion of this course, students will:

1. See themselves as people who have a more sophisticated understanding of the hormonal dimensions and dynamics associated with human health over the life course and the contextual circumstances that drive these connections.
2. Value the role (and limitations) of human hormones as a method and data point in biocultural anthropological research.
3. Understand the need for multiple measures, approaches, and perspectives to develop a solid understanding of human health and how human hormones shape health outcomes as they consider the applications of these topics within their own research.

**Outline of Topics**

1. Developmental Origins of Health and Disease

2. Biocultural, Biochemical Entanglements

3. Risk, Resilience, and Support

4. Applications of the Anthropology of Hormones

**Grading**

*I. Seminar participation and lead.* You are expected to come to class prepared to discuss the readings and broader implications. When you are responsible for leading the seminar, it is expected that you will do the following:

1. Complete additional readings that will allow you to situate the week’s topic in broader theoretical or applied context.
2. Identify one supplementary reading for us to discuss in class.
3. Prepare 3-5 discussion questions to guide the seminar.

**Each student is responsible for 3 seminars, counting for 30% of your grade. Participation in discussion is worth 20% of your grade. Seminar participation and management total 50% of your grade.**

*II. Group manuscript project*. As a class, we will develop a publishable paper using an existing data set. The class will be responsible for identifying a research question (5%), determining the appropriate theoretical framework (5%), identifying relevant literature (10%), conducting the analyses (10%), and co-authoring the paper (20%). **Your work on this paper counts for 50% of your grade.**

**Weekly Schedule (subject to change)**

**PART 1 – DEVELOPMENTAL ORIGINS OF HEALTH AND DISEASE (DOHaD)**

**Week 1 - Jan 15**

**Introduction** to the course. Review syllabus, requirements, and expectations. Select weeks for seminar lead and set deadlines and benchmarks for final assignment.

**Week 2 - Jan 22**

***Seminar Lead: Holly***

***A DOHaD Orientation*** *– understanding the evolution and theoretical concepts that lead to this framework.*

Almond, D. and J. Currie. 2011. Killing me Softly: The Fetal Origins Hypothesis. Journal of Economic Perspectives, 25(3): 153-172.

Barker, D.J.P. 1995. The fetal and infant origins of disease. European Journal of Clinical Investigation, 25: 457-463.

Barker, D.J.P. 2007. The origins of the developmental origins theory. Journal of Internal Medicine, 216: 412-417.

Hales, C.N. and D.J.P. Barker. 1992. Type 2 (non-insulin dependent) diabetes mellitus: the thrifty phenotype hypothesis. Diaetologia. 35: 595-601.

Paneth, N. and M. Susser. 1995. Early origins of coronary heart disease (the “Barker Hypothesis”). British Medical Journal. 310, 411-412.

Neel. J.V. 1962. Diabetes Mellitus: A “Thrifty” Genotype Rendered Detrimental by “Progress”? American Journal of Human Genetics. 14(4): 353-362.

**Week 3 - Jan 29**

***Seminar Lead: Mike***

***Situating DOHaD and Hormones within Anthropological Praxis*** *– exploring the theoretical underpinnings of how perspectives of DOHaD and anthropological inquiry merge and diverge*

Bärnreuther, S. 2018. Hormones Series. Society for Cultural Anthropology: Fieldsights, URL: <https://culanth.org/fieldsights/series/hormones>

* Read the main piece and the four pieces within this series.

Gowland, R. L. (2015) 'Entangled lives : implications of the developmental origins of health and disease hypothesis for bioarchaeology and the life course.', American journal of physical anthropology., 158 (4). pp. 530-540.

Leatherman, T. and A. Goodman. 2019. Building on the Biocultural Syntheses: 20 years and still expanding. American Journal of Human Biology. 32:e23360.

McKerracher, L. et al. 2019. Synergies between the Developmental Origins of Health and Disease framework and multiple branches of evolutionary anthropology. Evolutionary Anthropology. 29: 214-219.

Reader et al. 2020. Anthropology of Hormones. Centre for Biomedicine, Self and Society, URL: <https://www.ed.ac.uk/usher/biomedicine-self-society/centre-news/anthropology-of-hormones>

Student assigned reading: TBD

**Week 4 – Feb 5**

***Seminar Lead: Mike***

***Evolutionary Medicine****– exploring what direct and indirect roles do hormones play in the investigation of human health from an evolutionary perspective*

Kuzawa, C. 2005 Fetal Origins of Developmental Plasticity: Are Fetal Cues Reliable Predictors of Future Nutritional Environments? American Journal of Human Biology. 17:5-21.

Kuzawa, C. 2008 The Development of Adult Health: Intergenerational Inertia in Adaptation and Disease. *In* Evolutionary Medicine and Health: New Perspectives 2nd ed. Trevethan, W.R., with Smith, E.O., and McKenna, James, eds. New York, New York. Oxford University Press. Pps: 325-349.

Wells J.C.K. 2006. The Thrifty Phenotype as An Adaptive Maternal Effect. Biol Rev. 82:143–72.

Wells, J.C.K. 2007(a). The Programming Effects of Early Growth. Early Human Development. 83:743-748.

Wells, J.C.K. 2007(b). Flaws in the Theory of Predictive Adaptive Responses. Trends in Endocrinology & Metabolism. 18(9): 331-337.

Student assigned reading: TBD

**BIOCULTURAL, BIOCHEMICAL ENTAGLEMENTS**

**Week 5 - Feb 12**

***Seminar Lead: Mike***

***Stress & Cortisol***

Edes, A. and D. Crews. 2016. Allostatic Load and Biological Anthropology. American Journal of Physical Anthropology, 162: 44-70.

Lee et al. 2014. Preterm Delivery as a Predictor of Diurnal Cortisol Profiles in Adulthood: Evidence from Cebu, Phillipines. American Journal of Human Biology, 26: 598-602.

Pollard, T.M. and G.H. Ice. 2012. Measuring Hormonal Variation in the hypothalamic pituitary adrenal axis: cortisol. In Measuring Stress in Humans: A Practical Guide for the Field. Gillian H. Ice and Gary D. James, Eds. Pps: 122-157.

Thayer et al. 2018. Impact of prenatal stress on offspring glucocorticoid levels: A phylogenetic meta-analysis across 14 vertebrate species. Nature: Scientific Reports, 8(4942): 1 – 9.

Williams, S. 2012. Measuring stress in special populations. In Measuring Stress in Humans: A Practical Guide for the Field. Gillian H. Ice and Gary D. James, Eds. Pps: 211-225.

Student assigned reading: TBD

**Week 6 - Feb 19**

***Seminar Lead: Emily***

***Inequality, Oppression, & Cortisol***

Desantis, A.S., Kuzawa, C. and E.K. Adam. 2015. Developmental Origins of Flatter Cortisol Rhythms: Socioeconomic Status and Adult Cortisol Activity. American Journal of Human Biology, 27: 458-467.

Kim et al. 2020. Early life stress and HPA axis function independently predict adult depressive symptoms in metropolitan Cebu, Phillippines. American Journal of Physical Anthropology, 173. 448-462.

Kuzawa, C. 2020. Pregnancy as an intergenerational conduit of adversity: how nutritional and psychological stressors reflect different historical timescales of maternal experience. Behavioral Sciences, 36. 42-47.

Thayer, Z. and C. Kuzawa. 2015. Ethnic Discrimination Predicts Poor Self-Rated Health and Cortisol in Pregnancy. Insights from New Zealand. Social Science & Medicine, 128, 36-42.

Student assigned reading: TBD

**Week 7 – Feb 26**

***Seminar Lead: Emi***

***Fear and Aggression***

Tully, J. and K. Dewey. 1985. Private fears, global loss: A cross-cultural study of the insufficient milk syndrome. Medical Anthropology, 9(3): 225-243.

Gettler, L.T. et al. 2011. Longitudinal Evidence that Fatherhood Decreases Testosterone in Human Males. Proceedings of the National Academy of Sciences of the United States of America, 108(39): 16194-16199.

Hahn-Holbrook, J. et al. 2011. Maternal Defense: Breastfeeding Increases Aggression by Reducing Stress. Association for Psychological Science, 22(10): 1288-1295.

Hanson, S. et al. 2009. Paternal Fears of Childbirth: A Literature Review. The Journal of Perinatal Education, 18(4): 12-20.

Richard, F. with Zongo, S. and F. Ouattara. 2014. Fear, guilt, and debt: an exploration of women’s experience and perception of cesarean birth in Burkina Faso, West Africa. International Journal of Women’s Health. Pps: 469-478.

Student assigned reading: TBD

**Week 8 – Mar 5**

***Seminar Lead: Emi***

***Maternal Mental Health***

Crowley, S. and S. Youngstedt. 2012. Efficacy of light therapy for perinatal depression: a review. Journal of Physical Anthropology, 31(15): 1-7.

Kermode, M. et al. 2007. Empowerment of women and mental health promotion: a qualitative study in rural Maharashtra, India. BMC Public Health, 7(225): 1-10.

Khort, B.A. 2016. Culture and Co-morbidity: Intimate Partner Violence as a Common Risk Factor for Maternal Mental Illness and Reproductive Health Problems in Former Child Soldiers in Nepal. Medical Anthropology Quarterly, 30(4): 515-535.

Thayer, Z. with T. Gildner. 2020. COVID-19-related financial stress associated with higher likelihood of depression among pregnant women living in the United States. American Journal of Human Biology, e23508. Pps: 1-5.

Therrien, A-S. et al. 2020. Relationships between mental health and diet during pregnancy and birth outcomes in a lower-middle income country: “Healthy mothers, healthy communities” study in Vanuatu. American Journal of Human Biology, e23500. Pps: 1-14.

Student assigned reading: TBD

**Week 9 - Mar 12**

***Seminar Lead: Emi***

***Epigenetics***

Kuzawa, C. and E. Sweet. 2009. Epigenetics and the Embodiment of Race: Developmental Origins of US Racial Disparities in Cardiovascular Health. American Journal of Human Biology, 21: 2-15.

Mulligan, C. 2016. Early Environments, Stress, and the Epigenetics of Human Health. Annual Reviews of Anthropology, 45: 233-249.

Locke, M. 2015. Comprehending the Body in the Era of the Epigenome. Current Anthropology, 56(2): 151-163 (Comments are optional reading).

Saldaña-Tejeda, A. and P. Wade. 2019. Eugenics, Epigenetics, Obesity Predisposition among Mexican Mestizos. Medical Anthropology, 38(8): 664-679.

Thayer, Z. and A. Non. 2015. Anthropology Meets Epigenetics: Current and Future Directions. American Anthropologist, 17(4): 722-735.

Student assigned reading: TBD

**Week 10 - Mar 19**

***Seminar Lead: Baili***

***Intergenerational Implications***

Hoke, M. and T. McDade 2015. Biosocial Inheritance: A Framework for the Study of the Intergenerational Transmission of Health Disparities. Annals of Anthropological Practice, 38(2); 187-213.

Lende, D. 2012. Poverty Poisons the Brain. Annals of Anthropological Practice, 36: 183-201.

Rodney, N. and C. Mulligan. 2014. A Biocultural Study of the Effects of Maternal Stress on Mother and Newborn Health in the Democratic Republic of Congo. American Journal of Physical Anthropology, 155:200-209.

Professor Jonathan Wells (Childhood Nutrition Research Centre, UCL Institute of Child Health), 'Maternal capital and offspring development: an intergenerational perspective on the developmental origins of health and disease', 29 February 2016 – podcast:

[*https://www.anthro.ox.ac.uk/medical-anthropology-podcasts*](https://www.anthro.ox.ac.uk/medical-anthropology-podcasts)

Student assigned reading: TBD

**PART 3 – RISK, RESILIENCE, AND SUPPORT**

**Week 11 - Mar 26**

***Seminar Lead:*  Emily**

**Oxytocin**

Contreras, C. 2019. Hormones, Health, and Social Support in Pregnancy. Masters Thesis. PDF. Accessed at: <https://search.proquest.com/docview/2288107708?pq-origsite=gscholar&fromopenview=true>, Pp: 1-54

Crockford, C. et al. 2014. Endogenous Peripheral Oxytocin Measures Can Give Insight into the Dynamics of Social Relationships: A Review. Frontiers in Behavioral Neuroscience, 4(68): 1-14

Rudzik, A. 2010. Breastfeeding and the Individual: The Impact of Everyday Stressful Experience and Hormonal Change on Breastfeeding Duration Among Women in São Paulo, Brazil. Doctoral Thesis. University of Massachusetts. (Chapters II, VII, and VII)

Student assigned reading: TBD

**Week 12 – Apr 2**

***Seminar Lead: Baili***

***Bonding and Sleep***

Ball, H. with Tomori, C. and J.J. McKenna. 2019. Toward an Integrated Anthropology of Infant Sleep. American Anthropologistm 121(3): 595-612.

De Dreu, C. et al. 2011. Oxytocin promotes human ethnocentrism. Proceedings of the National Academy of Sciences, 108(4): 1262-1266.

McKenna, J. with Ball, H. and L. Gettler. 2007. Mother-Infant Cosleeping, Breastfeeding and Sudden Infant Death Syndrome: What Biological Anthropology Has Discovered About Normal Infant Sleep and Pediatric Medicine. Yearbook of Physical Anthropology, 50: 133-161.

Podcast: SciCafe – Science of Love with Bianca Jones Marlin

https://media.amnh.org/podcasts/SciCafe\_Science\_of\_Love\_with\_Bianca\_Jones\_Marlin.mp3

Student assigned reading: TBD

**Week 13 – Apr 9**

***Seminar Lead: Emily***

***Social Support***

Miller, S. 2011. Hormones and Social Affiliation. Menstrual Cycle Shifts in Progesterone Underline Women’s Attention to Signs of Social Support. Thesis. Florida State University Libraries. (Introduction).

Taylor, S.E., with Dickerson, S. and L. Klein. Toward a Biology of Social Support. In Handbook of Positive Psychology. Pps: 556-569.

Goymann, W. and J. Wingfield. 2004. Allostatic Load, Social Status, and Stress Hormones: The Costs of Social Status Matter. Animal Behavior, 67: 591-602.

Podcast: Brain Child: Maternal Mental Health and Social Support – Dr. Nicole Racine. URL (can play from website): <https://podcasts.apple.com/us/podcast/maternal-mental-health-and-social-support-dr-nicole-racine/id1441053935?i=1000429508765>

Student assigned reading: TBD

**Week 14 - Apr 16**

***Seminar Lead: Baili***

***Students Selected topic! TBD!***

**PART 4 – APPLICATIONS OF THE ANTHROPOLOGY OF HORMONES**

**Week 15 - Apr 23**

***Seminar Lead: Holly***

NOTE: We will each contribute a reading for this class **by Friday, April 9th**.

***Final exams week:*** Draft paper due Friday, April 30th by 5pm

**Grading Policy**

There are 1000 pts a student can earn in this class. The course grade will be based on student effort and performance on the following tasks:

• Seminar leads (3X): 100 pts for each session that you lead.

• Participation (200 pts): Active participation in all seminars (particularly those that you are not leading) can be defined as actively and respectfully engaging in conversation/dialogue about the course material with classmates for the entire duration of each class.

• Group Manuscript Project (500 pts): As a class, we will select a topic relevant to the Anthropology of Hormones that we can co-research and co-write a publishable literature review. The goal for the semester will be to submit the article for review. Smaller scale assignments and details embedded within this total point value will be determined in class.

Possible final grades are A+, A, A-, B+, B, B-, C+, C, C-, D and F. Grades will be assigned according to the following scale:

A+ 97 to 100% C+ 77 – 79%

A 93 – 96% C 73 – 76%

A- 90 – 92% C- 70 – 72%

B+ 87 – 89 % D 60 – 69%

B 83 – 86% F <60%

B- 80 – 82%

**Policy on Missed Exams and Coursework**

No late assignments will be accepted, except under extraordinary circumstances. In the event you are aware of an upcoming absence, you must make arrangements with Dr. Horan at least two weeks before the due date of assignments so that other arrangements can be made. For such arrangements, please email Dr. Horan at hhoran@ua.edu as soon as possible.

**Attendance Policy**

Attendance is mandatory. If you plan to miss class or to leave class early, please notify Dr. Horan before class. Electronic devices should only be used for class related activities. Inappropriate use of electronics counts as an absence.

**Notification of Changes (Elasticity Statement)**

The instructor will make every effort to follow the guidelines of this syllabus as listed; however, the instructor reserves the right to amend this document as the need arises. In such instances, the instructor will notify students in class and/or via email and will endeavor to provide reasonable time for students to adjust to any changes.

**Academic Misconduct**

Students are expected to be familiar with and adhere to the official Academic Misconduct Policy provided in the Online Catalog.

**COVID19 Zoom Policy**

This semester has brought unprecedented challenges to all of us. As your instructor I am committed to listening to your concerns and being as flexible as possible in my efforts to create an effective learning environment for you this semester. I also thank you for your patience, cooperation, and understanding as we work with a hybrid model for instruction and learning.

Please be aware that the UA Student Code of Conduct prohibits students from "Disruption or obstruction of teaching, research, administration, disciplinary proceedings, or other University activities, including its public-service functions, whether on or off-campus, and other authorized non-University activities that occur on University premises.” Disruptive or obstructive behavior in any class meeting, in-person or online, may be referred to the Office of Student Conduct for disciplinary action.

In addition, please understand that without prior approval from the instructor of this course, students may not record course content and/or post course content publicly, including on social media sites. Students who record and/or post course content without instructor approval may be referred to the Office of Student Conduct for disciplinary action.

Your instructor may choose to record class sessions for students enrolled in the class to refer back to, and for the use of enrolled students unable to attend class meetings. If the instructor chooses to record class sessions, students will be notified. If a student participates in recorded online class sessions with their camera engaged, or utilizes a profile image, they are agreeing to have their video or image recorded. If a student is unwilling to consent to have their profile or video image recorded, it’s their responsibility to keep their camera off and to not use a profile image. Likewise, students who un-mute their audio input during class and participate orally are agreeing to have their voices recorded. If students are not willing to consent to have their voices recorded during class, they must keep their mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. All recorded lectures, presentations, and class discussions are for viewing by members of this class section only, and may not be posted in any public forum or shared with anyone not enrolled in this class. Any student violating these rules may be referred to the Office of Student Conduct for disciplinary action.

**Nondiscrimination Policy**

As an academic community, our educational mission is enhanced by the robust exchange of ideas that occurs between a diverse student body, faculty, and staff within a respectful and inclusive learning environment. As a campus community we are dedicated to the pursuit of personal and academic excellence, to advancing the ideals of individual worth and human dignity, and to maintaining a nurturing and respectful learning environment. All members of the UA community are expected to contribute positively to the environment and to refrain from behaviors that threaten the freedom or respect that every member of our community deserves.

The University of Alabama is committed to providing an inclusive environment that is free from harassment or discrimination based on race, genetic information, color, religion, ethnicity, national origin, socioeconomic status, political beliefs, sex, sexual orientation, gender expression, gender identity, age, ability, size, or veteran status. The University of Alabama prohibits any verbal or physical conduct that  threatens or endangers the health or safety of any individual or group,  including physical abuse, verbal abuse, threats, stalking, intimidation,  harassment, sexual misconduct, coercion, and/or other communication or  conduct that creates a hostile living or learning environment. Harassment or other illegal discrimination against individuals or groups not only is a violation of University Policy and subject to disciplinary action, but also is inconsistent with the values and ideals of the University.  <http://eop.ua.edu/law.html>

**Statement on Disability Accommodations**

Contact the Office of Disability Services (ODS) as detailed in the Online Catalog.

**Severe Weather Protocol**

Please see the latest Severe Weather Guidelines in the Online Catalog.

**Pregnant & Parent Student Accommodations**

Title IX protects against discrimination related to pregnancy or parental status. If you are pregnant and will need accommodations for this class, please review the Unviersity’s FAQ on the UAct website.

*Children in the classroom policy:* Dr. Horan believes that students who are also parents should not have to decide between having access to safe and reliable childcare and attending class. Student parents are expected to have reliable childcare pre-arranged for their scheduled class times, but like anything in life (such as a pandemic), sometimes those plans do not workout. When reliable childcare is unavailable, students may bring their children with them to class. Parents, be sure you sit near the door in the classroom in the event you need to step out of the room to attend to your child. Please make sure that your child (depending on their age) has a quiet activity and/or snack to entertain them throughout the class.

The same policy applies for Zoom classes. When reliable childcare is unavailable, students may have to attend to their children during class and that is okay. Parents, be sure you mute yourself when you are not speaking and that your turn your camera off to interact with your child as needed.

**Religious Observances**

Under the Guidelines for Religious Holiday Observances, students should notify the instructor in writing or via email during the first two weeks of the semester of their intention to be absent from class for religious observance. The instructor will work to provide reasonable opportunity to complete academic responsibilities as long as that does not interfere with the academic integrity of the course. See full guidelines at <https://provost.ua.edu/oaa-guidelines-for-religious-holidays-observance/>.

**UAct Statement**

For an overview of The University's expectations regarding respect and civility please go to: https://www.ua.edu/campuslife/uact/.