HLTH 4401 Maternal and Perinatal Determinants of Health

Course description

This course explores how the environments experienced before conception, *in utero*, and in the early postnatal period can permanently shape an individual's development, organ structure and function, and lifelong risk of disease or health resilience. Students will examine the mechanisms driving these events, the epidemiological evidence behind the Developmental Origins of Health and Disease (DOHaD) hypothesis, and strategies to improve early life development and prevent or reduce the burden of chronic diseases and disorders.

Topics covered

Topics covered include embryology, fetal development, placentation, and pregnancy; development and function of key organs/physiologic systems that programme health and disease states; reproductive technologies and preconception factors; major programming factors like early life nutrition; toxicants; therapeutics and interventions directed to the mother, father, and/or offspring.

Learning objectives

Students will learn key concepts and mechanisms underlying DOHaD, and examine, using epidemiological and experimental evidence, how early life adversity and suboptimal environments alter normal pregnancy, growth, and development. Students will also develop skills in critically appraising research, designing evidence-based interventions, and communicating findings to expert and non-expert audiences.

Assessments

Students are evaluated through a combination of midterm and final exams (~60-75% of final grade), debate and policy brief (~17%), and additional smaller deliverables including reflective writing exercises and critical thinking and discussion activities (~5-25%). Specific assessments and weightings may vary by year and by the specific set of course requirements a student completes.

Other useful information

Classes are a mix of instructor-led lectures, interactive sessions, and student presentations and discussions. There are no costs associated with this course.