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  Provides a general overview of the principles, concepts, and methods of data management and analysis of large sources of national health data.
About this course
This course provides an overview of the social and behavioral factors that influence the transmission and prevention of HIV and AIDS worldwide. Topics covered include the natural history and epidemiology of the AIDS virus; the mechanisms of transmission; high-risk and vulnerable populations; social determinants of risk and vulnerability; theoretical foundations for HIV prevention programs; primary and secondary HIV prevention strategies; treatment of HIV and AIDS; and implications of HIV and AIDS for individuals, families, communities and countries.

About your professor
Dr. Mutumba’s work on HIV focuses primarily on adolescents, with the goal of improving self-management of HIV, and measurement and promotion of mental health and well-being. Her research on sexual reproductive health focuses on understanding the individual, community and institutional barriers to uptake of modern contraceptive methods in sub-Saharan Africa.
About this course

This course examines gender-based violence and the skills necessary to provide advocacy services to survivors. It will introduce students to the roots of gender-based violence, the social and cultural context in which it occurs, the mental and physical health impacts, and justice and restitution frameworks. Students will develop the skills to think critically about the local and global impact of gender-based violence and how it intersects with other forms of oppression.

This course is part of the Democracy & Debate Theme Semester for the U-M School of Nursing.

About your professor

Dr. Munro-Kramer’s program of research focuses on trauma, comprehensive care of vulnerable populations and missed opportunities for care within domestic and international contexts. Her research projects approach these topics using a trauma-informed and patient-centered lens.
About this course

This course is designed to provide students with a basic understanding of the structure and function of government as it relates to the health of citizens and the practice of nursing. There is a focus on applying the concepts of leadership, advocacy and professionalism in the development of strategies for influence. Students will examine how civic engagement affects issues relevant to nursing and explore the impact of policy and politics on nursing practice.

The course number for this class is currently pending.

About your professor

Dr. Anderson is interested in theory and methods related to complex systems, particularly as they relate to the science of implementation. She has extensive clinical background and the focus of her current work is on perioperative processes of care, patient safety and quality. She is committed to encouraging students to engage with policymakers and to develop strategies for influence.
About this course

Please note: NURS 420 and NURS 521 meet together, with NURS 420 being the undergraduate-level course and NURS 521 being the graduate-level course.

420 – Provides students with a broad introduction to programs, systems and policies affecting global health. The course will explore facets of the global health care delivery system, health care economics, and the political process and its impact on the health of individuals and populations.

521 – Explores the issues that directly or indirectly affect health in low- and middle-resource countries from an interdisciplinary approach, with an emphasis on health equity among nations and for all people.

About your professor

Megan Eagle provides primary health care services to underserved populations. She researches the health care needs of uninsured adults in Washtenaw County and strategies for addressing maternal mortality in rural areas. She has served as a clinical preceptor to adult and primary care family nurse practitioner students and also supervised clinical placements for students from the U-M schools of Social Work, Pharmacy and Medicine. She is fluent in both English and Spanish.
About this course

This is course one of the professional mini-certificate in Trauma-informed Practice. A primary goal is to prepare students for interprofessional and team-based approaches to prevention and intervention in schools and other systems that serve children and families. Students will apply new knowledge about trauma to better perceive its effects on children in the school setting and to develop strategies to assess their trauma-related needs, making use of teacher, social worker and nurse roles.

About your professor

Dr. Todd Herrenkohl’s research focuses on child and family well-being, child maltreatment and the psychosocial and developmental underpinnings of health-risk behaviors in youth and adults. He also studies substance use, mental and physical health outcomes of adversity, and resilience. He has worked to raise awareness of the causes and consequences of violence in children and families and to promote the use of public health models of primary prevention.
About this course
This course will provide foundational knowledge about trauma-informed practice. A primary goal is preparing students for interprofessional approaches to trauma-informed prevention and intervention. A key focus will be on teachers, social workers and nurses collaborating to use specific trauma-informed practices for addressing young people’s academic, social-emotional, behavioral, and health needs.

This course is cross-listed with SW 541 and EDUC 541.

About your professor
Dr. Saunders is a professor of clinical practice in educational studies. She teaches in the Secondary Master of Arts with Certification (MAC) program. Her interests are in teacher education, transformative education toward social justice, social-emotional learning and trauma-informed practice.
About this course

This quantitative graduate course provides a general overview of the principles, concepts, techniques, tools and services for managing, harmonizing, aggregating, preprocessing, modeling, analyzing and interpreting Big Data. Students will be exposed to common challenges related to handling complex, high-dimensional data, learn about modern data analytic techniques and develop skills for importing and exporting, cleaning and fusing, modeling and visualizing, analyzing and synthesizing complex datasets. This course aims to build computational abilities, inferential thinking and practical skills for tackling core data scientific challenges.

About your professor

Dr. Dinov is director of the Statistics Online Computational Resource, associate director of the Michigan Institute for Data Science and associate director of the Michigan Neuroscience Graduate Program. He is an expert in mathematical modeling, statistical analysis, high-throughput computational processing and scientific visualization of large biomedical datasets. His applied research is focused on studying ALS, Alzheimer’s, Parkinson’s, autism, ADHD, schizophrenia, depression, obesity and other human conditions. Dinov develops methods for space-time analytics, computational neuroscience, nursing informatics, multimodal biomedical image analysis and distributed genomics computing.
About this course

This transdisciplinary course welcomes students from any discipline. It provides far-ranging views of core concepts for understanding and responding to mitigate adverse effects of trauma exposures on individuals, families, groups and populations and to promote resilience, recovery and post-traumatic growth. The over-arching goal is to acquaint students with rich perspectives on trauma across health and social sciences, humanities and practice disciplines to inform their capacity to respond to trauma as citizens, professionals and scholars.

Students from all U-M Schools and Colleges are welcome. Readings and assignment topics can be selected to meet program requirements.

About your professor

Professor Seng is a nurse-midwife with 25 years of experience teaching, researching and providing clinical expertise on trauma and post-traumatic stress.

Send questions to jseng@umich.edu.
HS 807–Management and Analysis of Large U.S. Health Data
Matt Davis, Ph.D., MPH
Associate Professor

Credits: 4
Prerequisites: None

About this course
This graduate course provides a general overview of the principles, concepts and methods of data management and analysis of large sources of national health data. Students will be guided through exercises designed to provide hands-on experience with a focus on leveraging publicly available data to answer health-related questions. Students will become proficient at data management, analysis, and designing an analytic workflow in order to examine a relationship between an exposure and health outcome. Students will also be introduced to complex survey design methods, common approaches to building statistical models, and methods of risk adjustment.

About your professor
Dr. Davis is a health services researcher who has additional training in data science. His research focuses on leveraging large sources of data to study important policy-relevant issues. He has made several important contributions to a variety of areas including the identification of dietary sources of arsenic exposure in the U.S. population, studying national use of health services over time for nonspecific back pain, and the development of methods to use social media data to measure social support and public opinion.