2019 FALL ELECTIVES
Register today for your undergraduate and graduate courses at U-M Nursing
# TABLE OF CONTENTS

- **HS 225: Global Perspectives on the HIV and AIDS Epidemic | 3**
  Provides an overview of the social and behavioral factors that influence the transmission and prevention of HIV and AIDS worldwide.

- **NURS 420/NURS 521: Introduction to Global Health: Issues and Challenges | 4**
  Introduces student to global health concepts and the organizations working to advance health care internationally.

- **HS 529: Developing Sexual and Reproductive Health Programs for Resource-Limited Settings | 5**
  Examines the process of program planning and development process with specific focus on developing health program in resource-limited settings.

- **HS 650: Data Science and Predictive Analytics | 6**
  Aims to build computational abilities, inferential thinking, and practical skills for tackling core data scientific challenges.

- **HS 802: Epidemiology for Health Professionals | 7**
  Overview of the principles, concepts, and methods of epidemiologic research for students who have no prior experience in epidemiology.

---

More UMSN elective course information available at [nursing.umich.edu/electives](nursing.umich.edu/electives)

---

**Regents of the University of Michigan**
- Jordan B. Acker, Southfield
- Michael J. Behm, Flint
- Mark J. Bernstein, Farmington Hills
- Paul W. Brown, Ann Arbor
- Shauna Ryder Diggs, Grosse Pointe
- Denise Ilitch, Bingham Farms
- Ron Weiser, Ann Arbor
- Katherine E. White, Ann Arbor
- Mark S. Schlissel, ex officio

© 2019 by the Regents of the University of Michigan
About this course

Beginning in 1981 when the first case of HIV was diagnosed, the HIV and AIDS epidemic has dramatically altered the social, cultural, economic, political and demographic landscape worldwide.

The purpose of this course is to provide an overview of the social and behavioral factors that influence the transmission and prevention of HIV and AIDS. Topics to be 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

Massy Mutumba’s work on HIV focuses primarily on adolescents, with the goal of improving self-management of HIV, measurement and promotion of mental health and well-being including the integration of mental health and HIV.

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**

NURS 420 (2-3 cr): Introduction to global health concepts and the network of organizations working to advance health care internationally. Emphasis for this course is on the global burden of disease and determinants of health. It will provide a broad introduction to programs, systems and policies affecting global health. Students 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.

NURS 521 (3 cr): This course will explore the issues that affect health in low and middle resource countries from an interdisciplinary approach. Focus will be on global and public health concepts, health promotion and risk reduction in countries to which students plan to travel or from which they have returned. Those not traveling should use course assignments to explore how the issues discussed impact health in another country of interest to them. The purpose of the course is to broaden the student’s global perspective on health care issues with an emphasis on health equality.

**About your professor**

Megan Eagle’s clinical focus is primary health care services for underserved populations. She serves as a clinical preceptor to adult and family nurse practitioner students as well as a mentor to undergraduate students and students from other health professions. She is fluent in English and Spanish. She has lived and worked in Mexico and Ecuador. She is the deputy director of the School of Nursing’s PAHO/WHO collaborating center.
About this course

This course examines the process of program planning and development process with specific focus on developing health program in resource-limited settings. By the end of the course, students will be conversant with the elements of the planning process, including problem analysis, strategy/intervention selection, setting objectives, program implementation, and program evaluation. Important resource and cultural considerations along each step of the program planning and development process will be discussed. Students should also gain knowledge of several types of health interventions across the variety of settings, populations, and health challenges.

About your professor

Massy Mutumba’s work on HIV focuses primarily on adolescents, with the goal of improving self-management of HIV, measurement and promotion of mental health and well-being including the integration of mental health and HIV.

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 provides the general principles, concepts, techniques, tools and services for managing, harmonizing, aggregating, preprocessing, modeling, analyzing and interpreting large, multi-source, incomplete, incongruent, and heterogeneous data (Big Data). Students will learn about modern data analytic techniques and develop skills for importing and exporting, cleaning and fusing, modeling and visualizing, analyzing and synthesizing complex datasets. Collaborative design, implementation, sharing and community validation of high-throughput analytic work flows will be emphasized.

The course aims to build computational abilities, inferential thinking, and practical skills to tackle core data scientific challenges. It explores concepts in data management, processing, statistical computing, and dynamic visualization. Some prior quantitative experience will be necessary.

About your professor

Ivo Dinov is the Director of the Statistics Online Computational Resource (SOCR). He is an expert in mathematical modeling, statistical analysis, high-throughput computational processing and scientific visualization of large datasets. His applied research is focused on neuroscience, nursing informatics, multimodal biomedical image analysis, and distributed genomics computing. He also studies the intricate relations between genetic traits, clinical phenotypes and subject demographics of brain and heart related disorders. Dinov is evolving novel technology-enhanced pedagogical approaches for science education and active learning.
About this course

Epidemiology is the discipline devoted to investigating patterns, causes, and effects of disease in populations. This course will provide a general overview of the principles, concepts, and methods of epidemiologic research for students who have no prior experience in epidemiology.

About your professor

Matt 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. A specific interest of his is the application of data mining methods to health care claims data.