HOT out of the Autoclave!

Biology News

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Each January the Biology faculty offers a wide variety of exciting, informative and inter-cultural courses and this year is no exception. We hope you will enjoy this quick summary of what's going on this month.

3 Courses about Food: Local Food, Green Cuisine and Global Hunger

David Koetje and his students are exploring the local food movement, grappling with some of its challenges, and learning first-hand from local leaders how locavores are striving to make Michigan more food self-sufficient. Students are exploring sustainable options for eating products from local domesticated and wild animals, and learning the principles and practices of growing and processing local produce. They are also trying their hands at gardening, cheese making, canning, freezing, and dehydrating. Read more >>

Arlene Hoogewerf and Adam Wolpa (Art department) are giving their students first-hand experience in the preparation and enjoyment of plant-based foods. They are also reading and watching videos concerning nutrition, health and the social, spiritual, and moral issues that arise when we all sit down to the dinner table. In addition to lots of hands-on experience cooking, students are taking a fieldtrip to a restaurant for some hands-on experience eating and being in community around food.

Uko Zylstra is challenging his students to discover the root causes of global hunger and how is it linked with environmental health, economic health and social justice issues. By developing a clearer understanding of where our food comes from, students are evaluating the sustainability of our current food system on environmental, nutritional and social health.

3 Off-Campus Courses: Cambodia, New Zeeland & Australia, and Italy & England

David Dornbos, Leonard De Rooy (Engineering) and Penny Dykstra-Pruim (Languages) have students in Cambodia studying the root causes of abject poverty. They are learning about food production capacity, land use trends, availability of adequate water, education and health care. They are getting involved with non-governmental organizations involved in supporting the holistic transformation of communities. Students are seeing first–hand what the living conditions are in Cambodia for average citizens. Here is a link to their blog.

Curt Blankespoor, Amber Warners (Kinesiology) and Scott Vander Linde (Economics) traveling with a group of students in New Zeeland and Australia to experience local indigenous populations and explore the natural world. They are learning in national parks, forests, wildlife reserves and coastlines. They get to go snorkelling, hiking, swimming with dolphins, kayaking and whale-watching to learn about natural history, biogeography, ecological diversity and related economic, social and cultural contexts.

Hessel Bouma III and his class are learning how to travel through Europe on an economical budget using hostels and public transportation as they explore the lives and times of prominent scientists from antiquity through the Scientific Revolution and the Age of Enlightenment. Some of the people they are learning about are Galileo, Da Vinci, Newton, Darwin and Nightingale.

2 Environmental Courses: Exploring the Arts to Foster Creation Care and Winter Ecology

Dave Warners and Gail Heffner (Community Engagement) are asking their students to consider: How do the arts inform, challenge, and shape us to consider the need for creation care? How does our perception of beauty and ugliness contribute to the way we think about place? Can our sense of beauty promote unhealthy practices and erode creation's integrity? How and why do aesthetics vary among different cultures and how can this inform our understanding of beauty's potential to inspire and exhilarate? This class is actively engaged with the Center Art Gallery Exhibition by Mary Abma (Jan 4-Feb 18).

Keith Grasman and his students are hoping for more winter weather as they examine the unique abiotic conditions and biological adaptations that determine ecological processes under winter conditions. Interpretation of scientific literature, study design, and the collection, analysis, and presentation of data are being emphasized. These biology majors develop and conduct research projects related to the winter biology of animals and plants. This course includes extensive field work on Calvin's ecosystem preserve and field trips to local sites.

5 Medical Courses: Eugenics, Chinese Medicine, Tuberculosis, Communication Neuroscience and Pathophysiology

John Wertz, Amy Wilstermann, Randy DeJong and Serita Nelesen (Computer Science) have 64 students taking their Eugenics course. They are learning about the rise of eugenics, its original hopes, subsequent fall, and re-invigoration in the genomic era. Students are learning to recognize eugenics in all of its forms, and are evaluating its implications in political, socio-economic, moral, and religious contexts. They are visiting the Holocaust Museum in Detroit.

Anding Shen's students are learning the theory and practice of Traditional Chinese Medicine and observing patient treatments in local clinics. They are also discussing Chinese history, philosophy and culture, as Chinese medicine is based on a wider cultural background of the Chinese people. Through instructions by native Chinese instructors, as well as field trips to Chinese restaurants, stores, churches and Chicago Chinatown, students are having first-hand experience with Chinese culture.

Yaw Bediako's class provides a historical perspective of the impact of Tb on human health, an analysis of past and present public health strategies used to control this disease, and explores what needs to be done to confront new challenges posed by Tb. Students are investigating the biological, socio-economic and geo-political factors that contribute to shaping the current face of Tb, paying particular attention to how poverty impacts efforts to control Tb disease both within the United States and internationally.

Pete Tigchelaar and Emily Helder (Psychology) have their students exploring the structure and function of the brain and spinal cord and their link to various neurological and developmental disorders. Topics of study include microscopic anatomy, blood supply to the brain and spinal cord, sensory systems, the cerebellum, and subcortical and cortical regions.

Rich Nyhof is teaching Pathophysiology by presenting the etiology, pathology, and prognosis of many human diseases using the classic organ system approach and case studies.