Lance Yonkos, PhD
ENST 233: Introduction to Environmental Health

The field of environmental health encompasses those aspects of the natural and built environment that affect human health and well-being. According to the World Health Organization:

> "Environmental health includes both the *direct* pathological effects of chemical, radiological, and biological agents on human health, as well as the *indirect* effects on health and well-being of the broader physical, psychological, social, and cultural environment…"

Thus, environmental health is concerned not just with environmental exposures to chemical, biological, and physical hazards, but also with the availability and sufficiency of food and water, housing and medical care, and especially to the disproportionate burden "at risk" populations carry as a result of compromises in social equity.

The broad umbrella that is environmental health essentially covers all interactions between and among humans and their environment. For this reason *ENST 233: Introduction to Environmental Health* is well suited for discussing issues of sustainability as virtually every lecture has relevant content. Examples include:

- The ever-increasing burden our expanding human population is placing on earth's finite natural resources—the most evident being the looming *Malthusian Correction* if/when food production falls short of human needs

- The degradation of land, air, and water through fossil fuel combustion to satisfy our mounting energy consumption needs

- The ubiquity of persistent environmental contaminants, a legacy of intense and often careless industrialization

- Globalization allowing transportation of people and goods but also pests, pathogens, and invasive species across oceans and continents in hours to days rather than centuries to millennia

- The deterioration of our public health infrastructure—most notably in lesser developed countries where need is intensifying due to explosive population growth and rapid urban migration

- …and all of these challenges occurring under the specter of uncertainty brought about by climate change

The course is designed for a freshman audience and has no prerequisites. For many this will be their first encounter with ideas of sustainability. Linking the components of sustainability—environment responsibility, economic health, and social justice—to so many issues that directly

impact their lives and futures has the potential to profoundly affect their worldview and hopefully their future actions. Equally important is the sense of empowerment they can gain through a fundamental understanding of sustainability. *Introduction to Environmental Health* necessarily explores the many challenges we face as a consequence of our current consumptive approach to resource utilization. This constant barrage of challenges leaves students with the bleak opinion that our situation is hopeless and that there are no answers. Incorporating sustainability concepts into our discussions allows us to explore solutions and find our way forward (or perhaps backwards) to a place of environmental balance.

Changes to the Course

- The tenets of sustainability will be presented in the introductory lecture as part of an overview of material to be covered and class expectations. It will be stressed at this time that *sustainability* should be included in students' considerations of all environmental health issues brought up in class.

- Topic lectures, where applicable, will include content pertinent to sustainability (e.g., Ecosystem Fundamentals, Human Populations, Environmental Degradation, Food Safety and Security, Toxicity and Toxins, Water and Wastewater, etc).

- A Sustainability Student Advisor from the UMD Office of Sustainability will give an interactive guest lecture providing students an opportunity to explore the relationships between sustainability and climate change and especially how these changes may affect their studies, their career prospects, and their futures.

- Readings from *"Choices for Sustainable Living"* will be assigned for class discussion.

- Students will be encouraged to include elements of sustainability in their group oral presentations and topic papers.