



# THE “I” SERIES: SIGNATURE COURSES FOR THE PILOT FOR GENERAL EDUCATION AT THE UNIVERSITY OF MARYLAND, SPRING 2010

## Issues, Imagination, Intellect, Investigation, Inspiration, Innovation, Implementation

“I” series courses carry CORE credit. The appropriate categories are noted next to the title of the course.

### **Acting Human: Shakespeare & the Drama of Identity. Taught by Professor Maynard (Sandy) Mack, Jr. CORE Literature (HL) course.**

Through an in-depth reading of key plays by Shakespeare, we will examine what acts of knowledge, understanding, imagination & courage are required for people to become complete human beings. Surrounded by outside forces—economic, political & social—Shakespeare’s characters find (& fail to find) dramatic solutions to the challenge of establishing an autonomous human identity & offer us models we can learn from.



Professor Mack, Department of English, is one of Maryland’s most distinguished citizens & honored teachers. His interests focus on Medieval & Renaissance literature. His excellence in the classroom earned him the distinction of CASE Professor of the Year in 1993. He has served as Director of both the University & the English Honors programs & as Associate Dean for Undergraduate Studies.



### **The Chesapeake Bay Ecosystem: Intersection of Science, Economics & Policy. Taught by Professor Douglas Parker & Professor Douglas Lipton. CORE Life Sciences (LS) course, & also a Marquee Course in Science & Technology.**

The Chesapeake Bay is one of the most studied & monitored ecosystems in the world. Professors Lipton & Parker focus on science that informs the development of policies to restore the Chesapeake system to a healthier status. **The Chesapeake Bay Ecosystem** integrates what is known about biological & physical properties of the ecosystem with current understanding of life in the Chesapeake region. Students will discuss measures such as reaching nutrient reduction goals, restoring healthy fisheries in the bay, & achieving Bay restoration goals.

Professor Parker, of the Department of Agricultural & Resource Economics, researches environmental economics, the economics of non-point source water pollution control, & the economics of regulation & water quality in the Chesapeake Bay. Professor Parker also directs The Mid-Atlantic Water Program, a USDA funded coalition of nine universities. He teaches classes in natural resource policy & the Chesapeake Bay.



Professor Lipton is a faculty member in the Department of Agricultural & Resource Economics. His research focuses on fisheries, seafood, marine recreation, & non-market valuation. Professor Lipton is also Program Leader of the Sea Grant Extension Program, which focuses on policies affecting the important commercial & recreational resources of the Chesapeake Bay.



### **Collisions in Space: The Threat of Asteroid Impacts. Taught by Professor Melissa Hayes-Gehrke. CORE Physical Sciences (PS) course.**

Worried? Can’t sleep? **Collisions in Space** evaluates the threat of asteroid impacts with the Earth using current knowledge of asteroid characteristics & orbits. The merits of possible defense plans will be discussed, as well as the budgetary & political concerns associated with implementing any such plan.

Professor Hayes-Gehrke, of the Department of Astronomy, researches open star clusters, & the monitoring of various open star clusters’ variability due to stellar activity. She has a special affection for non-science majors, teaching the popular “Introduction to Astronomy” & “Stars & Stellar Systems” to packed classrooms.

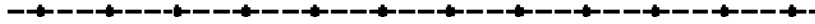


**Cross-examining Climate Change. Taught by Professor Nathan Hultman.** CORE Behavioral & Social Sciences (SB) course.

**Cross-Examining Climate Change** equips students to understand the risks & scientific uncertainties of climate change & prepares them to participate in perhaps the most important political debate of the twenty first century. We will examine how science affects the debate on environmental values & how such differences lead to clashes in ideology that drive policy discussions.



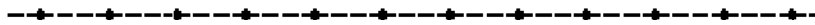
Professor Hultman is a member of the faculty of the School of Public Policy & Associate Director of the Joint Global Change Research Institute. His research focuses on international climate policy, decisions about climate risks in policy & investment, & emerging markets for carbon & greenhouse gases. He has participated in the UN climate process starting with the Kyoto meeting of 1997. Professor Hultman teaches graduate classes in climate, energy technology & policy, & global environmental problems. One former student described him as "an amazing instructor."



**Disability: From Stigma & Sideshow to Mainstream & Main Street. Taught by Professor Peter Leone.** CORE Behavioral & Social Sciences (SB) & Diversity (D) course.

**Disability** explores the cultural, educational, & medical roots of difference & examines the impact of cultural & technological changes on individuals traditionally identified as disabled. It develops a broad understanding of the concept of "disability" & the emerging technologies that shape contemporary understanding of this phenomenon & the lives of those considered disabled.

Professor Leone, of the Dept of Special Education researches how the role of environment & culture shapes behavior disorders, & stresses a multidisciplinary pedagogical approach to programs for troubled & troubling youth. He teaches classes on behavioral disorders, school violence, & classroom management, as well as supervising field studies in special education. Students described him as an "amazing teacher" who "really cares about his students."



**Engineering in the Developing World. Taught by Professor David Lovell.** CORE Interdisciplinary & Emerging Issues (IE) course.

**Engineering in the Developing World** will address the practical ways to improve health and well being in the Third World through engineering solutions. Non-engineering students will learn the basic principles behind systems for supplying the necessities of life—water, food, shelter, hygiene, energy—making comparisons with the methods and lessons learned in the developed world. The course will cooperate closely with Maryland's student chapter of "Engineers without Borders."



Professor Lovell teaches in the Department of Civil and Environmental Engineering and works with the Institute for Systems Research. His research, funded in part by NASA and the FAA, focuses on geometric methods of transportation facility design, air traffic management, and dynamic retroreflective and electrophoretic materials. His courses on the design of experiments and the fundamentals of structural analysis have received general commendation.



**Engineering Issues in Medicine. Taught by Professor Wesley Lawson & Professor Romel Gomez.** CORE Physical Sciences (PS) course & also a Marquee Course in Science & Technology.

Electronic & computer technologies have revolutionized medical diagnosis & treatment in the twenty-first century. CT machines, MRI, ultrasound imaging, pacemakers & defibrillators have become ubiquitous, & systems based on nanotechnology soon will be commonplace. **Engineering Issues in Medicine** explicates rudimentary principles that explain workings of the human body and important medical devices that save & enrich human lives. Students will focus on mathematics, physics & engineering concepts at a level suitable for non-science majors.

Professor Wesley Lawson, Associate Chair for Undergraduate Education in the Department of Electrical & Computer Engineering, performs research in the areas of medical device development & engineering education. In 2006, Professor Lawson was named to Keystone: The Clark School Academy of Distinguished Professors, which fosters exemplary undergraduate teaching skills & commitment to excellence in fundamental engineering courses.



Professor Gomez's research interests lie in the areas of magnetism, nanotechnology & biochemical detection. Professor in the Department of Electrical & Computer Engineering, Professor Gomez is a Keystone Professor & teaches classes in circuit theory, electronics, & quantum phenomena in electrical engineering. He has received several awards, including a National Science Foundation CAREER award in 2000.

## Genetically-Modified Humans: Physical Performance in the Post-Genomic Era. Taught by Professor Stephen Roth. CORE Behavioral & Social Sciences (SB) & Diversity (D) course.

In this post-genomic era, can society pursue optimal health & maximal physical performance without changing what it means to be human? The remarkable advances in genome technologies offer both promise & peril for the future of human health & physical performance. Through investigations of genetic enhancement, personalized medicine, genetic screening & talent selection, students in **Genetically-Modified Humans** analyze the many issues related to the use & manipulation of the human genome.

Professor Roth teaches in the Department of Kinesiology. His research focus on genetic variation in interaction with the environment & its influences on various phenotypes in the process of aging. He serves as Director of the Kinesiology Honors Program & teaches courses on Genetic Aspects of Health & Fitness.



## Greening Cities: Who Wins, Who Loses, & Who Cares? Taught by Professor Marla McIntosh. CORE Interdisciplinary & Emerging Issues (IE) course.

Can people, plants, & animals coexist in cities? If people only think of their immediate needs, what happens to cities? By studying urban ecosystems, & the relationship between people, plants, natural resources & the built environment, **Greening Cities** will guide students to discover ways that cities work & how they can be transformed into better environments.



Professor McIntosh of the Department of Plant Science & Landscape Architecture researches sustainable ecosystems, germplasm conservation, & women in sciences. She has taught at the University of Maryland since 1979, serving five years as the Associate Dean of the College of Agriculture & Natural Resources. Her success as both an educator & a researcher led to the award of a Distinguished-Scholar Teacher in 1992. Professor McIntosh is also a Fellow of the American Association for the Advancement of Science.



## HIV/AIDS in a Global Perspective. Taught by Professor Sangeetha Madhavan. CORE Behavioral & Social Sciences (SB) & Diversity (D) course.

**HIV/AIDS in a Global Perspective** speaks to the critical matters of the prevention & treatment of this world-wide pandemic. It provides students with the tools to interpret the data & information that are misused in the popular press, enabling students to compare & contrast the challenges that the disease poses, especially in the United States & Africa.

Professor Madhavan is member of the African American Studies Department & works at the Maryland Population Research Center. She is among the world's leading experts AIDS. Her research focuses on sub-Saharan Africa & explores children's well-being, household composition & family structure, as well the social context of the development of HIV/AIDS.



## The [In] Active City: The Physical Cultures of Metropolitan Baltimore. Taught Professor David Andrews. CORE Behavioral & Social Sciences (SB) course.

Baltimore has been described as "the fittest city in America." **The [In]Active City** evaluates this claim, by identifying & analyzing the diverse experiences, patterns, & structures of physical [in]activity in metropolitan Baltimore, with the aim of understanding physical cultures necessary to create a healthy society.



Professor Andrews studies Kinesiology in the School of Public Health. His research utilizes various theories & methods drawn from sociology & cultural studies in critically analyzing both the social structures, & embodied experiences, of contemporary physical culture (including sport, exercise, health, & movement related practices).



## Information 3.0: Exploring Technological Tools. Taught by Professor Ronald Yaros. CORE Interdisciplinary & Emerging Issues (IE) course.

Overwhelming amounts of data from an increasing number of technologies are instantly available at work, school, home, & everywhere in between. From social networking to personal health information, the challenge is information management & technological literacy. **Information 3.0** investigates how men & women seek, select, share & learn from various types of information plus the benefits & consequences of these new tools.

Professor Yaros, is a specialist in multi-media in the Merrill College of Journalism. He has had a long & varied career in journalism, broadcasting, & business before entering the academy. He began his career in radio & television, before founding an educational software company that distributed curricula & software to teach about family wellness, the environment, & meteorology. More recently, Professor Yaros's research & teaching focus on multimedia journalism, science & health communication.



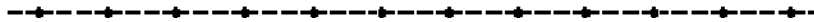
## Managing Natural Disasters: Hurricanes, Floods, Earthquakes, Tornadoes, Tsunamis, & Fires. Taught by Professors Gerry Galloway & Ed Link. CORE Interdisciplinary & Emerging Issues (IE) course.

**Managing Natural Disasters** will examine natural disasters & how the hazards they pose for us can be managed through a combination of engineering & non-engineering approaches. We will study how risks can be estimated & assessments used to improve public & government decisions to manage hazards & shield populations from their consequences.



Professor Gerry Galloway is the Glenn L. Martin Institute Professor of Engineering in the Department of Civil & Environmental Engineering. He was awarded a lifetime achievement award by the American Society of Civil Engineers in 2008. Galloway has spent his professional career analyzing the forces that shape & develop national policy related to water resources issues. A former Army Brigadier General, Professor Galloway teaches courses on disaster preparation & management & water resources management.

Professor Link is Senior Research Professor in the Department of Civil & Environmental Engineering & Director of the Interagency Performance Evaluation Task Force. Professor Link led the inquest into the preparations & response to Hurricane Katrina & his work garnered a nomination for Engineering News Record's Award of Excellence for 2006. Professor Link is also a senior fellow with the University's business school.

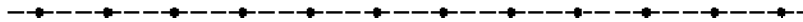


## Physics for Decision Makers: The Global Energy Crisis. Taught by Professor Daniel Lathrop. CORE Physical Sciences (PS) course & also a Marquee Course in Science & Technology.

Global warming, shrinking oil supplies, biofuels, nuclear power--all are concerns addressed in **Physics for Decision Makers**. This course is about the physics of energy & its production & consumption in society & also about making scientific decisions about what's true -- is the planet really warming? How does science interact with politics & economics as decisions are made about policies? Student work includes an energy audit, regular discussions, an online group research project, & visits to the U.S. Congress.



Professor Lathrop, Department of Physics, researches geophysical & astrophysical magnetic fields & turbulence. He teaches classes on electricity & magnetism & applied dynamics, as well as the energy crisis. Professor Lathrop is also the Director of the Institute for Research in Electronics & Applied Physics.



## Playing the Market: Managing Risk & Using Technical Analysis. Taught by Professors Eric Wish & Carl Lejuez. CORE Behavioral & Social Sciences (SB) course.

**Playing the Market** provides students with a way to use their intellect & imagination to design & implement rules for managing a \$100,000 virtual stock portfolio as they investigate the critical issue of their ability to tolerate & control their risk in the stock market.

Professor Eric Wish, Director of the Center for Substance Abuse Research, is a social psychologist with over forty years of stock trading experience. In 2005, Professor Wish finished fifth in the Professors' Division of the Barron's Stock Challenge. Professor Wish's research focuses on the epidemiology of drug use, program evaluation, and the validity of self-reported drug use.



Professor Carl Lejuez, Director of the Center for Addictions, Personality, & Emotion Research & an expert in the area of the measurement & correlates of risk. His current clinical & research interests focus on the development of laboratory analogues of addiction, & their use to better understand the active ingredients of treatment. Professor Lejuez has recently worked on the creation & validation of a behavioral task to predict adolescent risk-taking behaviors.



## The Power of Musical Performance in Social Engagement. Taught by Professor Boden Sanstrom. CORE History/ Theory of the Arts (HA) course.

Music has often been a catalyst for creating communities & even for social change. **The Power of Musical Performance** explores the critical role music plays in our lives, asking how & why musicians & their fans become socially engaged through music. Through attending live performances & participating in conversations with performers, we will discover how music builds communities & mediates social change.

Professor Sandstrom is a lecturer in the Department of Music, Division of Musicology & Ethnomusicology focusing on popular music & women's music in global perspective. She is co-producer of the documentary *Radical Harmonies* about an underground women's music network that emerged during the Second Wave of feminism. She developed courses on sound engineering & has recently won the Philip Brett Award sponsored by the Gay & Lesbian Study Group of the American Musicological Association for exceptional musicological work.



**Race, Genomics, & Human Evolutionary Theory.** Taught by Professor Joelle Presson. CORE Life Sciences (LS) & Diversity (D) course.

**Race, Genomics, & Human Evolutionary History** covers fundamental concepts in chemical, cellular, genetic, molecular, & evolutionary biology required to understand genetic diversity, its origins, & its consequence. Woven into the course will be discussions of the historical & cultural meanings of “race,” & how they do or do not relate to the new genomic understanding of human genetic relationships.



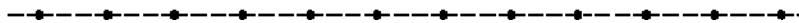
Professor Joelle Presson coordinates the Biological Sciences Undergraduate Degree Program, including curriculum development & academic advising. Her work as assistant dean includes the “Science in the Evening” program for post-baccalaureate students, & academic outreach beyond the university. Professor Presson’s research has focused on understanding the mechanisms underlying hair cell production in postembryonic vertebrates.



**Recognizing Homophobia in the New Millennium.** Taught by Professor J. V. Sapinosa. CORE Behavioral & Social Sciences (SB) & Diversity (D) course.

Students in **Recognizing Homophobia** will examine evolving forms of homophobia that continue to thrive & grow in the American society. They will examine homophobia in popular culture & state & federal policies, as well as various queer subcultures & religious & ethnic communities.

Professor Sapinosa is a lecturer in the Lesbian, Gay, Bisexual & Transgendered Studies Program & serves as the program’s Assistant Director. Professor Sapinosa teaches introductory courses in the LGBT Studies Program. His research explores the intersections of Queer Studies & Asian American experiences through the use of feminist analyses.

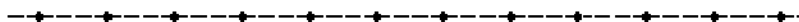


**Social Networking: Technology & Society.** Taught by Professor Jennifer Golbeck. CORE Interdisciplinary & Emerging Issues (IE) course.

The proliferation of social media—social networking websites, blogging & microblogging, & other forms of online interaction & content generation—has introduced a powerful tool for people to communicate & share information. **Social Networking** describes methods for analyzing & understanding how people use these technologies & their societal implications.



Professor Golbeck’s research focuses on social networks, trust, web science, artificial intelligence, & human computer interaction, emphasizing the interactions between these mediums. She is co-director of the Human-Computer Interaction Lab, which aims to transform the experience men & women have with new technologies through understanding user needs & designing & evaluating interfaces accordingly. Her classes in information management, library science, & computer science, received accolades as “wonderful” & “fantastic.”



**Specialty Crops: Plantation Agriculture to Globalization.** Taught by Professor Christopher Walsh. CORE Life Sciences (LS) course.

We are what we eat. Do you care what you eat and where it is grown? Will growing fresh fruits and vegetables in developing countries improve the economy of those countries, while it fills the need for healthy lifestyles in developed nations? **Specialty Crops** will explore the worldwide food engine through the study of fruits and vegetables that play a part in our daily lives.

Professor Walsh served for fifteen years as the Undergraduate Program Coordinator for the Department of Plant Sciences and Landscape Architecture. His research focuses on fruit and vegetable production and food safety. He has been awarded “Excellence in Instruction” citations from the Agricultural Alumni Association of the University of Maryland and received awards from the American Society for Horticultural Science for his research and education programs.

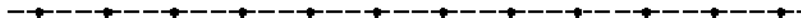


**The Sustainable City: Opportunities & Challenges. Taught by Professor James R. Cohen.** CORE Interdisciplinary & Emerging Issues (IE) course.

**The Sustainable City** will explore ways to make cities more sustainable in terms of environmental protection, economic opportunity, & social justice. Cities now consume 75% of the world's energy, emit 80 percent of its greenhouse gasses, & have large disparities in economic vitality & quality of life. Students will explore ethical issues related to these issues, & develop & use skills in critical analysis & systems thinking to analyze sustainability-related problems & potential solutions.



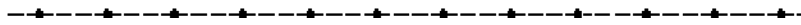
Jim Cohen, Director of the Urban Studies Planning & Program in the College of Architecture, Planning & Preservation, teaches & conducts research in land use planning, growth management, & planning history. He was co-facilitator of the Smart Growth Leadership Program (a non-partisan center for research & leadership training on smart growth & related land use issues). He has also taught numerous studio courses in a range of communities.



**Weather & Climate. Taught by Professor Robert D. Hudson.** CORE Physical Sciences (PS) course & also a Marquee Course in Science & Technology.

**Weather & Climate** investigates the influence of weather & climate on daily activities, leisure pursuits, transportation, commerce, agriculture, & nearly every aspect of life. The course addresses issues including the greenhouse effect, severe weather, global temperature patterns, & air pollution. Lectures provide the basic scientific knowledge needed to address weather & climate issues. In discussion sections, students explore the implications of weather & climate trends on their daily & future lives through online group research projects.

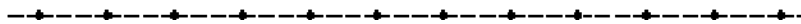
Professor Hudson, Department of Department of Atmospheric and Oceanic Science, researches the derivation of ozone column density, ozone profiles, aerosol concentration, & sulfur dioxide in the troposphere & stratosphere from ultraviolet radiances observed from satellites. He teaches classes on meteorology & weather & climate. For twenty years Professor Hudson was Project Manager in Environmental Effects Project Office at NASA/Johnson Space Center.



**What is Religion? Taught by Professor Maxine Grossman.** CORE Other Humanities (HO) & Diversity (D) course.

Learn more about world religions & the study of religion through the lens of history, sociology, psychology, & theology. Students will study a variety of religious traditions to address fundamental questions about the nature of religious experience.

Professor Grossman studies religion along the intersections of history, literature, & popular culture. She has published essays ranging broadly from images of God in country music & perceptions of the Dead Sea Scrolls. She is a member of the Religious Studies program of the College of Arts & Humanities & teaches courses on ancient Judaism, the Dead Sea Scrolls, gender in contemporary religious culture, & alternative religious movements.



**Why Good Managers Make Bad Decisions. Taught by Professor Mark Wellman.** CORE Math or Formal Reasoning (MS) course.

Why do smart managers make flawed decisions? Why do managers keep believing they have made the right choice, even with disastrous results staring them in the face? **Why Good Managers Make Bad Decisions** will address how evidence-based management & other decision making tools can be used to uncover hidden assumptions in the corner offices of great corporations.



Professor Mark H. Wellman is Tyser Teaching Fellow in the Department of Management & Organization. His research focuses on global strategy & organization, human capital, organizational change, human resources management, & especially, career success. Professor Wellman has more than years of teaching & administrative experience & currently serves as director of the Business, Society, & Economy program of College Park Scholars. In 2008, he won both the Allen J. Krowe Award for Teaching & the Outstanding Faculty Educator Award.