Huazhong-Auburn Institute Summer 2023 Teaching Program

Course 1: Conversational English

Instructor: Dr. Benita Dilley.
Credits: 1-credit (16 contact hours).
Time: T, TH, SA 8:00-9:05 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: None.
Description: This class focuses on helping students develop and practice English language skills that will be useful for traveling, living, studying, and working in the United States. Classes will focus on improving conversational ability while emphasizing listening comprehension skills, the proper use of English grammar, vocabulary development, common idiom usage, and practice in pronunciation and intonation. Smaller class sizes will allow students the ability to practice their English skills and receive personalized feedback from the instructor.

Course 2: Conversational English

Instructor: Dr. Benita Dilley.
Credits: 1-credit (16 contact hours).
Time: T, TH, SA 9:30-10:35 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: None.
Description: This class focuses on helping students develop and practice English language skills that will be useful for traveling, living, studying, and working in the United States. Classes will focus on improving conversational ability while emphasizing listening comprehension skills, the proper use of English grammar, vocabulary development, common idiom usage, and practice in pronunciation and intonation. Smaller class sizes will allow students the ability to practice their English skills and receive personalized feedback from the instructor.

Course 3: Engineering Design Thinking

Instructor: Dr. Mark Dougherty.
Credits: 1-credit (16 contact hours).
Time: M, W,F 20:00-21:05 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: None.
Description: The topics in this class will focus on teamwork, communication, safety engineering, and economic analysis needed to complete most any type of engineering design project. You will gain experience by developing preliminary solutions to a design problem of your choice - one that fits your career and personal interests. Instructors and peers provide feedback and evaluation for each student's preliminary design solution.

Course 4: Intercultural Communication

Instructor: Dr. Benita Dilley.
Credits: 2-credits (32 contact hours).
Time: M, W, F 20:00-22:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: 2nd year and higher.

Description: This course is designed to provide you with an understanding of the fundamental topics, theories, and concepts central to the study of intercultural communication. We will begin with a general discussion of broad intercultural concepts including the history of intercultural communication, cultural dimensions, and ethnocentrism. Then, students will slowly move into more complex topics, including intercultural conflict, intercultural relationships, and cultural adaptation, as well as others.

Course 5: Introduction to Logic

Instructor: Dr. Antonio Capuano
Credits: 2-credits (32 contact hours)
Time: M, W, F 20:00-22:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: None. 2
Description: Logic has been one of the main branches of philosophy since Aristotle; it revolutionized the foundations of mathematics in the 20th century. Logic has also played an important role in the investigation of language as the basis for formal semantics in linguistics and played a fundamental role in computer science. In this course, students will acquire the basic notions of inductive and deductive logic, probability, decision theory, and the scientific method.

Course 6: Operations Research

Instructor: Dr. Patricia Duffy.
Credits: 2-credits (32 contact hours).
Time: M, W, F 20:00-22:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: Graduate students.
Description: Introduction to mathematical programming, emphasizing modeling, interpretation and problem analysis. The primary focus of the course will be on linear programming methods including integer programming and MOTAD modeling. Access to Microsoft Excel is required.

Course 7: Food and Power

Instructor: Dr. Xaq Frohlich.
Credits: 2-credits (32 contact hours)
Time: M, W, F 20:00-22:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: None.
Description: This course looks at how past and present transformations in traditional foodways, markets and food infrastructures have shaped food politics today. It will explore a variety of debates about food and agriculture, and look beneath the surface of these debates at the deeper social and cultural forces driving them.

Course 8: Introduction to Ethics

Instructor: Dr. Loxley Compton.
Credits: 2-credits (32 contact hours)
Time: M, W, F 20:00-22:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: None.
Description: Major ethical theories from the history of philosophy, their foundations in epistemology and metaphysics, and their extension into social thought.

Course 9: Business Communications

Instructor: Dr. Sally Spalding.
Credits: 2-credits (32 contact hours)
Time: T, TH, SA 8:00-10:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: 2nd year or higher.
Description: Communication in modern organizations, emphasizing practice in areas such as interviewing, managing meetings and conducting professional presentations.

Course 10: Introduction to Anthropology

Instructor: Alyssa White.
Credits: 2-credits (32 contact hours)
Time: T, TH, SA 8:00-10:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: None
Description: Anthropology is the exploration of human evolution and cultures. This course surveys the four subfields of Archaeology, Biological Anthropology, Cultural Anthropology and Linguistic Anthropology. We will see how anthropology provides a broad framework for understanding and solving pressing social problems in the world today.

Course 11: Genetics and Genomics

Instructor: Dr. Bob Locy.
Credits: 2-credits (32 contact hours)
Time: T, TH, SA 8:00-10:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: Graduates with background in biology.
Description: An introduction to the major concepts of genetic analysis as supported by genomic concepts. Major topics to be presented are: 1) Mendelian genetics, 2) Chromosomal basis or inheritance, 3) Genes, DNA, RNA, and Protein, 4) Population genetics and genomics, 5) Quantiative genetics, 6) Control of gene expression - transcription and translation, 7) Genomes, transcriptomes, proteomes, and metabolomes, and 8) Applications of Genomic biology – metagenomics & pharmacogenomics. The course will involve lectures and problem solving in class, as well as outside reading and problem solving.

Course 12: Reproductive Science and Health

Instructor: Dr. Juming Zhong.
Credits: 2-credits (32 contact hours)
Time: T, TH, SA 8:00-10:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisite: Undergraduate or graduate student with background in biology.
Description: This course consists of 16 content units to learn the function of the reproductive system in animals and humans. It also includes some brief health highlights related to animal and human health.

Course 13: Global Politics and Issues

Instructor: Dr. Matthew Clary.
Credits: 2-credits (32 contact hours)

Time: T, TH, SA 8:00-10:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisites: None.
Description: An exploration of significant issues of global importance today, including the challenges posed by the globalization of international society, the global response to climate change, terrorism, and international conflict, as well as the tools used to govern international relations, including international organizations such as the United Nations and international law.

Course 14: Technical Writing

Instructor: Dr. Patricia Simpkins.
Credits: 2-credits (32 contact hours)
Time: T, TH, SA 8:00-10:30 Beijing time
Teaching Method: Online lectures through Zoom and Canvas
Prerequisite: 3rd year or higher with good written English skills.
Description: Writing for engineering, scientific and technical fields. Students read critically and communicate effectively in the genres and styles of discourse appropriate to the professional communities that students join after graduation and learn writing in English for genres such as e-mails, letters, and reports. Students focus on the importance of preparing accurate and relevant information with a specific audience and purpose identified.

Course 15: Introduction to Smart Agriculture

Instructor: Dr. Bill Batchelor.
Credits: 1-credits (16 contact hours)
Time: M, W, F 9:00-10:30
Teaching Method: Live on the Huazhong Agricultural University campus
Prerequisite: None.
Description: Topics will include farming at different scales, yield monitors, global positioning systems, yield variability, soil sampling, remote sensing, unmanned aerial vehicles, and variable rate fertilizer and irrigation.

Course 16: Environmental Soil Physics

Instructor: Dr. Thorsten Knappenberger.
Credits: 2-credits (32 contact hours)
Time: M, W, F 9:00 – 12:00
Teaching Method: Live on the Huazhong Agricultural University campus
Prerequisite: 3rd and 4th year undergraduate and graduate students.
Description: Soil physical properties, transport of water, heat, and gas through soils. Soil-plant-atmosphere-continuum and processes in agricultural, urban, and natural land uses. Field instrumentation, measurement, and assessment of physical properties. Special emphasis is given to the role of water in soils as soil water affects other physical properties such as thermal, gas, mechanical, etc.

Course 17: Microbiology in Biotechnology

Instructor: Dr. John Beckman.
Credits: 2-credits (32 contact hours)
Time: M, W, F 9:00 – 12:00
Teaching Method: Live on the Huazhong Agricultural University campus
Prerequisite: 3rd and 4th year undergraduates and graduate students.

Description: This course will outline the basics of microbiology with a focus in biotechnology applications. The course will begin with microbial model systems of Escherichia coli and Saccharomyces cerevisiae and advance to applied microbial biotechnologies of Wolbachia pipientis and Bacillus Thuringiensis. We will discuss microbial physiology, genetics, and evolution.