CORE CURRICULUM SCIENTIFIC WORLD (CCS)

CCS 153 | SCIENCE FOR CITIZENS | 2 quarter hours (Undergraduate)
Students will learn basic knowledge of science as they engage in activities that are connected to their everyday life. They will explore their natural ecosystem and be able to describe various functions. They will engage in the scientific method through observations, hypotheses, data collection and basic data analysis. Students will apply their critical thinking based on the scientific method to local environmental or science related issues/events. (2 quarter hours)

CCS 204 | URBAN GROWTH AROUND THE GLOBE | 4 quarter hours (Undergraduate)
This course will analyze the interrelationships among population, the environment, and economics. Past, current, and potential future policies relative to these issues will be evaluated.

CCS 208 | ISSUES IN SCIENCE AND RELIGION | 4 quarter hours (Undergraduate)
This course develops students’ understandings of the scientific and religious constrictions of self in the modern world (natural and social). The institutions and bodies of knowledge comprising science, religion, and their overlap are critically analyzed. Key historic debates are examined, for example: the Vatican’s trial of Galileo for his teachings of a heliocentric universe; the controversial reception of Darwin’s theory of evolution; and the 2001 U.S. policy on embryonic stem cell research. Through such analyses, the course develops students’ skills in making ethically-informed decisions and thus recognizing their roles in the public debates involving the intersection of science and religion.

CCS 211 | GAMIFICATION FOR TRAINING | 4 quarter hours (Undergraduate)
This course is geared to be a survey course covering five key applications of more advanced tools for work and leisure, it also presents techniques to address challenges that always arise in learning new technologies. (No advanced technology skills are required.) The five key applications are creating websites, video enhancing with Screencast or Camtasia, Animation, introduction to e-game designs, and delivering applications using mobile delivery. The assignments for this course will provide opportunities to learn how to use these five applications but will also require students to use critical problem solving skills for these apps so that what they learn in this course that can be transferrable across the constantly growing array of new technologies.

CCS 212 | URBAN ENVIRONMENTAL SCIENCE | 4 quarter hours (Undergraduate)
The study of environmental science uncovers the relationship between the built environment and the natural processes of the earth. This includes human interactions and the impact on habitats, plants, animals and those non-living entities that we rely on such as water, air and soil. An examination of the dynamics of human population growth and migration, food production and climate issues, chemical toxicology and health, waste and sustainability, energy production and consumption will illustrate how these issues are connected by increasing global urbanization. This course will provide the framework to guide your decisions as a consumer and a citizen in both a global and local environment. Role-playing and discussions on everything from the choices of fabrics for clothes, transportation, animal rights to the amount of water used while brushing your teeth will show the connections of your behavior to global consequences. Through reading, research, writing, class discussion, individual and group projects, students will learn the key to a sustainable future.

CCS 217 | UNDERSTANDING AND MEASURING INTELLIGENCE | 4 quarter hours (Undergraduate)
In this course, students examine intelligence testing and its uses in employee selection and placement. Students learn the principles of assessing human traits (reliability, validity, bias and other systematic errors), and apply them to intelligence testing. We will work to define “intelligence” and consider various approaches to intelligence, contrasting the theories of unitary vs. multiple intelligences. Students will examine the implications of the definitions and measurement approaches on different groups of people, both historically and currently, with attention to the unintended effects of the biases of test developers and the ethical implications of different approaches and uses of intelligence testing.

CCS 218 | W.A.T.E.R. - WHAT ABOUT THE OTHER ESSENTIAL RESOURCE? | 4 quarter hours (Undergraduate)
Water supports all aspects of our life. Water impacts our environment, health, security, and the economy. There is a need for society to be "water wise" in today's world. Creating sustainable methods to resolving water quantity and quality problems in stormwater, wastewater, watershed and water distribution systems is essential. If you are interested in learning more about the dynamics of water and how you can be an engaged citizen, this is the learning experience for you. We will explore and discover scientific, social, cultural, artistic, and historical viewpoints of water. Finally, this course offers an opportunity for learners to think critically, problem-solve, engage in active learning, and most of all peer collaboration. (4 hours)
CSC 219 | NEUROPLASTICITY AND THE AGING BRAIN | 4 quarter hours
(Undergraduate)
In this course, we will examine the latest research on the aging process and, specifically, its relationship to the brain. We will cover a mix of material from psychological and, especially, neuroscientific fields. Students will also be introduced to the field of neuroplasticity, which is revolutionizing the way we understand the functioning power of the brain. Neuroplasticity, in simple terms, is the brain’s ability to rearrange its connections and, therefore, its functions based on experiences. In other words, the brain has the capacity to literally change itself, based on experiences, to achieve positive results. The goals of this course are to understand how the brain works, examine its impact on our daily actions, study how aging impacts brain functioning, discover the learning and adjustment potential of the brain, and apply the principles of the 3 P’s. We will use numerous examples to understand the brain, including health, work, relational, and personal settings. Students will ultimately answer the question of whether they will have an aging or reengaging brain.

CSC 223 | PRINCIPLES OF A SUSTAINABLE LIFESTYLE | 4 quarter hours
(Undergraduate)
Our consumer choices, habits and lifestyle have a local and global impact. The items we consume, such as housing, furnishings, clothing, transportation, travel, food, recreation, entertainment, and disposables mainly come from non-renewable natural resources produced in far away lands and have a cradle-to-grave lifecycle. Awareness and education as to the safety and efficacy of consumer products is often suspect with contradicting information from the media, manufacturers, government and advocacy groups. Employing a sustainable paradigm for all of your consumer choices will allow you to have a smaller footprint, (ecological and carbon) on the planet and live a healthier, guilt free existence. We will explore the meaning of the "triple bottom line" or cradle to cradle approach to consumption. Consumer models, field trips and personal experiments will help pave the way to become a conscientious global citizen.

CSC 230 | CANNABIS AND SOCIETY | 2 quarter hours
(Undergraduate)
This course engages students in foundational studies of cannabis, drawing upon perspectives from science, medicine, history, sociology, law, ethics, and business. Students will receive a broad introduction to the plant’s key facts, uses, status, and controversies in contemporary society, with an emphasis on the local Illinois context. We will draw comparisons between cannabis and other drugs. The course focuses on developing students’ competencies in critical and ethical analysis, dialog, and civic engagement.

CSC 231 | URBAN DIRT | 4 quarter hours
(Undergraduate)
This is a course designed for the student who desires to know the difference, complexity, and the diversity between soil and dirt. The benefit of learning about soil is multi-fold: understanding the Earth, understanding how and where your food grows, gardening, impact on water quality, and most of all understanding your role in improving overall environmental quality and sustainability. In addition, this class will offer introductory knowledge of soil and its dynamism. Although learning about soil can be very scientific, there are several social and artistic views of soil. If you ever wanted to know why soils are various colors and fertility, and home to various organisms, as well as the uses and mapping of soils, then this is the course to take. Understanding the complexities of soil will aid in understanding Earth and its intricacy.

Status as a Decision Analytics or Degree Completion student is a prerequisite for this class.

CSC 239 | MANAGING THE HEALTH CARE EXPERIENCE | 2-4 quarter hours
(Undergraduate)
Positive health care outcomes and quality health care services are vital for health care institutions. A wide array of metrics and health care standards are essential instruments that validate compliance with regulations and reveal operational deficiencies. The multi-layered patient perspective, measured through outcomes, communication, and surveys offers a unique value to health care institutions. The course provides students with an opportunity to design quality improvement solutions in a health care system in consideration of the patient experience, operational systems and evaluation practices. Students learn how health care institutions ensure quality health care. Students also examine and analyze problems through ethical perspectives and, qualitative and quantitative methods. The learning experience includes short films, reflection, readings, discussion, research, analysis, presentations and essay writing. The final project may consist of a comparison of ethical perspectives, a description of how key aspects of health interrelate or an analysis of a healthcare institution’s operational system or evaluation structure.

CSC 240 | THE SCIENCE OF TRADITIONAL CHINESE MEDICINE | 4 quarter hours
(Undergraduate)
This is a 10-week course that explores the science of Oriental Medicine and its system of interconnection to nature and the human body. Students will study Chinese Medicine (CM) theory, investigating this healthcare model that is based on imbalances or blockages in the body leading to illness. They will study CM Five Element theory which connects personal constitution to nature and the elements. Students will explore the system of "meridians" or nerves whose interconnectedness generate health in CM. Through processes of self-exploration, written essays and reflection, students will review the sciences of CM theory, pathology, diagnosis and basic applications of the medicine (Acupressure/ herbology).

CSC 249 | ANIMAL SCIENCE AND THE ROLE OF MODERN ZOOS | 2 quarter hours
(Undergraduate)
The main objective of this course is for students to increase their love and understanding of animals!!! It will be a fun and interactive course where you will gain a general understanding of the animal kingdom and how animals are classified. You then will be able to identify animals as an individual organism, describe their natural habitat and better understand their role or ecological niche as it relates to its environment. Students will discover the importance of zoos and how they have become leaders in providing the knowledge needed to preserve the natural world. You'll learn what zoos do with that information and how they make a difference with regards to environmental issues such as habitat destruction and the importance of species preservation. Students will investigate different zoological institutions and compare how each are unique in their animal collections, the way they support and conduct research, and convey that knowledge to the scientific community and the general public.

CSC 250 | WIDGETS, CLICKS, & TWEETS: ESSENTIALS OF APPLIED WEB TECHNOLOGY | 2 quarter hours
(Undergraduate)
This course will provide students with an overview of the history of the Internet and basic marketing strategies as they relate to the Internet and Web 2.0 technologies. Students will learn about how to keep abreast of new technology, how these technologies can be used to market services and products as well as how they can be used to create and maintain social networks for professional use.
Many of the greatest challenges in public health are global. This course uses a multidisciplinary approach to discuss the major underlying determinants of poor health and the relationship between health and political, social and economic development. Drawing upon the sciences, social sciences and humanities, learners will be introduced to the evolution of modern approaches to the setting of global health priorities, the functions and roles of health systems, an overview of current global health practices, and the major institutional players in global health. We will explore the factors shaping the global distribution of disease and their connection with issues of social, economic and political development, as reflected in the Millennium Development Goals. We will also consider the impacts of globalization on health risks and availability of health resources. By engaging in critical assessment and proposing innovative solution ideas, we will develop all four competences offered for this course.

Status as a Decision Analytics or Degree Completion student is a prerequisite for this class.

CCS 256 | EVERYDAY ECOLOGY | 4 quarter hours
(Undergraduate)

Every week, we learn of typhoons and landslides, floods and hurricanes, droughts and other natural catastrophes. Scientists now agree that the major cause of climate shift is man-made, specifically our use and abuse of global energy resources. In Everyday Ecology we will analyze our energy use patterns and explore practical alternatives. The word "ecology" originates from the meshing of two Greek words meaning the "study of homes." Although the main focus of this course is the individual household, another household? we must take into account is the economy. Ecological economics examines how both disciplines need to look toward the other to be viable long term. We will examine options to bring the earth household (ecology) and the human household (economy) together for the benefit of both. This course observes how? man? is connected to the world around him. It allows us to see our options in response to growing concern over global climate change. Through readings, field trips, activities, discussions and an analysis of our personal use of energy, this course enables us to become increasingly aware of ecological issues. You will learn to evaluate the effect of personal choices on the earth and be introduced to alternative, 'greener' options.

CCS 259 | PREHISTORIC LIFE | 4 quarter hours
(Undergraduate)

This course promotes students' investigation of fossils to interpret the character of 3.5 billion years of biological evolution and ecological change on earth. By way of scientific reasoning, mathematical inference, and applicable technologies, emphasis is on the exploration of earliest evidence of life, development of multi-celled plants and animals, dinosaur evolution, mass extinction events, mammal diversification, human origins as well as appraisal of the societal reliance on fossil resources and the persistent debate over evolution versus creation. Learning is assessed through labs, a fieldtrip, an exam, video summaries, contributions to online discussions, and a research paper in a scientific format.

CCS 261 | EXPLORATIONS IN BIOLOGY | 2 quarter hours
(Undergraduate)

This course provides an introductory study of organic macromolecules, the cell, genetic activity and the theory of evolution. Throughout the course we will stress the interdependence of the three biological sub-specialties of genetics, ecology and evolution.

Today's consumers want and need to be educated about taking charge of their own health. With the current fast-paced world that has spilled over into our eating habits, food choices have become unlimited. Choosing a healthful approach to diet requires basic information about our bodies' nutritional needs. The greater our understanding of our basic bodily needs, the better we are able to make choices concerning our health. This course will offer an overview of the basic science of nutrition, with an emphasis on the relationship between disease and nutrition, and current research findings.

CCS 269 | ENERGY AND HEALTH | 4 quarter hours
(Undergraduate)

This course will provide a framework for understanding human energy systems, such as digestion and respiration, in relation to current healthcare practices to enhance their effectiveness (dietary approach, manipulation therapies, acupuncture, exercise, and meditation). We will consider connections between social and environmental variables such as constitution, stress, lifestyle, and vital physiological functions. Each class will build on the basic understanding of biological systems in relation to energy through lecture and discussion. We will review literature on various healthcare practices to discern sound approaches and practical applications. Students will cultivate an appreciation for daily health choices that cumulatively affect their health.

CCS 275 | BODY, MIND, SPIRIT: YOGA AND MEDITATION | 4 quarter hours
(Undergraduate)

Why are 20 million Americans practicing yoga? This course answers that question with an introduction to yoga and meditation techniques and the underlying scientific and philosophical principles of the system of yoga. The first half of each class will be experiential, conducted as a yoga and meditation class for beginners, providing tools to reduce stress, focus the mind, and cultivate inner peace. This first hour and a half will use yoga postures, breathing exercises, and meditation techniques. The second half of each class will use readings, reflection, and discussion to examine the scientific and philosophical knowledge of yoga as a way to ease stress, strengthen the bone and muscle structures, lower blood pressure, increase flexibility and strength, improve mind functioning, and provide spiritual sustenance. We will read Yoga Mind Body and Spirit: A Return to Wholeness by Donna Fari, and The Yoga Sutras of Patanjali, research articles on the scientific studies of yoga's benefits from journals and websites, etc. Students will keep weekly reflection journal observations on the changes(s) they notice in themselves. This course will refresh, relax, rejuvenate. Yoga mats and other props will be provided. Bring/ wear comfortable clothes (no jeans, belts, dresses). This is a Gentle Yoga class for beginners. Yoga means to unite or yoke so course will explore the ways to unite body, mind, spirit. This course is designed to 1) help establish good health and well-being; 2) gain scientific knowledge and understanding of the various systems of the human body; and 3) explore the spiritual benefits of meditation.
CCS 281 | RATS IN THE CITY: LIBERAL ARTS IN ACTION | 2-6 quarter hours  
(Undergraduate)  
This course directs students to analyze an engaging topic (here, urban rats) from multiple perspectives in the liberal arts. Students strengthen their problem-solving skills by drawing upon the ideas and methods of three different liberal arts disciplines. The learning activities clarify how the liberal arts can be put into action to solve problems. The course strengthens students' development of critical thinking and academic writing across the curriculum. Students also will learn about resources that will be useful for their academic success at DePaul. (2-6 credit hours)

CCS 282 | NUTRITION BASICS AND BEYOND | 4 quarter hours  
(Undergraduate)  
This introductory course will provide a framework for understanding the fundamentals of nutrition, vitamins and minerals, nutrition and disease prevention, food labeling, nutrition through the life cycle, weight management and more. Each class will build upon the basics by exploring current issues and research related to specific topics. Throughout the course, students will begin to separate information from misinformation as well as gain practical knowledge to incorporate into day to day life.

CCS 285 | ENVIRONMENTAL ETHICS | 4 quarter hours  
(Undergraduate)  
This course contains two distinct strands of learning: (1) the current condition of the natural world and the ways it is approached scientifically; and (2) the major premises of the most significant ethical frameworks in use today. Using this knowledge, students investigate several contemporary environmental problems, identifying their underlying causes, and analyzing various proposed solutions. This is complemented by the intensive study of major ethical perspectives, particularly those which have developed alongside, and as a consequence of, grave environmental concerns. The course project is a collaborative endeavor to integrate the knowledge and skills acquired through mastery of both learning strands.

CCS 289 | EXPLORING EARTH'S PHYSICAL FEATURES | 4 quarter hours  
(Undergraduate)  
This course advances student exploration of earth's 4.5 billion year geologic record in order to evaluate the planet’s evolution and the interrelationships between humans and landforms. Through the application of scientific reasoning, mathematical inference, and prevailing technologies used by geologists, emphasis is on plate tectonics, geologic time, the rock cycle, weathering, earthquakes, fluvial features, rock structures, volcanoes, mountains, plateaus, plains, glacial features, deserts, caves, and coasts. Students also assess human reliance on landforms, the economics of landforms, and cases of earth pseudoscience. Learning is assessed through labs, fieldtrips, a scientifically-formatted research paper, an exam, and contributions to online discussions.

CCS 300 | PROJECT MANAGEMENT | 4 quarter hours  
(Undergraduate)  
Project Management is a business concept which has received a great deal of attention over the last few years. Business managers are discovering that the complexity of human and technological systems forces workers to organize, prepare, and monitor project development in a way which was not necessary in simpler times. In this course, students will discuss and discover methods of project organization and execution which will help them achieve efficacy and success in the workplace. This course will cover concepts in describing project goals, setting priorities, identifying needs, and designing realistic time lines. Students will learn how to execute successful projects from start to finish. (4 quarter hours)

CCS 320 | MAMMALOGY | 2-4 quarter hours  
(Undergraduate)  
This course will introduce you to the origins, evolution, ecology, and biodiversity of the class Mammalia. Key topics will include mammalian anatomy, classification, genetics, reproduction, thermoregulation, locomotion, behavior, ecology, and conservation. Special emphasis will be on investigating the connections of mammalian evolutionary biology to human health issues including disease, nutrition, physical activity, injury, and overpopulation. Online learning will incorporate readings, discussions, a science 'kit' for hands-on labs, virtual labs using 3D mammals, and computer simulations. Student will also undertake collaborative experimentation and onsite inquiry of mammals at a zoological park, museum, and/or nature reserve. Prerequisite: None.

CCS 328 | GLOBAL INFECTIOUS DISEASES AND HEALTH | 4 quarter hours  
(Undergraduate)  
In this course we will learn about the global burden of disease with an emphasis on understanding the critical intersection of policy, social expectations in determining how health systems function and adapt to address new challenges; and examine why some health systems are so fragile in the face of new disease challenges such as the Covid-19 pandemic. We will look at the role of globalization in introducing "western world" diseases to low and middle income countries, and we will learn about the science-based methods and tools we have to track the emergence of new disease threats, assess global disease burden, understand disease mitigation strategies, and compare our ability to measure improvements in health outcomes in well-resourced and resource-poor countries. Online learning will include readings, slide presentations, discussions, and open-source epidemiological tools to examine disease burden and trends.

CCS 329 | DATABASE DEVELOPMENT FOR MANAGING INFORMATION | 4 quarter hours  
(Undergraduate)  
Using MS Office tools suite (in particular Access), this course takes students through the entire process for building a database system that will be used to capture, store and present information. In addition to database concepts like designs, reports and SQL queries, the students will discuss and analyze relationships between technology and society.
CCS 332 | BIODIVERSITY | 4 quarter hours  
(Undergraduate)  
The science of Biodiversity is the study of life on earth, both past and present. It involves the exploration and measurement of the amount of genetic, species, and ecological variation on earth and is emerging as one humanity’s most important and urgent endeavors. Scientific efforts to study earth’s biodiversity have intensified because of our growing appreciation of the role human population growth and urbanization play in accelerating the extinction of plant and animal species. This course introduces students to the nature of science and the central issues concerning life on earth including: the current state of biodiversity, valuing life’s variations, human dependence on biological diversity, the origin and extinction of species, mass extinction, critical habitats at risk, and policies and approaches to conserve biodiversity (4 hours)  

CCS 337 | THE HUMAN GENOME AND ITS IMPACT | 4 quarter hours  
(Undergraduate)  
This course will address the principles of genetics with an emphasis on the genetic code of the human genome. In this course we will examine: how the genetic code is stored, how it is used, how it is evolving, how it is passed from one generation to the next, the consequences of genetic code errors, the medical, technological, legal and ethical issues associated with the human genome. We will discuss how we can, and how we should, use the information on the human genome.  

CCS 352 | TECHNOLOGY, TRAINING, AND HUMAN PERFORMANCE | 4 quarter hours  
(Undergraduate)  
What Robinson and Robinson describe as “the shift from providing training to improving performance” has been cited as a top priority in our fast-paced, global economy. This course covers the principles of training and human performance through an analysis of real case studies in a number of work environments. The course will also present the necessary technology and instructional design tools so that students can design their own training program and develop a basic training and performance plan that reflects their own work environments. Students are expected to have basic computer skills, including the ability to use and save work with Microsoft Word. (4 credit hours)  

CCS 360 | SOCIETY AND INFORMATION TECHNOLOGIES | 4 quarter hours  
(Undergraduate)  
Humans have a long line of technological advances that includes tools, weapons, transportation, mechanical, industrial, and medical advances. On one hand, the computer is just another invention that is part of this long line of technological advances. On the other hand, the ability to program the computer makes it different with an incredible diversity of uses. Computer technology has made large impacts in diverse areas such as sports management, health care, employment, manufacturing, education, defense, and automobiles and many other areas. This course explores how computing technologies such as computer software and hardware, and networking has affected our society. Students will examine the basics of how these technologies work and how they have affected areas of human endeavors. We will examine how these technologies changed, improved, simplified and complicated society.  

Status as a Decision Analytics or Degree Completion student is a prerequisite for this class.

CCS 365 | ADDICTION STUDIES | 4 quarter hours  
(Undergraduate)  
This is an introductory course in the field of addiction studies. In this course we will examine the relationship between drugs and behavior, the personal and social concerns of drug-taking behavior and how drugs work in the body and mind. Legal and legally restricted drugs as well as medical drugs will be discussed. We will also cover issues of prevention, treatment and education. By the end of this course students will understand (1) the differences between use, abuse and addiction to drugs; (2) the extent of substance abuse in the United States today; (3) the legal, social and cultural ramifications of substance abuse; (4) methods of treatment and prevention of substance abuse; (5) major classifications of addictive substances; and (6) how drugs work in mind and body. This course will be a mix of lecture, discussion, videos and other supplemental materials. In addition to their competence papers, students will work in small groups on projects related to addiction and will present their group’s findings to the class. Status as a Decision Analytics or Degree Completion student is a prerequisite for this class.