Environmental Studies

complex regional and state-wide planning challenges such as the implementation of Southern California’s Regional Comprehensive Plan and future plans for high-speed rail.

EMP 320 Environmental Planning and Practice 3 units
This course covers the fundamentals of environmental planning and practice, including water supply, air quality, waste treatment, recycling, the protection of farmland, open spaces, wetlands and sensitive coastal habitats as well as best practices in transportation, energy, urban planning and design. How does land use planning work? Who plans? Why, when and how are environmental impact assessments and environmental reviews performed and by whom? How do public authorities, planners, developers, and concerned citizens negotiate intricate land use conflicts, especially in the case of major new infrastructures such as rail corridors, freeways, (air)port expansions or larger, master planned communities?

EMP 330 Sustainable Cities 3 units
More than half of the world’s 7 billion people live in cities. Urban societies need to find ways to reduce their negative environmental impacts on the Earth’s eco-system. This course focuses on the analysis of urban development patterns in North America and Europe. Students will learn how to create and plan for human settlements that are less carbon-intensive, more ecologically responsible, and more socially sound. Via a variety of case studies, students will be introduced to sustainability concepts such as ecological urbanism, green building certification (LEED), smart growth, transit-oriented development and suburban retrofitting.

EMP 335 Cities and the Environment in the Global South 3 units
Between 2000 and 2030, the urban populations of the developing regions in the Global South will double from 2 to 4 billion people, accounting for the vast majority of urban growth on this planet. Taking a comparative view of urbanization and development, this course focuses on a select number of mega-cities in the Global South where millions of urban dwellers lack adequate shelter and access to clean water, sanitation and other basic infrastructure. What are the causes and environmental consequences of rapid urbanization and urban expansion in cities as diverse as Rio de Janeiro, Nairobi, Lagos, Mumbai or Chongqing? What strategies, programs and policies exist that can steer future urban development in a more environmentally sustainable direction?

EMP 340 Environmental Movements 3 units
This course examines the role of environmental movements in the development of policies for environmental protection. This course focuses on the role of nongovernmental organizations in environmental politics and policy.

EMP 350 Environmental Policy 3 units
Environmental policies are social actions designed to protect the environment. This course examines the processes and consequences of policies for environmental protection. This course also examines the roles of leadership, laws, and organizations in environmental protection.

EMP 380 Environmental Law 3 units
This course provides a general introduction to the role of laws and legal processes in environmental protection.

EMP 400 Environmental Management 3 units
This course focuses on case studies of the development and management of policies for environmental protection. These case studies allow a detailed examination of the practical challenges facing environmental managers and leaders today, and an examination of the possibilities for new approaches to environmental management and policy in the future.

EMP 410 International and Comparative Environmental Policy 3 units
This course examines the processes and consequences of policies for environmental protection in an international and comparative context. The course focuses on the role of institutional processes, government organizations, and nongovernmental organizations in environmental politics and policy across the world.

Earth and Ocean Sciences
EOS 280 Sustainable Agriculture and Gardening 3 units
Although humans can obtain the air and (and to a lesser extent) the water they need freely, we
must work to provide our bodies with food. Before the industrial era, hunting, gathering, and farming were the primary human activity. Technology and industrialization have greatly reduced the human labor required to produce food, and farming has become the specialized occupation of the few. However, in the process, modern industrialized agriculture has developed into a system with many negative externalities (costs not accounted for in the price of food), such as water pollution, greenhouse gas production, and the health consequences of highly processed diets. These high costs of industrialized agriculture make it unsuitable to meet global human needs as population increases, water resources become scarce, and global warming makes the intensive use of fossil fuels undesirable. In this course, we will examine what a more sustainable mode of food production might look like through class work as well as hands-on work in the Soka Instructional Garden.

EOS 302 Introduction to Climate Change 3 units
The earth’s climate is changing because human activity is increasing the levels of greenhouse gases such as carbon dioxide and methane in the atmosphere. You will learn what causes climate change, as well as its present and future effects on both the earth and society. You will also learn about the responses society and individuals can make to prevent and adapt to climate change. In the laboratory portion of this class, you will learn how to plan and perform a scientific experiment measuring greenhouse gases.

EOS 322 Water Resources 4 units
The struggle to manage water resources has shaped societies in the past and continues to do so today. Human use of water for drinking, sanitation, and agriculture is controlled by natural processes, by engineering, and by the institutions that manage water for the benefit of societies. In this course students will study how these processes control the availability and quality of water. Students will explore water resources in the local area through field visits to both natural and engineered sites and will learn to apply some of the techniques of water resource managers. Prerequisite: Any CHEM or BIO course or consent of instructor.

EOS 446 Biogeochemistry 4 units
Biogeochemistry is the study of the flows of the basic elements required for life through the earth’s environmental systems. Biogeochemistry ties together processes occurring in the water, atmosphere, soils and in living organisms, tracing the transformation of essential elements from one form to another in their cyclic journeys on the earth’s surface. Students will use advanced laboratory and field techniques to study biogeochemical transformations in the environment, learn to read and interpret scientific literature, and write a scientific paper. Prerequisite: CHEM 101 or consent of instructor.

Geography
GEOG 110 Regional Geography of the Pacific Rim 3 units
Why are people where they are in the Pacific Rim, and how do these patterns of settlement influence their daily lives and cultures? This course will explore questions of place and the rich diversity of human cultures throughout the Pacific Rim nations so that students get a better understanding of what has contributed to the look and feel of places in the Pacific Rim, to the standard of living and customs of its people, and to the way people in one place relate to people in other places, near and far. The course will also discuss global trade and consumption and how they influence the regions of the world and the daily lives of ordinary people.

GEOG 250 Physical Geography 4 units
Physical Geography is the science of our environment and how this environment provides opportunities and challenges for humans. The course will cover the three major subject areas: (1) atmosphere and weather, (2) biogeography, and (3) geology and landforms. The goal of this course is to develop a thorough knowledge, understanding, and appreciation of our Earth.

GEOG 350 Introduction to Geographic Information Systems 4 units
Geographic Information Systems (GIS) is a computer system for storing, managing, and displaying (mapping) the locations and attributes of spatial features. These features can come from any discipline and could represent people, towns, rivers, countries or any other human or physical information. Due to its versatility, GIS is used in a wide range of applications such as resources management, city planning, transportation,