CRITICAL EVALUATION OF ENVIRONMENTAL SOCIAL SCIENCES PROGRAM IN TURKEY

by

Semra Bayrı

B.S. in Business Administration, İstanbul University, 1976

Submitted to the Institute of Environmental Sciences in partial fulfillment of the requirements for the degree of

Master of Science

in

Environmental Social Sciences

Boğaziçi University

2005

CRITICAL EVALUATION OF ENVIRONMENTAL SOCIAL SCIENCES

PROGRAM IN TURKEY

APPROVED BY:

Prof. Dr. Miray Bekbölet (Thesis Supervisor) ……...

Prof. Dr. Günay Kocasoy ……...

Prof. Dr. Barış Mater ……

DATE OF APPROVAL: 22/09/2005

ACKNOWLEDGEMENTS

I would like to express my deeper feelings to my thesis supervisor Prof. Dr. Miray Bekbölet for her support.

I am grateful to my family for endless patience and tolerance.

This thesis is dedicated to the environment lovers.

ABSTRACT

Environmental engineering and environmental sciences education is a recent concept in the universities present in Turkey and as well as in the universities of the world.

The most significant reason of giving priority to the environmental education, especially in the environmental social science fields depends on the problems mostly related to the rapid population growth, improving technologies, imigration and depletion of unique natural resources.

In order to deal effectively with complex and global environmental problems; all of the universities need to educate competent students with knowledge in both of the areas- in the fields of social and natural sciences. Scientific-oriented education programs and social-oriented environmental programs must be two equivalent components of a whole part.

This research focuses on a comprehensive investigation of environmental social sciences related graduate courses offered in the environmental engineering departments, environmental sciences departments and other departments of the state and private universities in Turkey. As a result, common point has been reached following a methodological way in the frameworks of comparison, interpretation and proposal of the course contents. At the end of this study, a new concept for curriculum program for environmental social sciences education is improved.

The creation of a sustainable, pure and clean world is the greatest challenge facing the world in the 21st century. The requirement of environmental social sciences education has an inevitable effect for solving the global environmental problems, since nature is more fragile than the man.

ÖZET

Çevre mühendisliği ve çevre bilimleri eğitimi, dünya ve ülkemiz üniversitelerinde geçmişi yakın dönemlere rastlayan bir olgudur.

Hızlı nüfus artışı, gelişen teknolojiler, göç ve eşsiz doğal kaynakların tüketilmesi sonucu ortaya çıkan sorunlar nedeniyle; çevre eğitimine ve özellikle de sosyal ağırlıklı çevre eğitimine öncelik verilmesi büyük önem kazanmıştır.

Küresel ve karmaşık boyutlara ulaşan çevre problemlerinin üstesinden gelebilmek için; tüm üniversitelerin hem doğa bilimleri hem de sosyal bilimler sahalarında yeterli bilgisi olan kadrolar yetiştirmeye gereksinimi vardır. Bilim oriyantasyonlu eğitim programları ile sosyal oriyantasyonlu çevre programları bir bütünün iki eşit parçasıdır.

Türkiye'deki devlet ve özel üniversitelerinin; Çevre Mühendisliği, Çevre Bilimleri ve diğer bülümlerinde çevreyle ilgisi olan yüksek lisans derslerinin geniş kapsamlı olarak incelenmesi bu araştırmanın ana konusudur. Sonuçta metodolojik bir yöntem kullanılarak; ders içeriklerinin karşılaştırılması yapılmış, yorum ve öneriler çerçevesi içinde ortak bir noktaya varılarak sosyal çevre bilimleri eğitimiyle ilgili yeni bir yüksek lisans müfredat programı geliştirilmiştir.

21nci yüzyılın en önemli sorunu; sürdürülebilir, pür ve temiz bir dünya yaratabilmektir. Global çevre problemlerini çözme yolunda sosyal çevre bilimleri eğitimi kaçınılmaz bir önem kazanmıştır, zira doğa insandan daha fazla kırılgandır.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

Adm.	Administration
Agri.	Agriculture
Altern.	Alternative
Antr.	Antropology
Applic.	Application
Appl.	Applied
Arch.	Architecture
Arrgt.	Arrangement
Bas.	Basic
Behav.	Behaviour
Biol.	Biology
Build.	Building
CDSN	Conservation District of Southern Nevada
Chem.	Chemistry
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CivEng.	Civil Engineering
CNASEA	French National and Agriculture Centre
CZM	Coastal Zone Management
Comp.	Comparative
Cons.	Conservation
Constit.	Constitutional
Const.	Construction
Consult.	Consulting

CORINE	Coordination of Information on the Environment
Devt.	Development
Distrib.	Distribution
Ecol.	Ecology
Econ.	Economies
Ecosyst.	Ecosystems
EIA	Environmental Impact Assessment
Elect.	Electricity
EMS	Environmental Management Systems
Eng.	Engineering
Entom.	Entomology
Env.	Environment
EQMS	Environmental Quality Management Systems
ER MAPPER	Software program for image mapping and visualization (RS)
EU	Union of Europe
ERA	Environmental Risk Assessment
ER MAPPER	Software program using in GIS Technic
EUNIS	European University Information Systems
Fac.	Faculty
Fish.	Fishery
For.	Forestry
Genrl.	General
Geog.	Geography
Geol.	Geology
GIS	Geographical Information Systems

Glob.	Global
Grad.	Graduate
Hist.	History
Humanb.	Humanbeing
ICBP	International Conference on Biological Physics
IDRISI Project	Labs for Cartographic Technology and Geographic Analysis
Ind.	Industry
Inst.	Institute
Intern.	International
Introd.	Introduction
Irrigt.	Irrigation
ISO	International Standards Organisation
Lscape.	Landscape
Man.	Management
Mar.	Marine
Med.	Medicine
Nat.	Natural
NATURA 2000	A coherent ecological network of special areas of conservation
NGO	Non-Governmental Organizations
NUT	National Union of Teachers
OGN	Organizations of Govenment
Org.	Organisation
Pest.	Pesticides
Phil.	Philosophy

Plan.	Planning
Poll.	Pollution
PH	Public Health
Princ.	Principles
PU	Private University
PH	Public Health
Poll.	Pollution
Princ.	Principles
Prob.	Problem
Proced.	Procedures
Psych.	Psychology
Reg.	Region
Relat.	Relation
RS	Remote Sensing
Res.	Resources
SAFER	Agency for the Prevention and Treatment Sexual Abuse
Sci.	Science
Soc.	Social
Sociol.	Sociology
Stand.	Standard
Struct.	Structure
Sust.	Sustainability
Syst.	System
Tech.	Technology
TQM	Total Quality Management

TR	Turkey
UICN	World Conservation Union
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific, Cultural Organization
Urb.	Urbanization
USEPA	United States Environmental Protection Agency
Util.	Utilization
WWF	World Wildlife Fund
Zonguldak K.Elmas	Zonguldak Karaelmas

1. INTRODUCTION

This thesis focuses on a comprehensive survey of all of the environment related graduate courses offered in the State and Private Universities of Turkey. As a first step of the research; the courses present in the universities with environmental engineering and environmental sciences departments have been investigated. As a second step; the courses that are available in the various departments of the faculties such as Science and Letters, Architecture, Agriculture and Economics and Administrative Sciences have been investigated.

The main purpose of this study is to develop a curriculum for the environmental social sciences graduate program. The main criteria is the consideration of the fulfillment the inadequacies related to the recent aspects of the environmental issues. These topics are mostly related to the environmental law, environmental auditing, environmental ethics and sociology, environmental economics, international relations and ecology.

The social sciences have a major role to play in understanding environmental issues. Human behaviour produces many aspects of the 'natural environment' from landscapes to floods and famines. Equally the environmental practices of corporations, governments and households are regulated by local and national environmental policies and international agreements. The social sciences can help us to understand what issues become defined as environmental issues, and what measures are available to tackle them.

1.1. Scope of Environmental Social Sciences

Thinking scientifically about the environment, on the other hand, is only as old as science itself. The approach of “Environmental Social Science” is interdisciplinary in nature. It integrates many disciplines and includes some of the most important topics of modern civilization as well as some of the oldest philosophical concerns of human beings- that of the nature of our relationship with our environment.

Human environmental crises of today are complex, cumulative and synergistic (Johnston, 1989). No single theoretical framework, discipline, model, or approach is able to address the complexity of these problems alone. On the other hand, several scientific tools comprise versatile tools in understanding of the environmental issues.

Anthropology with its analytical strategies, holistic perspective and history of intensive field experiences at all levels of the sociopolitical web; offers tools, strategies, and opportunities to make sense of the chaos surrounding environmental crises and their management. Despite its potential, the discipline has experienced difficulties in creating strong structural links between anthropological praxis and the formation and application of environmental policy. Specifically, while there are well-developed structures that allow the exchange of information within the discipline, there is a need to develop mechanisms that facilitate the delivery of anthropological research results, methods and techniques and expertise to communities and policy makers in ways that assist in the identification, analysis and solution of environmental problems.

Geographers analyze distributions of physical and cultural phenomena on local, regional, continental, and global scales. Economic geographers study the distribution of resources and economic activities. Political geographers are concerned with the relationship of geography to political phenomena, whereas cultural geographers study the geography of cultural phenomena. Physical geographers study variations in climate, vegetation, soil, and landforms and their implications for human activity. Urban and transportation geographers study cities and metropolitan areas, while regional geographers study the physical, economic, political, and cultural characteristics of regions ranging in size from a congressional district to entire continents. Medical geographers study health-care delivery systems, epidemiology, and the effect of the environment on health.

Increasingly, geographers are utilizing Geographic Information Systems (GIS) Technology to create computerized maps that can track information such as population growth, traffic patterns, environmental hazards, natural resources, and weather patterns. They then use the information to advise governments on the development of houses, roads, or landfills.

Historians research, analyze, and interpret the past. They use many sources of additional information in their research, including government and institutional records, newspapers and other periodicals, photographs, interviews, films, and unpublished manuscripts such as personal diaries and letters. Historians usually specialize in a country or region, a particular period, or a particular field, such as social, intellectual, cultural, political, or diplomatic history. Biographers collect detailed information on individuals. Other historians help study and preserve archival materials, artifacts, and historic buildings and sites.

Archaeologists recover and examine material evidence, such as ruins, tools, and pottery remaining from past human cultures, in order to determine the history, customs, and living habits of earlier civilizations. Linguistic anthropologists study the role of, and changes in, language over time in various cultures. Biophysical anthropologists study the evolution of the human body, look for the earliest evidences of human life, and analyze how culture and biology influence one another. Most anthropologists specialize in a particular region of the world.

Sociologists study society and social behaviour by examining the groups and social institutions people form, as well as various social, religious, political, and business organizations. They also study the behaviour of, and interaction among, groups, trace their origin and growth, and analyze the influence of group activities on individual members. Sociologists are concerned with the characteristics of social groups, organizations, and institutions; the ways individuals are affected by each other and by the groups to which they belong; and the effect of social traits such as sex, age, or race on the daily life of a person. The results of sociological research aid educators, law-makers, administrators, and others interested in resolving social problems and formulating public the policy. Environmental sociology is very important, because it should contribute to our understanding of phenomenology of human-nature-interactions, especially if they become critical, by means of description, analysis, forecasting, and modelling. It is necessary to focus on the reasons, the form and the consequences of anthropogenic environmental change.

Political scientists study the origin, development, and operation of political systems and public policy. They conduct research on a wide range of subjects, such as relations between the countries, the institutions and political life of nations, and the decisions of the Supreme Court. Studying topics such as public opinion, political decision making, ideology, and public policy, they analyze the structure and operation of governments, as well as various political entities. Depending on the topic, a political scientist might conduct a public-opinion survey, analyze election results, analyze public documents, or interview public officials.

Social scientists study all aspects of society—from past events and achievements to human behavior and relationships among groups. Their research provides insights that help us understand different ways in which individuals and groups make decisions, exercise power, and respond to change. Through their studies and analyses, social scientists suggest solutions to social, business, personal, governmental, and environmental problems.

In the year of 1970, philosophers began to formulate a new field called environmental ethics, a study concerned with the value of the physical and biological environment. The focus of this field of study contrasts with traditional ethical studies, which had to do with the relationships among people.

The people need a new set of ethics for the environment according above given factors:

- New effects on nature. Because the modern technological civilization affects nature greatly, the people must examine the ethical consequences of these new actions.
- New knowledge about nature. Modern science demonstrates how we have changed and are changing our environment in ways not previously understood, thus raising new ethical issues. For example, until the past decade, few people believed that the activities of human could be changing the global environment of the Earth. Now, however, scientists believe that burning fossil fuels and clearing forests have changed the amount of carbon dioxide in the atmosphere, and that this may change the climate.

- Expanding moral concerns. Some people argue that animals, trees, and even rocks have moral and legal rights and that is a natural extension of civilization to begin including the environment in ethics. These expanded concerns lead to a need for a new ethic.

The ethic assumes that all the people are ethically responsible not only to other individuals and society, but also to the larger community that includes plants, animals, soils, atmosphere, and water- that is, to the environment (Leopold, 1949).

On the other hand, the 1982 Constitution declares that "Everyone has the right to live in a balanced and healthy environment. It is the duty of the State and its citizens to protect and improve the environment, and to prevent environmental pollution." Thus the protection of the environment enters Turkish law as the natural right of the citizen. At the same time, an Environmental Law was passed for the protection and improvement of the environment as the common property of all citizens, the proper utilization of rural and urban land and natural resources, the prevention of water, soil, and air pollution, the conservation of fauna and flora and the natural and cultural heritage, and the adoption of measures aimed at improving and protecting standards of life, health and civilization. Recent years have seen the creation of a Ministry of the Environment, which is carrying on serious work to ensure a healthy balance between economic and industrial development and the protection of the environment. It is interesting to note that Turkey had already introduced such measures before becoming a party to the *Paris Charter* (Atar, 1996).

1.2. Scope of Environmental Engineering

Engineering, as a profession, expresses its ultimate purpose to serve for the benefit of mankind. The Accreditation Board for Engineering and Technology defines engineering as "the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgement to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind". Engineering is a diverse profession; it has traditionally been sub-divided into several major branches, such as Civil, Mechanical, Electronic, Chemical and Environmental Engineering.

The field of environmental engineering is rapidly developing, in response to the ever increasing pressures by mankind on the environment in which the people live and work. The American Academy of Environmental Engineers defines environmental engineering as "the application of engineering principles to the management of the environment for the protection of human health, for the protection of the beneficial ecosystems in the nature, and for environment related enhancement of the quality of human life". The practical interpretation of this definition is that Environmental Engineers design and oversee the operation of water and wastewater treatment plants and measure and monitor pollutants in the air, on the land, and in rivers and lakes. In recent years, there has been a shift to a more holistic approach to do design of environmental systems, with increased emphasis on waste minimization, recycling and reuse to minimize the amount of wastes to be managed. Environmental engineers cannot therefore specialize in only one environmental problem, but must be cognisant of the impacts of their decisions on all other media.

The education of environmental engineers, and research in the field of environmental engineering, must be committed to the concept of sustainable development, so that the present society will not endanger the survival of future generations. A broadly educated environmental engineer must not only be skilled in the analysis and design of environmental processes and physical infrastructure, but must also have a profound understanding of the broader implications and benefits of the environment to society. At this point the importance of the environmental social sciences should be not undervalued, because environmental engineers must be interested in people as well as engineering; an ability to work with, and lead, multi-disciplinary teams of economists, architects, lawyers, anthropologists, geographers, sociologists, archaeologists, environmental policy specialists, combined with an ability to communicate effectively, is a prerequisite.

At the University of Karlsruhe students may choose a comprehensive example of environmental engineering within the context or on the basis of an economics and business administration curriculum. This complex concept has been reported by Hahn, 2000. The basic question was assess the extent of the environmental engineering education depending on the solid background in social sciences and/or natural sciences. Joint programs could be feasible and effective provided that the classical environmental field would be merged successfully with the other disciplines. Through this combination, the research and

teaching would exert great significance to environmental issues: disciplines from the field of social sciences at large and in particular the legal disciplines (Hahn, 2000).

Significant example of such an environmental engineering program would be given as the environmental engineering at the Technical University of Cottbus. The Technical University of Cottbus has been founded just recently after the German unification. The university has decided to organize the Environmental Engineering education within a self reliant study program 'Environmental Sciences and Chemical Engineering' rather than traditionally within Civil Engineering. The program tries to combine traditional subjects such as wastewater technics and chemical engineering with 'modern' subjects e.g. ecosystems, environmental legislation and environmental economy (Schmitt and Wilderer, 1996).

1.3. Scope of Environmental Education

Environmental education is the education process dealing with the relationship of humankind with the natural and human-made surroundings, and includes the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology, economic impact and urban and rural planning to the total human environment.

The documents defining education, usually provide a short humanistic definition which runs counter to pages and pages of prescriptions about how to educate in order to act on an environment mostly reduced to problems of resources that need to be better managed. "Agenda 21" thus asserts that "education, including formal education, public awareness and training should be recognised as a process by which human beings and societies can reach their fullest potential" (UNCED, 1993).

Without going into the details of a debate about education as a finality (which could be the integral development of human beings) or as an instrument, it is important to point out that the international proposals often posit education as an instrument for a finality they assert. Basically, that instrumental view can be subsumed as training people to implement the ordered agenda, as preparing "the public to support changes towards sustainability

emanating from other sectors of society". In the same vein, a recent UNESCO document bears the subtitle "Mobilizing minds for a sustainable future" (UNESCO, 1999).

"Guiding Principles of Environmental Education Programs" (UNESCO-UNEP, 1976).

- Environmental education should consider the environment in its totality-natural and human-made, ecological, political, economic, technological, social, legislative, cultural, and aesthetic.
- Environmental education should be a continuous, lifelong process, both in school and out of school.
- Environmental education should be interdisciplinary in its approach.
- Environmental education should emphasize active participation in preventing and solving environmental problems.
- Environmental education should examine major environmental issues from a world point of view while paying due regard to regional differences.
- Environmental education should focus on current and future environmental situations.
- Environmental education should examine all development and growth from an environmental perspective.
- Environmental education should promote the value and necessity of local, national, and international cooperation in the solution of environmental problems.

The Declaration of Thessaloniki asserts: Environmental education, as developed within the framework of the Tbilisi recommendations and as it has evolved since then, addressing the entire range of global issues included in Agenda 21 and the major UN Conferences, has also been dealt with as education for sustainability (UNESCO, 1997).

Environmental education has to be integrated in all disciplines, in every program, at all levels. This is the multi-disciplinary and multi-sector view of integration. This is the manifest in 1987, in the Moscow Congress, "it has been clear that environmental education should be a dimension of all subjects and areas of education" (UNESCO-UNEP, 1987), and again in 1992, in Chapter 36 of "Agenda 21", "to be effective, environment and

development education should be integrated in all disciplines" (UNCED, 1993). Curricula for graduate education should be restructured to feature core concepts and fundamental principles having to do with the human relationship with the environment.

In this level of integration, there is a need to insist on the idea of achieving a real educational society, operationalized in educational communities (Orellana, 1999), where the different actors (schools, Ogs, ONGs, museums, parks, media, etc.) cooperate to play a specific and complementary role in the shared essential responsibility of engaging in environmental education, adopting a critical approach to socio-environmental realities. Such a perspective is clearly different from mobilizing populations for predetermined goals, which seems to lie at the core of many proposals. As for mobilizing the media for environmental issues, one can doubt the ease with which such a goal may be achieved in some context where the media are strongly dependent on revenues coming from a sort of runaway growth economy.

To be effective, environmental and development education should deal with the dynamics of both the physical/biological and socio-economic environment and human (which may include spiritual) development, should be integrated in all disciplines, and should employ formal and non-formal methods and effective means of communication (UNCED, 1993). Curricula for graduate education should be restructured to feature core concepts and fundamental principles having to do with the human relationship with the environment.

1.3.1. Scope of Environmental Education in World Universities

Environmental problems may not be solved by traditional engineering knowledge alone; rather, comprehensive approaches are needed through the collaboration of different disciplines. It is necessary to define the new scope of "environmental engineering" and establish a new framework for education and research to cope with environmental problems. Several examples of the environmental engineering programs are summarized below.

In Kyoto University, emphasis is placed on toxicology as well as radioactive waste management. This is a unique feature of the curriculum of Kyoto University. There are two environmental departments at the graduate school level: the Department of Environmental Engineering, in which environmental management aspects seem to be emphasized, and the Department of Global Environment Engineering, which deals with global environmental issues as can be realized by its name.

Subjects which are lacking in the curricula of the Hokkaido, Tokyo and Kyoto universities in Japan include: environmental impact assessment, environmental auditing, environmental ethics, environmental economics, international relations, ecology and ecological engineering, environmental sociology, etc. Although many of these subjects may be taught as a part of existing programs, they are surely not enough for their importance (Mino, 2000).

In Portugal, the Master Degree Program is comprised of two main parts: one year of lectures and practical classes, followed by a twelve month supervised original research work, which is examined by a qualified jury. In 1998, advertising information regarding 26 Master Degree Programs in areas related to environmental issues was available. It seems to be a large offering but it should be noted that only seven courses had an engineering approach (27%). The majority were environmental science courses (e.g., ecology, coastal sciences, human ecology, regional planning) being mostly guided for scientific research or educational purposes (Brito et al., 2000).

In 1987 ETHZ (Environmental Technology Zürich), the Swiss Federal Institute of Technology, first offered a degree course in environmental sciences, the curriculum of which was based upon a comprehensive view of the environment and its systems. The first two years of the program cover a multidisciplinary basic education in mathematics, natural and social sciences (Frischknecht, 2000).

A consistent search via the means of worldwide web sources revealed that the graduate programs were consisted of environmental engineering and environmental sciences fields. On the other hand, “environmental studies” departments or institutes mostly dealt with the issues relevant to either ecology/natural sciences or

management/social aspects of environment. A unique example of an environmental social science program is represented by the program of the environmental social sciences of Institute of Environmental Sciences of Boğaziçi University.

The traditional lecture-based teaching process has been criticized as a passive knowledge delivery process with much room for improvement in the teaching-learning process. It is now recognized that one of the essential prerequisites for improving the teaching-learning process is active and interactive participation of the students. Traditionally, instructors have utilized physical models (in the classroom and in the laboratory) as a teaching tool to help students visualize, understand, analyze, and evaluate system behavior. Physical models can be expensive, time consuming, or even impossible to build, and sometimes risky.

Computer simulation models can overcome many of the above limitations. They can provide a meaningful representation of the real system by capturing the essential aspects, thus enabling a directed focus on the problem at hand. Computer models are more flexible than the physical models; they can be “run” and “rerun” at the students own pace and convenience. Another advantage of computer simulations is the ability to control space, time, and the passage of time itself, which is impossible in physical models (Egemen, et al.,1998).

Another essentially tool that provides the link between engineers and the general public as an educational link, is the approach of virtual reality. The potential value of using existing virtual reality techniques as educational tools is very significant. Visualization is one of the most powerful communicators of information. With multi-faceted databases ubiquitous in every industry, a key challenge for the managers of today and tomorrow is how to maximize efficiency from investment in data and computing. Never before has the adage ‘a picture says more than a thousand words’ been more true (Barraclough and Guymer, 1998).

1.4. Scope of Global Environmental Pollution Problems

Pollution is the process by which something becomes impure, defiled, dirty, or otherwise unclean; the pollutants in general terms, are factors which have a harmful effect on living things or their environment.

The question of environment and development is of common concern to various countries in the world. The numerous developing countries are speeding up the development of their national economies and, in the course of such development, are protecting and improving the environment so that economic development and environmental protection can be coordinated with each other. This is a question of special concern to the developing countries and their people. The question of environmental pollution and its damages has cropped up in many areas of the world. Pollution has become a scourge of society in some countries with highly developed economies. The main social cause of environmental pollution and its damages lies in the fact that, as a result of the development of capitalism into imperialism, the monopoly capitalist groups, in their quest for big profits, are unscrupulously plundering the natural resources and disposing of harmful substances at will, thereby polluting and poisoning the environment. The developing countries also face certain questions concerning the environmental pollution and damage, although their environmental question is different in nature from that in the developed countries. Over a long period in the past, the colonialists and imperialists dominated the Asian, African and Latin American regions by various means, controlling their economic lifelines, carrying out savage plunder and ruthless exploitation, and engaging in indiscriminate development and utilization of natural resources, thereby wreaking serious havoc on their national economies and natural environment. This is the root cause of the poverty and backwardness of the developing countries and of the damage to their environment. In the face of superpower hegemony this state of affairs has become even more serious in these regions.

Now some people still regard economic development as the root cause of environmental pollution, while others consider poverty as the main cause. All these views represent an attempt to evade the essence of the matter and seek the causes of the problem from superficial phenomenon, thus making it impossible to reach a correct conclusion in

conformity with objective reality, and leading to pessimism about the future of the human environment. Economic development and environmental protection are interrelated and promote each other. The former gives rise to the environmental problem and the latter constitutes an important condition for developing the economy; economic development increases the capability to protect the environment, and environmental improvement in turn promotes economic development. This is the interdependent relationship between the two.

2. GENERAL APPROACH TO THE GRADUATE PROGRAMS OF THE UNIVERSITIES IN TURKEY

2.1. Turkish Higher Education System and Governance

The Council of Higher Education is a 22-member corporate public body responsible for the planning, coordination and supervision of higher education within the provisions set forth in the Higher Education Law. The president of the Council is directly appointed by the President of the Republic from among the Council members. The Interuniversity Council is an academic advisory body, comprising the rectors of all universities and one member elected by the senate of each university.

Each degree of bachelor consists of faculties and four-year schools, offering the level programs of bachelors, the latter with a vocational emphasis, and two-year vocational schools offering pre-bachelor's level programs of a strictly vocational nature. Graduate-level programs consist of masters and doctoral programs, coordinated by institutes for graduate studies.

Universities, faculties, institutes and four-year schools are founded by law, while two-year vocational schools, departments, and divisions are established by the Council of Higher Education. Both academic and administrative staff in state universities has civil servant status. At all levels, the chairperson of a council, senate or board, such as the president of the Council of Higher Education, rector, faculty dean, institute and school director, or department chairperson, is responsible for the implementation of the policies adopted by the various boards. At the university level, however, the rector is both the chief academic and executive officer of the university, as are the deans, directors and department chairpersons in their respective units.

Deans are appointed by the Council from among three full professors nominated by the rector, while institute and school directors are directly appointed by the rector. Each department within a faculty is made up of divisions. Section heads are elected by faculty

members in that section, who, in turn, advise the dean regarding the appointment of the department chairperson.

2.2. Historical Evaluation of the Universities in Turkey

Historical background of the Turkish universities has been assessed through the sources provided by The Council of Higher Education.

The Imperial Naval Engineering College *(Mühendishane-i Bahri-i Hümayun*) was founded in 1773; in 1795, the Imperial Military Engineering College *(Mühendishane-i Berri-i Hümayun*) was opened. These two institutions represent the first diversion from the traditional education of the madrasas, and were later merged to form the roots of İstanbul Technical University. These institutions were followed by the Imperial Medical College (*Tıbbiye*) in 1827 and the Imperial Military College (Harbiye) in 1834.

Under French influence, several other state institutions of higher education, similar to the Grandes Ecoles, were opened towards the end of the 19th century and in the early 20th century. These institutions formed the roots of some universities of today, such as İstanbul Technical University, as mentioned above, and Marmara, Mimar Sinan and Yıldız Technical Universities in İstanbul.

Robert College, the first Anglo-American type of higher education institution in Turkey, was founded in İstanbul in 1863 as a typical liberal arts college by the American missionary and philanthropist Cyrus Hamlin. Engineering departments were added to this institution in 1912 which continues to exist as Boğaziçi University. Soon after the proclamation of the Republic in 1923, madrasas and other religious schools were abolished. In 1931, the government invited Professor Albert Malche of the University of Geneva to prepare a report on Turkish university reform. Atatürk read the report himself and jotted down his own thoughts on university reform in the margins of the pages of the report.

Following this report, the Grand National Assembly passed law 2253 in 1933 replacing the *Darülfünun* with İstanbul University, which was inaugurated on November18, 1933. Reinforced by scores of Jewish professors escaping from Nazi persecution, İstanbul University soon became one of the leading centers of education and research. Eleven years later, in 1944, the Higher School of Engineers was also reorganized to become Istanbul Technical University.

In the meantime, several independent schools and faculties were established in the new capital, such as the School of Law (1925), Gazi Institute of Education (1926), the Agricultural Institute (1930), the Faculty of Languages, History and Geography (1937), the Faculty of Science (1943) and the Faculty of Medicine (1945). In 1946 these were amalgamated to form Ankara University, and law 4936 was passed, covering the organization and governance of all three universities.

The established pattern of the Turkish university based on the Continental European model underwent a critical change in the year of 1950, following the coming to power of the Democratic Party. The relatively more market-oriented new government apparently believed that the manpower requirements of the growing market economy would be better met by the American university model, and showed a keen interest in the expansion of the university system. Four new universities were established: Karadeniz Technical University in the northeast and Ege University on the Aegean coast (both in 1955), Middle East Technical University (METU) in Ankara in 1956, and Atatürk University in the east in 1957.

Between 1973 and 1981, 10 universities were opened outside of the three big cities, in Diyarbakır, Eskişehir, Adana, Sivas, Malatya, Elazığ, Samsun, Konya, Bursa and Kayseri, representing a wide geographic distribution throughout the country. The Constitution of the Republic was changed in 1981, and new provisions were made for higher education. Following the mergers and reorganizations, eight universities were established in Istanbul, Ankara, Izmir, Antalya, Edirne and Van. Thus, in 1982, the Turkish higher education system comprised 27 universities.

Distance education programs were modified to include lectures broadcast on TV and direct contact hours. The Faculty of Open Education of Anadolu University in Eskişehir was given the responsibility of implementing these programs.

The first private university, Bilkent, was founded in 1984. 25 state and two private universities were founded in the period 1992-1994, bringing the total to 56 universities. Among these was Galatasaray University in Istanbul, the first French-medium University in Turkey.

The system has continued to expand during the last four years, this time in the private sector. Twenty new universities, 15 in Istanbul, three in Ankara, two in İzmir and one in Tarsus, were founded by non-profit foundations. The system presently comprises 54 state universities, two of which is English-medium and one German-medium institutions. In addition, some programs in the Turkish-medium state universities are carried out either wholly or partly in English, and a smaller number in German. A one-year intensive preparatory English course is required in various state universities.

In the period from 1923 to 2001:

- The number of universities increased from 1 to 77
- Student enrolment went from 2,914 to 1,664,364
- The annual number of graduates increased from 321 to 245,433
- The number of academic staff increased from 307 to 70,012

Table 2.1. List of the Web-sites of Türkish State and Private Universities

Name of the University (State)	**Web-site**
Abant İzzet Baysal (Bolu)	www.ibu.edu.tr/
Adnan Menderes (Aydın)	www.adu.edu.tr/
Afyon Kocatepe (Afyon)	www.aku.edu.tr/
Akdeniz (Antalya)	www.akdeniz.edu.tr/
Anadolu (Eskişehir)	www.anadolu.edu.tr/
Ankara (Ankara)	www.ankara.edu.tr/
Atatürk (Erzurum)	www.atauni.edu.tr/
Balıkesir (Balıkesir)	www.balikesir.edu.tr/
Boğaziçi (İstanbul)	www.boun.edu.tr/
Celal Bayar (Manisa)	www.bayar.edu.tr/
Cumhuriyet (Sivas)	www.cumhuriyet.edu.tr/
Çanakkale Onsekiz Mart (Çanakkale)	www.comu.edu.tr/
Çukurova (Adana)	www.cu.edu.tr/
Dicle Diyarbakır)	www.dicle.edu.tr/
Dokuz Eylül (İzmir)	www.deu.edu.tr/
Dumlupınar (North Cyprus)	www.dumlupinar.edu.tr/
Erciyes (Kayseri)	www.erciyes.edu.tr/
Fırat (Elazığ)	www.firat.edu.tr/
Ege (İzmir)	www.ege.edu.tr/
Galatasaray (İstanbul)	www.gsu.edu.tr/
Gazi (İzmir)	www.gazi.edu.tr/
Gaziantep (Gaziantep)	www.gantep.edu.tr/
Gaziosmanpaşa (Tokat)	www.gop.edu.tr/
Gebze Institute of Technology (Gebze)	www.gyte.edu.tr/
Hacettepe (Ankara)	www.hun.edu.tr/
Harran (Şanlıurfa)	www.harran.edu.tr/
İnönü (Malatya)	www.inonu.edu.tr/
İstanbul (İstanbul)	www.istanbul.edu.tr
İTÜ (İstanbul)	www.itu.edu.tr/
İzmir Institute of Technology (İzmir)	www.iyte.edu.tr/
Kafkas (Kars)	www.kafkas.edu.tr/
Kahramanmaraş Sütçü İmam (K.Maraş)	www.ksu.edu.tr/
Karadeniz Technical (Trabzon)	www.ktu.edu.tr/
Kırıkkale (Ankara)	www.kku.edu.tr/
Kocaeli (İzmit)	www.kou.edu.tr/
Marmara (İstanbul)	www.marmara.edu.tr/
Mersin (Mersin)	www.mersin.edu.tr/
METU (Ankara)	www.metu.edu.tr/
Military Academy (İstanbul)	www.kho.edu.tr/
Mimar Sinan Güzel Sanatlar Akademisi (İstanbul)	www.msu.edu.tr/
Muğla (Muğla)	www.mu.edu.tr/
Mustafa Kemal (Antakya)	www.mku.edu.tr/

Name of the University (Private)	**Web-site**
Niğde (Niğde)	www.nigde.edu.tr/
Ondokuz Mayıs (Samsun)	www.omu.edu.tr/
Osmangazi (Eskişehir)	www.ogu.edu.tr/
Pamukkale (Denizli)	www.pamukkale.edu.tr/
Sakarya (Adapazarı)	www.sakarya.edu.tr/
Selçuk (Konya)	www.selcuk.edu.tr/
Süleyman Demirel (Isparta)	www.sdu.edu.tr/
Trakya (Edirne)	www.trakya.edu.tr/
Uludağ (Bursa)	www.uludag.edu.tr/
Yıldız Technical (İstanbul)	www.yildiz.edu.tr/
Yüzüncü Yıl (Van)	www.yyu.edu.tr/
Zonguldak Karaelmas (Zonguldak)	www.karaelmas.edu.tr/
Atılım (İstanbul)	www.atilim.edu.tr/
Bahçeşehir (İstanbul)	www.bahcesehir.edu.tr/
Başkent (Ankara)	www.baskent.edu.tr/
Beykent (İstanbul)	www.beykent.edu.tr/
Bilkent (Ankara)	www.bilkent.edu.tr/
Çağ (Mersin)	www.cag.edu.tr/
Çankaya (Ankara)	www.cankaya.edu.tr/
Doğuş (İstanbul)	www.dogus.edu.tr/
Fatih (İstanbul)	www.fatihun.edu.tr/
Haliç (İstanbul)	www.halic.edu.tr/
Işık (İstanbul)	www.ısıkun.edu.tr/
İstanbul Bilgi (İstanbul)	www.ibun.edu.tr/
İstanbul Kültür (İstanbul)	www.iku.edu.tr/
İstanbul Ticaret (İstanbul)	www.iticu.edu.tr/
İzmir Ekonomi (İzmir)	www.izmirekonomi.edu.tr/
Kadir Has (İstanbul)	www.khas.edu.tr/
Koç (İstanbul)	www.ku.edu.tr/
Maltepe (İstanbul)	www.maltepe.edu.tr/
Okan (İstanbul)	www.okan.edu.tr/
Sabancı (İstanbul)	www.sabanciuniv.edu.tr/
TOBB Institute of Economics and Technology (Ankara)	www.etu.edu.tr/
Ufuk (Ankara)	www.ufuk.edu.tr/
Yaşar (İzmir)	www.yasar.edu.tr/
Yeditepe (İstanbul)	www.yeditepe.edu.tr/

3. HIGHER ENVIRONMENTAL EDUCATION IN TURKEY

University education for the environment in Turkey is beginning to establish itself. Today, there are 30 state universities, two High Technology Institutes (State), one Environmental Sciences Institute (Boğaziçi), and one private university (Fatih) with the education of Environmental Engineering and Environmental Sciences Graduate Programs. There are some engineering faculties which began 27 years ago like Dokuz Eylül, İTÜ and METU. Except the universities of Niğde, Mersin and Çorlu (connected to Trakya University), which have only Undergraduate Degree Programs. Below mentioned universities (Tables 3.1. and 3.2.) have Environment Engineering and Science and Technology Programs with Graduate Programs. In the universities of Erciyes and Pamukkale; the undergraduate programs have not been realized, although a master degree program in Pamukkale University is in used; there is no master student because of lack of academic staff, the same thing is valid for the University of Erciyes.

Except Environmental Engineering and Environmental Science and Technology Departments of these universities, there are many environmental social related sciences courses in other departments of Applied and Nature Sciences Institutes and Social Sciences Faculties like Landscape Architecture, Urban and City Planning, Public and Administrative Sciences, Geography, Biology, Sociology, Psychology, Agriculture and Fisheries Departments. Generally, the environmental programs are offered by the Applied and Natural Sciences with the title of Environmental Engineering and Architecture or within the Faculty of Civil Engineering with the title as Environmental Sciences and Engineering (İTÜ) and Environmental Engineering (Yıldız Technical University).

Private universities such as Yeditepe, Bilkent, Atılım, İstanbul Kültür, Bahçeşehir and Başkent offer some environment related course programs in various departments like Architecture, Fine Arts and Environmental Design, Public Administration and Public Law.

Table 3.1. List of the state and private universities with Environmental Engineering Programs

University/Institute	Degree		Year of Establishment	Faculty/Institute
	Master	PhD		
Akdeniz	+		1998	Eng.
Anadolu	+	+	1993	Eng. and Arch.
Atatürk	+	+	1982	Eng. Env. Tech./Env. Sci.
Balıkesir	+		2004	Eng. and Arch.
Cumhuriyet	+	+	1989	Eng.
Çukurova	+	+	1991	Eng. and Arch. Env. Tech./Env. Sci.
Dokuz Eylül	+	+	1975	Eng.
Fırat	+	+	1989	Eng.
Gebze Technology	+	+	1994	Eng.
Hacettepe	+	+	1997	Eng. Env. Tech./Env. Sci.
Harran	+		1993	Eng.
İstanbul	+	+	1990	Eng. Envt. Sci.
İTÜ	+	+	1973	Civil Eng. Env. Sci. and Eng.
İzmir Technology	+		1992	Env. Eng.
K.Maraş Sütçü İmam			2000	Eng.
Karadeniz Technical	+		1982	Env. Sci.
Kocaeli	+		1993	Eng. Env. Tech./Env. Sci.
Marmara	+	+	1993	Eng.
METU	+	+	1973	Eng.
Ondokuz Mayıs	+	+	1980	Eng.
Pamukkale	+		1994	Eng.
Sakarya	+	+	1994	Eng.
Selçuk	+		1993	Eng. and Arch.
Süleyman Demirel	+		1993	Eng. and Arch.
Trakya	+		1993	Eng.
Uludağ	+	+	1991	Eng. and Arch. Env. Tech./Env. Sci.
Yıldız Technical	+	+	1978	CivEng.
Fatih (PU)	+	+	1997	Eng.

A significant example could be noticed as the graduate program of the environmental engineering department of Fatih University (PU) in İstanbul (Table 3.1).

Table 3.2. List of the universities with Environmental Science Programs

University/Institute	Degree		Year of Establishment	Institute
	Master	Ph.D.		
Boğaziçi	+	+	1983	Institute
Ege	+		1982	Grad. School of Nat. and Appl. Sci.
Gazi	+	+	1983	Sci. and Tech.
Marmara	+	+	1993	Pure and Appl. Sci.
Muğla	+		1994	Nat. and Appl. Sci.

Quata is approximately between 30 and 60 for the year of 2005-06 for every university with environmental engineering program in undergraduate degree. The total number of quata is 1300 for the year of 2005 in the undergraduate degree (ÖSYM 2005). The number of the academic staff members of the related departments of the universities vary between 30 and 50.

Special institutes offer environmental science programs examples of which are given in Table 3.2. These universities are Boğaziçi, Ege, Gazi, Marmara and Muğla.

4. METHODOLOGY

A web search has been carried out on the offered programs depending on the web sites of state and private universities of Turkey up to May, 2005. The list of the websites are given in Table 2.1. The results of the survey on the courses that are offered in the related departments of the universities are classified according to the relevance of the course contents. The classification criteria was consistent with the basic understanding of the graduate education in environmental social sciences. The departments of environmental engineering, environmental sciences, various departments of natural and applied sciences and social sciences cover approximately 15 directly and 15 indirectly related courses and some specially related courses. Directly related, indirectly related and specially related courses are evaluated as separate groups and their contents are presented in their original forms including in Appendices A, B and C.

"Directly Related Courses" could be evaluated under the titles as; "Environmental Philosophy, Environmental Psychology, Environmental Ethics and Environmental Sociology", "Tourism and Environmental Relations", "Introduction to the Environmental Sciences", "Environmental Education", "Environmental Management", "Environmental Impact Assessment", "Environmental Law", "Environmental Policy", "Ecology", "Economical Planning of Natural Resources", "Environmental Economies", "Energy and Environment", and "Environmental Health" (Appendix A).

"Indirectly Related Courses" could be evaluated under the titles as; "Geographical Information Systems and Remote Sensing", "Environmental Pollution and Prevention", "Marine Pollution and Prevention", "Urbanization and Environmental Problems", "Conservation of Natural Resources", "Environmental Risk Assessment", "Climate Changes", "Coastal Zone Management", "Natural Treatment Systems/Fundamentals of Environmental Technologies", "Management of Hazardous Wastes", "Cleaner Production", "Water Quality Management", "Quaternary Environments", "Environment and Culture", "Environmental Planning for Highways", "Environmental Research Methods", and "Environmental Management Systems" (Appendix B).

"Specially Related Courses" Section (Appendix C) is comprised of some selected courses based on natural and social sciences. The related discussion is presented in Section 4.3.

4.1. Evaluation of the Directly Related Courses

The evaluation of the directly related courses is presented in respective tables (Tables 4.1-4.14) composed of the headings in the sequence of the Title of the course, University, Faculty/Institute and Department and the related abbreviations are given in Abbreviation list (xi-xv).

4.1.1. Environmental Philosophy, Environmental Psychology, Environmental Ethics, and Environmental Sociology

"Environmental Ethics" is an emerging new discipline. An important concern of environmental ethics is our obligation to future generations since it is a moral obligation to leave the environment in good conditions for descendants. Environmental ethics assumes that human beings are ethically responsible not only to other individuals and society, but also to the larger community that includes plants, animals, soils, atmosphere, and water-that is, to environment. Essentially, environmental ethics is considered as a systematic account of values carried by the natural world, coupled with an inquiry into duties toward animals, plants, species and ecosystems. A comprehensive philosophy of nature is illustrated by and integrated with numerous actual examples of ethical decisions made in encounters with fauna and flora as well as threatened ecosystems.

The basic search on this subject revealed some courses directly titled as "Environmantal Ethics". On the other hand, the courses offered under the titles as 'Environmental Sociology, Environmental Psychology, and Environmental Philosophy' are also found to express close similarities in contents. Considering the interconnection of the subjects, these courses are evaluated together. Therefore, the below given table (Table

4.1) is comprised of the courses covering the environmental relevant aspects of sociology, psychology and philosophy as well as ethics.

The comparison of the contents of the indicated courses covers the following common points; individual and environment, responsibility of individual arranging environment, life quality relation between value and environment; characteristics of individual who is sensitive toward environment, planning and training programmes towards developing of environmental consciousness, environmental problems affecting social structure, the role and importance of environment in urbanization policy, the use of natural products in economic and social development policies, the approaches to the environment and society in Turkey and European Union. On the other hand, "Theories in Environmental Psychology" course of Ege University, offered in the Department of Social Psychology is more related to the representation of physical environment, cognitive mapping, to privacy and territoriality, to city life and environmental psychology.

"Environmental Ethics" course offered in the Department of Environmental Social Sciences of Boğaziçi University (ESC 546) covers the following topics: History of ideas on the place of the man in nature, evolution of environmentalist movements and ethics in 19th and 20th centuries, contemporary ideas on environment, technology and economic growth relationships, sustainable development. The content is similar to the course of Akdeniz University offered by the Department of Environmental Engineering with the title of "Environmental Ethics" and similar to the courses of Muğla University offered by the Department of Environmental Sciences with the titles of "Social Environmental Theories" and "New Social Trends and Environment". It is more related to the evolution of environmentalist movements and ethics in 19^{th} and 20^{th} centuries (Table 4.1).

"Environmental Sociology" course of Boğaziçi University (ESC 545) covers the following topics: Rural, urban and industrial sociology, environmental problems affecting social structure, basic demographic processes, social sampling techniques, questionnaire design, statistical methods in data evaluation, utilization of computer software designed for social science data processing.

Table 4.1. List of the universities offering the course "Environmental Philosophy, Environmental Psychology, Environmental Ethics and Environmental Sociology"

Title of the course	**University**	**Faculty/Institute**	**Department**
Env. Ethics	Akdeniz	Fac. of Eng.	Env. Eng.
Interaction of Individual and Env.	Ankara	Inst. of Nat. and Appl. Sci.	Home Econ.
Env. Ethics	Boğaziçi	Inst. of Env. Sci.	Env. Soc. Sci.
Env. Sociol.			
Phil. of Soc. Sci.		Fac. of Arts and Sci.	Phil.
Business and Society	Çukurova	Fac. of Econ. and Adm. Sci.	Business Adm. Man. and Org.
Env. and Human Relat.	Dicle	Fac. of Sci. and Letters	Geog.
Env. Sociol. and Awareness	Ege	Inst. of Nat. and Appl. Sci.	Center for Env. Studies
Envt. and Society		Fac. of Sci. and Letters	Appl. Sociol.
Theories in Env. Psych.			Soc. Psych.
Field Studies in Env. Psych.			Soc. Psych.
Society and Env.	Gazi	Inst. of Sci. and Tech.	Env. Sci.
Env. Sociol. and Ethics	Gebze Inst. of Tech.*	Fac. of Eng.	Env. Eng.
Env. and Society	Harran	Fac. of Sci.and Letters	Sociol.
Ethical Issues in Life Sci.	İzmir Inst. of Tech. **	Fac. of Eng.	Biotech. and Bioeng.
Env. Psych.	Karadeniz Technical	Fac. of For.	Lscape Arch.
Env. Society and Tech.	Marmara	Inst. of Pure and Appl. Sci.	Env. Sci.
Soc.-Psych. Effects of Env. Problems			
Eco-Phil.: Phil. of Env. I and II Bioethics/Biopolitics	METU	Fac. of Arts and Sci.	Phil.
Env. and Society	Muğla	Inst. for Nat. and Appl. Sci.	Env. Sci.
Soc. Env. Theories			
New Soc. Trends and Env.			
Env. and Society		Fac. of Sci. and Letters	Sociol.
Env. Sociol.	Selçuk	Fac. of Fine Arts and Design	Arch. and Env. Design
Env. Psych.	İstanbul Kültür (PU)	Fac. of Fine Arts and Design	Arch. and Env. Design

* Gebze Institute of Technology, ** İzmir Institute of Technology

Considering that ethics should also be introduced as a course to the environment engineers (Warehami and Elefsiniotis, 1996). Consequently a course content is developed to the environmental social sciences program. The purpose of this course is to provide students with an opportunity to develop skills in ethical reasoning about environmental issues and to acquaint them with some of the topics addressed in this field.

The following course content is proposed :

Environmental Ethics: Ethical issues in life sciences, ethical relations between man and his environment, sustainable development in the framework of environmental ethical issues, social sampling techniques, statistical methods, planning and improving training programmes towards developing of environmental consciousness.

4.1.2. Tourism and Environmental Relations

Tourism has the potential to consume economies, cultures and the environment, and to remake places in the reflection of the needs of the tourism industry. It is a global industry with a global impact, of particular importance, and controversy, is the impact of tourism on the natural environment. Specific environmental impacts may include over-development, groundwater and marine pollution, water shortages, and waste disposal issues. The cumulative effect of tourism impacts can compromise entire environmental systems.

This course is significant, because tourism based largely on observation of wildlife within protected areas is a major and growing source of income for many developing countries; especially important for Turkey, surrounded by different seas. There is an increasing attention for eco-tourism, which includes interest in the whole array of forest plants and animals. For example, there are tours to see butterflies, carettas and tours to coral reefs and tours to endemic plants; Turkey is very rich having all of this resources. It is therefore important that the environmental impacts of tourism are studied and graduates are available to address these concerns. The survey on the contents of the courses related to tourism and environment revealed a basic approach through landscape architecture departments. On the other hand, there are also courses directly offered by the

environmental engineering as well as environmental sciences departments. Table 4.2. covers the courses offered by the universities as a part of their graduate programs.

Table 4.2. List of the universities offering the course "Tourism and Environmental Relations"

Title of the course	**University**	**Faculty/Institute**	**Department**
Lscape Design of Tourist Resorts	Akdeniz	Fac. of Agri.	Lscape Arch.
Tourism Plan. and Env.			
Env. Design for Recreational Tourism Areas	Atatürk	Fac. of Agri.	Lscape Arch.
Nat. Touristic Resources		Fac. of Sci. and Letters	Soc. and Econ. Geog.
Tourism and Env.	Boğaziçi	Inst. of Env. Sci.	Env. Soc. Sci.
Tourism Plan.	Çukurova	Fac. of Agri.	Lscape Arch.
Tourism and Env. Relat.	Ege	Fac. of Sci. and Letters	Soc. and Econ. Geog.
Tourism Plan.	Gazi	Fac. of Eng. and Arch.	City and Reg. Plan.
Tourism and Env. Relat.	Gebze Inst. of Tech.	Fac. of Eng.	Env. Eng.
Tourism and Env. Relat. Tourism and Env.	Hacettepe	Fac. of Business Man.	Tourism Man.
Nat. Tourism	İstanbul	Fac. of For.	For. and Man.
Nat. Conservation and Tourism	Karadeniz Technical	Fac. of For.	Lscape Arch.
Tourism and Env.	Muğla	Inst. of Nat. and Appl. Sci.	Env. Sci.
Eco-Tourism	Mustafa Kemal	Fac. of Econ. and Adm. Sci.	Tourism and Hotel Man.
Recreation and Tourism Geog. Strategies for Sustainable Devt.	Fatih (PU)	Fac. of Arts and Sci.	Geog.

The comparison of the contents of the indicated courses includes the following common points; Role and effects of natural environment on tourism, effects of tourism on environment and determining methods, conservation policies, sustainability in environment and tourism, tourism developments both in Turkey and worldwide, economic, social and environmental consequences of tourism, landscape planning techniques and approaches in

lessening negative environmental effects of tourism, importance of collabration between disciplines and institutions in tourism planning with ecological dimensions, tourism and ecology and cultural heritage relationships.

On the other hand, "Tourism Planning and Environment" course of Akdeniz University offered in the Department of Landscape Architecture is related to the terms of tourism, tourism regions, tourism developments both in Turkey and worldwide, economic, social and environmental consequences of tourism, tourism planning procedure and caveats, landscape planning techniques and approaches in lessening negative environmental effects of tourism and importance of collaboration between disciplines and institutions in tourism planning with ecological dimensions.

The course offered by the Institute of Environmental Sciences of Boğaziçi University (ESC 548**)** covers the following topics: The interrelation between environment and tourism, deterioration of environment by touristic activities accomplished without necessary infrastructure, coastal and rural pollution, determination of carrying capacity of touristic resorts, effects of environment on tourism. Case studies show similarities to the course titled as "Tourism and Environment Relation" of Gebze Institute of Technology offered in the Environmental Engineering Department (Appendix A).

Since the scale and diversity of the tourism industry has resulted in a complex relationship between it and the environment, and only understood properly through an interdisciplinary approach that addresses the socio-cultural, economic and environmental issues, a course should be designed to enable students to follow an interdisciplinary approach to the study of the environment, with emphasis on the impact made by tourism. In the view of the fact that the course "Tourism and Environment"(ESC 548) fulfils these requirements, the content is proposed as an adequate syllabus.

Potential evaluation and planning principles of tourism sector are very significant in the economical growth of the developing and developed countries of the world; also all of the tourism strategies are important for a sustainable development. The relations between tourism and environment show a parallelism, in such a manner that carrying capacity of touristic resorts is directly effective on the environment.

4.1.3. Introduction to Environmental Sciences

An introductory course covering general knowledge related to the natural as well as polluted environment is a prerequisite approach to any environmental degree program. From a general perspective emphasizing an environmental consciousness thematic focus an introductory course may cover the following topics; human and nature, population, resources, environmental degradation, and pollution; cultural changes, world views, ethics and environment, matter and energy resources: types and concepts; ecosystems; human population dynamics: growth, urbanization, and regulation; environmental economics and politics; air, water, and soil resources; climate, global warming, ozone depletion; water resources and water pollution; soil resources and hazardous waste; food resources, protection and pesticides and pest control; land resources, wild life; energy and mineral resources; renewable and nonrenewable energy resources, nonrenewable mineral resources and solid waste.

The search revealed the following courses covering the introductory issues given in the Table 4.3. Besides environmental sciences and engineering departments, biology departments also offer a course similar in concept. A unique example is the “Global Environmental Issues” course offered in International Relations Department of Faculty of Economics and Administative Sciences of METU. The comparison of the contents of the indicated courses covers the following common points: An interdisciplinary view of the environment, the interaction of science, technology, social institutions and attitutes local behaviour and global consequences. On the other hand, Introduction to Environmental Sciences course of Fatih University is more related to the pollution and its impact on plants, animals, humans and non-living objects. Toxic elements, acidification, forest decline, pesticides, warfare, ecology, biodiversity, and resources.

Considering the wide-ranging nature of the relevant topics, a more condensed course content would be appropriate for the environmental social sciences program.

Therefore, the following course is proposed:

Introduction to Environmental Sciences: Basic principles of environmental systems, the importance of relevant issues in environmental systems, effects of human beings on the environment, introduction of this effect on environmental problems as a global perspective.

Table 4.3. List of the universities offering the course "Introduction to the Environmental Sciences"

Title of the course	**University**	**Faculty/Institute**	**Department**
Principles of Env. Poll.	Boğaziçi	Inst. of Env. Sci.	Env. Soc. Sci.
Global Env. Issues	Çanakkale Onsekiz Mart	Fac. of Sci. and Letters	Biol.
Introd. to Env. Sci.	Ege	Inst. of Nat. and Appl. Sci.	Env. Sci.
Special Topics in Env. Sci.	Karadeniz Technical	Inst. of Nat. and Appl. Sci.	Env. Sci.
Introd. to Env. Sci.	Marmara	Inst. of Pure and Appl. Sci.	Env. Sci.
Global Env. Issues	METU	Fac. of Econ. and Adm. Sci.	Intern. Rel.
Special Issues in Env. Sci. I and II	Ondokuz Mayıs	Fac. of Eng.	Env. Eng.
Introd. to Env. Sci.	Fatih (PU)	Fac. of Arts and Sci.	Biol.

Moreover as a specific approach, a course covering the topics specifically related to Turkey could also be offered under the title "Environmental Problems in Turkey". Therefore a detailed research revealed the following courses is given in Table 4.4. The courses are offered in basic and applied science departments and as a sole example in Landscape Architecture Department in Mustafa Kemal University.

The comparison of the contents of the indicated courses covers the following common points; General approaches to the environmental problems in Turkey, reasons and precautions, classification of the environmental problems in Turkey, radioactive pollution in Turkish Coasts, research studies of environmental problems in Turkey, environment and human, growing population and environment, industry, growing country and environment, soil-water-air pollution and bio-monitoring pollution sources, importance of environmental evaluation, sectorial based environmental pollution originating from industry, prevention

of environmental pollution. On the other hand, "Environmental Pollution Originating from Industry" Course of Gazi University offered in the Department of Environmental Sciences is more related to the sectorial based environmental pollution originating from industry and to the types of environmental pollution according to the environmental components like air, soil, water, food and pollution.

Table 4.4. List of the universities offering the course "Environmental Problems in Turkey"

Title of the course	**University**	**Faculty/Institute**	**Department**
Env. Problems in Turkey	Afyon	Fac. of Sci. and Letters	Geog.
Ecol. and Chem. Fundamentals in Env. Problems	Ankara	Fac. of Agri.	Soil Sci.
Genrl. Env. Problems	Atatürk	Fac. of Sci. and Letters	Physical Geog.
Env. Problems in Turkey			Geog. of TR
Env. Problems of Turkey	Balıkesir	Fac. of Sci. and Letters	Biol.
Env. Problems of Turkey and EIA	Çanakkale Onsekiz Mart	Fac. of Sci. and Letters	Biol.
Nat. Env. Problems	Dicle	Fac. of Sci. and Letters	Geog.
Env. Problems in Turkey	Fırat	Fac. of Eng.	Env. Eng.
Nat. Env. Problems		Fac. of Sci. and Letters	Geog.
Env. Poll. originating from Industry	Gazi	Inst. of Sci. and Tech.	Env. Sci.
Env. Problems in Turkey	Hacettepe	Fac. of Eng.	Env. Eng.
Env. Problems of Turkey	Karadeniz Technical	Fac. of Eng.	Env. Eng.
Env. Problems of Turkey	Muğla	Inst. for Nat. and Appl. Sci.	Env. Sci.
Role of Lscape Arch. in Env. Problems	Mustafa Kemal	Fac. of Agri.	Lscape Arch.
Nat. Env. Problems	Sakarya	Fac. of Sci. and Letters	Geog.
Soc., Econ., and Adm. Analysis of Env. Problems	Zonguldak Karaelmas	Fac. of Eng.	Env. Eng.

Bearing in mind the importance of the environmental problems nationwide as well as universally as trans-boundary problems, a specific course content is also developed. Environmental Issues in Turkey: Basic understanding of environmental and related pollution problems, multiple environmental changes involving the atmosphere, land and water, reasons of this changes, population growth in mega-cities, consumption of goods

and services, negative effects of this changes, environmental problems of Turkey, comparison with other countries and acute precautions.

4.1.4. Environmental Education

As human beings continue to have significant impacts on the environment and its resources, education seems to be the best tool for providing the public with an understanding of the ramifications of their actions and behavior patterns in order to increase sensitivity and concern surrounding environmental issues. Environmental education is considered very important, due to interdisciplinary nature of the environmental sciences. Environmental science integrates many disciplines and includes some of the most important topics of modern civilization as well as some of the oldest philosophical concerns of human beings- that of the nature of the relationship with the environment. Basicly, human environmental impacts can largely be attributed to consumption patterns. The best way to promote awareness for environmental issues and promote environmentally responsible behaviors is through increased access to environmental education at all levels (Sauvé, et.al., 2000).

As mentioned below, the course of “Environmental Education” is present only in the programs of a few university of Turkey comprising a significant lack of the environmental education in Turkey comparing with the universities of other countries. A detailed research revealed the following courses as given in Table 4.5. Courses titled as “Environmental Education” and “Introduction to Environmental Education” are offered in environmental sciences departments of the Gazi and Marmara Universities. The content of a course offered in Biology Department of Faculty of Science and Letters of Erciyes University covers the relevant topic of environmental education. On the other hand, the course “Children and Environment” of Ankara University offered in the Department of Home Economies is more related to the children's environment, children's perception about environment, interaction between the children and the environment, variables effecting this interaction, suggestions for developing the children's environment, environmental education in Turkey and the world and examples on this subject.

The comparison of the contents of the indicated courses covers the following common points; Interaction between the children and the environment, environmental education in Turkey and the world, environmental education in all levels of Education System in Turkey, environmental NGO's and their programs and the environmental education of the future.

Table 4.5. List of the universities offering the course "Environmental Education"

Title of the course	**University**	**Faculty/Institute**	**Department**
Children and Env.	Ankara	Grad. School of Nat. and App. Sci.	Home Econ.
General *	Erciyes	Fac. of Sci. and Letters	Biol.
Env. Education	Gazi	Inst. of Sci. and Tech.	Env. Sci.
School, Env. Relations	Harran	Fac. of Sci. and Letters	Educational Sci.
Env. Education	Marmara	Inst. of Pure and App. Sci.	Env. Sci.
Introd. to Env. Education			

*There is no title of the course in Erciyes University, it is a general course covering some environmental approaches; environmental education is one of these approaches.

The following course content is proposed:

Environmental Education: In all levels of Education System in Turkey, solving real life problems with the help of education, emphasizing the significance of environmental issues like environmental problems such as air, water and soil pollution, the crucial role of habitat protection and endangered species, environmental approaches like global climate change, energy conservation, recycling and reuse, waste management, importance of national and international legislations and limitations, basic issues of aqua and ecosystems, ethical approaches in environmental study fields. Environmental education should be a continuous, lifelong process, both in school and out of school; Education is thus an instrument to a predetermined finality. Education is essentially instrumental into the service of environmental and developmental ends and almost no invitation is made to discuss those ends. Education is presented as an instrument to solve problems and to act directly upon these problems. All of the educational systems around the world are invited and expected to be reformed for such a purpose.

Education is an indispensable means to give all women and men in the world the capacity to own their own lives, to exercise personal choice, and responsibility, to learn throughout life without frontiers, be they geographical, political, cultural, religious, linguistic or gender. (UNESCO, 1997).

4.1.5. Environmental Management

Effective environmental management requires a sound appreciation of the complex interrelationships within the natural and polluted environments. The basic principles depend on the technological, economic and sociological constrains. Environmental management model covers diverse topics comprised of natural systems as well as pollution impacts in each environmental compartment as water soil and air. Additionally, health aspects could also be introduced in relation to the public health departments of the medicine faculties. From a broader perspective, a collective view on environmental management is emphasized.

The growth of interest in environmental matters both from a professional level and amongst the general public has brought about major changes in the way in which organisations involved with the environment carry out their activities. The acceptance by governments of the concept of sustainable development and the increasing importance given to ethical environmental practices in business have focused attention on the need for improved understanding of the factors involved in environmental management (Tebbutt and Woods, 1998).

The concept of environmental management was introduced in the following courses as outlined in Table 4.6. The course is mainly offered in environmental engineering and sciences depertments followed by public administration and business management departments. A unique example could be given as the course offered in Agriculture Department titled as “Environmental Management” in Trakya University. As a specific approach “Natural Resources and Management” courses in context to the implementation of environmental management systems may also be offered.

The comparison of the contents of the indicated courses covers the following common points; Environmental problems, concept of environment, environment-human relations, ecosystems, cycles, ecological principles, economics-ecology relations and population, energy, pollution, flora and fauna, cultural and historical environment, environmental phenomenon, environmental management and micro-macro environmental instruments, tourism and environment, the examples of environmental problems in Turkey.

On the other hand, "Environmental Data Management" course of Dokuz Eylül University, offered in the Department of Environmental Engineering is more related to the data management in terms of data collection, data analyses, data handling and storage. "Quality Management in Environmental Systems" titled course offered in the Department of Environmental Sciences and Engineering of İTÜ is more related to the topics such as; Environmental Impact Assessment (EIA), history, legislations, EIA processes, EIA identification methodologies, Cumulative Impact Assessment, Environmental Management System (EMS), Resource Management, Waste Management, EMS Standarts, ISO 14001, ECO-Management, Environmental Aspects Evaluation Methods, Relation between EIA and EMS, Environmental Risk Assessment and their modelling, environmental models, modelling approach, parameters, main functions and equations, computing software of the model, results and application of the model for case studies. The course of Boğaziçi University (ESC 584) offered in the Institute of Environmental Sciences with the title of "Special Topics: ISO 14000 Procedures and Auditing" is more related to the Standarts of ISO 14000 and ISO 14001.

Bearing in mind that "a sustainable environment is one in which the natural environment, economic development and social life are seen as mutually dependent - and the interaction between them contributes to the sustainability and enhancement of the quality of lives of the people and the natural environment " an appropriate course content should be developed. The course would be a survey course in environmental management focusing on tools to assess the environment. It should focuse on widely used environmental management tools, including quantitative risk assessment and management, wetlands delineation and permitting, biological assessment, analytical tools in determining environmental valuations for benefit-coast analyses, multi-objective decision making, and land use and comprehensive planning.

The following course content is proposed:

Environmental Management: Comparison of the methods and tools for solving the environmental problems in the developed, developing and underdeveloped countries, international environmental legislation and agreements, audit and impact assessment, ISO 14000/14001.

Table 4.6. List of the universities offering the course "Environmental Management"

Title of the course	**University**	**Faculty/Institute**	**Department**
Env. Problems and Env. Man.	Akdeniz	Fac. of Econ. and Adm. Sci.	Public Adm.
ISO 14000 Proced. and Auditing	Boğaziçi	Inst. of Env. Sci.	Env. Sci.
Env. Data Man.	Dokuz Eylül	Fac. of Eng.	Env. Eng.
Env. Man. and Adm.	Erciyes	Fac. of Econ. and Adm. Sci.	Business-Man. and Org.
Env. Man.	Gazi	Inst. of Sci. and Tech.	Env. Sci.
Env. Man.	Gaziosmanpaşa	Fac. of Agri.	Fishery Prod.
Env. Man.	Hacettepe	Fac. of Eng.	Env. Eng.
Quality Man. in Env. Syst.	İTÜ	Fac. of CivEng.	Env. Sci. and Eng.
Envtal. Man.	Karadeniz Technical	Grad. School of Nat. and Appl. Sci.	Env. Sci.
Env. Man.	Marmara	Inst. of Pure and Appl. Sci.	Env. Sci.
Env. Man.	Muğla	Inst. for Nat. and Appl. Sci.	Env. Sci.
Env. Man. and Org.	Pamukkale	Fac. of Econ. and Adm. Sci.	Public Adm.
Env. Man.	Trakya	Fac. of Agri.	Agri. Econ.
Env. Man.	Uludağ	Fac. of Eng. and Arch.	Env. Sci.

4.1.6. Environmental Impact Assessment (EIA)

Environmental Impact Assessment**,** with its requirement for an assessment of the environmental impacts of development projects, plans and policies as a component of the decision- making process, has become an established part of environmental management

procedures throughout the world. The major target of the course would be to understand international theory, the practical process, terminology and methods of performing an EIA. This course should explore the interactions between human activities and natural or man-made systems, linking them to the concept of environmental sustainability and to Environmental Impact Assessment (EIA) procedures. It should also focus to both on strategic EIA and project EIA, and discuss examples of EIA systems used in different countries as well as in Turkey. A detailed research revealed the following courses as given in Table 4.7.

The survey results indicate that a wide number of related courses are available to the students of various departments covering landscape architecture as well as environmental engineering. Special examples could be pointed out as Biology Department in Hacettepe University and Business Administration Department in Selçuk University as "Environmental Accounting" related contents of which are presented in Appendix A. On the other hand, in the universities of Uludağ (CEV 905/820) and Karadeniz Technical (CEV 5110); the course of 'EIA' offered in the Environmental Science Departments inserts to the course of "Environmental Management"; and the course of Anadolu University (ÇEV 610) offered in the Environmental Engineering Department with the title of "Industrial Environmental Quality Management" covers same topics. All the courses are in the departments of Environmental Engineering.

The comparison of the contents of the indicated courses covers the following common points; Definition, scope and field of application of Environmental Impact Assessment, methodologies of EIA, national and international legislation of EIA, discussion of case studies, pollution sources, importance of environmental evaluation, protection of natural heritage, the determination of environmental impacts at various conditions, its legal dimension, evaluation of new standards in EIA, concept of ISO-9000 and the relations between the Environmental Impact Assessment is specific. Morever, "Environmental Accounting" courses of Mustafa Kemal and Selçuk Universities, offered in Business Departments are unique courses related to the environmental calculation and to the concept and terminology of Environmental Calculation.

The course offered in the Institute of Environmental Sciences of Boğaziçi University, under the title of "Environmental Impact Assessment" (ESC 502) covers the following topics: Definition, scope and field of application of Environmental Impact Assessment (EIA), methodologies of EIA, assessment of impacts, national and international legislation of EIA, principles of Environmental Risk Assessment, and discussion of case studies.

This course (ESC 502) content is found to be similar to the courses given in the related departments of the universities of Hacettepe, Çukurova and Kocaeli with the course codes as ÇEV 603, PM-563 and MÇV 505 respectively.

Considering the basic understanding of relevant topics as Environmental Impact Assessment (EIA) procedure (EIA in international perspective and EIA as a tool for sustainable development) a course content could be developed covering the following common points; Description of the purpose and underlying principles of environmental impact assessment and explanation of its importance in effective environmental management systems, interpretation of the legal requirements for environmental impact assessment nationally, selecion of standard environmental impact assessment methods and techniques for given situations and discussion of common issues arising from environmental impact assessment practice and recommend practice improvements.

Taking into account the content of Environmental Impact Assessment course (ESC 502), the below given content is proposed:

Environmental Impact Assessment: Background knowledge on the developments of environmental impacts assessment, definition, scope and field of application of Environmental Impact Assessment (EIA), methodologies of EIA, assessment of impacts, national and international legislation of EIA, EIA studies in special environmental compartments such as aquatic and terrestrial systems, Strategic Impact Assessment, discussion of case studies.

Table 4.7. List of the universities offering the course "Environmental Impact Assessment"

Title of the course	University	Faculty/Institute	Department
EIA, Applic. in Lscape Arch.	Akdeniz	Fac. of Agri.	Lscape Arch.
EIA	Atatürk	Fac. of Agri.	Lscape Arch.
EIA	Balıkesir	Fac. of Eng. and Arch.	Env. Eng.
EIA	Boğaziçi	Inst. of Env. Sci.	Env. Sci.
Advanced EIA	Cumhuriyet	Fac. of Eng. and Arch.	Env. Eng.
Env. Problems of Turkey and EIA	Çanakkale Onsekiz Mart	Fac. of Sci. and Letters	Biol.
Assessment of Env. Effect in Earth Sci.		Fac. of Eng.	Geol. Eng.
EIA		Fac. of Agri.	Lscape Arch.
Strategical EIA	Çukurova	Fac. of Agri.	Lscape Arch.
EIA Applic.			
EIA Methods			
EIA of Coastal Zone Projects	Dokuz Eylül	Fac. of Mar. Sci. and Tech.	CZM
EIA and Risk Analysis	Ege	Inst. of Nat. and Appl. Sci.	Env. Sci.
EIA	Gaziosmanpaşa	Fac. of Agri.	Fishery Prod.
EIA	Hacettepe	Fac. of Eng.	Env. Eng.
Biol. Approach of Env. Imp. Assest. Applic.		Fac. of Sci. and Letters	Biol. and Ecol.
EIA in Lscape Arch.	İstanbul	Fac. of For.	Lcape Arch.
Quality Man. in Env. Sys.	İTÜ	Fac. of CivEng.	Env. Eng.
EIA	Kocaeli	Fac. of Eng.	Env. Eng.
EIA	Marmara	Inst. of Pure and Appl. Sci.	Env. Sci.
Env. Poll.	Muğla	Fac. of Nat. and Appl. Sci.	Env. Sci.
EIA in Enterprises		Fac. of Fish. Prod.	Fish. Prod.
Env. Accounting	Mustafa Kemal	Fac. of Bus. Adm.	Business
EIA	Ondokuz Mayıs	Fac. of Eng.	Env. Eng.
Env. Accounting	Selçuk	Inst. of Soc. Sci.	Business Adm.
Soc, Econ. and EIA	Trakya	Fac. of Agri.	Agri. Econ.
Strategical EIA	Yıldız Technical	Fac. of Arch.	City and Reg. Plan.
EIA	Fatih (PU)	Fac. of Arts and Sci.	Geog.

4.1.7. Environmental Law

Environmental regulation is an area of growing social and commercial significance in terms of policy and resource issues. Environmental Law is different in basic concept

from domestic laws because there is no world government with enforcement authority over nations. As a result, international law must depend on the agreement of the parties concerned to bind themselves to behavior that many residents of a particular nation may oppose. Certain issues of multinational concern are addressed by a collection of policies, agreements, and treaties that are loosely called international environmental law.

The International Environmental Law course should aim at understanding and critical analysis of general principles and treaty regimes regarding contemporary protection of the environment.

The course would cover such topics: Common heritage of mankind, human right to a clean environment, enforcement of international environmental law and international environmental disputes, the climate change, biodiversity, whaling, hazardous waste and marine pollution. A prerequisite course would be appropriate for the students acquiring an extensive knowledge of the most important issues on environmental protection.

The survey of the courses offered under the general title of "Environmental Law" revealed at least 18 universities with diverse departments including engineering as well as social sciences. "Environmental Law" course was given in related departments of Boğaziçi, Gazi, Hacettepe, Karadeniz Technical, Marmara, Muğla, Ondokuz Mayıs, Atılım, and İstanbul Kültür Universities. The other courses as given in Table 4.8. are comprised of various topics such as regulations and guidelines as well as the underlying law concept. Special interest was given to the forestry law in Forestry departments. Considering the relevance of such topics to the global environmental issues, all of the courses are evaluated under the same general heading of "Environmental Law" (Table 4.8).

The comparison of the contents of the indicated courses covers the following common points; Environment-related laws, decrees, regulations, decisions of the council of ministers and their application in Turkey and in the World, activities of environmental organisations, legislation related to the transboundary movement of wastes, case studies.

Table 4.8. List of the universities offering the course "Environmental Law"

Title of the course	University	Faculty/Institute	Department
Intern. Human Rights Protection	Atatürk	Fac. of Law	Public Law
Env. Rights/Policy	Akdeniz	Fac. of Agri.	Lcape Arch.
Env. Law	Boğaziçi	Inst. of Env. Sci.	Env. Soc. Sci.
Env. Legislation	Çukurova	Fac. of Agri.	Lcape Arch.
Legal and Institutional Arrangements in CZM	Dokuz Eylül	Fac. of Mar. Sci. and Tech.	CZM
Local Adm. and Env. Utilities	Ege	Inst. of Nat. and Appl. Sci..	Env. Sci.
Env. Law	Gazi	Inst. of Sci. and Tech.	Env. Sci.
Env. Law	Hacettepe	Fac. of Eng.	Env. Eng.
Nat. Res. Law	İstanbul	Fac. of For. Eng. .	For. Law
Env. Constit. Law			
Intern. For. and Env. Law			
Env. Policies and Law	Military School	Ins. of Defence Sci.	Security Man.
Env. Law	Karadeniz Technical	Inst. of Nat. and Appl. Sci.	Env. Eng.
Env. Law	Marmara	Inst. of Pure and Appl. Sci.	Env. Sci.
Right to Env. in the Comp. Constit. Law		Fac. of Econ. and Adm. Sci.	Public Law
Env. Law	Muğla	Inst. of Nat. and Appl. Sci.	Env. Sci.
Env. Policy and Law	Mustafa Kemal	Fac. of Econ. and Adm. Sci.	Public Adm.
Env. Law	Ondokuz Mayıs	Fac. of Agri.	Agri. Econ.
Env. Law	Atılım (PU)	Fac. of Law	Public Law
Env.- Urb. and Law	Bahçeşehir (PU)	Inst. of Soc. Sci.	Law
Env. and Zoning Law	İstanbul Kültür (PU)	Fac. of Fine Arts and Design	Arch. and Env. Design
Env. Law		Fac. of Law	Public Law
Env. Law in EU and Turkey Intern. Law of the Sea	Yeditepe (PU)	Fac. of Law	Public Law Sea Law

- Marmara: Right to Environment in the Comparative Constitutional Law

"Environmental Law" course given in the Institute of Environmental Sciences of Boğaziçi University (ESC 547) covers the following topics: Environmental law and legislation in Turkey and abroad, legislation related to the transboundary movement of wastes, case studies. It has the similar content with other universities courses.

Basically an environmental law course should cover the topics such as, introduction to the role of the legal system in addressing problems of environmental disruption, with special emphasis on problems of pollution, discussion of traditional and evolving legal remedies for the control of pollution, including recent national legislations and guidelines.

Moreover, as indicated previously, a prerequisite course covering the introductory knowledge on the environmental issues may also be recommended.

Therefore, the following course content is proposed:

Environmental Law: Environment-related laws, regulations, guidelines and decisions set by national and local authorities, international agreements signed, environment policies in Turkey and in the world, activities of environmental organizations.

On the other hand, "Coastal Zone Management" course of Boğaziçi University (ESC 592) offered in the Institute of Environmental Sciences covers the following topics: An understanding of the human importance of the coastal zone, dynamic nature of the coastal zone, key issues affecting the coastal zone, particulary those related to human aspects of development and utilisation, the approach known as integrated coastal management, the structural problems underlying the adoption the implementation of integrated coastal zone management, present use and misuse of Turkish coasts.

"Legal and Institutional Arrangements in Coastal Zone Management" course content of Dokuz Eylül University, offered in the Department of Coastal Zone Management is found to be very comprehensive as follows: Definition of the environmental law, place and sources with in the law system, development of the environmental law, basic concepts regarding the environmental law, environmental policy, principles of environmental law, concepts of environment and environmenial law, specially protective areas, responsibility of the person who pollutes the environment with respect to civil law, court rights arising by environmental pollution, concept of damages caused by pollution, prevention of coastal sites. Moreover, a close similarity was assessed considering the course offered in the University of Yeditepe in the Department of Law with the title of "International Law of the Sea" (Appendix A) and the course offered in İTÜ

in the Department of Coastal Zone Management with the title of “Coastal Zone Management” (Appendix B).

4.1.8. Environmental Policy

Environmental policy and its instruments are very important to reduce environmental pollution and depletion of natural resources. Different kinds of controls like direct regulation, taxation and subsidies are environmental policy instruments to reach of desirable resources.

The comparison of the contents of the indicated courses covers the following common points; The concept of environment, environmental pollution, possible impacts on environment of agricultural policy applied in Turkey, environmental law other environment policy related agriculture in European Union, relativity of water, capacity, today and future strategy of water, administrative and legal controls in environmental protection, international cooperation for the preservation of natural environment, regional environment policies of United Nations, NATO, European Union, European Council and similar organizations, global view of the status of the environment and resources resulting from social forces having cultural, economic, demographic, and political dimensions.

It can be seen, that the course of “Environmental Policy” has a certain emphasis generally in the faculties of Agriculture; Economies and Administrative Sciences, and Forestry Departments of the universities. On the other hand, Environmental Policies and Planning course presented in the Department of City and Regional Planning of METU, focuses on the evolution of environmental consciousness, concerns and policies since 1960s. The course also covers discussions, future possible developments of environmental policies. The changes of environmental policies at global, regional, national and local levels are to be presented during the course.The policies will be evaluated from juridical, administrative and sectional aspects. The world wide and nation wide statistics about population, natural resources will be studied , table 4.9. shows the following courses.

Table 4.9. List of the universities offering the course "Environmental Policy"

Title of the course	University	Faculty/Institute	Department
Agri. Env. Policy	Ankara	Fac. of Agri.	Agri. Econ.
Env. Policy in the Europian Studies	Boğaziçi	Inst. of Soc. Sci.	Arts Program in Europian Studies
Env. Man. and Policy	Çanakkale Onsekiz Mart	Fac. of Econ. and Adm. Sci.	Lab. Econ. and Industry Relations
Intern. Env. Policy			
Intern. Org. and Env.			Publ. Adm.
Env. Policy	Çukurova	Fac. of Agri.	Lscape Arch.
Env. Org. and Policies		Fac. of Eng. and Arch.	Env. Eng.
Env. Policies and Analysis			
Utilization Policies of Soil and Water Res.		Fac. of Agri.	Agri. Econ.
Env. and Politics	Dokuz Eylül	Fac. of Econ. and Adm. Sci.	Intern. Relat.
Reg. Policy in EU		Inst. of Soc. Sci.	Europe Union
Env. Policy in EU		Inst. of Soc. Sci.	Europe Union
Env. Politics and Ethics in EU and Turkey	Ege	Agri. Sci.	Lscape Arch.
EU-TR Relationships		Fac. of Letters	Sociol. Inst.
Relativity of water and politics in TR	Gazi	Inst. of Sci. and Tech.	Env. Sci.
National and Intern. Env. Policy	Hacettepe	Fac. of Econ. and Adm. Sci.	Policy Sci. and Public Adm.
Water Policy/Pricing	Harran	Fac. of Agri.	Agri. Econ.
Env. Policies	İstanbul	Fac. of For.	For./Man.
Env. Prob./Plan. Policy	Karadeniz Tech.	Fac. of For.	Lscape Arch.
Env. and Intern. Rel.	Kocaeli	Fac. of Eng.	Env. Eng.
Europeanisation of Env. Policy	Marmara	Inst. of EU	EU Policy and Intern. Rel.
Env. Policy/Plan.	METU	Fac. of Arch.	City/Reg. Plan.
Env. Policies I and II	Muğla	Inst. of Nat. Sci.	Env. Sci.
Public Rights and Freedoms	Pamukkale	Fac. of Econ. and Adm. Sci.	Public Adm.
Env. Policy	Trakya	Fac. of Agri.	Agri. Econ.
Global Envtal. Pol.	Uludağ	Fac.of Econ. and Adm. Sci.	Public Adm.
Env. Policies	Yıldız Technical	Fac. of Arch.	City/Reg. Plan.
Env. Protection Policy	Zonguldak K.elmas	Fac. of Eng.	For. Eng.
Env. Plan. and Policy	Fatih (PU)	Fac. of Arts and Sci.	Geog.

The following course content is proposed:

Environmental Policy: Possible developments of environmental policies in past, present and future scopes, evaluation of the juridical, administrative and sectional aspects in the policy level, general approaches about environmental regulations and pollution.

"Environmental Policy" is more related to the Environmental Legislation and Law therefore it could be better assessed if offered together with the "Environmental Law" course.

4.1.9. Ecology

An ecosystem is defined as the minimal entity that has the properties required to sustain life. This implies that an ecosystem is real and important. Ecology can also be defined as the study of ecosystems. Ecology deals mainly with the roles filled by organisms in nature and how environmental conditions affect and are affected by these roles. Consequently, it can be concluded that ecosystems have a crucial role for the conservation of natural resources and for sustainable development also for survival of human beings.

The survey of the courses on "Ecology" revealed the following data that has been presented in Table 4.10. A brief outline of the evaluation of the courses is the diverse nature of the departments offering the course irrespective of the background nature of the students. That is, the mentioned departments range from engineering departments, to natural sciences, social sciences, architecture as well as to the environmental sciences. The comparison of the contents of the indicated courses covers the following common points: Energy resources for our common heritage, balanced development, sustainable development, relation of economy with ecology, population dynamics, ecology of communities, biotic and abiotic components, human ecology, effect of pollution on microbial communities, study and understanding of microbiological species and other living organisms in the environment. Ecological rank and the types, chain cycle of carbon and nitrogen in nature; genetics of natural selection, industrial pollutants and their effects on different ecosystems, affects of the environmental issues on the political thought,

environmentalism and ecologism as alternative ideologies, major schools in green political thought.

On the other hand, “Coastal and Marine Ecosystem” course of Çukurova University, offered in the Department of Biology, “Marine Ecology” course of İstanbul University, offered in the Department of Sea Biology, “Marine Ecology” course of Karadeniz Technical University, offered in the Department of Fishery Technologies, “Aquaculture and Environment” course of Muğla University, offered in the Department of Environmental Sciences, and “Ecological Sightseeing of Water Pollution” of Trakya University, offered in the Department of Environmental Engineering are more related to the environmental aspects of the sea, water circulation, physical and chemical aspects of the marine environment, tides and the intertidal environment, human impact on the coastal and marine ecosystems.

The course “Concepts and Models in Ecology” of Boğaziçi University (ESC 558), offered in the Institute of Environmental Sciences covers the following topics: Mechanisms of evolution, population genetics, game theory and evolutionary stable strategies, Red Queen hypothesis, ecology of populations, single-species populations, population dynamics, ecology of communities, species diversity, community structure, the origin and maintenance of communities, conservation ecology. Each issue to be accompanied by papers on related topics and mathematical models, is similar to the courses of “Population Dynamics” of Celal Bayar University, and “Environmental Biology” of Ege University, both courses offered in the Biology Departments.

Another course of Boğaziçi University “Environmental Biology” (ESC 556), offered in the Institute of Environmental Sciences covers the following topics: An exposition of basic biological principles concerning interrelations between organisms, particularly those directly affecting man and his environment, behaviour of organisms in fresh water, marine and soil environments, effect of pollution on microbial communities, study and understanding of microbiological species and other living organisms in the environment.

.

Table 4.10. List of the universities offering the course "Ecology'"

Title of the course	University	Faculty/Institute	Department
Env. Biol.	Akdeniz	Fac. of Sci. and Letters	Biol. Consult.
Ecol. Plan./Design	Anadolu	Fac. of Arch.	Arch. Master of Arts
Env. Biol.	Ankara	Fac. of Sci. and Letters	Biol.
Ecosyst. Analysis I and II	Balıkesir	Fac. of Sci. and Letters	Biol.
Cultural Ecol.			Geog.
Concepts and Models in Ecol. Glob. Env. Systems Env. Biol.	Boğaziçi	Inst. of Env. Sci.	Env. Soc. Sci. Env. Pure Sci.
Population Dynamics	Celal Bayar	Fac. of Sci. and Letters	Biol.
Mar. Ecol.	Çukurova	Fac. of Appl. Sci.	Biol.
Coastal and Mar. Ecosyst.			
Ecol. Plan. Aquatic Env. as Living Spaces		Fac. of Agri. Fac. of Appl. Sci.	Lscape Plan. Biology
Env. Biol.	Ege	Fac. of Sci. and Letters	Biol.
		Inst. of Nat. and Appl. Sci.	Env. Sci.
Organisms and Env.			
Ecosyst. of Turkey	Fırat	Fac. of Sci. and Letters	Geog.
Advanced Ecol.	Gazi	Inst. of Sci. and Tech.	Env. Sci.
Ecol. of Ecosys.		Fac. of Sci. and Letters	Biol.
Ecosyst. and Specificities		Fac. of Sci. and Letters	Biol.
The Ecol. of Ecosyst.		Fac. of For.	For.
Env. Ecol.		Fac. of For.	For.
Ecol. and Agri.	Gaziosmanpaşa	Fac. of Agri.	Agri.
Ecol. Const. Materials	Gebze Institute of Technology	Fac. of Arch.	Const.
Urban-Social Ecol.			City and Reg. Plan.
Evolutionary Ecol.	Hacettepe	Inst. of Pure and Appl. Sci.	Biol. and Ecol.
Ind. Ecol.			
Ecol. Antr.		Fac. of Letters	Antr.
Human Ecol.		Fac. of Letters	Sociol.

Title of the course	University	Faculty/Institute	Department
Ecol.	Harran	Fac. of Sci. and Letters	Geog.
Fundamentals of Ecol. Plan.	İstanbul	Fac. of For.	L.Cape Arch.
Mar. Ecol.		Fac. of Fish. Prod.	Sea Biol.
Env. Prob. in Ecosyst. and their Solution		Fac. of For. Eng.	Soil Sci. and Ecol.
Wildlife Ecol.		Fac. of For. Eng.	For. Entomology and Protection
Ecol. Approach in City Plan. Process	İzmir Institute of Technology	Grad. School for Eng. and Sci.	City and Reg. Plan.
Fire Ecol.	Kafkas	For. Eng.	For. Protection and Entomology
Mar. Ecol.	Karadeniz Technical	Fac. of Tech. Eng.	Fish. Tech. Eng.
Politics and Ecol.	Marmara	Fac. of Econ. and Adm. Sci.	Intern. Rel.
Env.-Living Space Relat..		Inst. of Pure and Appl. Sci.	Env. Sci.
Major Concepts in Ecol.	METU	Inst. of Nat. and Appl. Sci.	Biol. Sci.
Advanced Ecol.			Env. Sci.
Aquaculture and Env.	Muğla	Inst. of Nat. Sci.	Env. Sci.
Mar. Ecosyst.	Mustafa Kemal	Fac. of Sci. and Letters	Biology
Nat. Ecosyst. and their Formations			
Statistics in Env. Syst. Analysis		Fac. of Agri.	Lscape Arch.
Evolutionary Ecol.	Pamukkale	Fac. of Sci. and Letters	Biol.
Ecol. View of Water Poll.	Trakya	Fac. of Eng.	Env. Eng.
Ecol. Prob. and Effects on Field Agri.		Fac. of Agri.	Field Crops
Socio-Econ. Analysis of Ecol. Sust.	Uludağ	Fac. of Econ. and Adm. Sci.	Public Adm.
Env. Biol.	Zonguldak Karaelmas	Fac. of Sci. and Letters	Biol.
Cultural Ecol.	Bilkent (PU)	Fac. of Art	Arch. and Hist. of Art
Ecology	İstanbul Kültür (PU)	Fac. of Fine Arts and Design	Arch. and Env. Design
Ecol. and Sust. in Ecol.	Yeditepe (PU)	Inst. of Appl. Sci.	Arch.

The following course content is proposed:

Environmental Ecology: Fundamental ecologic principles, protection of fauna and flora, energy resources for our common heritage, relation of economy with ecology, description of ecology, its relationship with other sciences, food, chain cycle of carbon and nitrogen in nature, the role of natural systems in meeting human needs.

4.1.10. Economical Planning of Natural Resources

Planning of natural resources during this era of global urbanization is one of the greatest challenges facing all the world. Meeting this challenge will require the concerted actions of everyone with a stake in the world's cities-governments at all levels, nongovernmental organizations, private enterprises, communities and citizens. The challenge for the world is to seek new and revaluated planning approaches of natural resources that both provide for the needs of urban and rural residents and protect the environmental resources on which human life depends. The life on the Earth depends on the sensible use of resources and on the delicate balances driving the biogeochemical cycles. Naturally, the limited resources can sustain only a finite number of inhabitants. In many cases human activities themselves seem to lower the natural resources of the Earth.

Following the basic idea of the economical planning of natural resources, a variety of courses could be found through the search of the courses offered in the related departments of the universities (Table 4.11). As expected agricultural departments play the major interest whereas environmental science and engineering departments of Çukurova, Cumhuriyet, Harran and Kocaeli universities also offer the course emphasizing water resources. A unique example of special interest could be the "Transboundary Water Resource Management" offered in the Department of International Relations of Faculty of Economics and Administrative Sciences of METU. The content of this course is more related to the introduction the students with the evolving water management paradigms and elaborate on how these dialogues culminated in defining the "integrated water resources management" as the key approach for sustainable development and poverty reduction. Therefore, this course could also be evaluated as a management course.

Table 4.11. List of the universities offering the course "Economical Planning of Natural Resources"

Title of the course	University	Faculty/Institute	Department
Man. of Nat. Res.	Atatürk	Fac. of Agri.	Field Crops
Man. of Nat. Res.	Cumhuriyet	Fac. of Eng.	Env. Eng.
Plan. Water Res. Nat. Res. Econ.	Çukurova	Fac. of Eng./Arch. Fac. of Agri	Env. Eng. Agri. Econ.
Env. Res. Plan.	Ege	Agri. Sci.	Lscape Arch.
Plan. of Nat. Env.	Fırat	Fac. of Sci. and Letters	Geog.
Env. Plan	Gazi	Fac. of Eng./Arch.	City and Reg. Plan.
Econ. Plan. of Nat. Res.	Harran	Fac. of Eng.	Env. Eng.
Plan. of Water Res.		Fac. of Agri.	Agri. Struct./Irrigt.
Man. and Use of Nat. Res.	İstanbul	Fac. of For. Eng.	For. and Man.
Nat. Res. Plan.	İTÜ	Fac. of Arch.	Reg. Plan.
Plan. and Man. of Nat. Res.	Kafkas	Fac. of For.	Basin Amendment
Nat. Res. Plan.	Karadeniz Technical	Fac. of For.	For. Eng.
Res. and Plan. Man.	Kocaeli	Fac. of Eng.	Env. Eng.
Transbondary Water Res. Man.	METU	Fac. of Econ. and Adm. Sci.	Intern. Rel.
Utilization Policies of Soil and Water Res.	Selçuk	Fac. of Agri.	Agri. Econ.
Env. Res. Plan.	Trakya	Fac. of Agri.	Lscape Arch.
Env. Plan.			Agri. Econ.
For. Res. Man.	Zonguldak K.Elmas	Fac. of For.	For. Eng.
Nat. Res. Man.	Fatih (PU)	Fac. of Arts and Sci.	Geog.

The comparison of the contents of the indicated courses the following common points; Attainment of ecological balance, nature economy, economical approaching in environmental source control, analysis hydrologic data related water resources, utility tools from natural resources, relation between regional planning and natural resources like soil-plant-water, protection of aesthetic values, endangered, threatened and rare species and exotic species management, resource management plan.

Depending on the assessment of the present courses the following course content is proposed:

Economical Planning of Natural Resources: Environmental factors, physical environment and its data environmental perception, men and environment systems, environmental considerations in planning and developments in other countries, problems of planning of the physical environment in Turkey, planning solutions, legislative and administrative regulations, case studies from environmentally deteriorated regions, new and revaluated planning approaches for natural resources; legislations and limitations for protection of natural resources.

4.1.11. Environmental Economies

Environmental Economic analysis plays a significant role, because it can help to people to understand why environmental resources have been poorly conserved in the past and and the most effective means to achieve conservation in the future. An examination of the economic principles and practices for using environmental resources such as air, water, and natural environments constitute the major topic of environmental econmics. The economically optimal use of these resources is contrasted with actual uses in modern economies. Since government are directly there, their contribution should also be examined in theory and practice. Cost benefit analysis could be presented as a technique for evaluating public sector projects using environmental resources.

Interest in “Environmental Economics” course is thoroughly demonstrated in the Table 4.12 in terms of the offered courses in the diverse range of the departments of the universities in Turkey. Upon evaluation of the Table 4.12., it could be assessed that the agricultural departments constitute the major fraction followed by the environmental sciences departments. Moreover, the offered courses could not be differentiated mainly in terms of sole environmental economics point of view, but an indirect approach covering the related natural resources topics would also be emphasized.

The comparison of the contents of the indicated courses covers the following common points; Natural resource problems involving change over time, the meaning and significance of exhaustion, exploitation of mineral deposit, residuals from natural resource inputs to the economy, the concept of external costs, economic measurement of environmental impacts, assessing impacts and setting priorities, the definition of

environmental problems, their reasons and results, externalities, the precautions of both market and public economies which can be applied against externalities, the role of local authorities in context of preventing environmental problems are studied in this course. This course is more related to the environmental problems.

Table 4.12. List of the universities offering the course "Environmental Economies"

Title of the course	**University**	**Faculty/Institute**	**Department**
Env. Econ.	Ankara	Fac. of Agri.	Agri. Econ.
Econ. of Nat. Res.	Atatürk	Fac. of Sci. and Letters	Geog.
Env. Econ.	Boğaziçi	Inst. of Env. Sci.	Env. Soc. Sci.
		Fac. of Econ. and Adm. Sci.	Econ.
Econ., Nat. Res., Env. and Sust.	Çukurova	Fac. of Agri.	Lscape Agri.
Econ. of Nat. Res.			Agri. Econ.
Env. Econ.	Ege	Inst. of Nat. and Appl. Sci.	Env. Sci.
Env. Econ.		Fac. of Econ.	Econ.
Nat. Res. and Env. Econ.	Gaziosmanpaşa	Fac. of Econ. and Adm. Sci.	Econ.
Ecol. Balanced and Sust. Econ. Env. Econ.	Hacettepe	Fac. of Eng.	Env. Eng.
Nat. Res. and Env. Econ.		Fac. of Econ. and Adm. Sci.	Econ.
Res. and Env. Econ.	Harran	Fac. of Agri.	Agri. Econ.
Env. Econ.	İstanbul	Fac. of For. Eng.	For. Econ.
Env. And Econ.	Karadeniz Tech.	Fac. of Business Adm.	Public Adm.
Nat. Res. Econ.		Fac. of Business Adm.	Econ.
Env. Econ.	Marmara	Fac. of Business and Adm. Sci.	Political Sci. and Intern. Rel.
Env. Econ.		Inst. of Pure/Applied Sci.	Env. Sci.
Env. Econ.	Muğla	Inst. for Nat. and Applied Sci.	Env. Sci. Energy
Env. Econ.			
Env. Econ.	Ondokuz Mayıs	Fac. of Agri.	Agri. Econ.
Env. Econ.	Trakya	Fac. of Agri.	Agri. Econ.
Nat. Res./Env. Econ.	Uludağ	Fac. of Agri.	Agri. Econ.
Env. Econ.	Fatih (PU)	Fac. Econ. and Adm. Sci.	Public Adm.
Env. and Nat. Res. Econ.	Yeditepe (PU)	Fac. of Econ.	Econ. Hist.Econ./ Finance
Topics in Env. Econ.		Fac. of Intern.Econ. and Finance	Econ. Hist. and Devt.

“Environmental Economics” course offered in Public Administration Department of Fatih University is more related to the focus on the application of the economic theory on microeconomic level and on policy making solutions in accordance with the principles of sustainable development. The course thus involves many practical examples of environmental economics in a public policy framework.

The course offered in the Institute of Environmental Social Sciences of Boğaziçi University with the title of “Environmental Economics” (ESC 541) covers the following topics: Economic foundations of the degradation of the environment and the depletion of non-renewable resources, economic implications of the solutions for environmental problems, monetary proxies for benefits and costs of environmental programs, instruments of environmental policy. Another course of Boğaziçi University titled as “Environmental Economics” of the Department of Economics (EC 509) covers the following topics: The reasons of, and possible ways of solving, the problems of the degradation of the environment and the depletion of non-renewable sources. Both courses are related to the environmental problems and their solutions, also both course contents of Boğaziçi University are similar to each other. The contents of ESC 541 was found to be similar to the course content of “Environmental Economies” course (coded 217041206) offered in the Faculty of Economies and Administrative Sciences, in the Department of Political Sciences and International Relations of Marmara University.

In relation to the above given detailed explanation this course should essentially provide a solid understanding of the economic causes and consequences of environmental problems and suggest practical solutions.

The following course content is proposed:

Environmental Economics: Natural resources, environment and economics relationships, decision- making process and the environment, environmental degradation and economic activities, business and environmental liabilities, content and classification of natural resources, economists' approaches towards to the natural resources and the environment, sustainable development and free market environmentalism, case studies in the field of environmental economics.

4.1.12. Energy and Environment

Energy and environment are key concerns for sustainable development. The poor nations are disproportionately affected by environmental degradation and are lacking the access to clean, affordable energy services. These issues are also global as climate change, loss of biodiversity and ozone layer depletion. The connections between energy, environment and development are direct and profound, but energy presents a dichotomy. Energy is also the primary cause of many damaging and intractable environmental problems of the world. Increased efficiency in the use of energy, conservation, and the expanded use of alternative energy sources are essential goals for effective future energy plans. Energy conservation and improvements in energy efficiency may exert very significant impacts on energy consumption

In relevance to the above given importance of energy and environment interrelations , a course is expected to be presented in the graduate programs of the universities and the the outcome of the survey revealed the following list of the courses (Table 4.13). The course is generally offered by the environmental engineering departments of the universities and selected examples could be given as the courses offered in Atatürk University as the titles and the contents cover the global energy sources perspectives (Appendix A). On the other hand, nuclear energy is taken as a special case in the course titled as “Nuclear Energy and Environment”, offered in Gebze Institute of Technology, in the Department of Environmental Engineering. More specialized course would be the one offered in Landscape Architecture Department of Zonguldak Karaelmas University, titled as “Energy Saving Criteria in Landscape Architecture”, covering the connection between design and energy approach in landscape engineering. Furthermore “Energy and Law” course could also be evaluated under “Energy and Environment Heading” whereas a close connection with law concepts should be considered in a special manner. This course is offered in the Public Law Department of Faculty of Law of Yeditepe University.

Table 4.13. List of the universities offering the course "Energy and Environment"

Title of the course	University	Faculty/Institute	Department
Energy Econ.	Adnan Menderes	Inst. of Soc. Sci.	Econ.
Env. Impacts and Env. Policy of Energy Prod.	Anadolu	Fac. of Eng. and Arch.	Env.Eng.
World Energy Potential and Distrib.	Atatürk	Inst. of Soc. Sci.	Soc. and Econ. Geog.
Primary Energy Sources			
Util. of Nat. Energy Sources			
World Energy Prob. and Altern. Energy Sources			
Energy Res. of Turkey			Geog. of TR
Energy and Env.	Boğaziçi	Inst. of Env. Sci.	Env.Sci.
Renewable and Non-Renewable Res.		Inst. of Env. Sci.	Env. Pure Sci.
Energy Econ. I and II		Fac. of Econ. and Adm. Sci.	Econ.
Energy Res. and Tech.	Çukurova	Fac. of Eng. and Arch.	Fac. of Eng.
Energy and Env.	Dokuz Eylül	Fac. of Eng.	Env. Eng.
Env.-Energy and Energy Res.	Ege	Inst. of Nat. and Applied Sci.	Env. Sci.
Energy Efficiency and Man. in Industry	Gazi	Inst. of Sci. and Tech.	Env. Sci.
Nuclear Energy/Env.	Gebze Inst. of Tech.	Fac. of Eng.	Env. Eng.
Energy and Env.	Hacettepe	Fac. of Eng.	Env. Eng.
Energy and Env.	Karadeniz Technical	Inst. for Appl. Sci.	Env. Eng.
Energy Generation and Env.	Kocaeli	Fac. of Eng.	Env. Eng.
Energy Res. of Earth	Marmara	Inst. of Pure and Applied Sci.	Env. Sci.
Altern. Energy Res.			
Energy and Env.	Muğla	Inst. for Nat. and Appl. Sci.	Env. Sci.
Devt. Theories and Energy Policies		Fac. of Econ.	Energy
Renewable Energy Res.		Fac. of Energy	Energy
Energy Econ.	Trakya	Fac. of Eng.	Env. Eng.
Util. Energy and Env. Energy Saving Criteria in Lscape Design	Zonguldak Karaelmas	Fac. of Eng. Fac. of Arch.	Eng. of Elect./Electronic Lscape Arch.
Energy and Law	Fatih (PU)	Faculty of Eng.	Env. Eng.
Energy Law	Yeditepe (PU)	Faculty of Law	Law

The comparison of the contents of the indicated courses covers the following common points; Definition and different kinds of energy; importance of energy in economical and social development, energy demand and production in Turkey, new energy sources, economic analyze of energy inputs, renewable and non-renewable energy sources, environmental policy on energy production, energy policy and in developed and underdeveloped countries, solar energy, wind energy, tidal energy; macroeconomics of the world energy crisis, energy conservation; the greenhouse effect and global heating, nuclear energy-principles, energy balance of the world, different kinds of pollutants during energy production, use of energy and future.

"Energy and Environment" course (ESC 509) of the Institute of Environmental Sciences of Boğaziçi University covers the following topics: Energy cycles in the environment, conventional energy production and consumption as related to environmental pollution, alternative energy sources, solar energy, wind energy, tidal energy, energy from biomass, energy from waste, policy making in energy conservation. The content of this course shows similarities to the other courses as presented in Table 4.13.

On the other hand, the course titled "Renewable and Non Renewable Resources" (ESC 574) of the Institue of Environmental Sciences of Boğaziçi University covers the following topics: Lifetime of renewable and nonrenewable resources on the planet, materials, metals and energy, impact of population and technological growth on the resources and environment, possible sustainable technologies for the future. Considering the similarities between the courses, this course (ESC 574) could also be evaluated under the same heading as "Energy and Environment". By the presentation of a specialized syllabus for ESC 574 it would be more appropriate to offer as a complimentary course to "Energy and Environment" could also be presented as a different course under the title of "Sustainable Technologies".

In some universities such as Atatürk, Boğaziçi, Marmara and Muğla, the course of "Renewable and Non-renewable Resources and Alternative Energy Sources" is not included to the course of "Energy and Environment"; on the contrary, they are presented under another title as "Renewable and Non-renewable Sources".

The courses of Boğaziçi University; “Energy Economics I”, (EC 507) and “Energy Economics II”, (EC 508) are in the program of Economics Department of the Institute of Social Sciences with the contents covering the following points; Aggregate and disaggregate energy modeling, relationship between energy demand and economic activity, impacts of alternative utility investment strategies, energy, pollution and employment policy, externalities, energy demand and supply projections, economics of energy transportation, energy conservation, energy and economic development, macro-economics of the world energy crisis, energy supplies, energy conservation. The descriptions of the courses are more related to the relations between economy and energy, energy conservation and optimal energy strategies. Depending on the presented content evaluation, the following detailed course content is proposed:

Energy and Environment: Energy production and consumption, sources of energy, renewable and non-renewable energy sources, energy conservation, energy conservation industry, energy sector in Turkey and the World, environmental policy on energy production, energy policy in developed and underdeveloped countries, air pollution originating from energy sector, environmental and social effects of power plants, the role of technology in reducing the greenhouse gas emissions from energy production and consumption.

4.1.13. Environmental Health

Urbanization brings fundamental changes in the ways of people live-in the number of people they see, in the places they work, and often in the quality of the water they drink, the air they breathe, and the housing in which they live. Such changes have profound implications-both positive and negative-for the health of city residents. On the one hand, urbanization and economic development have brought dramatic improvements in health, largely because of environmental improvements and, in part, increased access to health services. Health statistics show that in the more highly urbanized countries, people tend to have the longest life expectancies and children under age five tend to have the lowest rates of mortality (Phillips and Verhasselt, 1994).

Due to the multi-dimensional nature of the subject, the survey on the environmental health topic is also directed to the public health departments of the medicine faculties. The Table 4.14 points out the courses relevant the health aspects of the environmental problems. The courses directly titled as “Public Health” are offered in the Public Health Departments of medicine faculties of Atatürk, Cumhuriyet, Karadeniz Technical, Ondokuz Mayıs and Uludağ Universities. Departments of Environmental Engineering and Environmental Sciences offer the course covering a general approach as well as expressing a specific interest in drinking water and the use of pesticides and agrochemicals. The adverse effects of radiation as an environmental issue on human and public health are also complied as a course offered in Environmental Engineering Department of Faculty of Engineering and Architecture in Çukurova University. Moreover a “Health Management” course is also offered in connection with the “Basic Principles of Public Health” and “Human and Environmental Relations” in Public Health Department of Medicine Faculty of Uludağ University. The comparison of the contents of the indicated courses covers the following common points; Environmental factors detrimental for human health, communicable diseases, microbiological pollution, relation between sanitary systems and environmental hygiene, health administration, sanitation of swimming environments, pollution and preservation of water resources, workplace health regulations.

The course offered in the Institute of Environmental Sciences of Boğaziçi University titled as “Public Health Engineering” (ESC 505) covers the following topics: Epidemiology, general principles of vector control, communicable diseases, water quality and pathogenic organisms, food protection and hygiene, effects of electromagnetic radiation and ionizing radiation, environmental conditions in living and working environment such as light, heat, noise and moisture, sanitation of swimming environments. On the other hand, the descriptions of the two courses; “Relationship between Environment and Nutrition”, and “Healthy Housing and Optimum Environment” of Ankara University, offered in the Department of Home Economies have a great significance, because relations between environment and nutrition and the housing-environment interactions have a crucial role in daily life of humanbeings. Besides, “Gerontology” course of Hacettepe University, offered in the Department of Biology and Ecology has a unique content which covers hypothesis and theories of senescence, the genetics of aging and the environmental effects on longevity.

Table 4.14. List of the universities offering the course "Environmental Health"

Title of the course	University	Faculty/Institute	Department
Relationship between Env.and Nutrition	Ankara	Inst. of Nat. and App. Sci.	Home Econ.
Healthy Housing and Optimum Env.			
Public Health	Atatürk	Fac of Med.	PH
Public Health Eng.	Boğaziçi	Inst. of Env. Sci.	Env. Soc.Sci.
Principles against Infectious Diseases	Cumhuriyet	Fac. of Med.	PH
Env. Health			
Drinking Waters and Health	Çukurova	Fac. of Eng. and Arch.	Env. Eng.
Radiation and its Effect on Env.			
Env. Health	Dokuz Eylül	Fac. of Eng.	Env. Eng.
Env. Health	Ege	Inst. of Nat. and Appl.Sci.	Env. Sci.
Impact of Pest. on Env.	Erciyes	Fac. of Sci. and Letters	Biol.
Impact of Env. Poll. on Humanbeings	Fırat	Fac. of Sci. and Letters	Biol.
Basic of Env. Health Gerontology Env.-Humanb.-Health	Hacettepe	Fac. of Eng. Fac. of Sci. and Letters Fac. of Med.	Env. Eng. Biol. and Ecol. PH
Introd. to Public Health Env. Health I and II	İnönü	Inst. of Soc. Sci.	PH
Public Health	Karadeniz Tech.	Fac. of Med.	PH
Bas. Princ. of Public Health Tech. Econ. and Org. of Safety and Employees Health	Marmara	Inst. of Pure and Appl. Sci. Fac. of Econ. and Adm. Sci.	Env. Sci. Man. of Eng.
Working Env. and Chem. Carcinogenesis	Mustafa Kemal	Fac. of Sci. and Letters	Biology
Public Health Env. and Health Relat.	Ondokuz Mayıs	Fac. of Med.	Health
Pest. and Env. Poll.	Sakarya	Fac. of Eng.	Env. Eng.
Env. Poll. Effect on Foods Effects of Pest. on Env.	Selçuk	Fac. of Eng. and Arch.	Env. Eng.
Env. Health	Süleyman Demirel	Fac. of Eng. and Arch.	Env. Eng.
Basic Principles of PH	Uludağ	Fac. of Med.	PH
Health Man.			
Human and Env. Relat.			
Public Health Env. Health	Başkent (PU)	Inst. of Health Sci.	PH

Based on the given survey results it would be better if the course is given under different titles such as “Basic Principles of Public Health”, “Health Management”, and “Relationship between Environment and Nutrition”. The following course content is proposed:

Environmental Health: Relationships between environment and nutrition, relationships between food additives and nutrition and health, environmental sanitation, drinking waters, pollution and preservation of water resources, relation between sanitary systems and environmental hygiene.

Therefore a general course covering the health aspects of environmental problems would be appropriate to be incorporated in a environmental social science program. Another specific approach is the evaluation of the effects of the agrochemicals and pesticides specifically, in relation to the obvious detrimental health effects. Due to the importance of the subject, the courses covering the effects of the pesticides as well as the use of the agrochemicals are also discussed, presented in Table 4.14.

The World Health Organization and other sources estimate that up to 95% of all cancer is caused by environmental factors. This may seem to imply that pollutants such as acricultural and industrial chemicals are the culprits, but other environmental factors-radiation, diet, tobacco use, and sunlight included-are largely responsible for the fact that depending on where people live in the world (Kupchella and Hyland, 1993). An “Advanced Special Topics in Environmental Health” course would also be developed aiming the effects of environment on the detrimental diseases such as cancer.

4.2. Evaluation of the Indirectly Related Courses

The graduate programs also offer some courses that could be considered as indirectly related to the environmental social sciences according to the presented course contents. The Table 4.15. presents the relevant courses in a summarized form only in terms of the universities. Detailed information about the courses specifically taken is presented in Appendix B.

Table 4.15. List of the universities offering the "Indirectly Related Courses"

Title of the course	**University/Institute (State and Private)**
Geographical Information Systems and Remote Sensing	Afyon, Anadolu, Ankara, Akdeniz, Atatürk, Balıkesir, Boğaziçi, Çukurova, Dokuz Eylül, Ege, Fırat, Gazi, Gaziosmanpaşa, Gebze Institute of Technology, Harran, İstanbul, İTÜ, Kafkas, Kahramanmaraş Sütçü İmam, Karadeniz Technical, METU, Mustafa Kemal, Selçuk, Trakya, Uludağ, Zonguldak Karaelmas, Atılım, Fatih
Environmental Pollution and Prevention	Anadolu, Ankara, Boğaziçi, Celal Bayar, Çanakkale Onsekiz Mart, Çukurova, Dicle, Erciyes, Gazi, Hacettepe, İstanbul, Kafkas, Marmara, Muğla, Mustafa Kemal, Selçuk, Süleyman Demirel, Zonguldak Karaelmas
Marine Pollution and Prevention	Boğaziçi, Celal Bayar, Çanakkale Onsekiz Mart, Çukurova, Dokuz Eylül, Ege, Gebze Institute of Technology, Hacettepe, Harran, Karadeniz Technical, Marmara, METU, Muğla, Mustafa Kemal, Uludağ, Fatih
Urbanization and Environmental Problems	Afyon, Akdeniz, Ankara, Atatürk, Dicle, Dokuz Eylül, Ege, Fırat, Gazi, Gebze Institute of Technology, Hacettepe, Harran, İTÜ, İzmir Institute of Technology, Karadeniz Technical, Marmara, Muğla, Mustafa Kemal, Ondokuz Mayıs, Pamukkale, Sakarya, Selçuk, Uludağ, Yıldız Technical, Bahçeşehir, Bilkent, Fatih, İstanbul Kültür, Lefke, Yeditepe
Conservation of Natural Resources	Akdeniz, Atatürk, Balıkesir, Çanakkale, Onsekiz Mart, Çukurova, Dokuz Eylül, İstanbul, Kahramanmaraş Sütçü İmam, Karadeniz Technical, Marmara, Mustafa Kemal, Ondokuz Mayıs, Trakya, Zonguldak Karaelmas, Bahçeşehir
Environmental Risk Assessment	Akdeniz, Cumhuriyet, Çukurova, Kocaeli
Climate Changes	Boğaziçi, Çanakkale Onsekiz Mart, Çukurova, Ege, Hacettepe, Harran, Sakarya, Süleyman Demirel, Fatih, Yeditepe
Coastal Zone Management	Akdeniz, Boğaziçi, Çanakkale Onsekiz Mart, Çukurova, Dokuz Eylül, Ege, Hacettepe, İTÜ, Mustafa Kemal
Nat. Treatment Syst./Fundamentals of Env. Tech.	Anadolu, Boğaziçi, Dokuz Eylül, Gazi, Hacettepe, Mustafa Kemal, Trakya, Uludağ
Management of Hazardous Wastes	Anadolu, Balıkesir, Boğaziçi, Cumhuriyet, Dokuz Eylül, Ege, Hacettepe, İTÜ, Kocaeli, Uludağ
Cleaner Production	Akdeniz, Anadolu, Boğaziçi, İTÜ
Water Quality Management	Boğaziçi, Hacettepe, Sakarya, Uludağ
Quaternary Environments	Boğaziçi, Ege, Mustafa Kemal, Fatih
Environment and Culture	METU, İstanbul Kültür
Environmental Planning of Highways	Atatürk, Çukurova
Environmental Research Methods	Muğla, Fatih
Environmental Management Systems	Anadolu, Boğaziçi, Çukurova, Pamukkale, Selçuk, Trakya, Uludağ

4.2.1. Geographical Information Systems and Remote Sensing (GIS and RS)

GIS and RS are used for storing and analysing a very wide variety of subject matter ranging from the social sciences to the natural environmental sciences and from public administration to the management of the human-made environment. A GIS framework is also essential to organize the data and to extract maximum amount of information. On the other hand, RS is the science and art of obtaining information about an object, area, or phenomenon through the analysis of data acquired by a device that is not contact with the object, area, or phenomenon under investigation.

The course titled as "Geographical Information Systems and Remote Sensing" is offered in the programs of twenty eight state and private universities of Turkey. In some major universities this course is presented in the programs of such as Environmental Engineering and Environmental Sciences, Agriculture, Regional Urban Planning, Landscape Architecture, Geodetic and Photogrammetric and Civil Engineering departments of Natural Basic and Applied Sciences Institutes and in the programs of Social Sciences Institutes. In some universities like Anadolu, Dokuz Eylül, and METU; this course is presented as a separated program in Geographical Information Systems and Remote Sensing Departments (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Definition of GIS and RS, Raster and Vector Data Properties, role and importance of GIS and RS on sustainable use of natural resources, uses of digital maps in pollution, principles and fundamentals of remote sensing, GIS use for Air Quality Management, GIS as a tool for water quality management, for waste management, importance of GIS applications for solution of the environmental problems, the use of GIS in many fields and throughout society, the earth science in public administration, and many forms of industry. Several research areas in water resources such as water quality, basin morphology, erosion, data management, ecology and wetland could use GIS and RS as a tool for land use planning, Risk Assessment and Planning, EIA, protection of forestry areas and wildlife, archaeological data analysis.

The course content of Boğaziçi University, offered in the Institute of Environmental Sciences with the title "Special Topics: Geographical Information

Systems" (ESC 593) covers the following topics: GIS a tool for environmental and land use planning, Risk Assessment and Planning, Environmental Impact Assessment and GIS, environmental sensitivity, determining the ecological zones using GIS and environmental databases, applied case studies.

The following course content is proposed:

Geographical Information Systems and Remote Sensing: Definition and significance of GIS and RS in environmental fields, principles and fundamentals of GIS and RS, GIS applications for solution of the environmental problems, the use of GIS in different areas and throughout society, the earth science in public administration, and many forms in industry.

The significance of the topic points out that a GIS course (ESC 593) should also be introduced in the graduate program of an environmental social sciences department.

4.2.2. Environmental Pollution and Prevention

The course of "Environmental Pollution and Prevention" is offered as a basic course in the programs of 27 state universities of Turkey. In some major universities; this course is presented in the programs of Environmental Sciences or Environmental Engineering departments. On the other hand this course is also offered in the programs of natural basic and applied sciences such as Biology, Agriculture, Chemistry, Forestry and Marine Sciences (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Evaluation of environmental pollution, different types of pollution like water, air, soil and radioactivity, the effects of industrial wastes on environmental pollution and precautions, hazardous wastes and disposal methods, air pollution and its control, global environmental problems, levels of pollution, noise pollution, control of pests and weeds, environmental problems in Turkey and in the world, classification of environmental pollution, sectorial based pollution originating from industry, relevant regulations in validity, measurement parameters of pollution.

On the other hand, “Principles of Environmental Pollution” course (ESC 501) of Boğaziçi University, offered in the Institute of Environmental Sciences covers the following topics: Principles of ecology, nutrient cycles, water pollution, quality parameters, standards and regulations, reaction kinetics and materials balance in aquatic systems, hydraulic models, batch, complete-mix and plug flow reactors, water quality in rivers, streams and lakes, principles of water and wastewater treatment, hazardous wastes and disposal methods with emphasis on solid waste and sludge, Environmental Risk Assessment, air pollution and control, global environmental problems.

Prevention of pollution plays an important role for the balance of ecosystems and sustainable development. Therefore a compulsory course covering the above given main points would provide sufficient inductory knowledge for the students of Environmental Sciences from Social Sciences background.

The following course content is proposed:

Environmental Pollution and Prevention: All types of pollution like water, air, soil, and industry, evaluation and the description of the environmental problems like pollution, kinds of human activities causing pollution and prevention ways of pollution from governments and NGO’s, awareness of the public about the environmental pollution.

4.2.3. Marine Pollution and Prevention

The course of “Marine Pollution and Prevention” is offered in the programs of 26 state and private universities of Turkey. In some major universities; this course is presented in the programs of Environmental Sciences or Environmental Engineering Departments. On the other hand, “Marine Pollution” course is also offered in the programs of the Natural Basic and Applied Sciences Faculties such as Biology, Agriculture, Chemistry, Forestry and Marine Sciences, and Fishery Products (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Sources of sea pollution, point and non-point sources, water pollution parameters, removal of petroleum products pollution from marine environment, methods of cleaning coastal areas, microbiological pollution, its effect on human health, various kinds

of pollution problems in the aquatic environment, heavy metals, pesticides, the physical, chemical and biological features of the seas, EU Policies on marine pollution, the national regulations for preventing the marine pollution and international conventions, concept of otoepuration, food chain and feeding level. On the other hand, “Marine Pollution” course (ESC 515) of Boğaziçi University, offered in the Institute of Environmental Sciences covers the following topics such as: Introduction to coastal pollution, oil spills and clean-up, consequences of oil pollution, heavy metal pollution, marine hydrodynamics and pollutant dispersion in the marine environment, thermal pollution.

The following course content is proposed:

Marine Pollution and Prevention: Definition of marine pollution, resources and inputs of pollutants in marine environments, monitoring of marine pollution with Remote Sensing Techniques, effects of the pollutants to the marine organism, seasonal variation of pollutant in the living tissues, heavy metals, pesticides, chlorinated hydrocarbons and their transmission within the organisms of the sea. If an introductory “Environmental Pollution” course is provided for the students, an elective course on “Marine Pollution” could be more specifically designed. The following course content outline would better cover the need of the program particularly focused on the environmental aspects of the marine systems.

4.2.4. Urbanization and Environmental Problems

An interesting content of the course titled as “Housing and Environmental Design” covers the subject of the environment and its effects on buildings. The importance of the topic related to the environmental design due to its strong interdependence with other design related disciplines such as sociology, economics and ecology is emphasized.

The course of “Urbanization and Environmental Problems” is present in the programs of thirty universities of Turkey. Most of these courses are in the programs of Architecture Departments and some of them are in the programs of the Faculties of Economics and Administrative Sciences, Agriculture Faculties and Geography Departments and a few of them are in the programs of Environmental Sciences and Environmental Engineering (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; The historical development of cities, the reasons and processes of urbanization, environment-human relations in cities, urban theories, environmental criteria for urban development, the interaction among art-urban design-culture and environment, sustainability, the concept of space, nature and ecology, regional policies of the EU, NUT regions, regional policies of Turkey within the process of adaptation to EU, energy problems and alternative energy sources in cities, urban and rural interaction, special topics and projects related to environmental planning and infrastructure work, streets, water supply, sewage, solid wastes, disposal and other services, the political, economic and social changes in urban areas.

An elective course mainly directed to the students with a background of agriculture education would provide an overview on the global environmental systems and problems.

On the other hand, an environmental social sciences student would benefit more if the course is designed in the following manner:

Urbanization and Environmental Problems: The historical development of cities, the reasons and processes of urbanization, environment-human relations in cities, environmental criterias for urban development, energy problems and alternative energy sources in cities, urban and rural interaction, special topics and projects related to environmental planning and infrastructural work, streets, water supply, sewage, solid wastes, disposal and other services, the political, economic and social changes in urban areas, the historical development of cities, the reasons and processes of urbanization, environment-human relations in cities, urban theories, environmental criteria for urban development.

The absence of such a course in the programs of Environmental Engineering and Environmental Science Departments could be considered as a missing point since this course is present only in the programs of a few universities (Appendix B). As centers of population and human activities, cities consume natural resources from both near and distant sources. They also generate waste that is disposed of both inside and outside the city. In the process, urban areas generate environmental problems over a range of spatial

scales: the household and workplace, the neighbourhood, the city, the wider region, and the globe. Urban environmental problems also create range of social impacts. They may impair human health, cause economic and other welfare losses, or damage the ecosystems on which both urban and rural areas depend. Most urban environmental problems entail all three of these impacts, either directly or indirectly.

4.2.5. Conservation of Natural Resources

The course of "Conservation of Natural Resources" is present in the different programs of the Natural Basic and Applied Sciences Faculties of 15 universities. The related departments are Agriculture, Biology, Fishery Products, Architecture, Forestry Engineering and Geography (Appendix B).

The comparison of the contents of the indicated courses covers the common points; Definition and classification of protected areas, historical progress of nature protection in Turkey and in the world, policies followed on this subject, protected areas like national parks, nature parks and natural sites in Turkey, preparation of Master Plan, changes of the environment in the last twenty five years in Turkey, comparing with other countries, threats for biological diversity, acid rains, solid wastes, global climate change, situation of the growth of the human population, the importance of aquatic species in the ecosystems.

"Conservation Biology" course of Balıkesir University, offered in the Department of Biology covers the topics as threat factors for the biological diversity of the world, social, economic and biological problems of the fast growth of the human population in the world, environmental education for the conservation of nature, before school, college and higher education on environmental issues, species under threat, endemic species and their conservation, international agreements and applications of these agreements in Turkey, zoos, botanic parks and wetlands, restoration, management and conservation of ecosystems, sustainable development and conservation strategies.

Environmental policy instruments are very important to reduce environmental pollution and depletion of natural resources. Different kinds of controls like direct

regulation, taxation and subsidies are environmental policy instruments to reach of desirable resources.

Conservation of Natural Resources: Considering the significance of the conservation and management of biological resources since they exert a commercial value (forests, fisheries, national parks and marine mammals) a "Conservation of Natural Resources" course is recommended.

4.2.6. Environmental Risk Assessment

The course of Environmental Risk Assessment is offered in the programs of Environmental Engineering departments of Akdeniz, Cumhuriyet, Çukurova and Kocaeli Universities (Appendix B).

The technique of risk assessment is used in a wide range of professions and academic subjects. Risk assessment has become a commonly used approach in examining environmental problems. It is used to examine risks of very different natures. For instance, the approach is used to assess the environmental risks posed by chemicals, ionising radiation and specific industrial plants. Definitions in risk assessment are all-important because of the wide range of uses of the approach, and different meanings of terms.

Environmental Risk Assessment is necessary for human and environmental protection. It is the procedure in which the risks posed by inherent hazards involved in processes or situations are estimated either quantitatively or qualitatively.

Environmental Risk Assessment (ERA) is the examination of risks resulting from technology that threaten ecosystems, animals and people. It includes human health risk assessments, ecological or eco-toxicological risk assessments, and specific industrial applications of risk assessment that examine end-points in people, biota or ecosystems. Environmental Risk assessment is also one of the most importance environmental management tool. One of the major difficulties concerning the use of risk assessment is the availability of data and the data that is available is often loaded with uncertainty. Except this points it is used extensively in environmental policy and regulations.

The comparison of the contents of the indicated courses covers the following common points; General definition of environmental risk assessment, theories and concepts of this subject, environmental and human effects in risk planning, risk management and planning, determination of priorities by risk planning, positive effects of environmental risk assessment for the environmental management, periods of environmental risk assessments, negative effects of chemicals on human health and ecological systems.

The content of the courses of above maintained universities are similar to each other; additionally the course content of Boğaziçi University titled “Environmental Impact Assessment” (ESC 502), offered in the Institute of Environmental Sciences covers the following topics such as: Definition, scope and field of application of Environmental Impact Assessment (EIA), methodologies of EIA, assessment of impacts, national and international legislation of EIA, principles of Environmental Risk Assessment.

On the other hand, the course of İTÜ titled “Quality Management in Environmental Systems”, offered in the department of Environmental Sciences and Engineering covers the topics of environmental risk assessment tools.

Environmental Risk Assessment: Due to importance of the subject a “Environmental Risk Assessment” course is recommended covering the topics given for the course of Boğaziçi University, offered in the Institute of Environmental Sciences with the title of “Environmental Risk Assessment” (ESC 502).

4.2.7. Climate Changes

Generally this course is present in the programs of Geography Departments of the respective faculties of the universities (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Physical, biological and chemical dimensions of global environmental change, the role of human activities in changing the environment, the circulation and

dynamic factors of the climate in Turkey, general atmosphere circulation, effects of global changes in the future.

"Climate and Life" course of Çanakkale Onsekiz Mart University, offered in the Department of Geography is most comprehensive and it emphasizes the relations between climate and health, climate and settlement, climate and culture, climate and energy, climate and society, climate and water, climate and nutrition, and climate and environmental problems. On the other hand, "Global Environmental Systems" course (ESC 572) of Boğaziçi University, offered in the Institute of Environmental Sciences covers the following topics: Physical, chemical and biological properties and processes of the Earth and its compartments in their past and present states. It is more related to the different processes of the Earth, only one part of the course content is about climate concept.

Another course of Boğaziçi University, offered in the Institute of Environmental Sciences titled as "Introduction to Climate Dynamics" (ESC 571) covers the topics such as: Instrumental and proxy climate data, history of Earth's atmosphere and oceans, climatic subsystems and fundamental processes, building and analyzing simple climate models, introduction to atmospheric and oceanic general circulation models, climates of terrestrial planets. It is more related to the fundamental processes of climate concept.

Climate Changes: Two mentioned courses of Boğaziçi University could be merged to a new course under the title such as "Earth Systems Science and Global Change" covering the summary the priorities of Earth System science and global change, most significant physical, chemical, and biological processes of the Earth and its evolution, processes of global changes, especially those changes that occur in a time period of several decades, that are of particular interest to the human environment; development of quantitative models useful in the prediction of future global change.

4.2.8. Coastal Zone Management (CZM)

Coastal zones are probably the areas which are most intensively exploited by Mankind, because of their richness in natural resources and usefulness for inhabitance. Being more productive than the open oceans the ecological processes in coastal zones

comprise special importance for human beings. Therefore, pollution problems related to the coastal zones draws special interest from environmental pollution and management perspective.

The course titled as “Coastal Zone Management” is offered in the programs of respective departments of the Natural Basic and Applied Sciences faculties such as Agriculture, Marine Sciences, Biology, Coastal Sciences and Engineering, and Environmental Sciences and Engineering (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Description of coastal zones, determination of the territorial and sea boundaries, description of inner and outer parameters, methods for monitoring coastal zones, basic principles of the Integrated Coastal Zone Management, international and regional programs and agreements about protection of coastal areas, regional master plans and structural plans, measures taken to conserve coastal ecosystems, coastal oceanography, waves, tides, coastal meteorology, the role of fishery products in coastal management, relations between coastal management and planning, sustainable development of marine resources management, maritime conventions, sea pollutants, protection and management of wetlands in Turkey.

“Coastal Zone Management” titled course of Boğaziçi University, offered in the Institute of Environmental Sciences (ESC 592) covers the topics such as: An understanding of the human importance of the coastal zone, dynamic nature of the coastal zone, key issues affecting the coastal zone, particularly those related to human aspects of development and utilisation, the approach known as integrated coastal management, the structural problems underlying the adoption the implementation of integrated coastal zone management, present use and misuse of Turkish coasts.

The content of this course is very comprehensive than the others except the course of İTÜ titled “Coastal Zone Management” KBM 507, offered in the Department of Coastal Sciences and Engineering covering the following topics: Description of coastal zones, determination of the territorial and sea boundaries, description of inner and outer parameters, general aims and organization of coastal zone management, organisational

need and continuity conditions, sustainable development concepts, calculation methods, environmental effects of coastal structures, methods for monitoring coastal zones, data categorization, description of coastal zones natural equilibrium components, coastal zones behaviour as a system, aids effects and objections of NGOs, the effects of the globalization on the coastal zones, relations and oppositions between basin management and coastal zone management, basic principles of the integrated coastal zone management.

Coastal Zone Management: Considering the above given summary of the relevant topics, a course titled as relevant "Coastal Zone Management" constitutes one of the basic courses of Environmental Social Sciences Program.

4.2.9. Natural Treatment Systems/Fundamentals of Environmental Technologies

This course is present in the programs of the departments of Environmental Engineering and Environmental Sciences of universities; only with the exception of the course offered in the University of Mustafa Kemal where it is covered in the Program of Fishing and Fish Processing (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Definition, aim and characteristics of natural treatment systems, types of this systems, wetlands in Turkey, wastewater characteristics, public health, advantages and disadvantages of natural treatment systems, the methods of water treatment of the hardness, techniques of disinfections methods, classification of domestic and industrial wastes, principles of biological and microbiological treatment systems, recycle and reuse of wastes, ecological cycles, environment and sustainable development, safety technologies for the environment, fundamentals of water and wastewater treatment technologies, fundamentals of air pollution control.

The course titled as "Treatment Systems" (ESC 543) of Boğaziçi University, offered in the Institute of Environmental Sciences covers the following topics: Wastewater characteristics, wastewater treatment objectives, methods, physical unit operations, chemical unit processes, biological unit-processes, treatment and disposal of sludge, advanced wastewater treatment, land-treatment systems, effluent disposal and reuse. It is

similar to the others and was specially designed for the students of Environmental Social Sciences. The content is found to be sufficient and additionally it covers the different natural water resources like well-deep waters, surface waters, brackish waters, moorlands and seawaters and the related problems.

Natural Treatment Systems/Fundamentals of Environmental Technologies: An introductory course comprised of the topics related to the basic principles of general treatment systems would fulfill the deficiency of the environmental engineering background knowledge.

4.2.10. Management of Hazardous Wastes

The best method of managing hazardous wastes is simply to produce less of it, that is, waste minimization. source reduction is prevention; recycling and treatment are waste management techniques. Source control techniques could reduce hazardous wastes. As a result; Reuse and recycling must become a way of life.

All of the courses offered with the title of "Management of Hazardous Wastes" are present in the programs of the departments of Environmental Engineering (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Selection and application of suitable techniques, technologies and management programs to achieve specific waste management objectives, cost-.benefit analysis on the selection of some disposal alternatives, definition and classification of hazardous wastes, legal regulations about hazardous wastes, Risk Assessment Analysis, national and international law regulations about hazardous wastes, toxicological effects of hazardous wastes, removal techniques, accidental cases and measures to be taken, hazardous waste control and management and solid waste disposal methods.

"Solid Waste Management" course (ESC 531) of the Boğaziçi University, offered in the Institute of Environmental Sciences explains the topics: Types, quantities and sources of solid wastes, collection, storage, transfer and transport, disposal alternatives, landfills, incineration, composting, integrated solid waste management, legislative aspects,

solid waste management by source reduction and recycling, policy development for source reduction and recycling in communities.

Management of Hazardous Wastes: A proposed content of the "Solid Waste Management" course could also cover a topic related to the comparison of hazard reduction technologies.

4.2.11. Cleaner Production

Cleaner Production plays an important role for sustainable development and a more cleaner production is very crucial approach for future generations and for a balanced ecosystem.

A course related to the "Cleaner Production" topic is present in the programs of the departments of Environmental Engineering and Sciences of Akdeniz, Anadolu, Boğaziçi and İTÜ (Appendix B).

"Waste Minimization, Recycling and Clean Technologies" course offered in the Institute of Environmental Sciences (ESC 506) of Boğaziçi University covers the following topics: Low or no waste clean technologies, engineering and management applications for the minimization of the generation of domestic and industrial wastes, changes that can be applied in existing industries to save raw materials-natural resources and minimize air, water and soil pollution, environmentally friendly products, case studies related to different industries such as meat, leather, dairy products etc. industries. It covers the common points of the same course contents of other universities.

On the other hand, the comparison of the contents of the indicated courses covers the following common points; Basic concepts of cleaner production and applications, tools of cleaner production, Environmental Impact Assessment, auditing of adaptation to environmental legislation, need for clean technologies, recycle and reuse, sustainable development, green technology, food industry, automotive industry, pharmaceutical chemicals statutory definitions and regulations for clean technologies, US and EU approaches.

The contents of the courses offered in above mentioned universities are similar to each other; but the content of the course offered in the Department of Environmental Engineering of Anadolu University, titled as “Cleaner Production” (ÇEV 534) is more detailed than the others, in such manner that it covers the role and importance of various public actors in the realization of cleaner production applications, good housekeeping, industrial development and environmental ethics.

Cleaner Production: This course should also be included in the graduate program of environmental social sciences.

4.2.12. Water Quality Management

This course titled as “Water Quality Management” is present in the programs of the departments of Environmental Engineering and Sciences of Boğaziçi, Sakarya and Uludağ Universities (Appendix B).

“Water Quality Management” course (ESC 514) of Boğaziçi University, offered in the Institute of Environmental Sciences has the following content; Sources and uses of water, the hydrological cycle, physical, chemical and biological characteristics and methods of analysis, water quality standards and global perspectives, stoichiometry, reaction kinetics and material balances, reactor models in natural systems, modeling of water quality by "contaminant movement process" approach, water quality in rivers, estuaries, lakes and reservoir systems, introduction to water and wastewater treatment.

The comparison of the contents of the indicated courses covers the following common points; Water pollution, description and significance of water, national and international policies about pollution control, water quality standards, approaches to the management of water quality, social and political contents of water quality management, effects of human activities on water quality, watershed management and its evaluation.

Water Quality Management: Due to the importance of the topic, this course should also be included in the graduate program of Environmental Social Sciences.

4.2.13. Quaternary Environments

Over recent years there has been a great growth of interest in the global climate cycles which have occurred repeatedly over the last 2.4 million years, during the Quaternary period. At least partly, this sense of interest reflects a hope amongst researchers that a better understanding the past of the Earth will allow improved prediction of human effects on the environment.

"Quaternary Environments" course is present in the department of Environmental Sciences of Ege University, in the Archaeology Department of Mustafa Kemal University and in the Department of Geography of Fatih University (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Impacts of natural environment in developments and changes of civilization, geo-morphologic and climatologic effects, environmental changes in quaternary and human existence, rise of sea level, changes in wetlands, land use in ancient times, human and environment relations in historical ages and today.

The course contents of above given universities express similarities to the course of Boğaziçi University titled as "Global Environmental Systems" (ESC 572), offered in the Institute of Environmental Sciences covering the following topics: Physical, chemical and biological properties and processes of the Earth and its compartments in their past and present states.

4.2.14. Environment and Culture

A course titled as "Technosphere, Environment and Culture" is present in the course descriptions of the departments of Science and Technology Policy and Archaeometry of METU and Architectural and Environmental Design of İstanbul Kültür University (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Relationship of culture and nature, research into the physical

manifestation of culture and values, anthropological approach in understanding what happened in history and is happening today, environmental components like natural and artificial environments, relationships between material and immaterial culture concepts.

"Cultural Evolution" course content of METU, offered in the Department of Science and Technology Policy is unique, because it is related to the concepts of culture, primate and human social organizations, evolution, cultural systems such as language and communication; marriage, family and kinship; production, consumption and exchange in terms of cultures in nature.

Relevance to the environmental social sciences: such a course can be one of the issues of environment in the development process: Foundations for the meaning of the "Environment" in social sciences, the meaning of discourse and environmental discourse and introduction to environmental discourses, ecological risks and modern society, limits to growth, rationalist and pragmatic ways to solve environmental problems, sustainability, radicalism in environmental thinking, developed and developing country perspectives on environment, sustainability discourse and North-South perspectives, environmental politics, environmental movements and NGOs, science, technology, and society.

4.2.15. Environmental Planning for Highways

"Environmental Planning of Highways and Transportation" courses are offered in the programs of Science and Letters Faculty, Geography Department of Atatürk University and in the Faculty of Agriculture, Landscape Department of Çukurova University.

Environmental Planning of Highways and Transportation courses of Atatürk and Çukurova universities have common points: Types of Transportation, physical geographical conditions effecting the activities of transportation, ecological burden of highways, correct criteria for the selection of suitable routes in environmental framework, repairing of diminished areas, principles of plantation of highways providing the security (Appendix B).

Faced of the topic could be explained the impact through of transportation, urban areas require new approaches to addressing their transportation needs. Cities cannot continue to expand their transportation systems forever. Some expansion is necessary, the economic, social, and environmental costs of doing so are prohibitive. A number of policy tools are available to reach an ergonometrical and environmental friendly frameworks of the planning for highways and transportation systems.

Environmental Planning for Highways: A course comprised of the mentioned topics could be appropriate if offered as a special elective course to the students of the Environmental Social Sciences.

4.2.16. Environmental Research Methods

This course is present in the Programs of Environmental Sciences of Muğla University and in the Department of Geography of Faculty of Arts and Science of the University of Fatih, covering the common points as; Techniques of data-collecting, analysing of the collected data, its interpretation and preparing as reports.

On the other hand, the course content of Fatih University, titled as “Environmental Research”, offered in the Department of Geography is more detailed on environmental research areas; it focuses on what are increasingly being referred to as “indigenously developed,” and what used to be call “traditional” farming methods and techniques (Appendix B).

Since all kinds of environmental research techniques, collecting of environmental data, assessment principles of collected data in environmental issues, preparing of related reports and statistical models are very important for sustainable development and for a more cleaner world.

Environmental Research Methods: A course covering these topics would also be appropriate in Environmental Social Sciences Program.

4.2.17. Environmental Management Systems

Environmental Management Systems (EMS) are directly related with environmental management, in such a manner, that it is a strategic management tool for all companies in all fields of activity and for solving the environmental problems before they occur; reasons for introducing to EMS; for a balanced ecology, reduction of environmental pollution, optimal use of natural resources and disposal of unwanted resources and for waste minimization.

"Environmental Management Systems" titled courses are generally present in the environmental engineering departments of the universities like Anadolu, Boğaziçi, Selçuk and Uludağ (Appendix B).

The comparison of the contents of the indicated courses covers the following common points; Management of air and water quality, Environmental Quality Management Systems (EQMS)- ISO 14000 applications, legislation and standards related to conservation of environmental quality, cost/benefit analysis of Environmental Management Systems, advantages of EQMS for the food and agricultural economies and for the industry sectors.

Special Topics: "ISO 14000 Procedures and Auditing" course, ESC 584 of Boğaziçi University, offered in the Institute of Environmental Sciences shows similarity to the below given course contents; It is related to the advantages of ISO 14000 applications, its advantages are minimalization of waste generation and efficiently use of natural resources.

It can be seen, that most of the indirectly related courses are offered in the program of the Institute for Environmental Science and Technology department of Boğaziçi University.

4.3. Evaluation of Specially Related Courses

The results of the extensive course survey revealed some courses that could be considered as “Specially Environmental Related Courses” (Appendix C).

These courses could be classified under the headings of natural sciences related courses, social sciences related courses and health sciences related courses.

Natural Sciences related courses are:
“Biology of Turkish Seas”, “Ecology of Turkish Seas”, “Mediterranean Ecosystems”, “Environmental Geophysics”, “Geology and Environmental Sciences”, and “Environmental Chemistry”.

Social Sciences related courses are:
“Development Cycle of Environmental Projects and Evaluation of International Financial Instruments”, “Plants, People and Environment”, “Environmental Impacts of Materials and Ecological Construct Materials”, “Environmental Archaeology”, “Environmental Design Applications”, “Environmental Computer Informatics”, “Current Debates in Political Theory”, “Environment and Space in Japan and Europe”, and “Contemporary Problems in Political Theory”.

Health Sciences related course was titled as:
“Environmental Epidemiology”, which content could also be related to the Health courses (Section 4.1.13).

5. DEVELOPMENT OF A NEW CURRICULUM FOR ENVIRONMENTAL SOCIAL SCIENCES

5.1. Environmental Social Sciences Program of the Institute of Environmental Sciences

The Institute of Environmental Sciences of Boğaziçi University was founded in 1983 as an extension and restructuring of the Environmental Research Group established in the School of Engineering during the late 1970s. Starting with three graduate students in the fall semester of the 1984/1985 academic year, the Institute had its first graduates in 1986, and since then 170 M.Sc. and 33 Ph.D. degrees were awarded in the fields of Environmental Sciences and Environmental Technology. The Institute of Environmental Sciences of Bogaziçi University has distinguishing features in the sense that it is the only environmental research organization in Turkey established by law (Turkish Official Gazette, No:18124, 3 August 1983) in the form of an Institute offering only post-graduate level education and research.

Institute of Environmental Sciences of Boğaziçi University covers two fields of specialization: Environmental Technology and Environmental Sciences; Environmental Technology covers fields such as; Water and Wastewater Pollution, Air Pollution and Solid Waste Management and Soil Pollution. Environmental Sciences consist of Environmental Pure Sciences and Environmental Social Sciences (Boğaziçi Üniversitesi, Graduate Catalogue, 2005).

The course load requirements for the Ph.D. program is 24 credit hours. Students with an M.S. degree in a field other than Environmental Sciences or Engineering shall complete the prerequisite core courses suggested by the graduate advisor, before they start taking courses for the field of specialization they have selected.

Students with an engineering or Pure Sciences or Social Sciences background receive an M.S. or Ph.D. in Environmental Sciences or M.S. or Ph.D. in Environmental

Social Sciences upon completion of the appropriate M.S. or Ph.D. program in Environmental Sciences.

Master of Science Program in Environmental Sciences:
Environmental Social Sciences:

Code	Course Title
ESC 501	Principles of Environmental Pollution
ESC 543	Treatment Technologies
ESC 558	Concepts and Models in Ecology
ESC 572	Global Environmental Systems
ESC ---	Elective (restricted)
ESC ---	Elective (unrestricted)
ESC ---	Elective (unrestricted)
-- --	Elective (with advisor's consent)
-- --	Elective (with advisor's consent)
ESC 579	Graduate seminar
ESC 690	M.S. Thesis

Restricted electives should be chosen from the courses in the environmental social sciences group. Unrestricted electives may be any of the ESC coded courses. Elective to be taken with advisor's consent may be a course offered elsewhere and has to be in English.

The course load requirements for the Ph.D. program could be completed by the appropriate courses chosen with the consent of the advisor as well as by the appointed Ph.D. thesis supervisor.

Institute of Environmental Sciences has offered 11 M.S. and 4 Ph.D. theses to the students from various backgrounds enrolled to the environmental social sciences program. Table 5.1. shows the list of the theses completed between the years of 1997-2005 in Boğaziçi University in the Environmental Social Sciences. Table 5.2. covers the list of the theses completed between the years of 1996-2005 in Boğaziçi University in the Environmental Social Sciences.

Table 5.1. List of the M.S. theses completed between the years 1997-2005

Name	**Title of the Thesis**	**Thesis supervisor**	**Graduate date**
Söğüt Güleç (Master)	The emotion compound of environmental concern : an empirical study of Turkish adolescents	Assist. Prof. Dr.Andrzej Furman	15.05.1997
Şükrü Cansızoğlu (Master)	Analysis of environmental Legislation and policies in Turkey	Prof.Dr. Günay Kocasoy	29.06.1998
Fikret Tuzcu (Master)	A study of shipping industry and assessement of environmental impacts in Turkey	Prof. Dr. Günay Kocasoy	29.06.1998
Banu Cankan (Master)	Industrialized Countries, Trade- Env. Linkages, and the Future of Global Env. Order	Prof. Dr. Günay Kocasoy	15.10.1998
Hayat Yalın (Master)	Determination of the Carboxyhemoglobin Levels and its Health Effects on Officers Working at the Istanbul Bosphorus Bridge	Prof. Dr. Günay Kocasoy	29.06.1999
Arda Polat (Master)	An Evaluation of the Application of ISO 9000 and ISO 14000 Standards fron an Economical Point of View	Prof. Dr. Günay Kocasoy	29.06.1999
Fatih Hüseyinoğlu (Master)	Biodiversity Analysis of Marine Demersal Invertebrate Fauna in Princess Islands Region	Prof.Dr. Günay Kocasoy	29.06.1999
Arpat Özgül (Master)	Population Distributionof Cave-Dwelling Bat Species and Conservation Status of Underground Roots in Northwestern Turkey	Assist. Prof. Dr. Andrzej Furman	28.06.2001
Beyza Ağcıoğlu (Master)	Comparison of Legislations and Regulations in Turkey USA and EU Related to Water Resources Protection	Assoc. Prof. Ayşen Erdinçler	02.05.2002
Shaza Zeinelabdin (Master)	An Evaluation of Conservation Strategies in Turkey with Particular Focus on Recent Developments in the Dupnisa Cave System	Assist. Prof. Dr. Andrzej Furman	24.09.2002
Melih Öztürk (Master)	Evaluation of Water Erosion in the Ağaçlı Region İstanbul Turkey	Prof. Dr. Ömer Saygın	27.06.2005

Table 5.2. List of the Ph.D. theses completed between the years 1997-2005

Name	**Title of the Thesis**	**Thesis Supervisor**	**Graduate date**
Katalin İvet Zaim **(PhD)**	Env. Input-Output Table with Estimated Air Pollution Extension Based on Fossil Fuel Consumption: The Case of Turkey	Prof.Dr. Ömer Saygın	1996
Sibel Sezer (PhD)	Env. Management in Turkey: Case Study of the Comprehensive Env. Fund.	Prof.Dr. Günay Kocasoy	26.06.2000
Şeyla Boynuinceoğlu (PhD)	Demand for Household Water: A Contigent Valuation Study in the City of Diyarbakır	Prof.Dr. Orhan Yenigün	05.09.2002
Kenan Erkut (PhD)	Env. Marketing: Its Scope and Current Status among Leading Private Sector Manufacturing Firms in TR	Prof.Dr. Ömer Saygın	27.06.2005

The M.Sc. and Ph.D. theses completed in the "Institute of Environmental Sciences" that could also be considered as related to the environmental social sciences are presented in a chronological order.

Leyla, Taner, 1991, Ph.D.
"The Fisherman's Problem in the Marmara Sea",
Thesis supervisors Assoc.Prof. Dr. Orhan Yenigün and Prof. Dr. Ferhunde Özbay,

Rakel Sezer, 1997, M.Sc.
"Implementation of Environmental Management System Based on ISO 14000 EMS Standard in Small-Medium Sized Enterprises",
Thesis supervisor Prof.Dr.Orhan Yenigün,

Bahman Farrokhnia, 1998, M.Sc.
"The Impact of the Proposed Trade Ban of the Basel Convention on the Trade of Scrap Metals on Turkish Iron and Steel Industry",
Thesis supervisor Prof.Dr.Günay Kocasoy,

Fikret Tuzcu, 1998, M.Sc.
"A Study of Shipping Industry and Assessment of Environmental Impacts in Turkey",
Thesis supervisor Prof.Dr.Günay Kocasoy,

Deniz Sürekli Gülcan, 1999, M.Sc.
"Energy Management in the Rubber Industry" ,
Thesis supervisor Prof.Dr.Orhan Yenigün,

Tuba Tunca, 2001, M.Sc.
"Implementation of an Environmental Management System in a Pharmaceutical Industry",
Thesis supervisor Prof.Dr.Günay Kocasoy,

Aysem Mert, 2005, M.Sc.
“A Quantitative Analysis of Environmental Discourse: The Science Media”,
Thesis supervisor Assist. Prof. Dr. Andrzej Furman,

In order to fulfill the clarity and easiness of understanding purposes, the compulsory and elective courses and descriptions of the courses of Boğaziçi University are given below:

ESC 501 Principles of Environmental Pollution (Çevre Kirliliginin Prensipleri)
Principles of ecology, nutrient cycles; water pollution, quality parameters, standards and regulations; reaction kinetics and materials balance in aquatic systems; hydraulic models, batch, complete-mix and plug flow reactors; water quality in rivers, streams and lakes; principles of water and wastewater treatment; hazardous wastes and disposal methods with emphasis on solid waste and sludge; Environmental Risk Assessment; air pollution and control; global environmental problems.

ESC 543 Treatment Technologies (Aritma Teknolojileri)
Wastewater characteristics; wastewater treatment objectives; methods; physical unit operations; chemical unit processes; biological unit-processes; treatment and disposal of sludge; advanced wastewater treatment; land-treatment systems; effluent disposal and reuse.

ESC 558 Concepts and Models in Ecology (Ekolojide Kavramlar ve Modeller)
Mechanisms of evolution; population genetics; game theory and evolutionary stable strategies; Red Queen hypothesis; ecology of populations; single-species populations; population dynamics; ecology of communities; species diversity; community structure; the origin and maintenance of communities; conservation ecology. Each issue to be accompanied by papers on related topics and mathematical models.

ESC 572 Global Environmental Systems (Kuresel Çevre Sistemleri)

Physical, chemical and biological properties and processes of the Earth and its compartments in their past and present states.

Elective courses could either be chosen from environmental social sciences program or from the general courses pool of the courses offered to all of the programmes of the Institute of environmental sciences. The courses are presented below:

ESC 541 Environmental Economics (Çevre Ekonomisi)

Economic foundations of the degradation of the environment and the depletion of non-renewable resources; economic implications of the solutions for environmental problems; monetary proxies for benefits and costs of environmental programs; instruments of environmental policy.

ESC 545 Environmental Sociology (Çevre Sosyolojisi)

Rural, urban and industrial sociology. Environmental problems affecting social structure. Basic demographic processes. Social sampling techniques, questionnaire design. Statistical methods in data evaluation. Utilization of computer software designed for social science data processing.

ESC 546 Environmental Ethics (Çevre Ahlaki)

History of ideas on man's place in nature. Evolution of environmentalist movements and ethics in 19th and 20th centuries. Contemporary ideas on environment, technology and economic growth relationships. Sustainable development.

ESC 547 Environmental Law (Çevre Hukuku)

Environmental law and legislation in Turkey and abroad. Legislation related to the transboundary movement of wastes. Case studies.

ESC 548 Tourism and Environment (Turizm ve Çevre)

The interrelation between environment and tourism; deterioration of environment by touristic activities accomplished without necessary infrastructure; coastal and rural

pollution; determination of carrying capacity of touristic resorts; effects of environment on tourism. Case studies.

ESC 502 Environmental Impact Assessment (Çevresel Etki Degerlendirmesi)
Definition, scope and field of application of Environmental Impact Assessment (EIA). Methodologies of EIA. Assessment of impacts. National and international legislation of EIA. Principles of Environmental Risk Assessment. Discussion of case studies.

ESC 505 Public Health Engineering (Halk Sağlığı Mühendisliği)
General principles of vector control; communicable diseases. Environmental conditions in living and working environment such as light, heat, noise and moisture. Disaster sanitation. Sanitation of swimming environments. Principles of plumbing.

ESC 509 Energy and Environment (Enerji ve Çevre)
Energy cycles in the environment. Conventional energy production and consumption as related to environmental pollution. Alternative energy sources; solar energy, wind energy, tidal energy, energy from biomass. Energy from waste. Policy making in energy conservation.

5.2. Development of an Environmental Social Sciences Curriculum

Following a thorough research on the graduate programs of the universities with environmental engineering and environmental science departments in Turkey; a new curriculum for master degree programme has to be developed. The directly and indirectly related courses of this program show a logical parallelism with the Environmental Social Science courses of Boğaziçi University.

Environmental studies is an interdisciplinary major that includes a core of courses in the social sciences and natural sciences.

The program of compulsory and elective courses may cover both of the two specialization fields of social and natural sciences. An environmental professionalist must have a consistent background knowledge in both of the areas-in the fields of social and

natural sciences- in order to deal effectively with complex environmental problems at global levels. These core courses link and relate to each other effectively. Therefore, new curriculum program has been prepared in the frameworks of above mentioned criteria.

- Policy Courses
- Natural Sciences/Ecology Courses
- Environmental Social Sciences Courses

5.2.1. Compulsory Courses

5.2.1.1. Policy Courses.

Environmental Management (Title of the course)

The growing importance of environmental considerations in all aspects of life has focused attention on the need for professionals in disciplines to have a clear understanding of the fundamental factors on which sound environmental management must be based.

In the past some decisions and activities in engineering and science have not unfortunate environmental consequences and it is vital for sustainable development in the future that decision makers have access to informed professional advice. Such advice can best be assured by the use of carefully structured schemes of education, training and experience in environmental management which are under the control of a professional qualifying body (Tebbutt and Woods, 1998).

The following course content is proposed: Objectives of environmental management and its development, data collection, EMS Standards, ISO 14001, comparison of the methods and tools for solving the environmental problems in the developed, developing and underdeveloped countries, managable precautions and measures standards for export and import products.

Environmental Economies (Title of the course)

Broadly speaking, economics is the science of how to allocate scarce resources. When viewed in this way, it is clear that economics might provide a useful framework within which to analyze environmental problems and approaches to solve them. Because many

environmental problems are caused by economic activity (carbon emissions, overharvesting renewable resources, toxic releases as a by-product of industrial production, urbanization), it will be examined different approaches to adjusting human behavior and therefore the externalities associated with it. An economic analysis would help students understand why environmental resources have been poorly conserved in the past and the most effective means to achieve conservation in the future.

This course would also survey economic thinking on environmental issues. A wide range of topics would be considered, including economic approaches to pollution control; the extent to which environmental regulations impede production of conventional goods and services; water markets; valuation of environmental resources; natural resource damage assessment; global warming; loss of biodiversity; environmental issues in developing countries; and sustainability. The course would aim to introduce students to the insights that economics can provide and to make them aware of the pitfalls of economic approaches.

Economics is an extremely important factor in all of our environmental problems. Some relevant economic principles for a sustainable development: perhaps the chief fact relating economics and the environment is that in the past, ecological and environmental factors were not taken into account as part of the cost of doing business, but in the future they must be. This means that there must be a transition from environmental protections's being an external factor to its being fully included in the cost accounting that leads to the determination of the prices of products that are bought and sold in the society.

The course of Boğaziçi University "Environmental Economics" (ESC 541) covers the above given topics about environmental economies.

The following course content is proposed: Natural resources, environment and economics relationships, decision- making process and the environment, environmental degradation and economic activities, business and environmental liabilities, content and classification of natural resources, approaches of the economists towards to the natural resources and the environment, sustainable development and free market environmentalism, case studies in the field of environmental economics.

Environmental Law (Title of the course)

Environmental law is a very important tool for solving the environmental problems. Students will gain an understanding of the evolution of environmental law through legislation, regulation, and litigation and when they can compare the domestic laws with international environmental laws, it will be more easier solving the global environmental problems.

The following course content is proposed: Environment-related laws, decrees, regulations, decisions of the Council of Ministers and their application in Turkey, international agreements signed, environment policies in Turkey and in the world, activities of non-governmental environmental organizations.

It would be an interesting approach to offer this course under the title "Comparative and International Environmental Law" with a proposed course content such as; Environmental policies of several different countries, comparison of ideological and material foundations of policies and international laws, examination of the institutions, processes, and legal principles which encompass the field of environmental law in Turkey and in the World, comprehensive review of the legal framework underlying the existing planning, regulatory and approvals processes at the governmental levels, together with discussions of a number of key environmental issues facing society today.

On the other hand, the course "Environmental Law" (ESC 547) given in the Institute of Environmental Sciences of Boğaziçi University offers the same law an legislation topics in Turkey and in the world.

Introduction to Treatment Technologies (Title of the course)

Fundamentals of environmental technologies are very important for the future generations and play a crucial role for the future generations.Therefore, systems to review emergent and existing technologies should be eatablished. New technologies that have emerged in recent decades should also be introduced besides the conventional treatment systems. Special attention should be directed to the application of the systematic control measures to maintain ecologically sound systems. The urgent need to provide environmental multi-

disciplinarians and the basic understanding of treatment technologies constitute the major task of any environmental social sciences program.

On the other hand, the course offered in the Institute of Environmental Sciences of Boğaziçi University "Treatment Systems" (ESC 543) is specially designed for the students of Environmental Social Sciences and the content is more directed to the students with social background education.

The following course content is proposed: Introductory knowledge on pollutants and pollution problems in water air and soil compartments, understanding of of treatment technologies applied to the relevant areas, types of conventional treatment technologies, comparison of different treatment technologies, emerging technologies, data collection about treatment technologies, case studies in treatment plants.

5.2.1.2. Natural Sciences/Ecology Courses.

Introduction to Environmental Pollution (Title of the course)
Environmental pollution in general terms, covers the factors which have a harmful effect on living things or their environment. Environmental pollution problems obviously create a diverse range of detrimental impacts. They would probably impair human health, cause economic and other welfare losses, or damage the ecosystems on which both urban and rural areas depend. Most environmental pollution problems entail all three of these impacts, either directly or indirectly. As an example, cause direct impact of urban air pollution on human health increasing the incidence of respiratory disease could be mentioned. On the other hand, indirect impacts on economical issues could be assessed worldwide.

Such a course under the title "Introduction to Environmental Pollution" would be very useful, covering the topics such as: All types of pollution like water, air, soil, and industry, kinds of human activities causing pollution and prevention ways of pollution from governments and NGO's, awareness of the public about the environmental pollution.

The following course content is proposed: Introduction to the unpolluted and polluted systems, definition of pollutants, pollution, and prevention methods, potential problems occuring as a result of acquiring contaminated properties, assessment of the impacts on the environmental compartments, risk assessment and minimization and clean-up techniques.

The course of Boğaziçi University "Principles of Environmental Pollution" (ESC 501), offered in the Environmental Social Sciences is more related to the technical concepts like hazardous wastes and disposal methods with emphasis on solid waste and sludge. The content would be more general and non-technical as proposed above.

Ecology (Title of the course)

Ecosystems have a crucial role for the conservation of natural resources and for sustainable development; also for survival. Ecology is also the study of the structure and function of nature. Generally it is defined as the study of ecosystems and it is a core course, because all human environmental problems have their roots in one or more of the fundamental principles of ecology.

Introduction to the concepts and principles in ecology as they relate to both natural and managed environments and to resources, planning, management, and conservation would provide appropriate fundamental knowledge. Topics would be analyzed within the context of ecological change and its implications for both the non-human world and human habitats.

The two courses of Boğaziçi University, offered in the Institute of Environmental Sciences "Global Environmental Systems" (ESC 572), and "Concepts and Models in Ecology" (ESC 558) cover similar topics to the below given proposed content.

The following course content is proposed: Fundamental ecologic principles, protection of fauna and flora, energy resources relation of economy with ecology, description of ecology, its relationship with other sciences; food, chain cycle of carbon and nitrogen in nature, the role of natural systems in meeting human needs.

Energy and Environment (Title of the course)

Energy is the primary cause of many most damaging and intractable environmental problems of the world. Increased efficiency in the use of energy, conservation, and the expanded use of alternative energy sources are essential goals for effective future energy plans.

The following course content is proposed: Energy production and consumption, sources of energy, renewable and non-renewable energy sources, energy conservation, energy conservation industry, energy sector in Turkey and the World, environmental policy on energy production, energy policy in developed and underdeveloped countries, air pollution originating from energy sector, environmental and social effects of power plants, the role of technology in reducing the greenhouse gas emissions from energy production and consumption.

The course of Boğaziçi University "Renewable and Non Renewable Resources" (ESC 574), offered in the Institute of Environmental Sciences could be presented as a complimentary course under the title like "Sustainable Technologies". The course "Energy and Environment" (ESC 509) of the same university and same department show similarities to the topics of below given proposed content.

Natural Resource Conservation (Habitat Conservation) (Title of the course)

Environmental policy instruments are very important to reduce environmental pollution and depletion of natural resources. Different kinds of controls like direct regulation, taxation and subsidies constitute the environmental policy instruments to reach of desirable resources.

The following course content is proposed: Definition and classification of protected areas, historical progress of nature protection in Turkey and in the world, policies followed on this subject, protected areas like national parks, nature parks and natural sites in Turkey, preparation of master plan, changes of the environment in the last twenty five years in Turkey, comparing with other countries, threats for biological diversity, acid rains, solid wastes, global climate change, situation of the growth of the human population, the importance of aquatic species in the ecosystems.

The following course is recommended in the topics of the importance of the conservation and management for biological resources, because they have a commercial value, such as forests, fisheries, national parks and marine mammals; conservation and management are important for landscapes that have recreational, aesthetic, and moral interest, including similar unique areas and wilderness. The importance of the forests must be emphasized, because forests are the most important renewable resources among the civilizations.

5.2.1.3. Environmental Social Sciences.

Environmental Sociology (Title of the course)

Environmental sociology examines the large-scale narrative on environmental issues. This narrative conveys the natural connections between people, animals, minerals, land, water, and plants. It also introduces social constructs: Pollution, over-consumption, resource depletion, habitat loss, risky technology and rapid population growth. This course examines the social significance of these and other environmental conceptualizations from the standpoint of culture, ideology, moral values, and social inequality. Environmental sociology should contribute to the basic understanding of the phenomenology of human-nature-interactions, especially if they become critical, by means of description, analysis, forecasting, and modelling (Reusswig et. al, 1996).

The following course content is proposed: The development of environmental sociology, research issues in the study of social organization, natural resources, and social change, sociological perspectives on causes and consequences of natural resource utilisation, specific topics include the resource scarcity, pollution, fossil fuel dependence, disasters, and risk assessment.

The course “Environmental Sociology” (ESC 545) of Boğaziçi University, offered in the Institute of Environmental Sciences covers the following topics: Rural, urban and industrial sociology, environmental problems affecting social structure, basic demographic processes, social sampling techniques, questionnaire design, statistical methods in data evaluation, utilization of computer software designed for social science data processing.

Psychology of Environmental Issues (Title of the course)

An important phenomenon in environmental issues is that scientists often disagree about the importance or strength of the impact of certain events (for example, a type of pollution, extraction of a natural resource) on both the well being of humans, and the well-being of the natural environment. The major theme of this subject would be comprised of the uncertainities and disagreements in the final decisions taken about environmental impacts. The question of what decision criteria and ethical issues are implicitly and explicitly involved in those scientific differences and in environmental regulations would be the emphasized topic in relation to the roles of human judgment and decision processes in both scientific research and environment regulation, as well as in avoiding environmental hazards to oneself, and avoiding negative impacts on nature.

Environmental psychology investigates the interactions of the people with the environment - their perceptions, attitudes and actions. Environmental psychologists would work in collaboration with other psychologists such as cognitive, occupational and social psychologists, as well as other disciplines and professions such as architects, educationalists, environmental scientists, engineers, landscape architects and planners. The course content should address the topics related to the identification of the ways in which environmental hazards influence psychological functioning and the related responses in terms of attitudes, beliefs, values, decision processes, and actions directly and indirectly create pollution or damage the sustainability of the natural environment.

The following course content is proposed: Concepts and research strategies in the study of behavior in interaction with physical environment, knowledge of the historical development and philosophical basis for the sub-discipline of environmental psychology, qualitative and quantitative methods employed in environment-behaviour research. Special topics like environmental pollution disasters and community relocations could also be discussed.

On the other hand, the course of Ege University titled “Field Studies in Environmental Psychology” offered in the department of Social Psychology has a typical content such as; Behavior setting, city life, perceived residential safety, privacy residential satisfaction, transportation and similar issues.

Environmental Ethics (Title of the course)

Finding solutions to environmental problems involves more than simply gathering facts and understanding scientific issues of a particular problem. It has also much to do with the systems of values and issues of social justice. To solve the main environmental problems, the question of the understanding of our values and which potential solutions are socially appropriate should be solved. Recently, a new discipline known as environmental ethics analyzes these issues.

The following course content is proposed: Ethical issues in life sciences, ethical relations between man and his environment, sustainable development in the framework of environmental ethical issues, social sampling techniques, statistical methods, planning and improving training programs towards developing of environmental consciousness.

Introduction to the Environmental Sciences (Title of the course)

The approach of Environmental Science is interdisciplinary in nature. Environmental science integrates many disciplines and includes some of the most important topics of modern civilization as well as some of the oldest philosophical concerns of human beings. Applied and basic aspects of environmental sciences require a solid foundation in the natural sciences, in addition to fields such as anthropology, economics, history, sociology, and philosophy of the environment. Also the field of environmental science integrates the natural sciences with environmental ethics, environmental economics, environmental law, environmental impact, and environmental planning. As a result, Environmental Science provides an introduction to the entire spectrum of relationships between people and the environment.

The following course content is proposed: Basic Principles of environmental systems, the importance of relevant issues in environmental systems, effects of human beings on the environment, introduction of this effect on environmental problems as a global perspective.

5.2.2. Elective Courses

5.2.2.1. Policy Courses.

Coastal Zone Management (Title of the course)
The following course content is recommended: Social and economical importance of coastal areas, related regulations and laws, comparison with other countries, measures taken to conserve coastal ecosystems.

Coastal Zone Management Course is offered in the environmantal science of the Institue of Environmental Sciences of Boğaziçi University as a special topic course (ESC 592) . A similar course content (KBM 507) is also present in the graduate program of Coastal Sciences and Engineering department of İTÜ.

The following course content is proposed: Description of coastal zones, determination of the territorial and sea boundries, description of inner and outer parameters, general aims and organization of coastal zone management, organisational need and continuity conditions, sustainable development concepts, calculation methods, environmental effects of coastal structures, methods for monitoring coastal zones, data categorization, description of coastal zones natural equlibrium components, coastal zones behaviour as a system, aids effects and objections of NGOs, the effects of the globalization on the coastal zones, relations and oppositions between basin management and coastal zone management, basic principles of the integrated coastal zone management.

Environmental Accounting and Financial Management (Title of the course)
The following course content is proposed: An introduction to environmental accounting and its role in corporate financial management, extensive use of case studies allows consideration the role of environmental accounting in corporate financial reporting, the management and control of enterprises and environmental accounting in long-term investment decisions (it can be considered in the content of EIA course).

Introduction to GIS and RS for Environmental Applications (Title of the course)
GIS and RS are used for storing and analysing a very wide variety of subject matter ranging from the social sciences to the natural environmental sciences and from public administration to the management of the human-made environment. A GIS framework is also essential to organize the data and to extract maximum amount of information. GIS course of Boğaziçi University offered in the Institute of Environmental Sciences under the title Special Topics (ESC 593) covers the following topics such as GIS applications on environmental fields and case studies. It is a good approach giving to the students applied case studies and presentations about the environment using tools of GIS and RS.

The following course content is proposed: Definition of GIS and RS, Raster and Vector Data Properties, role and importance of GIS and RS on sustainable use of natural resources, uses of digital maps in pollution, principles and fundamentals of remote sensing.

Corporate Environmental Management (Title of the course)
This course looks specifically at the role and responsibilities within a corporation in terms of environmental management. Detailed consideration is given to practical aspects of establishing and maintaining an Environmental Management System (EMS) - planning, implementation, training and resourcing, measurement, evaluation, review and improvement. Also covered is an overview of methods for cleaner production and waste minimisation, life cycle analysis and interacting with neighbours and activists.

The content of this course shows similarities to the contents from the list of the indirectly courses offered in the Environmental Sciences of Boğaziçi University (ESC 584) "ISO 14000 Procedures and Auditing".

5.2.2.2. Natural Sciences/Ecology Courses.

Human Dimensions of Global Change (Title of the course)
Over the past several thousand years humankind has succeeded at many things, one of the most significant of which is the large-scale alteration of the biosphere. Changes on a global

scale have always been part of the fundamental nature of the world and global history where humans are, for the very first time, among the principal agents of that change.
This course is important, because it will investigate a variety uf issues related to how humans influence change on a global scale and how the people, in turn, affected by that change.

The following course content is proposed: Scientific basis for examining global change, its influence on the society, dealing ways with global change issues through the political systems, reports of media on the current issues of global change, and some predictions for the future of our planet.

The course of Boğaziçi University "Global Environmental Systems" (ESC 572), offered in the Environmental Sciences covers only one part of above mentioned course content proposal.

The Human Aspects in Environmental Studies (Title of the course)
This course will cover the main multidisciplinary aspects of the environment emphasizing the human activities and their impact. The concept of life cycle analysis will be reviewed in relation to various resources such as air, water, and soil. It will be given attention to local problems such as air pollution, waste and wastewater treatment, hazardous substances, radiation and noice. The principles of environmental health will be reviewed using air pollution as a model for hazards and the elements of toxicity, risk assessment and evaluation of standards will be discussed, the different impacts of short and long range effects will be analyzed.

The following course content is proposed: Global problems and local problems, air pollution and its health impacts, toxicity and the elements of risk assessment, hazardous substances, case studies.

Marine Pollution and Health Effects (Title of the course)
The mainly topic of natural resource depletion like damage to the marine environment including damage caused by oil spills, ocean dumping, and ocean mining is today one of the most important environmental threat for aquasystems of the world.

The following course content is proposed: The physical, chemical and biological features of the seas, the biogeochemical processes in marine environments, definition of marine pollution, classifications of the pollutants, resources and inputs of pollutants in marine environments, movements and behaviour of pollutants in marine environments, the riverine transportation of pollutants, the atmospheric inputs, the accumulation mechanisms of the pollutants in marine organisms, present levels of pollution in world seas, monitoring of marine pollution with remote sensing techniques, bio-monitoring of marine pollution, the Mussel-Watch projects in the world, human foodstuff limit values of the toxic substances, EU policies on marine pollution, the national regulations for preventing the marine pollution, international conventions on marine pollution.

Applied Sustainability-Introduction to Green Living (Title of the course)
This course examines ways to change eating, gardening, cleaning, and shopping habits of the individual to make the home and household more sustainable.

The following course content is proposed: issues of home food production, perma-culture for small areas, plants in enclosed environments and the sustainable home within the context of the community.

There is a course under the title "Healthy Housing and Optimum Environment" in the University of Ankara in the Department of Home Economics of the Applied Sciences Institute. The content covers importance of housing at human living, parameters of health, housing-environment (macro-micro) interactions, evaluation of housing related to healthness and usefullness, housing hygiene standards, housing standards and social policies, basic or absolute housing standards, basic space needs, housing needs of special groups. Such a course should be required in the environmental departments in the content of the course of public health.

5.2.2.3. Environmental Social Sciences Courses.

Urban Sustainability (Title of the course)
Most of this course is in the programs of Architecture departments and some of them are in the programs of the faculties of Economics and Administrative Sciences, Agriculture

Faculties and Geography departments and a few of them is in the programs of Environmental Sciences and Environmental Engineering of the universities in Turkey. Urbanization and environmental problems interact each other; For example loss of agricultural land because of urbanization is a natural resource depletion and as a result this is an important environmental problem.

The course takes a conceptual approach to defining "sustainability" for urban areas, considering patterns of land use, human activities, natural systems and needed rehabilitation. Concepts such as urban ecology, social ecology, the ecological footprint, etc. will be discussed. Social sustainability, environmental justice, and urban governance are central to the course design. Case studies explore ways of making urban areas more sustainable. Such a course should be elective in the environmental departments of the related universities.

The following course content is proposed: Common studies of NGOs, with governments, policies of urbanization, relations between urban planning and infrastructures, wastewater treatment, preparation and evaluation of environmental maps for urban planning.

Tourism and Environmental Relations (Title of the course)
This course is significant, because tourism based largely on observation of wildlife within protected areas is a major and growing source of income for many developing countries; especially important for Turkey, surrounded by different seas.

The following course content is proposed: The role and effects of natural environment on tourism, effects of tourism on environment and determining methods, conservation policies and tourism relations, sustainability in environment and tourism.

Tourism and Environment Course (ESC 548) of Boğaziçi University, offered in the Institute of Social Sciences is more related to the effects of environment on tourism and the content of the course shows similarities to the courses of Muğla University and Gebze Institute of Technology.

Food, Land and Culture (Title of the course)

Proposed course content: Food, land and people from a critical interdisciplinary environmental perspective, students have the opportunity to pursue their own interests related to food politics, planning, sustainable and alternative agriculture, human-animal relationships, and ethics, from a local and/or global perspective. One part of this course can cover the topic of the psychology of food and food choice; there is a widespread belief in traditional cultures that " you are what you eat". Also food is a total social act and the relations between food and environment can be discussed.

There is a course under the title "Relationship between Environment and Nutrition" in the University of Ankara, in the department of Home Economics of the Applied Sciences Institute.The content covers foods including substances naturally harmful to health and causing nutritional disorders, relationships between food additives and nutrition and health, toxicologic studies conducting to determine poisonous effects of food additives, pesticides, detergents, relationship between drugs which can mix animal foods and nutrition, relationship between plastic substances and nutrition, relationship between nitrate-nitrite and nutrition, interactions of nutrients and drug, relationship between water-soil-air pollution and nutrition. Such a course should be required in the programs of environmental departments of public health courses.

The content covers importance of housing at human living, parameters of health, housing-environment (macro-micro) interactions, evaluation of housing related to healthiness and usefulness, housing hygiene standards, housing standards and social policies, basic or absolute housing standards, basic space needs, housing needs of special groups.

Environmental Journalism (Title of the course)

The content covers all the news about the environment and news gathering techniques like interviewing and researching about environmental cases in the world; Journalistic standards of environmental ethics and other conventions. Such a course can be useful for mass communication, because environmental journalists investigate environmental problems and their causes, report on environmental policy disputes, and communicate to the public the value of a health planet. Carrier fields for environmental Journalists:

Newspapers, magazines, radio, TV, electronic media, public relations, government, education, and outreach programs.

The following course content is proposed: Closed relations between media and public, reports of environmental disasters and problems, environmental education in underdeveloped countries, distribution of basic environmental fundamentals to the pre-school children with visual canals.

6. CONCLUSION

This thesis focuses on a comprehensive survey research all of the environment related graduate courses in the Turkish State and Private Universities.

The first part of the thesis is concentrated on the scope of environmental social sciences and environmental engineering; and as a second step, a short scope of environmental education in some of the World Universities are investigated. The result of this investigation revealed to a determined common lack phenomenon, valid for all the universities in the World and Turkey.

The second part of the thesis is about a scope of a general approach to the universities in Turkey; knowledge giving about the structure and historical background of Turkish Universities. The third part "Higher Environmental Education in Turkey" encompasses the list all of the universities with environmental engineering and science programs in graduate levels.

The fourth part of the thesis summarized a methodological way for the comparison, importance and relevanve, interpretation and proposal for the directly and indirectly related graduate courses in the mentioned universities in Turkey. All of the the environmental related courses are classified according to the relevance of the course contents. The main criteria in this research is the consideration of the required importance for the social sciences in the base of environmental education. Since the environmental problems invariably have a social component, everyone has a stake in the environment, and it is vital that the professional environmentalist be able to communicate with all elements of society. A professional environmentalist needs to function as a cultural liaison finding the common elements across all cultures that bind the people to the environment. The notion of developmentally appropriate curriculum referring to environmental social sciences is also noticeably absent.

The last part of this thesis, is devoted to the concept of evaluating a new curriculum program for environmental education that is the most important and urgent requirement; not only for Turkey, on the contrary, for all of the universities in the world, which offer environmental education programs. According to the proposal in this research, an environmental professionalist must have a consistent background knowledge in both of the areas- in the fields of social and natural sciences- in order to deal effectively with complex environmental problems at the local, regional and global levels. To fill this criteria, all the compulsory and elective graduate courses are cumulated in three separated main headings, and every main heading covers four compulsory and four elective courses related to the fields of social and natural sciences.

- Policy Courses
- Natural Sciences/Ecology Courses
- Environmental Social Sciences Courses

Compulsory Policy courses are “Environmental Management”, “Environmental Economies”, “Environmental Law and Policy” and “Introduction to Treatment Technologies”. Compulsory Natural Sciences/Ecology courses are “Introduction to Environmental Pollution”, “Ecology”, “Energy and Environment” and “Natural Resource Conservation”. Compulsory Environmental Social Sciences courses are “Environmental Sociology”, “Psychology of Environmental Issues”, “Environmental Ethics” and “Introduction to Environmental Sciences”.

Elective Policy courses are “Coastal Zone Management”, “Environmental Accounting and Financial Management”, “Introduction to Geographical Information Systems and Remote Sensing for Environmental Applications” and “Corporate Environmental Management”. Elective Natural Sciences/Ecology courses are “Human Dimensions of Global Change”, “The Human Aspects in Environmental Studies”, “Marine Pollution and Health Effects” and “Applied Sustainability –Introduction to Green Living”. Elective courses in the group of Environmental Social Sciences are “Urban Sustainability”, “Tourism and Environmental Relations”, “Food, Land and Culture” and “Environmental Journalism”. As elective courses are new courses proposed such as “Food, Land and

Culture", "Environmental Journalism" and "Environmental Accounting and Financial Management".

A professional environmentalist must be able to design new solutions to unique situations and be prepared to modify those solutions in consultation with all above mentioned topics. A purpose designed Environmental Education Program which embodies a strong social sciences base within an environmental ethic of sustainability is the best means of achieving the mission of the university.

REFERENCES

Alha, K., Holliger C., Larsen, B.S., Purcell, P., Rauch W., 2000. Environmental engineering education-Summary Report of the 1st European Seminar. Water Science and Technology, 41, 1-7.

Atar, Y., 1996. The Relevance to Domestic Law of International Agreements into which Turkey has entered from the Point of View of Human Rights among the Turks, 204-218, Human Values and Human Rights among the Turks, Türk Kültür Hizmetleri VakfıCem Ofset Matbaacılık.

Barraclough, A., Guymer I., 1998. Virtual Reality – A R-role in environmental engineering education? Water Science and Technology, 38, 11, 303-309.

Brito, A. G., Melo, L. F., Santana, F., 2000. Environmental technology education in Portugal: analysis and perspectives. Water Science and Technology, 41, 23-28.

Egemen, E., Edwards, F., Nirmalakhandan N., 1998. Computer simulation models in environmental engineering education. Water Science and Technology, 38, 11, 295-302.

Frischknecht, P.M., 2000. Environmental science education at the Swiss Federal Institute of Technology (ETH). Water Science and Technology, 41, 31-35.

Graduate Catalogue, 2005, Boğaziçi University, Publication Nr. 857, İstanbul.

Hahn, H., H., 2000. Environmental engineering education in conjunction with or as part of social sciences curricula. Water Science and Technology, 41, 47-55.

Johnston, R. J., 1989, Environmental Problems. Edition ? Belhaven Press, London.

Kupchella, C. E., Hyland M.C., 1993. Environmental Science, 3rd Edition Prentice Hall Editions, London, 501-507.

Leopold, A., 1949. A Sand County Almanac and Sketches Here and There. Oxford University Press, New York.

Mino, T., 2000. Environmental engineering education in Japan. Water Science and Technology, 41, 17-18.

Orellana, I., Fauteux, S., *"L'éducation relative 'a l'environment a travers les grands moments de son histoire"*. The Future of Environmental Education in a Postmodern World) Proceedings from an On-line Colloquium Part 1, 19 October 1998, Extended, 77-96.

Reusswig, F., Bechmann, G., Brand, K. W., Hildebrandt, E., Metzner, A., Warsewa, G., Wehling, P., 1996. "First Program-Outline of the Environmental Sociology Section of the German Sociological Association". http://www.soziologie.de/sektionen/s08selbstverstaendnis.pdf

Sauvé, L., Berryman, T., Brunella, R., 2000: International proposals for environmental education: Analysing a ruling discourse proceedings: International conference in environmental education in the context of education for the 21st century – prospects and possibilities. Larisa, Greece.

Schmitt, T. G., Wilderer, P. A., 1996. Environmental engineering education in Germany. Water Science and Technology, 34, 12, 183-189.

Tebbutt, T. H. Y., Woods, D. R., 1998. A new approach to education and training in water and environmental management. Water Science and Technology, 38, 11, 261-268.

UNCED, 1993. Agenda 21: Programme of Action for Sustainable Development. Rio Declaration on Environment and Development – United Nations Conference on Environment and Development. Rio de Janeiro.

UNESCO-UNEP, 1976. Belgrade Charter: A Global Framework for Environmental Education. International Environmental Education Workshop. Belgrade, 13-22 October 1975. Connect 1(1), 1-9.

UNESCO-UNEP, 1977. Tbilisi Declaration and Final Report – Intergovernmental Conference on Environmental Education.Tbilisi, 14-26 October 1977.

UNESCO, 1999. Education and Population Dynamics: Mobilizing Minds for a Sustainable Future. Paris: UNESCO.

Wareham, D. G., Elefsiniotis P., 1996. Environmental ethics in engineering education: A missing fundamental. Water Science and Technology, 34, 12, 197-202.

APPENDIX A Descriptions of the Directly Related Courses

The descriptions of the courses under related titles are presented in alphabetical order with respect to the names of the universities.

Environmental Management

Title of the course: Environmental Problems and Environmental Management (Çevre Problemleri ve Çevre Yönetimi)
Code: 80403605
University: Akdeniz
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/ Public Administration

Content: Environmental problems, concept of environment, environment-human relations, ecosystems, cycles, ecological principles, economics-ecology relations and population, energy, pollution, flora-fauna, cultural and historical environment, environmental phenomenon, environmental management and micro-macro environmental instruments.

Title of the course: Environmental Data Management (Çevre Data Yönetimi)
Code: ENV-520
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculties of Engineering/Environmental Engineering

Content: Objectives of environmental management. Data collection. Data analyses. Water quality monitoring networks. Data handling and storage. Modeling. Decision making.

Title of the course: Environmental Management and Business Administration (Çevreye Duyarlı Yönetim ve İşletme)
Code: İŞL 689
University: Erciyes
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Business Administration
Content: No description.

Title of the course: Environmental Management (Çevre Yönetimi)

Code: ENV 504
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Environmental Sciences
Content: Definition of environmental management and its development, ISO 14000 standard series, application of ISO 14001 to a plant.

Title of the course: Environmental Management (Çevresel Yönetim)
Code: SÜ-518
University: Gaziosmanpaşa
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Fishery Products
Content: No description.

Title of the course: Environmental Management (Çevre Yönetimi)
Code: ÇEV 501
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Çevre sorunları; çevre açısından ekonomi ve yönetim ilişkileri; global yaklaşımlar ve senaryolar; çevrenin fiziksel özellikleri ve çevre değerleri; kentleşme, sanayileşme ve diğer faaliyetlerin çevreye etkileri; kalkınma ve çevre ilişkileri; kültür ve çevre; çevresel etki değerlendirmesi; ekonomi ve çevre; turizm ve çevre; Türkiye'nin çevre sorunları, örnekler.

Title of the course: Quality Management in Environmental Systems (Çevresel Faaliyetlerde Kalite Yönetim Sistemleri)
Code: CBM 522E
University: İTÜ
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Civil Engineering/Environmental Sciences and Engineering
Content: Introduction, definition of the problem, concepts and definitions, environmental Impact Assessment (EIA), History, Legislations, EIA processes, EIA identification methodologies, Cumulative Impact Assessment, Environmental Management System (EMS), Resource Management, Waste Management, EMS Standarts, ISO 14001, ECO-Management, Environmental Aspects Evaluation Methods, Relation between EIA and EMS, Environmental Risk Assessment and their modelling, Environmental Models, Modelling approach, parameters, Main functions and equations, Computing software of the model, Results and application of the model for case studies.

Title of the course: Environmental Management (Çevre Yönetimi)
Code: CEV 5110
University: Karadeniz Technical
Institute/Faculty/Department: Institute for Applied Sciences/Environmental Sciences
Content: Environmental problems. Economic and management relationship on the environmental basis. Physical aspects and the values of the environment. The impacts of urbanization. Industrialization and other activities over the environment. The interaction between development and environment. Culture and environment relationship. Environmental impacts assessment. Economics and environment. Tourism and environment. The examples of environmental problems in Turkey.

Title of the course: Environmental Management (Çevre Yönetimi)
Code: 14-40336-533-S
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/Environmental Sciences
Content: Çevre yönetiminin anlamı. Çevre kirliliğinin giderilmesinde ekonomik,sosyal, ve psikolojik yaklaşımların, yönetim organizasyonunda yer almasının önemi. Toplumun, kirlilik önlemeye katkısının hesaplanması ve yöntem geliştirilmesi. Çevresel fayda kavramı. Refah payı ile çevresel fayda arasındaki ilişkiler.

Title of the course: Environmental Management (Çevre Yönetimi)
Code: ÇEV-517
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Çevre yönetiminin kuramsal temelleri, Çevre planlaması, yerel düzeyde çevre yönetimi, kentsel çevre sorunlarının yönetimi, çevre yönetiminin ekonomik araçları, çevre yönetim sistemi, Türkiye'de çevre için örgütlenme.

Title of the course: Environmental Management and Organization (Çevre Yönetim ve Organizasyonu)
Code: KAY-530
University: Pamukkale
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: No description.

Title of the course: Environmental Management Çevre Yönetimi)
Code: TEYL-540
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Agricultural Economies
Content: Dünyada çevre sorunu 1950'li yıllarından sonra ortaya çıkmış ve 1970'li yıllardan sonra önemi anlaşılmaktadır. Çevre sorunları konusunda uluslar arası alanda ilk toplantı Birleşmiş Milletler tarafından 1972 yılında Stockhom'da gerçekleştirilmiştir. Bu konferansta alınan en önemli karar BM kapsamında bir çevre programı oluşturulmasıdır. Gelişmiş gelişmekte olan ve az gelişmiş ülkelerin çeşitli çevresel problemlerini çözebilmek amacıyla 1992 yılında Brezilya'nın başkenti Rio'da 179 ülkenin katılımıyla Birleşmiş Milletler Çevre ve Kalkınma Konferansı (UNCED) düzenlenmiştir. Türkiye'nin de katıldığı zirvede, üretim sistemlerinin sürdürülebilir bir yaklaşımla ele alınması kabul edilmiş, bir dizi anlaşma ve eylem planları kabul edilmiştir. Gelişmiş ülkelerde çevre yönetimi ile ilgili çeşitli yasal düzenlemeler yapıları ciddi önlemler alınmaya başlamıştır. Alınan önlemler uluslararası ticaretli çeşitli şekillerde etkilemektedir. Özellikle ithalat ve ihracatta ürünler için çeşitli standartlar ve uyulması gereken çevresel kurallar getirilmiştir. Bu ve buna benzer çeşitli konuları içeren çevre yönetimi; çevre sorunlarının çözümünde uygulanması gereken yol ve yöntemleri içermektedir. Bu kararın gelişmiş ülkelerdeki başarılı uygulamaları da öğrenciye aktarılmaktadır.

Title of the course: Environmental Management (Çevre Yönetimi)
Code: ÇEV 905/820 (Same course for PhD)
University: Uludağ
Institute/Faculty/Department: Institute for Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Concept of environmental management, Global environmental problems, Management instruments in use, Pollution control strategies, Environmental impact assessment, Environmental policies in Turkey, national and international standards, Environment-industry relationship, Recent advances in environment-friendly technologies, Environmental Management Systems.

Energy and Environment

Title of the course: Energy Economies (Enerji Ekonomileri)
Code: EKO511
University: Adnan Menderes
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Economy
Content: Enerjinin tanımı ve çeşitleri. Ekonomik ve toplumsal kalkınmada enerjinin önemi. Girdi ve maliyet faktörü olarak enerji. Enerji ve dışa bağımlılık. Enerji ve rekabet. Türkiye'nin enerji gereksinmesi, enerji kaynakları ve sorunları. Türkiye'de üretim, milli gelir, kalkınma ve enerji bağlantısı. Enerji girdisinin ekonomik analizi, hidrolik enerji, rüzgar enerjisi, güneş enerjisi, jeotermal enerji ve diğer alternatif enerji kaynakları, nükleer enerji.

Title of the course: Environmental Impacts and Environmental Policy of Energy Production (Enerji Üretiminde Çevresel Etkiler ve Çevre Politikaları)
Code: ÇEV 537
University: Anadolu
Institute/Faculty/Department: Graduate School of Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Energy Production and Consumption; Sources of Energy: Renewable and Non-Renewable Energy Sources; Energy Conservation; Energy Conservation in Buildings; Energy Conservation in Transportation and Industry; Point of View on Energy Sector in Turkey and the World; Environmental Policy on Energy Production; Energy Policy in Developed and Underdeveloped Countries; Air Pollution Originating from Energy Sector; Environmental and Social Effects of Power Plants; The Role of Technology in Reducing the Greenhouse Gas Emissions From Energy Production and Consumption.

Title of the course: World Energy Potential and Distribution (Dünya Enerji Potansiyeli ve Dağılışı)
Code: BİC –511
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Social and Economic Geography
Content: Enerji kaynaklarının türleri ve dünya üzerindeki dağılışı, rezerv ve üretim miktarları.

Title of the course: Primary Energy Sources (Birincil Enerji Kaynakları)
Code: BİC –519
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Social and Economic Geography
Content: Yeryüzünde enerji üretiminin tarihsel gelişimi ile öncelikli enerji kaynaklarının oluşumu, Coğrafi esasları, rezervlerin ve üretimin dağılışı ile dünya enerji açığını karşılamadaki önemlerinin araştırılması.

Title of the course: Utilization of Natural Resources (Doğal Kaynaklardan Yararlanma)
Code: BİC –603
University: Atatürk

Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Social and Economic Geography
Content: Doğal kaynakların en rantabl nasıl kullanılacağı, dünyadaki doğal kaynakların dağılışı, rezervi ve üretimi.

Title of the course: World Energy Problems and Alternative Energy Sources (Dünya Enerji Sorunu ve Alternatif Enerji Kaynakları)
Code: BİC –659
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Social and Economic Geography
Content: Petrol, kömür gibi fosil enerji kaynaklarının tükenmeye başlaması, bunun ortaya çıkaracağı sorunlar, yenilenebilir enerji kaynaklarının uygulamaya geçirilmesi.

Title of the course: Energy Resources of Turkey (Türkiye Enerji Kaynakları)
Code: TÜC –513
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Geography of Turkey
Content: Türkiye'deki enerji kaynaklarının incelenmesi.

Title of the course: Energy and Environment (Enerji ve Çevre)
Code: ESC 509
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences
Content: Energy cycles in the environment. Conventional energy production and consumption as related to environmental pollution. Alternative energy sources; solar energy, wind energy, tidal energy, energy from biomass. Energy from waste. Policy making in energy conservation.

Title of the course: Renewable and Non Renewable Resources (Yenilenebilir ve Yenilenemez Kaynaklar)
Code: ESC 574
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Pure Sciences
Content: Lifetime of renewable and nonrenewable resources on the planet; materials, metals and energy; impact of population and technological growth on the resources and environment; possible sustainable technologies for the future.

Title of the course: Energy Economics I (Enerji Ekonomisi I)
Code: EC 507
University: Boğaziçi
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Economics
Content: Aggregate and disaggregate energy modeling, relationship between energy demand and economic activity, impacts of alternative utility investment strategies, energy, pollution and employment policy, externalities, energy demand and supply projections, economics of energy transportation, energy conservation.

Title of the course: Energy Economics II (Enerji Ekonomisi II)
Code: EC 508
University: Boğaziçi
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Economics
Content: Energy and economic development; macroeconomics of the world energy crisis; energy supplies; energy conservation.

Title of the course: Energy Resources and Technologies (Enerji Kaynakları ve Teknolojileri)
Code: ÇM-511
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: enerjinin kıtalararası dağılımı ve enerji ihtiyacı, enerji üretimi için fosil yakıt teknolojisi-nükleer enerji teknolojisi ve bunların ekonomik, emniyet ve insan sağlığı açısından değerlendirilmesi, gelecekteki enerji ihtiyacı için yeni alternatif teknolojiler ve bunların değerlendirilmesi.

Title of the course: Energy and Environment (Enerji ve Çevre)
Code: ENV 607
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculties of Engineering/Environmental Engineering
Content: Energy, its production and consumption.Energy Units. Patterns of Energy Use. The Growth of Electricity Use. Fossil Fuel, Fossil Energy Conversion. Residential Space Heating and Energy Economies Overview of the Environmental Impacts of Fossil Energy Production and Use. Pollution. The greenhouse effect and global heating. Nuclear Energy-Principles and Practices. Renewable Energy sources: biomass, wind, geothermal, solar and hydropower. Hydrogen energy. Power cells. Storage of energy.

Title of the course: Environment-Energy and Energy Resources (Çevre-Enerji ve Enerji Kaynakları)
Code: 0502 528
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: Termodinamik Temel Kavramları ve Kanunları Çerçevesinde Çevre Sorunları, Enerji Kavramları, Enerjinin Tarihsel Gelişimi, Enerji: Çevre ve Gelişme için Seçenekler, Enerji Eldesinin Çevreye Etkileri, Ekosistemlerde Enerji, Enerji ve Ekonomik Büyüme, Sürdürülebilir Kalkınma, Yeraltı ve Yerüstü Enerji Kaynakları, Çevre Sorunları Kapsamında Yeni Enerji Kaynakları (Güneş Enerjisi, Rüzgar Enerjisi, Biyokütle Enerjisi, Dalga Enerjisi, Gel-Git Enerjisi, Jeotermal Enerji), Türkiye'nin Enerji Kaynakları.

Title of the course: Energy Efficiency and Management in Industry (Sanayide Enerji Verimliliği ve Yönetimi)
Code: ENV 523
University: Gazi

Institute/Faculty/Department: Institute of Sciences and Technology/ Environmental Sciences
Content: Importance of Energy Efficiency in Industry, General Prospects of Energy in Turkey, Concept of Energy Management, its Importance and Application, Energy Efficiency Studies in Industry, Measures for the Improvement of Energy Efficiency in Industry, Practice for Energy Efficiency Studies, Preparation of Energy Efficiency Report.

Title of the course: Nuclear Energy and Environment (Nükleer Enerji ve Çevre)
Code: ÇM 523
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Engineering/Environmental Engineering
Content: Radyoaktif bozunma ve tipleri, Radyoaktif elementler ve özellikleri, Radyoaktif reaktörler ve kontrolü, Nükleer santraller ve yer seçimi, Nükleer santrallerin çevreye etkileri, Ekosistemler üzerinde oluşabilecek etkiler, Alınması gereken önlemler.

Title of the course: Energy and Environment (Enerji ve Çevre)
Code: ÇEV 502
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: İnsanoğlunun ilk çağlardan bugüne enerji kullanımı; Dünyanın enerji dengesi; Enerji kaynakları coğrafyası; Rakamlarla Dünyada enerji kullanımı; Toplumlarda enerji akışı; Enerji kaynaklarının kullanımında uluslararası eğilimler ve öngörüler; Enerji kullanımında verimlilik, tutumluluk; Enerji üreticileri (Dönüştürücüleri) ve çevreye etkileri (kirlilik, iklim ve ekolojik değişimler); Enerji üretiminde ortaya çıkan kirleticiler (kirletici türleri, izin verilebilen düzeyler, ölçüm teknikleri); Enerji kullanımında ortaya çıkan kirleticiler (kirletici türleri, izin verilebilen düzeyler, ölçüm teknikleri); Enerji kullanımı ve gelecek.

Title of the course: Energy and Environment (Enerji ve Çevre)
Code: CEV 5120
University: Karadeniz Technical
Institute/Faculty/Department: Institute for Applied Sciences/Environmental Sciences
Content: Use of energy of humanity from primeval to recent time. Energy balance of the earth, geography of energy sources. Energy flow in societies. International trends and precognition of utilisation of energy sources. Productivity and Sustainability in utilisation of energy. Producers of energy and their impact. Like pollution. Climatic change and ecological chances. Different kinds of
pollutants during energy production. Different kinds of pollutants during energy utilisation. Use of energy and the future.

Title of the course: Energy Generation and the Environment (Enerji Üretimi ve Çevre)
Code: MÇV 512
University: Kocaeli
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/Environmental Engineering

Content: Energy generation and its environmental effects. Determination of social costs in energy generation. Future energy demand. Energy policies of Turkey. Assessment of energy generation in relation to the environmental engineering.

Title of the course: Energy Resources of Earth (Yerkürenin Enerji Kaynakları)
Code: 14-40336-521
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/Environmental Sciences
Content: Enerji kaynakları: enerjinin tanımı ve türleri,enerji dinamiği ve kuralları. Enerji kaynakları Yenilenemez kaynaklar: kömür,petrol, ve doğalgaz, nükleer enerji. Yenilenebilir kaynaklar: güneş enerjisi: doğal toplama sistemleri ,teknolojik toplama sistemleri. Yerkürenin enerjisi. Gezegenlerin çekim enerjisi. Hidrojen enerjisi. Türkiye'nin enerji kaynakları. Enerji kaynaklarının kullanımı. Enerji tasarrufu.

Title of the course: Alternative Energy Resources (Alternatif Enerji Kaynakları)
Code: 14-40336-516
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/ Environmental Sciences
Content: Tanımı, hidrojen enerjisi, rüzgar enerjisi ,dalga enerjisi.Güneş enerjisinin kullanımı.Piller ,yakıt pilleri, kimyasal ve galvanik piller; kentler ve endüstrideki uygulamalar.

Title of the course: Energy and Environment (Enerji ve Çevre)
Code: ÇEV-527
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/ Environmental Sciences
Content: Güneş, ışık ve madde, fototermal olay, düz güneş toplayıcıları, yoğunlaştıran toplayıcılar, güneş enerjisi ile ısıtma ve soğutma, güneş enerjisinin elektrik enerjisine doğrudan çevirimi, güneş pilleri ve toplayıcıları, fotovoltaik uygulamalar. Enerji kullanımı. Dünyanın enerji dengesi. Enerji kaynakları coğrafyası. Rakamlarla dünyada enerji kullanımı. Toplumlarda enerji akımı. Enerji kaynaklarının kullanımında uluslararası eğilimler ve öngörüler. Enerji kullanımında verimlilik, tutumluluk. Enerji üreticileri ve çevreye etkileri. Enerji üretiminde ortaya çıkan kirleticiler. Enerji kullanımında ortaya çıkan kirleticiler. Enerji kullanımı ve gelecek.

Title of the course: Development Theories and Energy Policies (Kalkınma Teorileri ve Enerji Politikaları)
Code: İKT-511
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Energy
Content: Yenilenebilir enerji prensipleri. Enerji planlaması. Akışkanlar mekaniği. Güneş enerjisi termodinamiği ve ısı transferi. Güneş ışınımı ve geometrik özellikler. Su ısıtılması. Hava ısıtılması, ürün kurutulması, hacim ısıtma ve soğutma, güneş havuzları, odaklayıcılar ve elektrik üretimi. Su gücü, rüzgar enerjisi, dalga enerjisi, gelgit enerjisi, okyanus ısıl enerjisi, jeotermal enerji, biyokütle enerjisi, enerji depolama.

Title of the course: Renewable Energy Resources (Yenilenebilir Enerji Kaynakları)
Code: ENR-517
University: Muğla
Institute/Faculty/Department: Institute of Energy Resources/Energy
Content: No description.

Title of the course: Energy Economies (Enerji Ekonomisi)
Code: ÇMYL 520
University: Trakya
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Enerji gereksinimi; Enerji tüketiminin karşılanması; Enerji verimliliği ve sınırları; Enerji yatırımlarının değerlendirilmesi; Enerji tasarrufu; Organizasyon ve projelendirme.

Title of the course: Energy Utilization and Environment (Enerji Kullanımı ve Çevre)
Code: EEM 483
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Engineering/ Engineering of Electricity-Electronic
Content: No description.

Title of the course: Energy Saving Criteria in Landscape Design (Peyzaj Dizaynında Enerji Tasarruf Kriteri)
Code: PEM 705
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Architecture/Landscape Architecture
Content: Introduction to factors of habitat, effects of the climatic factors to human life, natural resources, principles of energy saving, global energy resources.

Title of the course: Energy and Environment (Enerji ve Çevre)
Code: ENVE 511
University: Fatih (Private University)
Institute/Faculty/Department: Science and Engineering/Faculty of Engineering/ Environmental Engineering
Content: Green energy, alternative energy sources, renewable energy sources; environmentaly friendly fuels and energy policies in Turkey and the world.

Title of the course: Energy Law (Enerji Hukuku)
Code: No code number is available on the Web-Site.
University: Yeditepe (Private University)
Institute/Faculty/Department: Social Sciences of Graduate Studies/Faculty of Law/Law
Content: An introduction to Energy Law, Exploration and marketing of energy sources, EC Electricity policy, State aids, Treaties and energy, transit and open access, tariffs and prices, contractual arrangements, energy and environment, procurement and energy sector, construction of pipelines and transport of oil, gas via these lines etc.

Environmental Economies

Title of the course: Environmental Economics (Çevre Ekonomileri)
Code: 819535
University : Ankara
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Agriculture/Agricultural Economics
Content: Natural resources, environment and economics relationships, decision- making process and the environment, environmental degradation and economic activities, business and environmental liabilities, content and classification of natural resources, economists' approaches towards to the natural resources and the environment, sustainable development and free market environmentalism, property rights, private and public goods, market failure and externalities, pollution economics, polluter pays and user pays principles, instruments for pollution control and efficiency measurement of costs and benefits of pollution control methods of environmental valuation, cost/benefit analysis, cost effectiveness analysis and environmental impact analysis, accounting of natural resources, case studies in the field of agriculture and environmental economics.

Title of the course: Economy of Natural Resources (Doğal Kaynaklar Ekonomisi)
Code: BİC 513
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Social and Economic Geography
Content: Dünya'da ekonomik açıdan önem taşıyan doğal kaynakların incelenerek yöresel dağılımının yapılması. – Doğal kaynakların tanımı, kapsamı, önemi ve sınıflandırmaları. Doğal kaynaklardan yararlanma ve doğal ekonomik bölgelerin başlıca özellikleri konularını kapsamaktadır.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: ESC 541
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Economic foundations of the degradation of the environment and the depletion of non-renewable resources; economic implications of the solutions for environmental problems; monetary proxies for benefits and costs of environmental programs; instruments of environmental policy.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: EC 509
University: Boğaziçi
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Economics
Content: The reasons of, and possible ways of solving, the problems of the degradation of the environment and the depletion of non-renewable resources.

Title of the course: Economy, Natural Resources, Environment and Sustainability (Ekonomi, Doğal Kaynaklar, Çevre ve Sürdürülebilirlik)
Code: PM-548

University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Landscape Agriculture
Content: Sürdürülebilirlik; geriye dönülmezlik, belirsizlik ve risk, çevresel bozulmalar ve ekonomi, dışsallıklar, fayda ve maliyetler, optimal çevresel kalite, çevrenin asimilasyon kapasitesi, kirlilik ve kirlilik denetimi, çevresel standartlar, güvenilebilir minimum standartlar, çevrenin kritik yüklenmesi, önlem ilkesi, kirleten öder ilkesi, emisyon vergileri (yeşil vergiler) piyasada dolaşabilen permiler, çevrenin ekonomik değerlendirmesi, piyasalar yaratmak, hedonic price metodu, travel cost metodu, contingent valuation metodu çevresel etki analizleri; çevresel fayda-maliyet analizi, maliyet etkinliği, ikame maliyeti, fayda transferi, birleştirilmiş analizler, yenilebilir kaynakların sürdürülebilirliği, sürdürülebilirlik ve optimizasyon teknikleri.

Title of the course: Economies of Natural Resources (Doğal Kaynaklar Ekonomisi)
Code: TE-534
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Agriculture Economies
Content: Doğal kaynakların tanımı özellikleri ve sınıflandırılması doğal gaz, petrol ve mineral çıkartılmasında ekenomik prensipler. Yenilebilir kıt bir kaynak olarak su, su dağıtım sorunları.Yenilenebilir biyolojik kaynaklar, orman ve su ürünleri. Orman ve su ürünleri işletmeciliğinin biyolojik ve zaman boyutu. Doğal kaynaklar potansiyeli ve ekonomik gelişme, doğal kaynaklar kullanımı ve çevre ilişkileri.

Title of the course: Environmental Economies (Çevre Ekonomileri)
Code: 0502 511
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Science/Environmental Sciences
Content: Developments of environmental planning , environment as a plan object, environment and economy, micro and macro economic analysis.

Title of the course: Environmental Economies (Çevre Ekonomileri)
Code: 0403 524
University: Ege
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Economics
Content: Carrying capacity of natural resources, problems of environmental pollution, related economic theories and public policy, analysis of externalities, estimation of public and private costs and benefits, common property resources, principle of resource analysis, various policies of exploitation and management of natural resources.

Title of the course: Natural Resources and Environmental Economics (Doğal Kaynaklar ve Çevre Ekonomisi)
Code: İKT-506
University. Gaziosmanpaşa
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Economics

Content: Doğal Kaynaklar ve Çevre Ekonomisi Mülkiyet hakları, dışsallıklar, yenilenebilen ve yenilenemeyen kaynaklar, çevre kirliliği, fayda-maliyet analizi, ekonomik değer belirleme (seyahat maliyeti ve koşullu değer belirleme) yöntemleri, Malthus, Ricardo, Pigou ve Coas'ın katkıları, dış ticaret-büyüme-kalkınma-refah ve çevre ilişkisi, çevresel sorunların çözümü, teknolojik gelişme ve çevre.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: ÇEV 611
University: Hacettepe
Institute/Faculty/Department: Faculty of Engineering/Environmental Engineering
Content: Ekonomik görünüm ve çevre; üretim, enflasyon ve ticaret üzerindeki etkileri; çevre yönetimi; çevre politikasının endüstriyel yenilikler üzerindeki etkisi; çevre politikasının yararları; daha yararlı ve etkili çevre politikalarının uygulanması; çevre yönetiminin gelecek için alınması gereken tedbirler.

Title of the course: Ecological Balanced and Sustainable Economies (Ekolojik dengeli ve sürekli ekonomiler)
Code: ÇEV 615
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: Gelecek için ekolojik dengeli ekonomi ve stratejiler; çevresel ekonomik değerler; gelişen dengeli ulusal yöntemlerin iskeleti olarak ekolojik ekonomi; doğa ve pazar mekanizmasını kullanarak planlama; yeşil ekonominin özellikleri; ekonomik cazip politikalar ve süreklilik; çevre yönetimi için yeni yöntemler; uluslararası boyutlar.

Title of the course: Natural Resources and Environmental Economics (Doğal Kaynaklar ve Çevre Ekonomisi)
Code: EKO 759
University: Hacettepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economic and Administrative Sciences/Economics
Content: No description.

Title of the course: Resource and Environmental Economics (Kaynak ve Çevre Ekonomisi)
Code: TEK-522
University: Harran
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Agriculture/The Agricultural Economics
Content: Natural resource problems involving change over time, the meaning and significance of exhaustion, exploitation of mineral deposit, residuals from natural resource inputs to the economy, the concept of external costs, economic measurement of environmental impacts, assessing impacts and setting priorities.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: No code number is available on Web-Site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forest Engineering/ Forestry Economies

Content: Doğal kaynak ve çevre konusundaki düşünce akımları. Orman kaynakları çevre ilişkileri. Çevre ve ekonomi konusunda Maltus, Ricardo, Mill, Jevans, Pigou ve Coas'ın etkileri. Ekonomik büyüme, refah, kalkınma ve çevre etkileşimi, piyasa mekanizması ve çevre, çevresel sorunların çözümünde kurumsal, ekonomik ve mali araçlar. Dışsallıklar ve dışsallıkların içselleştirilmesi. Çevre ekonomisine uluslararası yansımalar. Teknolojik değişim ve çevre.

Title of the course: Environment and Economics (Çevre ve Ekonomi)
Code: Kay 5540
University: Karadeniz Technical
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Business Administration/Public Administration
Content: No description.

Title of the course: Natural Resources Economics (Doğal Kaynaklar Ekonomisi)
Code: IKT 5130
University: Karadeniz Technical
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Business Administration/Economics
Content: No description.

Title of the course: Environmental Economies (Çevre Ekonomileri)
Code: 217041206
University: Marmara
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economic and Administrative Sciences/Political Sciences and International Relations
Content: The definition of environmental problems, their reasons and results, externalities, the precautions of both market and public economies which can be applied against externalities, the role of local authorities in context of preventing environmental problems are studied in this course.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: 14-40336-531
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/ Environmental Sciences
Content: Çevre sorunlarının ekonomik açıdan incelenmesi, çevre korunumunun ekonomiye katkısı, çevre kirliliğinin proses modifikasyonlarıyla önlenmesi yoluyla çevresel giderlerin en aza indirilmesi, dünyadaki uygulamalar.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: ÇEV-542
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Ekonomi ve çevre ilişkisi. Çevresel bozulmanın nedenleri. Çevre ve karar verme analizi. Çevrenin ekonomik kontrolü. Doğal kaynak kategorileri. Eylem olarak çevre ekonomisi (işletmeler ve çevre, atık yönetimi, iklim değişikliği, ozon deliği ve ekonomi, biyolojik çeşitliliğin korunması, asit yağmuru). Gelişmiş ve gelişmekte olan ülkelerde çevre.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: ÇEV-504
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Energy
Content: No description.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: TEB 611
University: Ondokuz Mayıs
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Agriculture/Agricultural Economics
Content: No description.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: TELÜ-543
University: Trakya
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Agriculture/Agricultural Economics
Content: Hava ve su kirliliği nedeniyle Türkiye'de olduğu gibi bir çok ülkede ekonomik kayıplarla karşılaşılmaktadır. Bu kayıpların giderilmesi için yapılması gereken harcamaların düzeyi çok yükselmiştir. Kirliliği önlemenin maliyeti kirliliği gidermenin maliyetinden daha düşüktür. Bu nedenle kirliliğin kaynağında giderilmesi daha faydalıdır. Çevre kirliliği nedeniyle toplumun karşılaştığı refah kapılarının ölçülebilmesi için çevresel malların değerlenmesi gerekmektedir. Bu zor olmakla birlikte ortaya çıkan zararların ve doğal kaynağın değerinin belirlenmesinde çeşitli yöntemler geliştirilmiştir.
Çevresel malların toplam ekonomik değeri, kullanıma bağlı olan ve kullanıma bağlı olmayanlar olarak ikiye ayrılmaktadır. Kullanıma bağlı olanlardan doğrudan kullanım değerine bağlı olanlarda, fiyatı olanlar ve olmayanlar olarak ikiye ayrılmaktadır. Fiyatı olanlara örnek olarak da yeşil olanlar örnek olarak verilebilir. Kullanıma bağlı olanlardan ekolojik fonksiyon değerine taşkın kontrolü, erozyon kontrolü vb. gösterilebilir. Kullanıma bağlı olmayan değerlerden; opsiyon değeri'ne örnek
ise genetik havuzları, tıbbi bitkiler, rekreasyon alanlarıdır. Varolma değeri, herhangi bir doğal kaynağın varlığının bilinmesinden dolayı olan değerdir ve örnek olarak Amazon ormanları verilebilir. Miras değeri, doğal kaynakların gelecek kuşaklara aktarılması faydasıdır. Çevresel fayda ve maliyetler için çeşitli değerleme yöntemleri bulunmaktadır. Bu ders konusu içerisinde incelenecektir.

Title of the course: Natural Resources and Environmental Economies (Doğal Kaynaklar ve Çevre Ekonomileri)
Code: TRE 900
University: Uludağ
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Agriculture/Agricultural Economies
Content: No description.

Title of the course: Environmental Economics (Çevre Ekonomisi)
Code: ECON 574
University: Fatih (Private University)

Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economies and Administrative Sciences/Public Administration
Content: The focus of the course is on the application of the economic theory on microeconomic level and on policy making solutions in accordance with the principles of sustainable development. The course thus involves many practical examples of environmental economics in a public policy framework. The benefit of this course for the students is that it provides an opportunity to develop their core economic training in practical issues that are increasingly commanding attention at industry, national and international levels. Economic theory and policy relating to environmental problems; welfare and public policy issues in environmental decision making. Environmental law; transboundary pollution; economic instruments for pollution control.
Law and environmental pollution are important issues in the content of this course.

Title of the course: Environmental and Natural Resources Economies (Çevre ve Doğal Kaynaklar Ekonomisi)
Code: ECON 658
University: Yeditepe (Private University)
Institute/Faculty/Department: Institute of Social Sciences/Faculty of International Economics and Finance/Economic History and Development
Content: This course provides a survey, from an economic perspective, of public policy issues regarding the use of natural resources and the management of environmental quality. The course covers both conceptual and methodological topics and recent publications on the issue are introduced. The first part of the course is an introduction to the principles of environmental and natural resource economics, including private and social cost-benefit analyses. In the second part of the course, the focus is on natural resources, such as minerals, energy, water and forests. Environmental policies on air pollution, the greenhouse effect and water pollution are also discussed.

Title of the course: Topics in Environmental Economics (Çevre Ekonomisi Konuları)
Code: ECON 758
University: Yeditepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of International Economics and Finance/Economic History and Development
Content: This course is for students who want to specialize in environmental economics. Topics vary depending on the interests of the students and/or the instructor. If the student is taking this course to satisfy his/her Readings in Economics requirement, a syllabus will be provided by the instructor, comprising of original materials and the course will be conducted as a guided reading course.

Environmental Impact Assessment

Title of the course: Environmental Impact Assessment (EIA) Applications in Landscape Architecture (Peyzaj Mimarlığında Çevresel Etki Değerlendirmesi ÇED Uygulamaları)
Code: No code number is available on the Web-site.
University: AkdenizInstitute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Environmental Impact Assessment (EIA) in landscape architecture, preparing report criteria, organization structure, legal conditions. Studying the relationship between activities and ecological factors and other uses. Determination of evaluation techniques.

Title of the course: Environmental Impact Assessment (Çevresel Etki Değerlendirmesi)
Code: ZPM 509
University: Atatürk
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Çevresel Etki Değerlendirmesinin (ÇED) Tanımı, Kapsamı, Gereği ve Önemi, ÇED in Tarihi, Gelişimi ve ÇED in Hukuksal Olgusu, ÇED Yönetmeliği, ÇED Yöntemleri, Kullanım Alanları, Yapılmakta olan Örnek Çalışmalar.

Title of the course: Environmental Impact Assessment (Çevresel Etki Değerlendirmesi)
Code: CVM 5204
University: Balıkesir
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Çevresel etki değerlendirmesi tanımı ve yasal mevzuat, Halkın katılımı aşaması, Çevresel etki tipleri (direk etkiler, dolaylı etkiler, kümülatif etkiler, etkinin ölçülmesi), Kaynak faktörleri (çevreselkaynakların kategorileri, atmosfer, su, kara, biyolojik çevre, ses, ekonomik hususlar, insan sağlığı ve çevre ilişkisi, tehlike altındaki türler ve doğal çevreler, yenilemeyen doğal kaynaklar, estetik konular, kültürel etkiler), Alternatifler (makul alternatifler, tercih edilen alternatifler, alternatiflerin analizi), Etki değerlendirme için ön hazırlık ve genel bakış (meslek disiplinleri arasındaki ilişki, coğrafik özellikler, sosyo-ekonomik özellikler, hidrolojik özellikler, çevresel etki değerlendirme teknikleri, dökümanın hazırlanması), Çevresel etki değerlendirme uygulamaları.

Title of the course: Environmental Impact Assessment (Çevresel Etki Değerlendirmesi)
Code: ESC 502
University: Boğaziçi
University/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences
Content: Definition, scope and field of application of Environmental Impact Assessment (EIA). Methodologies of EIA. Assessment of impacts. National and international legislation of EIA. Principles of Environmental Risk Assessment. Discussion of case studies.

Title of the course: Advanced EIA (Environmental Impact Assessment) Researches (İleri ÇED Çevresel Etki Değerlendirme Araştırmaları)
Code: ÇEV 8002
University: Cumhuriyet
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: ÇED'in felsefesi ve temel kavramları ile ilgili gelişmeler. ÇED yöntemlerinde yeni gelişmeler, Çevrenin kalitesini etkileyen önemli faaliyetler, Uluslararası ÇED Politikası Eylem Planları, Ulusal Çevre Eylem Planlarında amaçlar, hedefler ve ilkeler, uygulama stratejileri, ÇED'in geleceği ve çözüm bekleyen sorunları.

Title of the course: Environmental Problems of Turkey and EIA (Türkiye'nin Çevre Problemleri ve ÇED)
Code: BY 539
University: Çanakkale Onsekiz Mart

Institute/Faculty/Department: Institute for Applied and Natural Sciences/Faculty of Arts and Science/ Biology
Course: Environmental Problems of Turkey and EIA
Content: Enviroment and human, growing population and environment, industry, growing country and environment, soil-water-air pollution and bio-monitoring, pollution sources, importance of environmental evaluation.

Title of the course: Assessment of Environmental Effect in Earth Science (Yerbilimlerinde Çevre Etki Değerlendirmesi)
Code: JM-509
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute for Applied and Natural Sciences/Faculty of Engineering and Architecture/Geological Engineering
Content: Geochemistry of environment, determination suitable area for city constructions, affect of natural hazards on environment, geothermal energy and environment, mining and environment, protection of natural heritage, determination dimension of surface and groundwater basin, contamination maps, groundwater contamination in Turkey, protection basin, waste (solid, liquids and nuclear), geological and technical barrier, law about environmental.

Title of the course: Environmental Impact Assessment (Çevresel Etki Değerlendirmesi)
Code: PM-503
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute for Applied and Natural Sciences/Faculty of Agriculture/Landscape Architecture
Content: The history of environmental impact assessment studies, development framework and stages, the determination of environmental impacts at various conditions, its legal dimension.

Title of the course: Strategic EIA (Stratejik ÇED)
Code: PM-556
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Genellikle fiziksel faaliyetler için hazırlanan ÇED raporları, gelişmiş ülkelerde politik kararlar, planlar, programlar ve yasalar gibi yönlendirici faaliyetler için de ÇED raporları yapılmaktadır. Stratejik ÇED denilen bu raporların içeriği, hazırlanışı, yabancı ülkelerde yapılan uygulamalar.

Title of the course: EIA Applications (ÇED Uygulamaları)
Code: PM-517
Univerity: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/ Landscape Architecture
Content: 2872 sayılı Çevre Yasası ve yasa çerçevesinde çıkarılan ÇED Yönetmeliği gereği ülkemizde uygulanmaya başlayan ÇED çalışmalarından örnekler verilecek ve ÇED konusunda uzun süredir deneyimi olan ülkelerde yapılan uygulamalar.

Title of the course: EIA Methods (ÇED Yöntemleri)
Code: PM-563
Institute/Faculty/Department: Faculty of Agriculture/ Landscape Architecture
University: Çukurova
Content: Dünya Çevresel Etki Değerlendirmesi (ÇED) konusunda yapılan çalışmalar, Türkiye'de ve diğer ülkelerde ÇED raporu hazırlama prosedirleri, organizasyon yapısı, ÇED çalışmalarında kullanılan mevcut değerlendirme yöntemleri, bu yöntemlerin uygulanmasında ortaya çıkan sorunlar ve eksiklikler.

Title of the course: Environmental Impact Assessment of Coastal Zone Projects (Kıyı Bölge Projelerinde Çevre Etki Değerlendirmesi)
Code: CZM 512
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Marine Science and Technology/Coastal Zone Management
Content: Definition of environmental impact assessment (EIA) and methodologies and EIA applications especially for the marine environment and coastal zones.

Title of the course: Environment Impact Assessment and Risk Analysis (Çevre Etki Değerlendirmesi ve Risk Analizi)
Code: 0502 505
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: History an developments of environmental impacts assessment, preparations of EIA studies, EIA studies in aquatic environment, EIA studies in terrestrial environment, evaluation of EIA studies in the aspect of culture and socioeconomic.

Title of the course: Environmental Impact Assessment (Çevresel Etki Değerlendirmesi)
Code: SÜ-518
* Two different courses are given with same code number (Environmental Management and EIA)
University: Gaziosmanpaşa
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Fishery Products
Content: No description.

Title of the course: Environmental Impact Assessment (Çevresel Etki Değerlendirmesi)
Code: ÇEV 603
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: Tanımı; tarihçesi ve gelişimi; çevre yönetimi içindeki yeri ve önemi; uygulama süreci; çevresel etki değerlendirme raporu; uluslararası kuruluşlar ve diğer ülkelerde çevresel etki değerlendirmesi uygulamaları; Çevre Kanunu'nun 10. maddesi ve Çevresel Etki Değerlendirme Yönetmeliği'nin esasları; Türkiye'den çevresel etki değerlendirmesi uygulamaları.

Title of the course: Biological Approach of Environmental Impact Assessment Applications (Çevre Etki Değerlendirme Uygulamalarına Biyolojik Yaklaşım)
Code: BİO 854
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Sciences/ Biology and Ecology
Content: Introduction to environmental impact assessment, the frame and the stages of the studies, biological and ecological determination of environmental impact assessment methods, various applications of environmental impact assessment.

Title of the course: Environmental Impact Assessment in Landscape Architecture (Peyzaj Mimarlığında Çevresel Etki Değerlendirmesi)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry/Landscape Architecture
Course: 07.02.1993 yılında yürürlüğe giren Çevresel Etki Değerlendirilmesi (ÇED) Yönetmeliğine göre çevreye olumsuz etkileri olabilecek birçok faaliyetlerin yapımına karar vermeden önce, ÇED Raporu hazırlama zorunluluğu bulunmaktadır. Bu dersin işlenmesinde, ÇED ile ilgili tanım ve terimler, tarihçe, yabacı ülkelerde çevresel etki değerlendirmesi, amacı ve içeriği, hangi konuların ele alınması gerekliliği, rapor hazırlanmasında ele alınması gerekli değişik aşamalar, verilerin elde edilmesi ve değerlendirilmesinde hazırlanabilecek değişik yöntemlerin tanıtımına yer verilmektedir. Türkiye'de çevresel etki değerlendirmesi uygulamaları ile ilgili sorun ve öneriler üzerinde durulmaktadır. Öneri bir projede doğal etkinin değerlendirilmesi amaçlanmaktadır.

Title of the course: Quality Management in Environmental Systems (Çevresel Faaliyetlerde Kalite Yönetim Sistemleri)
Code: CBM 522
University: İTÜ
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Civil Engineering/Environmental Engineering
Content: Introduction, definition of the problem, concepts and definitions, Environmental Impact Assessment (EIA), History, Legislations, EIA processes, EIA identification methodologies, Cumulative Impact Assessment, Environmental Management System (EMS), Resource Management, Waste Management, EMS Standarts, ISO 14001, ECO-Management, Environmental Aspects Evaluation Methods, Relation between EIA and EMS, Environmental Risk Assessment and their modelling, Environmental Models, Modelling approach, parameters, Main functions and equations, Computing software of the model, Results and application of the model for case studies.

Title of the course: Environmental Impact Assessment (Çevresel Etki Değerlendirmesi)
Code: MÇV 505
University: Kocaeli
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Introduction, Definition, Steps in EIA, Agriculture and EIA, Steps in EIA, Environmental Investigation, Evaluation, National standards related to EIA, International

standards related to EIA, Evaluation of new standards in EIA, Case studies, Class applications, presentations.

Title of the course: Environmental Impact Assessment (Çevresel Etki Değerlendirmesi)
Code: 14-40336-532
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/ Environmental Sciences
Content: İmar planlarında evsel, ve sanayii yerleşiminin düzeni, imar planlarında çevresel yaklaşımlar, çevresel etkinin somut verilerle ortaya konulması, sanayide yer seçimi, bölgesel kirlilik yükü belirlenmesi, organize sanayii bölgeleri ve yönetim.

Title of the course: Environmental Pollution (Çevre Kirliliği)
Code: ÇEV-513
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Su kirlenmesi, Hava kirlenmesi, Toprak Kirlenmesi, Atmosfer Kimyası, Su Kimyası, Arıtma teknolojileri, Kirlilik ölçüm parametreleri, Kirlilik ölçümleri, Çevresel Etki değerlendirmesi.

Title of the course: EIA (Environmental Impact Assessment) in Enterprises (İşletmelerde ÇED Çevresel Etki Değerlendirmesi)
Code: ÇED-588
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Fishery Products/Fishery Products
Content: ÇED'in tanımı ve getirdiği faydalar, Materyal ve Metot çalışmaları, Uygulamada su ürünlerinde örnek çalışmalar.

Title of the course: Environmental Accounting (Çevre Muhasebesi)
Code: IS10-524
University: Mustafa Kemal
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Business Administration
Content: Çevre-Muhasebe İlişkisi, Çevre Muhasebesi Kavramı ve Terminolojisi, Çevre Muhasebesinin Finansal Muhasebe, Maliyet Muhasebesi, Yönetim Muhasebesi, Denetim ve Çevre Raporu Düzenleme Açılarından İncelenmesi, Çevre Muhasebesinin Uygulama Örnekleri, Öneriler ve Araştırma Sonuçları.

Title of the course: Environmental Impact Assessment (Çevre Etki Değerlendirmesi)
Code: ENVE 612
University: Ondokuz Mayıs
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Definition of Environmental Impact Assessment and Pre-Environmental Impact Assessment, Activities on which Environmental Impact Assessment and Pre-Environmental Impact Assessment to be Adopted, Preparing Procedure of Environmental Impact Assessment and Pre-Environmental Impact Assessment Analysis of National and

International Regulations, Concept of ISO-9000 and Their Relations with Environmental Impact Assessment.

Title of the course: Environmental Accounting (Çevre Muhasebesi)
Code: 4127001017
University: Selçuk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Business Administration
Content: No description.

Title of the course: Social, Economical and Environmental Impact Assessment (Sosyal, Ekonomik ve Çevresel Etki Değerlendirme)
Code: TELÜ-568
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/ Agricultural Economics
Content: Gıda sanayi işletmeleri ve tarım sektörünü etkileyebilecek diğer faaliyetlerin, sosyal etki değerlendirmesi ile ilgili raporların hazırlanmasını içermektedir. Gelişmiş ülkelerde Sosyal Etki Değerlendirmesi planlanan faaliyetlerde uygulanmaya başlamıştır. Bu konuda izlenecek prosedür ve raporun içeriği bu derste verilecektir. Ayrıca aynı tür faaliyetlerin çevresel, sosyal ve ekonomik etki değerlendirme raporları ve fizibilite etüdlerinde izlenmesi gereken yol ve yöntemler de açıklanacaktır.

Title of the course: Strategical Environmental Impact Assessment (Stratejik Çevre Etki Değerlendirmesi)
Code: ŞBP 5323
University: Yıldız Technical
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/City and Region Planning
Content: Avrupa Birliği müktesebatı kapsamında doğal ve kültürel kaynakların sürdürülebilir korunması, korunarak kullanılması / Stratejik çevre etki değerlendirilmesi kavramı ve yöntemleri / Ulusal ve uluslararası yasal ve teknik mevzuat / Ülkemizin Avrupa Birliği'ne uyum kararları / Ulusal eylem projesi kapsamındaki ÇED politikaları ve teknikleri; doğal çevre ve yapay çevre arasındaki olumsuz etkileşimleri ölçmek için matrisklerin iki ana konuda ele alınması / Henüz yapılanmamış alanlarda çevre etki değerlendirilmesi / Bölge, havza ve yerel alanlarda öngörülecek arazi kullanışlarının karasal ve akuatik doğal kaynak özelindeki ekosistemlerin hassasiyetlerinin duyarlılık tespiti için kullanılacak yöntemler / Doğal çevrenin olumsuz etkilenme türleri, süreleri ve alsal boyutlarının tespiti yöntemleri / CHECK listelerinin matrikslerin kırmızı listelere göre oluşturulması, teknikleri / Yerleşilmiş bölge, havza ve yerel alnlarda ÇED; Yerleşilmiş alanlardaki sektörlerde doğal kaynak etkileşimlerinin olumsuz türelerinin tespiti ve analizi için evrensel parametreler / CHECK listeleri ve ÇED Master haritalarının hazırlanması, tekniklerinin anlatımı, örnekler üzerinde tartışma ile projeler bazında örneklerin uygulama olarak tasarlanması.

Title of the course: Environmental Impact Assessment (Çevresel Etki Değerlendirme)
Code: GEO 565
University: Fatih (Private University)

Institute/Faculty/Department: Academics and Schools/Faculty of Arts and Science/Geography
Content: Introduction to environmental studies. The course asks: "What are and what should be the limits placed on human-activity by the rest of the natural world?" Case studies illustrate interactions between science, technology and social and political institutions, as well as the value structure underlying environmental choices. Field trips to be arranged.

Environmental Law

Title of the course: Internationaly Human Rights Protection (İnsan Haklarının Uluslararası Alanda Korunması)
Code: KHU 514
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Law/Public Law
Content: No description.

Title of the course: Environment Rights and Policy (Çevre Hakları ve Politikaları)
Code: No code number is available on Web-site.
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Environment-related laws, decrees, regulations, decisions of the Council of Ministers and their application in Turkey. International agreements signed. Environment policies in Turkey and in the world. Activities of environmental organisations.

Title of the course: Environmental Law (Çevre Hukuku)
Code: ESC 547
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Environmental law and legislation in Turkey and abroad. Legislation related to the transboundary movement of wastes. Case studies.

Title of the course: Environmental Legislation (Çevre Mevzuatı)
Code: PM-565
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Ülkemizde Cumhuriyet'in ilanından bugüne kadar çevre koruma ile ilgili çıkarılan yasa, yönetmelik, tüzük, kanun hükmünde kararname, bakanlar kurulu kararı, uluslar arası sözleşmelerle bu yasal düzenlemelerin içerikleri ve uygulanabilirlik durumları ve uygulamada karşılaşılan sorunlar.

Title of the course: Legal and Institutional Arrangements in Coastal Zone Management (Kıyı Bölge Yönetiminde Yasal ve Kurumsal Anlaşmalar)
Code: CZM 502
University: Dokuz Eylül

Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Marine Science and Technology/Coastal Zone Management
Content: Definition of the environmental law, place and sources with in the law system. Development of the environmental law, basic concepts regarding the environmental law. Environmental Policy, principles of environmental law. Concepts of environment and environmental law. Specialy protective areas. Responsibility of the person who pollutes the environment with respect to civil law. G-Court rights arising by environmental pollution. Concept of damages caused by pollution. Prevention of coastal sites.

Title of the course: Local Administration and Environmental Utilities (Yerinden Yönetim ve Çevre Hizmetleri)
Code: 0502 504
University: Ege
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Environmental Engineering
Content: Yerinden yönetimin temel görevleri, çevre hizmetleri kapsamı, mevzuat, katı atık toplama, taşıma ve bertaraf yöntemleri, uygulamalar, sıvı atık kontrol çalışmaları, ilgili işlemler, yeterli ve temiz içme-kullanma suyu temini çalışmaları, kanalizasyon sistemi, ilgili çalışmalar, gayri sıhhi müesseseler, ruhsatlandırma, periyodik kontroller, ceza ve kapatma işlemleri, gıda kontrolu, örnek alınması, laboratuara sevk, bozuk gıdaya ait mahkeme, ceza ve imha işlemleri, vektör kontrolü, modern şehircilik hizmet ve yöntemleri, belediyelerin rekreatif hizmetleri.

Title of the course: Environmental Law (Çevre Hukuku)
Code: ENV 507
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Environmental Sciences
Content: Environmental law both in Turkey and World in general, constitution, environmental law, institutions, related regulation, direct or indirect other laws, international conventions retifed by Turkey.

Title of the course: Environmental Law (Çevre Hukuku)
Code: ÇEV 512
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: 2872 sayılı Çevre Kanunu; yönetmelikler, tebliğler, ilgili kanunlar ve mevzuat; Çevre Kanunu'nun uygulamaları, mahkeme kararları.

Title of the course: Natural Resources Law (Doğal Kaynaklar Hukuku)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry Engineering/ Forestry Law
Content: Doğal Kaynak Tanımı, Doğal Kaynakların Özellikleri, Doğal Kaynaklardan Yararlanma, Ormanların Tabi Olduğu Hukuki Rejim, Suların Tabi olduğu Hukuki Rejim, Madenlerin Tabi Olduğu Hukuki Rejim, Doğal Kaynaklar Konusunda Çeşitli Mahkeme Kararlarının İrdelenmesi.

Title of the course: The Law of Environmental Protection (Çevre Koruma Hukuku)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry Engineering/Forestry Law
Content: Çevrenin ceza hukuku vasıtasıyla korunması, Ceza hukukunun çevre korumadaki fonksiyonu, Türk ceza kanununun 526.Maddesi, Uluslararası Sözleşmelerden doğan taahhütler, Çevre suçlarının genel yapısı ve türleri, Korunan hukuki yarar, Hareket unsuru, Kusur unsuru, Tehlikeli veya zararlı netice unsuru, Hukuka aykırılık unsuru, Çevrenin Korunmasında İdari Ceza hukuku, Çevre kanunundaki idari suç ve cezalar, Türk Hukuku ile mukayeseli hukuk, Diğer bazı kanunlardaki idari suç ve cezalar.

Title of the course: International Forest and Environment Legislation (Uluslararası Orman ve Çevre Mevzuatı)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry Engineering/ Forestry Law
Content: Uluslar arası sözleşmelerin Türk Hukuk sistemindeki yeri, Türkiye'nin çevre ve orman konusunda taraf Olduğu Uluslar arası Sözleşmeler, Taraf Olunan Uluslar arası Sözleşmelerden Doğan Sorumluluklar, Türk Çevre ve Orman Mevzuatı, Mevzuat Hükümleri ve Uluslararası Sözleşmelerden Doğan Taahhütlerin Karşılaştırılması, Mevzuat Hükümlerinde Yapılması Gereken Değişiklik Önerileri, Avrupa Birliği Orman Hukuku, Türk Çevre ve Orman Mevzuatının AB Mevzuatı ile karşılaştırılması.

Title of the course: Environmental Policy and Law in EU (AB Çevre Politikası ve Hukuku)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Political Sciences/Public Management
Content: No description.

Title of the course: Environmental Policies and Law on International Levels (Uluslararası İlişkiler Çerçevesinde Çevre Politikaları ve Hukuku)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Political Sciences/Public Management
Content: No description.

Title of the course: Environmental Policy and Law (Çevre Politikası ve Hukuku)
Code: SB 5709
University: Military Academy
Institute/Faculty/Department: Institute of Defence Sciences/Security Sciences/Security Management
Content: Bu derste; çevresel sorunlar, çevre değerleri, kalkınma ve çevre ilişkileri, çevre politikalarının belirlenmesinde kriterler, Türkiye'de karşılaşılan çevre sorunları ile çevre ile ilgili uluslar arası ve ulusal mevzuat incelenecektir.

Title of the course: Environmental Law (Çevre Hukuku)
Code: CEV 5140
University: Karadeniz Technical
Institute/Faculty/Department: Institute for Applied Sciences/Environmental Engineering
Content: Environmental Law in Turkey. Regulations. Notifications. Related laws. The applications of environmental law. The court verdicts.

Title of the course: Environmental Law (Çevre Hukuku)
Code: 14-40336-534
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/ Environmental Sciences
Content: Çevre kanun ve yönetmelikleri. Yeni düzenlemeler. Dünya standartları ile karşılaştırılması. Sorumluluk zinciri. Uluslar arası hukuk ile ülkemiz hukukunun çevre kirlenmesinin önlenmesi ve cezalandırılması konusunda uyuşan ve uyuşmayan kısımları. İrdelemeler.

Title of the course: Right to Environment in the Comparative Constitutional Law (Mukayeseli Anayasa Hukukunda Çevre Hakları)
Code: 218101191
University: Marmara
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Law
Content: right to environment will be studied comparatively in our country and other countries. In this framework, right to information, participation and access to forms of review which are procedural rights will be discussed.

Title of the course: Environmental Policies and Law (Çevre Politikaları ve Hukuku)
Code: KY-515
University: Mustafa Kemal
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: Çevre ile ilgili önemli kavramlar, ekoloji, genel anlamda çevre politikaları, Türkiye'de çevre politikaları, bu politikaların ekosistem üzerindeki etkileri, çevre hukuku, çevre hukukunun gelişimi, çevre hukukunun kaynakları, Çevre Yasası, çevre konusunda kabul edilmiş uluslararası sözleşmeler ve çevre davaları.

Title of the course: Environmental Law (Çevre Hukuku)
Code: TEB 613
University: Ondokuz Mayıs
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Agriculture/ Agricultural Economics
Content: No description.

Title of the course: Environmental Law (Çevre Hukuku)
Code: KMH 506
University: Atılım (Private University)
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Law/Public Law
Content: Relation with traditional law.

Title of the course: Environment-Urbanisation and Law (Çevre- Kentleşme ve Hukuk)
Code : LAW 5101
University: Bahçeşehir (Private university)
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Design/Law
Content: Yerel yönetim planlama ve peyzaj çalışmalarında ve ekolojik konulardaki yaptırımların hukuksal açıdan karşılaştıkları konuları içerir. Bu alanlardaki mevcut hukuksal durum, iyileştirme-kolaylaştırma ve çağdaşlaşma sürecinde hukuksal açıdan yapılması gereken girişimler, önleyici tedbirlerin alınması ve girişimlerin yapılması dersin temel konularını oluşturur.

Title of the course: Environment and Construction Law (Çevre ve İmar Hukuku)
Code: IMC 705
University: İstanbul Kültür (Private University)
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Fine Arts and Design/Architectural and Environmental Design
Content: Çevre ve yapı ile ilişkili yasalar ve bu yasaların iç mimarlık mesleği uygulamalarında etkili olan hükümler, iç mimarlık mesleği ile ilişkili olan telif hakları yasasının getirdiği hak ve zorunluluklar ele alınacaktır.

Title of the course: Environmental Law (Çevre Hukuku)
Code: HUK 707
University: İstanbul Kültür
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Law/Public Law
Content: Elements of environment rights, environment law in the national, regional and international contexts are surveyed.

Title of the course: Europe Environment Law and Turkey (Avrupa Çevre Hukuku ve Türkiye)
Code: No code number is available on Web-site.
University: Yeditepe (Private University)
Institute/Faculty/Department: Social Sciences of Graduate Sciences/Faculty of Law/Law
Content: Genel olarak Çevre Hukuku, Avrupa Birliği Çevre Hukuku ve Türkiye'nin Uyumu.

Title of the course: International Law of the Sea (Uluslararası Deniz Hukuku)
Code: No code number is available on Web-site.
University: Yeditepe
Institute/Faculty/Department: Social Sciences of Graduate Studies/Faculty of Law/Sea Law
Content: The Law of the Sea in Historical perspective, UN Convention on the Law of the Sea, internal waters, territorial waters, contigous zone, bays, straight base lines, legal regime for the straits, archipelagos, continental shelf, exclusive economic zone, problems of delimitation, international legal regime of the Exclusive Economic Zone and Continental Shelf, Protection and preservation of the marine environment, regime of marine scientific research, the regime of Seabed Mining.

Environmental Policy

Title of the course: Agricultural Environment Policy (Tarım Çevre Politikası)
Code: 819534
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Faculty of Agriculture/ Agricultural Economics
Content: The concept of environment, environmental pollution, environment policy, environmental problems caused agricultural activity, possible impacts on environment of agricultural policy applied in Turkey, environment policy applied in Turkey (Environment policy in development plans, Environment Law other (legal regulations related agriculture) environment policy related agriculture in European Union, the comparison agricultural environment policy applied in European Union and Turkey.

Title of the course: Environmental Policy in the European Studies (Avrupa Çalışmalarında Çevre Politikası)
Code: ES 537
University: Boğaziçi
Institute/Faculty/Department: Institute of Social Sciences/Arts Program in European Studies
Content: Evolution of the European Union Environmental Policy. Linkages between environmental and economic systems. Role of regulatory and economic instruments in environmental policy. Use of regulatory and economic instruments in practice. European Union environmental policy in the context of international conventions on the environment.

Title of the course: Environmental Management and Policy (Çevre Yönetimi ve Politikası)
Code: ÇEE 618
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Labor Economics and Industrial Relations
Content: No description.

Title of the course: International Environment Policy (Uluslararası Çevre Politikası)
Code: KAM 619
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: Uluslar arası çevre sorunları ve bunların çözümüne yönelik uluslar arası çabalar, uluslar arası çevre yönetimi anlamında küresel yönetişim, uluslar arası çevresel örgütlenmeler, uluslar arası çevresel antlaşmalar ve yükümlülükler ile ülkemizin bu alandaki gelecek senaryolarının değerlendirilmesi, AB-Türkiye ilişkilerinde çevre faktörü.

Title of the course: International Organizations and Environment (Uluslararası Örgütler ve Çevre)
Code: KAM 626
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration

Content: Uluslar arası çevre yönetimi ve politikası kapsamında yeni çağa yön veren uluslar arası çevre örgütleri ve çevresel antlaşmaların, yerelliği taban alan başarılı uluslar arası uygulamaların incelenerek ülkemiz için yerel ve merkezi otoriteler ile sivil topluma yeni açılımların sağlanması.

Title of the course: Environmental Policy (Çevre Politikası)
Code: PM-508
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/ Landscape Agriculture
Content: Dünyada ve ülkemizde oldukça yeni olan çevre koruma fikrinin ve hareketinin gelişimi, yabancı ülkelerde çevre politikaları. Türkiye'nin çevre politikası, çevre örgütleri , beş yıllık kalkınma planları ve yıllık programlarda çevre politikaları.

Title of the course: Environmental Organizations and Policies (Çevre Örgütleri ve Politikaları)
Code: PM-541
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/ Landscape Agriculture
Content: Çevre sorunlarının sınır tanımamaları ve çözümlerinin uluslararası işbirliği ile gerçekleşmesi nedeni ile AB (AT), OECD, UNEP, UNESCO, WHO, WWF, IUCN, CDSN, ICBP Greenpeace gibi çevre örgütlerinin kuruluşları, yaptıkları çalışmalar, politikaları. Ulusal çevre örgütleri ile işbirliği olanakları.

Title of the course: Environmental Policies and Analysis (Çevre Politikaları ve Analizi)
Code: ÇM-524
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Türkiye'de ve diğer ülkelerde uygulanmakta olan çevre politikaları. Etkin politika dizaynı ve politika matrisi. Çevresel politika araçları: komuta-kontrol yöntemleri, ekonomik araçlar, ikna ve teşvik edici sistemler. Çevre politikalarının değerlendirilmesi. Çevre politikalarının etkinleştirilmesinde karşılaşılan kısıtlar ve sonuçları.

Title of the course: Utilization Policies of Soil and Water Resources (Toprak ve Su Kaynaklarının Kullanım Politikaları)
Code: TE-521
University: Çukurova
Institute/Faculty/Deptartment: Institute of Basic and Applied Sciences/Faculty of Agriculture/Agricultural Economics
Content: Türkiye'nin toprak ve su kaynakları; Dünyada tarımsal aktif nüfus başına düşen toprak varlığı ve gelişimi; Toprak ve su kaynaklarının kullanımında karşılaşılan sorunlar; Türkiye'de toprak ve su kaynaklarının geliştirilmesine yönelik politikalar; Dünya'da ve Türkiye'de toprak reformu uygulamaları; Çeşitli ülkelerde toprakların dengeli dağılımına yönelik uygulamalar(Fransa örneği: SAFER ve CNASEA).

Title of the course: Regional Policy in EU (AB'de Bölgesel Politika)
Code: AVB 515

University: Dokuz Eylül
Institute/Faculty/Department: Institute of Social Sciences/Europe Union
Content: AB'de bölgesel kalkınma, topluluk içi dışı bölgesel politikalar, sürekli ve dengeli kalkınma, bölgelerarası işbirliği, bölgesel planlamalar, kentsel politikalar, Avrupa Yatırım Bankası, AB'de ulaştırma, iletişim ve çevre altyapısı.

Title of the course: Environment and Politics (Çevre ve Politika)
Code: IRL 526
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/International Relations
Content: An advanced course which examines the role of multinational corporations in the international economy, impacts of MNCs on host and home country development and dependence, the behavior of MNCs in the choice of technology and investment strategies, and export and import procedures of MNCs.

Title of the course: Environmental Policy in EU (AB'de Çevre Politikası)
Code: AVB 511
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Social Sciences/Europe Union
Content: Avrupa Birliği'nde Çevre Politikalarının Temel Felsefesi; Türkiye ile Uluslararası Etkileşimin Yönü; ÇED Uygulanmasına Yönelik Ekonomik ve Sosyal Yönlü, Kamu Yararını Esas Alan, Metot ve Analiz Yapılması.

Title of the course: Environmental Politics and Ethics in Europe and Turkey (Avrupa ve Türkiye'de Çevre Politikaları ve Çevre Ahlakı)
Code: 532
University: Ege
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Agriculture Sciences/Landscape Architecture
Content: No description.

Title of the course: E.U.-Turkey Relationships (Avrupa Birliği-Türkiye İlişkileri)
Code: 0128527
University: Ege
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Letters/Sociology of Institutions
Content: The aims and the philosophy of the EU, the basic criterions of the Union, the broadening strategy of the Union and Turkey, the social, cultural educational, employment environment and youth policies, of the EU, the problems occure in the membership process of Turkey.

Title of the course: Relativity of water and politics in Turkey (Su göreceliği ve Türkiye'nin Politikası)
Code: ENV 515
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Environmental Sciences

Content: Relativity of water, capasity, search, politics and area of used in Turkey. Today and future strategy of water and national international water laws.

Title of the course: National and International Environmental Policies (Ulusal ve Uluslararası Çevre Politikaları)
Code: Kay 717
University: Hacettepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Political and Sciences and Public Administration
Content: The course covers subjects such as formation of environment policies in Turkey, government's perspective on environmental problems, formation of environmental organizations, environmental liability on the provincial and district levels, formation of public opinion, formal and informal learning programs and training on environment, administrative and legal controls in environmental protection, international cooperation for the preservation of natural environment, regional environment policies of United Nations, NATO, European Union, European Council and similar organizations, international agreements and commitment of Turkey.

Title of the course: Water Policy and Pricing (Su Politikası ve Değerlendirmesi)
Code: TEK-523
University: Harran
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Agriculture/ Agricultural Economics
Content: Water strategy and sovereignty in Turkey and World, water policy, water pricing methods in agriculture and applicability of those policies regarding political economy.

Title of the course: Environmental Policy (Çevre Politikası)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry Engineering/ Forestry and Management
Content: Çevre kavramı ve Çevresel sorunlar. Çevre politikası ve ormancılık politikasıyla ilişkisi. Türkiye'de çevre politikası ve çevre örgütü. Çevre konusuna ilişkin yasal düzenlemeler. Türkiye ve dünya gündeminde çevre ve buna ilişkin gelişmeler. Türkiye çevre politikasında başlıca sorunlar ve çözüm yolları.

Title of the course: Environment Problems and Planning Policies (Çevre Problemleri ve Planlama Politikaları)
Code: PEM 5260
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Landscape Architecture
Content: Concepts, Policies about Environment Protection, Administrative and Institutional Structure, Legal Means of Environment Management, Environment Problems, Ecological and Visual Environment Pollution's. Planning Techniques Sensitive to Environment, International and National Foundations, Contracts and Agreements about Environment.

Title of the course: Environment and International Relations (Çevre ve Uluslararası İlişkiler)
Code: MÇV 521
University: Kocaeli
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/Environmental Engineering
Content: Universal Dimension of Environment today, dominant approach to the environment, international law, internatioal relations and society, environmental agreements.

Title of the course: Europeanisation of Environmental Policy (Çevre Politikasının Avrupalılaştırılması)
Code: No code number is available on Web-site.
University: Marmara
Institute/Faculty/Department: Institute of Europe Union/EU Policy and International Relations
Content: In the field of environmental politics and policy making there are certain differences among administrative traditions and perceptions of environmental challenges due to different geographical locations, culture and economic conditions of the countries. Given the impact of EU environmental policy upon domestic developments and the impacts of domestic developments on the EU level, the EU serves a good example for analysing the policymaking and implementation process in environmental politics. Moreover the way, its two level policy making character works, would help to make projections for the future of global environmental politics in a broader international setting. The debate on the Europeanisation on the other hand, provides different perspectives for the Environmental governance in Europe.
This course is also intended to assess the policy making in the EU while providing a general introduction to the working of the European Union before going into details of environmental policy. Hence this course examines and questions the concept of Europeanisation and its effects in different policy areas as well. In line with the general theme, the course will focus first on the policy making process and the debate on Europeanisation. Then it aims

- to provide a basic theoretical framework for environmental politics
- to present in depth analysis of environmental considerations and policy making in the EU
- to analyse to process of Europeanisation particularly within the context of environmental policy

to make projections for the future of European Environmental Policy.

Title of the course: Environmental Policies and Planning (Çevre Politikaları ve Planlaması)
Code: CP 572
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Architecture/City and Regional Planning
Content: This course focuses on the evolution of environmental consciousness, concerns and policies since 1960s. The course also covers discussions, future possible developments of environmental policies. The changes of environmental policies at global, regional, national and local levels are to be presented during the course. The policies will be

evaluated from juridical, administrative and sectional aspects. The world wide and nation wide statistics about population, natural resources will be studied.

Title of the course: Environmental Policies I (Çevre Politikaları I)
Code: ÇEV 523
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Çevre politikası kavramı, Türkiye'de kalkınma planlarında çevre politikası, temel çevre yasalarının amaç ve ilkeleri, çevre hukukunun gelişimi, Ulusal Çevre Eylem Planı.

Title of the course: Environmental Policies II (Çevre Politikaları II)
Code: ÇEV 524
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Uluslararası düzeyde çevre politikalarının gelişimi, Birleşmiş Milletler konferansları ve belgeleri, bölgesel düzeyde ve Avrupa Birliğinde çevre politikaları.

Title of the course: Public Rights and Freedom (Kamu Hakları ve Özgürlüğü)
Code: KAY-529
University: Pamukkale
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: No description.

Title of the course: Çevre Politikası (Environmental Policy)
Code: TELÜ-541
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Agriculture Economy
Content: Doğal kaynakların korunması için Dünya'da ve Türkiye'de izlenen çevre politikalarının neler olduğu ortaya konulacaktır. Çevre politikasının oluşumunda reaksiyoner çevreci kuruluşlarının yanında bilimsel kuruluşlar ve devletlerin izlediği yol ve yöntemler verilecektir. Tarımda çevresel politika için temel sorunlar ve metodoloji verilecektir. Tarım ve kırsal topluluklar ile sağlanan dış ekonomilerin bir değerlendirmesi yapılarak çevresel politikaların temel sorunlarını analiz edilecektir. Ekonomik ve politik analizler yardımıyla doğanın incelenerek tarım, sanayi ve analiz edilecektir. Ekonomik ve politik analizler yardımıyla doğanın incelenerek tarım, sanayi ve kırsal kalkınma planlarının hazırlanması gerektiği üzerinde durulacaktır.

Title of the course: Global Environmental Policies (Global Çevre Politikaları)
Code: No code number is available on Web-site.
University: Uludağ
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: No description.

Title of the course: International Energy Problems and Policies (Uluslararası Enerji Problemleri ve Politikaları)
Code: No code number is available on Web-site.

University: Uludağ
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/International Relations
Content: No description.

Title of the course: Environmental Policies (Çevre Politikaları)
Code: ŞBP 5320
University: Yıldız Technical
Institute /Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/Landscape Planning/City and Regional Planning
Content: Çevre kavramı / Çevrenin korunması ve kullanılması konusunda girişimler / Uluslararası çevre değerleri ile ilgili çalışmalar / Uluslararası antlaşmaların içerikleri / Çevre sorunları ile ilgili ulusal yasal sistem, mülkiyet hakkı, toplum yararı, sağlıklı yaşam ile ilgili anayasa, yasa, yönetmelik ve uluslararası antlaşmalarla olan ilişkileri / Çevre koruma ile ilgili kamu kurumları / Çevre korumasında örgütlenme ve katılım.

Title of the course: Environment Protection Policy (Çevre Koruma Politikası)
Code: ORM 767
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Forestry Engineering
Content: No description.

Title of the course: Environmental Planning and Policy (Çevre Planlama ve Politikası)
Code: GEO 563
University: Fatih (Private University)
Institute/Faculty/Department: Academics and Schools/Faculty of Arts and Science/Geography
Content: Global view of the status of the environment and resources resulting from social forces having cultural, economic, demographic, and political dimensions.

Environmental Problems in Turkey

Title of the course: Environmental Problems of Turkey (Türkiye'nin Çevre Sorunları)
Code: No code number is available on Web-site.
University: Afyon Kocatepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography
Content: No description.

Title of the course: Ecological and Chemical Fundamentals in Environmental Problems (Çevre Problemlerinde Ekolojik ve Kimyasal Esaslar)
Code: 823531
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Faculty of Agriculture/ Soil Sciences
Content: Origin of elements and molecules, chemical evaluation and origin of life-energy and the enviroment, energy and biomass, municipal and industrial waste waters and treatment techniques, land application methods for the waste water treatment effects of the

acid rains on the ecosystems, synthetic polymers, toxic substances, biogass production technics microbiological leaching of the metallurgical materials, ecological considerations and environmental planning.

Title of the course: General Environmental Problems (Genel Çevre Sorunları)
Code: FİC-709, FİC-759
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Physical Geography
Content: Su, hava ve toprak reformunda meydana gelen kirlenme, korunma ve mücadele.

Title of the course: Environmental Problems in Turkey (Türkiye'de Çevre Sorunları)
Code: TÜC-514 I, TÜC-564 II
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Geography of Turkey
Content: Türkiye'de Çevre Sorunlarının nedenlerinin incelenmesi ve bu sorunlara karşı alınması gereken tedbirlerin belirlenmesi.

Title of the course: Environmental Problems of Turkey (Türkiye'nin Çevre Sorunları)
Code: FBY 5234
University: Balıkesir
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Science and Letters/Biology
Content: Çevre sorunlarının tanımı, Türkiye'nin çevre sorunlarının nedenleri, Türkiye'nin Çevre sorunlarının sınıflandırılması; Hava kirliliği, Su kirliliği, Toprak sorunları, Flora ve fauna ile ilgili sorunlar, enerji sorunları, katı ve sıvı atıklar, Pestisitler, Gürültü ve görüntü kirliliği. Çevre sorunlarına çözüm ve öneriler, çevre sorunlarının uluslar arası boyutları, Türkiye'de yapılan çalışmalar.

Title of the course: Principles of Environmental Pollution (Çevre Kirliliğinin Prensipleri)
Code: ESC 501
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Principles of ecology, nutrient cycles; water pollution, quality parameters, standards and regulations; reaction kinetics and materials balance in aquatic systems; hydraulic models, batch, complete-mix and plug flow reactors; water quality in rivers, streams and lakes; principles of water and wastewater treatment; hazardous wastes and disposal methods with emphasis on solid waste and sludge; Environmental Risk Assessment; air pollution and control; global environmental problems.

Title of the course: Environmental Problems of Turkey and EIA (Türkiye'nin Çevre Sorunları ve ÇED)
Code: BY 539
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Arts and Science/Biology

Content: Enviroment and human, growing population and environment, industry, growing country and environment, soil-water-air pollution and biomonitoring, pollution sources, importance of environmental evaluation.

Title of the course: Natural Environmental Problems (Doğal Çevre Sorunları)
Code: No code number is available on Web-site.
University: Dicle
Institute/Faculty/Department: Institute of Science/Faculty of Science and Letters/Geography
Content: No description.

Title of the course: Environmental Problems in Turkey (Türkiye'de Çevre Sorunları)
Code: ÇMÜ 520
University: Fırat
Institute/Faculty/Department: Institute of Physical Sciences/Faculty of Engineering/Environmental Engineering
Content: No description.

Title of the course: Natural Environment and its Problems (Doğal Çevre ve Sorunları)
Code: COĞ 522
University: Fırat
Institute/Faculty/Department: Institute for Social Sciences/Faculty of Sciences and Letters/ Geography
Content: No description.

Title of the course: Environmental Pollution Originating from Industry (Endüstriyel Kaynaklı Çevre Kirliliği)
Code: ENV 502
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Environmental Sciences
Content: Environment and environmental pollution, Environmental problems in Turkey and in the World, Classification of environmental pollution, Types of environmental pollution according to environmental components (Air, soil, water, food pollution), environmental pollution according to sources, Environmental pollution according to industry, Environmental pollution according to urban, Environmental pollution according to agriculture, Important environmental pollutants, Air pollutants,Water pollutants, Soil pollutants, Sectorial based environmental pollution originating from industry.

Title of the course: Environmental Problems in Turkey (Türkiye'de Çevre Sorunları)
Code: ÇEV 514
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Hava, su ve toprak kirliliği; sanayi ve kentlerden kaynaklanan kirlilik; bölgeler itibariyle kirliliğin durumu, öncelikli sorunlar.

Title of the course: Environmental Problems of the Turkey (Türkiye'nin Çevre Sorunları)
Code: CEV 5090

University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Ecosystem components. Marine environment. Inland waters. Water pollutants. Thermal pollution. Air pollution. Soil pollution. Radioactive pollution in Turkish Coast. Prevention of environmental pollution.

Title of the course: Environmental Problems of Turkey (Türkiye'nin Çevre Sorunları)
Code: ÇEV-552
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Ekosistem bileşenleri. Deniz ortamı. Tatlısular. Su kirleticileri. Kıyılarımızda kirlilik. Hava kirliliği. Toprak kirliliği. Radyoaktif kirlilik. Çevre kirliliğinin önlenmesi.

Title of the course: Role of Landscape Architecture in Environmental Problems (Peyzaj Mimarlığı ve Çevre Sorunları İlişkisi)
Code: PM-511
University: Mustafa Kemal
Institute/Faculty/Department: Graduate School of Applied and Natural Sciences/Faculty of Agriculture/Landscape Architecture
Content: A general review of environmental problems in Turkey, relationship between Landscape Architecture and Environment, Land uses and human activities causing environmental problems, solutions to environmental problems, past-to-present environmental protection studies, environmental legislation in Turkey and World.

Title of the course: Natural Environment Problems (Doğal Çevre Sorunları)
Code: GEO 507
University: Sakarya
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Sciences and Letters/Geography
Content: Multiple environmental changes involving the atmosphere, land and water are occurring at an alarming rate. Some of these environmental changes are local, whereas others are global. The fundamental drivers of these changes are human population growth, growth of the economy and the associated production and consumption of goods and services, and changing life-styles. These drivers, however, are strongly modulated by trends in the efficiency with which humans use land, water, energy and materials. This seminar will explore trends, scenarios and possibilities concerning the fundamental drivers and modulating factors, the impact of each of these on each of the major environmental issues, and the interconnections between the environmental issues themselves.
The main objectives of the course are twofold: to explain for what is the concept of "natural environment" and to teach comprehend environment protecting.

Title of the course: Social, Economical and Administrative Analysis of Environmental Problems (Çevre Sorunlarının Sosyal, Ekonomik ve Yönetsel Analizi)
Code: ÇEV-710
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: No description.

Environmental Health

Title of the course: Relationship between Environment and Nutrition (Çevre ve Beslenme İlişkisi)
Code: 806537
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Home Economics
Content: Foods including substances naturally harmful to health and causing nutritional disorders, relationships between food additives and nutrition and health, toxicologic studies conducting to determine poisonous effects of food additives, pesticides, detergents, relationship between drugs which can mix animal foods and nutrition, relationship between plastic substances and nutrition, relationship between nitrate-nitrite and nutrition, interactions of nutrients and drug, relationship between water-soil-air pollution and nutrition.

Title of the course: Healthy Housing and Optimum Environment (Sağlıklı Ev ve Optimal Çevre)
Code: 806546
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Home Economics
Content: Importance of housing at human living, parameters of health, housing-environment (macro-micro)interactions, evaluation of housing related to healthness and usefulness, housing hygiene standards, housing standards and social policies, basic or absolute housing standards, basic space needs, housing needs of special groups.

Title of the course: Public Health (Halk Sağlığı)
Code: No code number is available on Web-site.
University: Atatürk
Institute/Faculty/Department: Institute for Health Sciences/Faculty of Medicine/Public Health
Content: No description.

Title of the course: Public Health Engineering (Halk Sağlığı Mühendisliği)
Code: ESC 505
University: Boğaziçi
Institute/Faculty/Department: Institute for Environmental Sciences/Environmental Sciences
Content: General principles of vector control; communicable diseases. Environmental conditions in living and working environment such as light, heat, noise and moisture. Disaster sanitation. Sanitation of swimming environments. Principles of plumbing.

Title of the course: Fighting Principles against Infectious Diseases (Bulaşıcı Hastalıklarla Savaş İlkeleri)
Code: HAL 606
University: Cumhuriyet
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health
Content: Enfeksiyonlar hakkında genel bilgiler- tanımlar, enfeksiyon hastalıklarında genel epidemiolojik prensipler, enfeksiyon oluşumunda parazite ve çevreye ait faktörler,

enfeksiyonlara karşı direnç ve bağışıklık, aşılar-serumlar, savaş kavramı ve bulaşıcı hastalıklarla savaş yöntemleri, enfeksiyon hastalıklarında salgının incelenmesi, Türkiye ‘de bulaşıcı hastalıklarla savaşta örgütlenme, Türkiye ‘de enfeksiyon hastalıklarının genel sağlık sorunlarının içindeki yeri ve önemi.

Title of the course: Environmental Health (Çevre Sağlığı)
Code: HAL 601
University: Cumhuriyet
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health
Content: Çevre ekolojisi, çevre kanunu, hava kirliliği- hava kalitesini koruma yönetmeliği, su kirliliği- su kirliliği yönetmeliği, toprak kirliliği, katı atıklar ve yeniden kullanma, besin sanitasyonu, gıda ve katkı maddeleri tüzüğü, işyerinin açılması ve denetlenmesiyle ilgili mevzuat,radyasyon kirliliği ve ilgili mevzuat, Türkiye’de çevre sorunları çözüm önerileri.

Title of the course: Drinking Waters and Health (İçme Suları ve Sağlık)
Code: ÇM-503
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: General characteristics of drinking waters, National and international drinking water standards. Basic human anatomy, Effect of some dissolved organic and inorganic matters on human health, variation of these effects with human factors and climate. Quality of drinking water removal of organic and inorganic matters from water. Bacteriological treatment and disinfection. Classification of water resources, pollution and preservation of water resources.

Title of the course: Radiation and its Effects on the Environment (Radyasyon ve Çevreye Etkileri)
Code: ÇM-506
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Radyasyon ve radyoaktiflik, radyasyonun biyolojik etkileri, doğal radyoaktiflik, nükleer silah denemeleri, nükleer santraller ve kazalardan oluşan radyasyon kirliliği, nükleer olmayan proseslerden oluşan kirlilik, radyoaktif atıkların iyileştirilmesi ve uzaklaştırılması, radyoaktifliğin tıp biliminde kullanımı ve radyasyonun insan sağlığı üzerine etkileri.

Title of the course: Environmental Health (Çevre Sağlığı)
Code: ENV 509
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculties of Engineering/Environmental Engineering
Content: Environmental factors detrimental for human health. Microbiological pollution. Control of microbiological pollution. Relation between sanitary systems and environmental hygiene. Health administration.

Title of the course: Environmental Health (Çevre Sağlığı)
Code: 0502 502
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Environmental Sciences
Content: İnsan ve çevre, uluslararası düzeyde çevre sorunları, çevre kirliliği, sucul çevre, atmosferik çevre, pedosferik çevre, radyoaktivite ve çevre, gürültü kirliliği, görsel çevre.

Title of the course: Impact of Pesticides on Environment (Pestisitlerin Çevreye Etkileri)
Code: BİY 523
University: Erciyes
Institute/Faculty/Department: Faculty of Science and Letters/Institute of Natural Sciences/ Biology
Content: No description.

Title of the course: Impact of Environmental Pollution on Humanbeings (Çevre Kirliliğinin İnsanlar üzerindeki Etkisi)
Code: BİO 544
University: Fırat
Institute/Faculty/Department: Institute of Physical Sciences/Faculty of Sciences and Letters/Biology
Content: No description.

Title of the course: Basic of Environmental Health (Temel Çevre Sağlığı)
Code: ÇEV 505
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: Çevre sağlığının tanımı, konuları ve özellikleri; içme ve kullanma suları; katı ve sıvı atıklar; kirlilik, çevre sağlığı ve ekoloji; besin sanitasyonu; hava kirliliği; gayri sıhhi müesseseler; çevre sağlığı ile ilgili temel teorik ve pratik bilgilerin verilmesi; uygulamaya yönelik bilgilerin tartışılması.

Title of the course: Gerontology (Gerontoloji)
Code: BİO 879
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Science/ Biology and Ecology
University: Hacettepe
Content: Hypothesis and theories of senescence, the genetics of aging, the environmental effects on longevity, experimental studies on the duration of life.

Title of the course: Environment-Humanbeing-Health Relations (Çevre-İnsan-Sağlık İlişkisi)
Code: No code number is available on Website.
University: Hacettepe
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health

Content: Çevre sağlığı derslerinde çevresel etmenlerin insan sağlığı üzerindeki etkileri işlenmektedir. Çevre sağlığındaki olumsuz etkilere karşı birincil, ikincil ve üçüncül korunma yöntemleri üzerinde durulmaktadır. Saha koşullarında alınacak pratik önlemler ve altyapı uygulamaları tartışılmaktadır. Ülkemiz mevzuatının konuyla ilgili olanları özetlenmekte , gelecekte meslek yaşamı sırasında yasa maddelelerinden çevre sağlığı sorunlarının çözümüne yönelik nasıl yararlanacakları açıklanmaktadır. Gerek olduğunda diğer ülkelerin mevzuat hükümleri ve ulusal ve uluslararası kuruluşların standartları sıralanmaktadır.

Title of the course: Concept of Public Health (Halk Sağlığı Kavramı)
Code: No code number is available on Web-site.
University: Hacettepe
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health
Content: Halk sağlığı kavramı, hekimler de dahil olmak üzere, sağlık hizmetine doğrudan ya da dolaylı olarak katkı sağlayan herkes tarafından bilinmesi ve uygulanması gereken bir felsefedir. Bu felsefenin başlıca ilkeleri şunlardır : Sağlık doğuştan kazanılmış bir haktır ; Kişi çevresiyle bütündür ; Koruma tedaviden üstündür ; Hastalıkların nedeni fiziksel, biyolojik ve sosyal faktörlerdir ; En sık görülen, sakat bırakan ya da öldüren hastalıklar önemli hastalıklardır ; Hastalık yalnızca hasta olan kişinin değil, ailelerin ve toplumun sorunudur. Halk sağlığı uzmanının temel işlevi, toplumun sağlık düzeyini ve sorunlarını saptamak, bu sorunların çözüm yollarını planlamak ve bu planları uygulamak üzere her kademede yöneticilik yapmaktır.

Title of the course: Introduction to Public Health I - Basic Principles and Concepts (Halk Sağlığına Giriş I -Temel İlke ve Kavramlar)
Code: THAS 501
University: İnönü
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health
Content: Halk Sağlığı kavramının tarihsel gelişimi, tanımı, sağlık hizmetleri, hastalıklardan korunma prensipleri, korunma kavramı ve korunma düzeyleri, uluslararası örgütler.

Title of the course: Environmental Health I (Çevre Sağlığı I)
Code: THAS 505
University: İnönü
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health
Content: Çevre sağlığının temel ilgi alanları, tanımı ve tarihsel gelişimi, içme -kullanma suları , katı ve sıvı atıklar, ekosistem, besin sanitasyonu, hava kirliliği, gürültü çevre sağlığı mevzuatı ve uygulamaları.

Title of the course: Introduction to Public Health II (Halk Sağlığına Giriş II)
Code: THAS 601
University: İnönü
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health

Content: Sağlığı etkileyen faktörler, halk sağlığının yasal temelleri, kamu halk sağlığı uygulamaları ve örgütleri, iletişim ve halk sağlığı, halk sağlığında veri yönetimi ve sürveyans.

Title of the course: Environmental Health II (Çevre Sağlığı II)
Code: THAS 606
University: İnönü
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health
Content: Su analizi ve dezenfeksiyon yöntemleri, kapalı ortam hava kirlenmesi, vektör kontrolü, tıbbi atıklar ve yok edilme yöntemleri, su denetimi, küresel çevre sorunları, çevresel etki değerlendirmesi.

Title of the course: Public Health (Halk Sağlığı)
Code: No code number is available on Web-site.
University: Karadeniz Technical
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health
Content: No description.

Title of the course: Basic Principles of Public Health (Halk Sağlığının Temelleri)
Code: 14-40336-515
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/ Environmental Sciences
Content: Halk sağlığının önemi. Korunma yöntemleri. Organizasyon ve uygulamalar. İrdelemeler.

Title of the course: Techniques, Economics and Organisation of Safety and Employees Health (İşçi Sağlığı ve Güvenliği için gerekli Teknikler, Ekonomiler ve Organizasyon)
Code: 14-40124-539
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/Management of Engineering
Content: Fire, explosion and fire protection. Natural disasters and safety. Risk analyses. Urgent intervention plan. Organisation of safety group. Workplace health regulations. Education, training and organisation of first aid. Ergonomics in industry and offices. Workplace accidents. Protective material for employees. Industrial hygiene. First aid. Standards concerning work safety and employee health. Responsible care, total quality and work safety. Interaction between workplace safety, employees health, public health and environmental protection. Ethics and legal responsibilities of engineers concerning work safety. Governmental, public and nongovernmental organisations concerning work safety. Safety engineering economics.

Title of the course: Working Environment and Chemical Carcinogenesis (Çalışma Ortamı ve Kimyasal Karsinojen)
Code: BY 550
University: Mustafa Kemal

Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Sciences and Letters/Biology
Content: The epidemiological studies showed that there is a connection between chemical agents used in working environments and the risk of occurance of cancer types on the people who works at these places for long time. The subject of this class is the investigation of the effects of occupation groups and their working environments on cancer development on individiuals. The impacts of some chemicals on cancer development will be also discussed.

Title of the course: Public Health (Halk Sağlığı)
Code: HAS 700
University: Ondokuz Mayıs
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/ Public Health
Content: Historical Development of Public Health, Description and Principles of Public Health, Principles of Primary Health Care.

Title of the course: Environment and Health Relation (Çevre ve Sağlık İlişkisi)
Code: HAS 703
University: Ondokuz Mayıs
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Health
Content: Ecology, Physical factors affecting the health, chemical factors affecting the health, biological factors affecting the health, socio-economical factors affecting the health, Methods to preventing the harmful effects of environmental factors to the health.

Title of the course: Pesticides and Environmental Pollution (Zirai İlaçlar ve Çevre Kirlenmesi)
Code: ÇEM 511
University: Sakarya
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Zirai ilaçların gruplandırılması, patojenlere etki şekilleri, insanlar üzerindeki etkileri, bitkilere etkileri, çevreye olan etkileri. Bitki yetiştiriciliğinde kullanılan büyüme ve gelişme düzenleyici hormonların gruplandırılması, biyolojik etkileri, kullanılma alanları ve çevreye etkileri.

Title of the course: Environmental Pollution Effect on Foods (Çevre Kirliliğinin Gıda Kirlenmesindeki Yeri ve Önemi)
Code: 8028011015
University: Selçuk
Institute/Faculty/Department: Institute of the Natural and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: No description.

Title of the course: Effects of Pesticides on the Environment (Pestisitlerin Çevreye Etkileri)
Code: 8028011010
University: Selçuk

Institute/Faculty/Department: Institute of the Natural and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: No description.

Title of the course: Environmental Health (Çevre Sağlığı)
Code: 1006503
University: Süleyman Demirel
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: No description.

Title of the course: Basic Principles of Public Health (Halk Sağlığı Temel Prensipleri)
Code: THSDZ01
University: Uludağ
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine Sciences/ Public Health
Content: No description.

Title of the course: Health Management (Sağlık Yönetimi)
Code: THSDZ05
University: Uludağ
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine Sciences/Public Health
Content: No description.

Title of the course: Human and Environment Relations (İnsan ve Çevre İlişkileri)
Code: THSDZ04
University: Uludağ
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine Sciences/ Public Health
Content: No description.

Title of the course: Public Health (Halk Sağlığı)
Code: HAS 501
University: Başkent (Private Uni.)
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health
Content: Temel BilgilerHalk Sağlığının temel kavram ve yaklaşımlarının irdelenmesi, dünyada ve Türkiye'deki önemli halk sağlığı sorunlarının tartışılması, çözüm önerileri geliştirebilecek bilgi ve becerinin kazandırılması.

Title of the course: Environmental Health (Çevre Sağlığı)
Code: HAS 522
University: Başkent (Private University)
Institute/Faculty/Department: Institute of Health Sciences/Faculty of Medicine/Public Health
Content: Sağlık ve çevre ilişkisi, fizik ve biyolojik çevre, çevresel hastalık kavramı, çevre kirlenmesi, insan sağlığı üzerine olan olumsuz etkileri , korunma ve önleme yolları, doğal ve yapay afetler ders kapsamında tartışılacak konulardır.

Environmental Education

Title of the course: Children and Environment (Çocuklar ve Çevre)
Code: 806562
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Home Economics
Content: Description of children's environment, children's perception about environment, interaction between the children and the environment, variables effecting this interaction,suggestions for developing the children's environment, environmental education in Turkey and the world and examples on this subject.

Title of the course: General under the title of Botanic
Code: No code number is available on Web-site.
University: Erciyes
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Science and Letters/Biology
Course: Botanik Bilim Dalı : Karasal ve sucul ekosistemlerdeki bitkilerde ağır metal kirlenmesinin incelenmesi ;Toprak- bitki ilişkileri ,Bitki Ekolojisi ,Flora, Çevre Eğitimi,ÇED ve şehirleşmenin getirdiği olumsuz etkiler üzerinde çalışmalar yapılmaktadır.

Title of the course: Environmental Education (Çevre Eğitimi)
Code: ÇEV 510
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/ Environmental Sciences
Content: Çevre, sosyal çevre, fiziksel çevre, çevre ve eğitimi, okul öncesi dönemde çevre eğitimi, ilk öğretim kurumlarında çevre eğitimi, ortaöğretim çevre eğitimi, yaygın eğitim çevre, hizmetiçi eğitimde çevre eğitimi.

Title of the course: School-Environment Relations (Okul-Çevre İlişkileri)
Code: FEDEBT 0617
University: Harran
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Sciences and Letters/Educational Sciences
Content: No description.

Title of the course: Environmental Education (Çevre Eğitimi)
Code: 14-40336-510
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/Environmental Sciences
Content: Çevre korumanın anlamı nedir. Çevre sorunlarının tespit ve çözümü için kimler eğitilir, dünyada ve Türkiye'de yapılmakta olan çevre eğitimi. İlk ve ortaöğretim okulları programında çevre ile ilgili konular ve çevre dersleri. İçerik ve yönlenme bakımından irdelemeler. Türkiye'de çevre eğitimi yapan sivil toplum örgütleri ve programları. Çağımızda çevre eğitiminden beklenenler ve geleceğin çevre eğitimi. Ders konuları, alanda çalışan konuşmacıların konferansları ,seminerler, ve araştırma ödevleri ile desteklenir.

Title of the course: Introduction to Environmental Education (Çevre Eğitimine Giriş)
Code: 14-40336-503
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/ Environmental Sciences
Content: Çevre eğitiminin tanımı ve kapsamı . çevre eğitiminin gelişimi. Tiflis Bildirgesi . çevre eğitimi için eğitmenlerin yetiştirilmesi. Genel eğitim ilkeleri, çevre eğitiminin niteliği, esasları ve amaçları, çevre eğitim modelleri, çevre eğitiminde yöntem, ölçme ve değerlendirme ve program geliştirme.

Tourism and Environmental Relations

Title of the course: Landscape Design of Tourist Resorts (Turist Yerleşim Bölgelerinde Mimari Dizayn)
Code: No code number is available on Web-site.
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/ Faculty of Agriculture/Landscape Architecture
Content: Definition and classification of tourism. Tourism and environment interactions and relationships. Physical planning in tourism. Classification of tourist facilities. Tourist establishment types and properties according to the tourism legislation in Turkey. Main establishment types and their properties in coastal tourism. Basic design principles. Physical space and environment requirement according to the type of the establishment. Outdoor space organizations in tourism facilities. Landscape design approaches. Landscape design and application.

Title of the course: Tourism Planning and Environment (Turizm Planlaması ve Çevre)
Code: No code number is available on Web-site.
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Terms of tourism, tourist, tourism region, tourism developments both in Turkey and worldwide, economic, social and environmental consequences of tourism, tourism planning procedure and caveats, landscape planning techniques and approaches in lessening negative environmental effects of tourism, importance of collabration between disciplines and institutions in tourism planning with ecological dimensions.

Title of the course: Environmental Design for Recreational Tourism Areas (Rekreasyonel Turizm Alanlarında Çevre Düzenlemesi)
Code: ZPM 515
University: Atatürk
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Turizm ve Rekreasyon Kavramları, Ülkemizdeki Turizm Hareketleri, Sağlık Turizmi, Dağ Turizmi, Kış Turizmi, Yayla Turizmi (Soft Turizm)'in Özellikleri Turizm ve Rekreasyon İlişkileri, Turizm ve Çevre Turizme Dönük Rekreasyonel Planlamada Arz ve Talepler, Standartlar ve Planlama Modelleri.

Title of the course: Natural Touristic Resources (Doğal Turistik Kaynaklar)
Code: BİC 762
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Social and Economical Geography
Content: Şelale, çağlayan, mağaralar, dağlık alanlar vb. doğal turizm kaynaklarının incelenmesi.

Title of the course: Tourism and Environment (Turizm ve Çevre)
Code: ESC 548
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences, Environmental Sciences/Environmental Social Sciences
Content: The interrelation between environment and tourism; deterioration of environment by touristic activities accomplished without necessary infrastructure; coastal and rural pollution; determination of carrying capacity of touristic resorts; effects of environment on tourism. Case studies.

Title of the course: Tourism Planning (Turizm Planlaması)
Code: PM-535
University: Çukurova
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Ülkemizde turizm gelişmeleri ve bunu yönlendiren turizm planlamaları. Turizm planlarının içeriği ve ekolojik planlama ilişkisi irdelenerek turizmin ekolojik etkileri belirlenecek ve turizm gelişmeleri için ekolojik bazda alan seçimi ve alternatif turizm biçimleri.

Title of the course: Tourism and Environment Relations (Turizm ve Çevre İlişkileri)
Code: 0110505
University: Ege
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Sciences and Letters/ Social and Economic Geography
Content: Main topics are; Role and effects of natural environment on tourism, effects of tourism on environment and determining methods, conservation policies and tourism relations, sustainability in environment and tourism.

Title of the course: Tourism Planning (Turizm Planlama)
Code: 5941212
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Faculty of Engineering and Architecture/City and Regional Planning
Content: Tourism sector, its characteristics, the role of tourism sector in economic growth, urban development and environmental protection. Potential evaluation and planning principles. Legal and administrative structure. Tourism and ecology and cultural heritage relationships.

Title of the course: Tourism and Environment Relation (Turizm ve Çevre İlişkisi)
Code: ÇM 558
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Engineering/Environmental Engineering
Content: Turistik tesislerden kaynaklanan kirleticiler, Turizm ve çevre ilişkisi, Doğal ve tarihi çevre, kıyı-sahil kirliliği ve turizm ilişkisi, Kirliliğin önlenmesi, Gerekli bertaraf teknikleri, Sezonluk işletmeler için alternatif arıtma teknolojileri.

Title of the course: Tourism and Environment (Turizm ve Çevre)
Code: CBA 699
University: Hacettepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economic and Administrative Sciences/ Business Management-Tourism Management
Content: Turistik rezervler ve çevre koşulları; turizmde çevre koruma; kıyı, sid alanı, orman alanı, kaplıca ve tatil yöresi planlaması; turizm faaliyetlerinde karşılaşılan çevre sorunları ve çözüm ilkeleri; turizmde sürdürülebilir kalkınma kavramı; ekolojik denge problemleri; turizm faaliyetleri ve çevre politikaları; devletin rolü; işletmelerin sorumlulukları.

Title of the course: Tourism and Environmental Relations (Turizm ve Çevre İlişkileri)
Code: ÇEV 515
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: Turizm, çevre ve dengeli kalkınma ilişkileri, kıyı turizmi gelişmesi ve karakteristikleri; çevresel etkiler, turizm planlaması ve çevre.

Title of the course: Nature-Based Tourism (Doğa Turizmi)
Code: No code number is available Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Forestry Engineering/Forestry and Management
Content: Turizmin tarihsel gelişimi. Ormancılık turizm ilişkileri. Doğa turizminin günümüzde önemi. Av turizmi. Ormancılık politikası - turizm politikası karşılaştırması.

Title of the course: Nature Conservation and Tourism (Doğa Koruma ve Turizm)
Code: PEM5180
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Landscape Architecture
Content: Concepts of nature conservation and protected area. Classification of protected areas. The concepts of recreation, tourism. Ecological, and perceptual recreation tourism carrying capacities. Symbiotic relationships between tourism and nature conservation. Study of tourism potential in Turkey in relation to nature conservation.

Title of the course: Eco-Tourism (Eko-Turizm)
Code: TOİ-518
University: Mustafa Kemal

Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Tourism and Hotel Management
Content: Temel Kavramlar; sürdürülebilir turistik gelişme ve planlama; alternatif turizm, eko-turizm ve yeni turizm modellerinin ortaya çıkışı. Gelişmekte olan ülkelerde Eko-Turizm: Gelişmekte olan ülkelerin genel olarak özellikleri coğrafi dağılımı ve turizm planlamaları; Gelişmekte olan ülkelerde alternatif turizm türleri ve Eko-Turizmin ortaya çıkışı.Gelişmekte olan ülkelerde Eko-Turizm ve alternatif turizm türlerinin geleceği, sorunları ve strateji önerileri.

Title of the course: Tourism and Environment (Turizm ve Çevre)
Code: ÇEV-544
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Turizm kavramı, turizm olgusunun tarihsel gelişimi, turizmin çevre üzerindeki etkileri, sürdürülebilir turizm, yörede yaşanan turizm kaynaklı çevre sorunlarının değerlendirilmesi.

Title of the course: Tourism in Nature (Doğa Turizmi)
Code: ORM 716
University: Zonguldak Karaelmas
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering/Engineering of Forestry
Content: Turizm. Kitlesel turizm. Yumuşak (soft) turizm. Alternatif turizm olanakları. Çevreye duyarlı turizm. Orman kaynaklarının turizm amaçlı kullanımı.

Title of the Course: Conservation of Nature and Tourism (Doğa Koruma ve Turizm)
Code: PEM 722
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Architecture/Landscape Architecture
Content: Doğal alanların sınıflandırılması. Turizmde genel kavramlar. Ülkemizdeki milli parklar, doğal parklar, doğal anıtlar. Doğayı koruma alanları ve özel çevre koruma bölgeleri. Korunan alanlarda turizmin çevresel etkileri. Alternatif turizm formları (yumuşak turizm, yeşil turizm, ekoturizm vb.) Korunan alanları ayırma ve planlama kriterleri. Çevresel etki değerlendirmesi. Piknik alanları, kamping alanları, kamping alanları ve tatil köyleri planlama ilkeleri. Golf, trekking, rafting ve benzeri doğa turizm etkinlikleri. Kamping alanı projesi.

Title of the course: Recreation and Tourism Geography (Rekreasyon ve Turizm Coğrafyası)
Code: GEO 520
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Science and Engineering/Faculty of Arts and Science/Geography
Content: Examination of the social scientific factors influencing patterns of utilization of recreational resources.

Title of the course: Strategies for Sustainable Development (Sürdürülebilir Kalkınma Teorileri)

Code: GEO 523
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Science and Engineering/Faculty of Arts and Science/Geography
Content: This area involves development of policies and strategies for sensible exploitation of tourism resources, based on the structure and organization of the ecosystems and to strike a balance between tourism activities and those ecosystems so as to ensure that the resources are preserved.

Introduction to the Environmental Sciences

Title of the course: Principles of Environmental Pollution (Çevre Kirliliğinin Prensipleri)
Code: ESC 501
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Principles of ecology, nutrient cycles; water pollution, quality parameters, standards and regulations; reaction kinetics and materials balance in aquatic systems; hydraulic models, batch, complete-mix and plug flow reactors; water quality in rivers, streams and lakes; principles of water and wastewater treatment; hazardous wastes and disposal methods with emphasis on solid waste and sludge; Environmental Risk Assessment; air pollution and control; global environmental problems.

Title of the course: Global Environmental Issues (Global Çevre Konuları)
Code: BY 512
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Arts and Science/ Biology
Content: An interdisciplinary view of the environment as it is perceivied at the end of the twentieth century, the interaction of science, technology, social institutions and attitutes local behaviour and global consequences. Widening students' awareness of environmental issues, to help them in their analysis and to contribute to the evaluation of policies to influence them.

Title of the course: Introduction to Environmental Science (Çevre Bilimine Giriş)
Code: 0502 501
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Environmental Sciences
Content: Human and environment, global environmental problems, environmental pollution, aquatic environment, atmospheric environment, pedospheric environment, radioactivity and environment, noise pollution, visual environment.

Title of the course: Special Topics in Environmental Sciences (Çevre Bilimlerinde Özel Konular)
Code: CEV 7000-7999
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering

Content: these courses are not listed in the University Catalogue. Their titles and contents may vary from year to year.

Title of the course: Introduction to Environmental Sciences (Çevre Bilimlerine Giriş)
Code: 14-40336-501
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/Environmental Sciences
Content: Çevre bilimlerinin tanımı ve kapsamı. Canlılar ve çevre: Dünyanın oluşumu, atmosferin oluşumu, hayatın başlangıcı. Ekolojik temeller: cansız çevre, madde döngüleri, canlı çevre ve ekosistem kavramı, ekosistemlerde besin/enerji akışı. Yerkürenin zenginlikleri: madde kaynakları, enerji kaynakları. Ekolojik bir faktör olarak insan: avcı-toplayıcı toplumları, tarım toplumları, nüfus artışı, nüfus artışının toplum ve biyosfer üzerindeki etkileri.

Title of the course: Global Environmental Issues (Global Çevre Konuları)
Code: IR 570
University: METU
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/International Relations
Content: Our planet is threatened by a wide variety of environmental problems ranging from climate change, ozone depletion, deforestation, marine pollution, desertification to extinction of species, which require international cooperation. Though the commitment of the states to protect the quality of the environment is impressive, the implementation of these policies are problematic. In this course, the nature and extent of the global environmental issues and the response given by humanity to these problems, at national, regional and international level will be analysed.

Title of the course: Special Issues in Environmental Science I (Çevre Bilimlerinde Özel Konular I)
Code: ENVE 717
University: Ondokuz Mayıs
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Special Issues Concerned Environment are explained and current environmental problems are discussed.

Title of the course: Special Issues in Environmental Science II (Çevre Bilimlerinde Özel Konular II)
Code: ENVE 718
University: Ondokuz Mayıs
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Special Issues Concerned Environment are explained and current environmental problems are discussed.

Title of the course: Introduction to Environmental Sciences (Çevre Bilimlerine Giriş)
Code: BIOL 531

University: Fatih (Private University)
Institute/Faculty/Department: Institute of Sciences and Engineering/Faculty of Arts and Science/Biology
Content: Pollution definitions. Types of pollution. Impacts of pollution types. Impacts on plants, animals, humans and non living objects. Ecological effects of Pollution, Toxic elements, Acidification, Forest Decline, Pesticides, Warfare, and Ecology, Biodiversity, Resources.

Environmental Ethics

Title of the course: Environmental Ethics (Çevresel Etik)
Code: 70804512
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: İnsanın doğasındaki yerinin tarihçesi. 19. ve 20. yüzyılda çevre hareketlerinin gelişimi. Çevre, teknoloji ve ekonomi arasındaki ilişkilerle ilgili görüşler. Sürdürülebilir kalkınma.

Title of the course: Interaction of Individual and Environment (Birey ve Çevre İlişkisi)
Code: 806533
University: Ankara
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Home Economics
Content: Individual and environment, near environment and for environment, responsibility of individual arranging environment. Life style, life cycle, life quality relation between value and environment, characteristics of individual who is sensitive toward environment, waste production in houses attidutes and behaviours of families about waste management, analyses of researches towards environment, planning and improving training programmes towards developing of environmental consciousness.

Title of the course: Environmental Ethics (Çevre Ahlakı)
Code: ESC 546
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: History of ideas on man's place in nature. Evolution of environmentalist movements and ethics in 19th and 20th centuries. Contemporary ideas on environment, technology and economic growth relationships. Sustainable development.

Title of the course: Environmental Sociology (Çevre Sosyolojisi)
Code: ESC 545
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Rural, urban and industrial sociology. Environmental problems affecting social structure. Basic demographic processes. Social sampling techniques, questionnaire design. Statistical methods in data evaluation. Utilization of computer software designed for social science data processing.

Title of the course: Philosophy of Social Sciences (Toplum Bilimleri Felsefesi)
Code: PHIL 526
University: Boğaziçi
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Arts and Sciences/ Philosophy
Content: An examination of problems raised in the study of human behavior and society. Some of the problems to be discussed include method, objectivity, explanation, individualism and holism.

Title of the course: Business and Society (İş ve Toplum)
Code: MG57 702
University: Çukurova
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economies and Administrative Sciences/Business Administration-Management and Organization
Content: Business and shareholders, social accountability, ethics, business' ethic development, social strategies, multinational enterprises, public policies and environment, workplace conditions, business and media, ecology, environment policies and control.

Title of the course: Environment and Human Relations (Çevre ve İnsan İlişkileri)
Code: No code number is available on the Internet Web-site.
University: Dicle
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Geography
Content: No description.

Title of the course: Environmental Sociology and Awareness (Çevre Sosyolojisi ve Çevre Bilinci)
Code: 0502 518
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: General approach to the human, environment and society, the interaction between environment and human source in globalization process, the effects population movements natural and social environments, the role and importance of environment in urbanization policy, the use of natural products in economic and social development policies, the approaches to the environment and society in Turkey and European Union.

Title of the course: Environment and Society (Çevre ve Toplum)
Code: 0130 518
University: Ege
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Applied Sociology
Content: This course contains the topics of environment and environmental problems. Relationship between human beings and their surroundings, environmental problems, industrialization, sustainable development and environmental movements are being studied regarding a historical point of view.

Title of the course: Theories in Environmental Psychology (Çevre Psikolojisi Teorileri)
Code: 0118 513

University: Ege
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Social Psychology
Content: Course contents are the representation of physical environment, cognitive mapping; privacy, personal space and territoriality; design process; ecological responsibility; place identity, place attachment; city life and environmental psychology.

Title of the course: Field Studies in Environmental Psychology (Çevre Psikolojisinde Çalışma Sahaları)
Code: 0118 514
University: Ege
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Social Psychology
Content: Course contents are behavior setting, city life, perceived residential safety, privacy, residential satisfaction, transportation and other issues in applied fields.

Title of the course: Society and Environment (Toplum ve Çevre)
Code: ENV 527
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Environmental Sciences
Content: Ecology is the science of interaction between people and their geographical environment. These relationships can be seen in various areas like biological ecology, psychological ecology and social ecology. Although it isn't possible to distinguish these areas certainly, we only focus on social ecology in this course. It is clear that geographical conditions has an affect on social interactions. This affect and despite this, human freedom and determination are two contrast opinions. These are the first subjects taken into consideration in this course. The proposal like "Geography gives canvas, people fill above" is similar with contemporary thought. The second subject of this course is the "challenge theory" of Arnold Toynbee. The other important subjects of the course are, the decrease of geographical inequalities by technical developments, the. selection of history between possibilities that are suggested by geography, the geographical conditions that are the product of human occupation, the interaction between environment and global societies and environment and small groups, the comparison between two maps which show the socioeconomic development levels and climate and plant cover regions, the historical formation and development of ecology, the globalization of environmental problems, environment and society in Turkey, the world view which sees the human, superior, new ecological paradigm, modernization and environment.

Title of the course: Environmental Sociology and Ethics (Çevre Sosyolojisi ve Etiği)
Code: ÇM 557
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Engineering/Environmental Engineering
Content: Kırsal, kent ve endüstriyel toplum çevresi, sosyal davranışlar, çevresel problemler, sosyal örnekleme teknikleri, sosyal problemlerin çözümü.

Title of the course: Environment and Society (Çevre ve Toplum)
Code: FEDSOS 0605

University: Harran
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Sociology
Content: No description.

Title of the course: Ethical Issues in Life Sciences (Yaşam Bilimlerinde Etik Konular)
Code: BTEC 510
University: İzmir Institute of Technology
Institute/Faculty/Department: Graduate School for Engineering and Sciences/Biotechnology and Bioengineering
Content: This course is designed to introduce and make students aware of the ethical issues in life sciences and provide them with opportunity to explore these issues by going through the relevant cases and works in the Life Sciences.

Title of the course: Environmental Psychology (Çevre Psikolojisi)
Code: PEM 5190
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Landscape Architecture
Content: Conceptual framework, Definition. The Basic Emotional Impact of Environments. The Information rate of Environments: Interrelation Among Stimulus Components. Information rate, Information rate used to describe stimuli. Familiar concepts. Expressed in terms of information rate. The information rate-arousal hypothesis. The synchrony of external and Behavioural Rhythm. A verbal measure of Information rate.

Title of the course: Environment-Society and Technology (Çevre-Toplum ve Teknoloji)
Code: 14-40336-504
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/ Environmental Sciences
Content: Toplum ve teknoloji gelişmesinin çevre sorunlarına olan etkileri. Değişik tarihsel kesitlerden örnekler. Sera etkisi gibi küresel etkilerin en aza indirilmesi çabaları, uluslararası anlaşmalar. Geleceğe dönük çabalar. Sürdürülebilir Kalkınma kavramı.

Title of the course: Socio-Psychological Effects of Environmental Problems (Çevre Sorunlarının Sosyo-Psikolojik Etkileri)
Code: 14-40336-512
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/Environmental Sciences
Content: Çevre sosyolojisinin genel tanımı ve tarihçesi. Dünyada ve Türkiye'de ekolojik bozunmanın tarihçesi. Fiziki çevre ve toplum arasındaki etkileşim. Çağdaş toplumlarda çevresel etkilerin sosyal ve psikolojik sonuçları. Resmi çevre politikaları ve alternatif çözüm arayışlarının sosyo-psikolojik açıdan ele alınması.

Title of the course: Eco-Philosophy: Philosophy of Environment I (Eko-Felsefe: Çevre Felsefesi I)
Code: PHIL 571
University: METU

Institute/Faculty/Department: Institute of Social Sciences/Faculty of Arts and Sciences/ Philosophy
Content: Philosophical discussions of environmental problems.

Title of the course: Eco-Philosophy: Philosophy of Environment II (Eko-Felsefe: Çevre Felsefesi II)
Code: PHIL 572
University: METU
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Arts and Sciences/ Philosophy
Content: A continuation of PHIL 571.

Title of the course: Bioethics and Biopolitics: New Dimensions in Moral Philosophy (Biyoetik ve Biyopolitika: Ahlak Felsefesinde Yeni Boyutlar)
Code: PHIL 580
University: METU
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Arts and Sciences/ Philosophy
Content: New moral issues involved in the transformation of Ethics in our time. Inquiry in value problems in different settings such as biomedical activity and man-nature relationship. Biopolitics as ethical study of environmental (ecological) issues with man's impact on the biosphere as the origin.

Title of the course: Environment and Society (Çevre ve Toplum)
Code: ÇEV-515
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Bu derste çevre olgusunun toplumsal boyutu incelenecek ve irdelenecektir. Çevre olgusunun teknik ve ekonomik bir olgu olduğu kadar aslen toplumsal bir olgu da olduğu tartışılacaktır. Çevresel sorunlar ile insanın toplumsal davranışı arasındaki ilişkiler, toplumsal yeniden üretim biçimleri ile çevresel sorunlar arasındaki ilişkiler; modernleşme, endüstrileşme, demokrasi, kapitalizm ile çevresel sorunlar ve olgular arasındaki ilişkiler bu dersin kapsamı içinde yer alacak konular arasındadır. Ayrıca çevrecilik, küreselleşme ve çevre, küresel çevre sorunları ve toplumsal-çevresel refleks bu derste tartışılacak konulardandır.

Title of the course: Social Environment Theories (Toplumsal Çevre Teorileri)
Code: ÇEV- 546
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Bu derste toplumsal bir olgu olarak çevre olgusunun ortaya çıkışı ve tarihsel süreçteki gelişimi evreleri tartışılacaktır. Bu bağlamda toplumsal çevre algısı, toplumsal teoride çevre konusundaki kavramsallaştırmalar (toplumsal çevre teorileri) tartışılacak, öğrencilerin çevre olgusunun toplumsal, tarihsel ve teorik temellerini anlamaları sağlanacaktır.

Title of the course: New Social Movements and Environment (Yeni Toplumsal Hareketler ve Çevre)

Code: ÇEV-548
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Çevre olgusunu ve çevre hareketini yeni toplumsal hareketler bağlamında incelecek olan bu derste, çevre hareketinin toplumsal değişim ve dönüşümde nasıl etkili olduğu ve olabileceği tartışılacaktır.

Title of the course: Environment and Society (Çevre ve Toplum)
Code: SOS-524
University: Muğla
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Sociology
Content: Bu derste insan ve çevre arasındaki ilişkiler sosyolojik açıdan incelenecek ve tartışılacaktır. İnsan-çevre ilişkilerine ilişkin teoriler bu dersin konuları arasındadır. Bu bağlamda, insan ve çevre arasındaki karşılıklı ilişki, insanın yaptıkları ve ettikleriyle hem doğal çevreyi etkilemesi, doğal çevrenin işleyişini ve dengesini değiştirmesi ve hem de doğal çevrede oluşan bu değişiklikten etkilenmesi şeklindedir. Çevre sosyolojisi genel olarak çevrebilimin bir alt dalı olması bağlamında da ele alınacak ve öğrencilerin çevre olgusuna daha genel bir bakış açısı ile bakmalarını sağlayıcı bir formasyon kazanmaları sağlanacaktır. Çevre sosyolojisinin biyoloji, fizik, kimya, yönetim bilimi gibi diğer çevrebilim ile ilgili bilimler ile arasındaki ilişkiler ve nitelik farklılıkları da bu dersin tartışma konuları içinde yer alacaktır.
Ana konusu çevre-toplum ilişkileri olan çevre sosyolojisinde var olan teorik yaklaşımlar bu ders konuları arasında yer alacaktır. Bunlar başlıca insan merkezci çevre anlayışı, doğa merkezci çevre anlayışı, derin ekoloji anlayışı, toplumsal kurgusalcılık, ekolojik modernleşme olarak sayılabilir.

Title of the course: Environmental Sociology (Çevre Sosyolojisi)
Code: 712
University: Selçuk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Sociology
Content: Çevre, ekoloji ve ekosistem kavramlarının incelenmesi
İnsan ve doğal çevre
İnsan ve yapay çevre
İnsan ekolojisi
Çevre sosyolojisinde teorik yaklaşımlar
Kirlenme, kültür ve kültürel kirlenme
Habitat; Mahalle dokusu kentleşme ve yerleşim sorunları
Sanayileşme ve ekonominin çevreye etkisi
Göç ve gecekondulaşmanın çevreye etkisi
Trafik ve gürültü kirliliği
Enerji ve kullanmanın çevreye etkisi
Ekolojik kurallar ve eğitim.

Title of the course: Environmental Psychology (Çevresel Psikoloji)
Code: IMC01 2
University: İstanbul Kültür (Private University)

Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Fine Arts and Design/Architectural and Environmental Design
Content: Çevre biliminin tanıtılması, Davranış bilimlerinin ve bileşenlerinin betimlenmesi, çevre kullanımına bağlı olarak oluşan davranış biçimlerinin çözümlenmesi; bu bağlamda, mahremiyet, kişisel alan, eğemenlik alanı gibi davranış boyutlarının irdelenmesi, davranış bilimlerine bağlı olarak çevrenin kullanımı; çevre-insan arasındaki uyumsuzluk durumunda söz konusu olabilecek temel davranış biçimlerinin irdelenmesi söz konusudur.

Ecology

Title of the course: Environmental Biology (Çevre Biyolojisi)
Code: 70302527
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Science and Letters/Biology Consulting
Content: EIA, çevre ve doğal kaynaklar, sürdürülebilir kalkınma.

Title of the course: Ecological Planning and Design (Ekolojik Planlama ve Dizayn)
Code: MİM505
University: Anadolu
Institute/Faculty/Department: Graduate School of Sciences/Faculty of Architecture/ Architecture Master of Arts
Content: Fundamental Ecologic Principles and Terms; Hybrid and Active Energy Design; Production and Protection of the Energy Planning of the Electric Production; Manipulation and Protection for the Sun; Heat and Wind; Protection for the Water Resources; Ecological Infrastructure of Some Countries; Pollution and Environmental Health; Protection of Fauna and Flora; The Difference Between Natural and Artificial Planning; Plants for Determining Environmental Quality.

Title of the course: Environmental Biology (Çevre Biyolojisi)
Code: 804537
University: Ankara
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Science and Letters/Biology
Content: National parks, Natural protection areas, Problems in flora and fauna of special protected areas. Energy resources for our common heritage. Balanced development, sustainable development. Relation of economy with ecology. Overview to general environmental.

Title of the course: Ecosystem Analysis I (Ekosistem Analizi I)
Code: FBY 5136
University: Balıkesir
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Science and Letters/ Biology
Content: Ekosistem Kavramı, Ekosistemlerin yapısı, Ekosistemlerin sınırları, Ekosistemlerin birbirlerine bağımlılık ve birbirinden bağımsızlık dereceleri, Ekosistemlerin sınıflandırılması, Organizmalar ve ekosistemler, Türler ve Ekosistemler, Populasyon dinamikleri ve ekosistemler, Kominite yapıları ve ekosistemler, Kominite yapılarının yer ve zamana göre değişimi, beslenme ağları ve zincirleri, Ekosistemlerde madde ve enerji

akımı, Biojeokimyasal döngüler, Karbon döngüsü, Oksijen döngüsü, Azot döngüsü, Fosfor döngüsü, Kükürt döngüsü, Su döngüsü, ayrıştırma.

Title of the course: Ecosystem Analysis II (Ekosistem Analizi II)
Code: FBY 5236
University: Balıkesir
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Science and Letters/Biology
Content: Ekosistemlerin taşıma kapasitesi, Kaynak kullanımı, rekabet ve predasyon, enstriyel ve ekonomik kalkınmanın ekosistemler üzerine etkileri, Ekosistemlerin bilimsel olarak çalışılması, Örnek ekosistem çalışması (Case Study), Ekosistem çalışmalarında kullanılan teknik ve yöntemler, Fiziksel parametrelerin toplanması, Kimyasal parametrelerin toplanması, Biyolojik parametrelerin toplanması, Toplanan verilerin tasnifi, Verilerin analizi, İstatiksel analizler, Grafiksel analizler, Modellemeler, Analizlerin değerlendirilmesi, Ekosistemlerin yönetimi ve yönetim planlarının çıkarılması.

Title of the course: Cultural Ecology (Kültürel Ekoloji)
Code: COG 5205
University: Balıkesir
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Science and Letters/ Geography
Content: Kültür ve çevre coğrafyasında temel yaklaşımlar, dinamik bir sistem olarak kültür, adaptasyon ve pre-adaptasyon stratejileri, farklı ekosistemlere adaptasyon stratejileri, çevresel algı ve ekolojik sürdürülebilirlik, nüfus artışı ve ekolojik taşıma kapasitesi, sürdürülebilirlik, küreselleşme ve kültürel ekoloji, politik ekoloji ve ekonomi, yerel duyarlılıklar ve kültürel değişme, kaynak kullanım stratejileri ve ekolojik denge, göç ve çevresel değişme, etnik farklılıklar ve ekoloji, dini yönlendirme.

Title of the course:Concepts and Models in Ecology (Ekolojide Kavramlar ve Modeller)
Code: ESC 558
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Mechanisms of evolution; population genetics; game theory and evolutionary stable strategies; Red Queen hypothesis; ecology of populations; single-species populations; population dynamics; ecology of communities; species diversity; community structure; the origin and maintenance of communities; conservation ecology. Each issue to be accompanied by papers on related topics and mathematical models.

Title of the course: Environmental Biology (Çevre Biyolojisi)
Code: ESC 556
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Pure Sciences
Content: An exposition of basic biological principles concerning interrelations between organisms, particularly those directly affecting man and his environment; behaviour of organisms in fresh water, marine and soil environments; effect of pollution on microbial communities, study and understanding of microbiological species and other living organisms in the environment.

Title of the course: Global Environmental Systems (Küresel Çevre Sistemleri)
Code: ESC 572
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Physical, chemical and biological properties and processes of the Earth and its compartments in their past and present states.

Title of the course: Population Dynamics (Populasyon Dinamiği)
Code: BIO 553
University: Celal Bayar
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Science and Letters/ Biology
Content: Ekosistemleri oluşturan biyolojik populasyonların yapısı gelişimi ve degişimi hem gen havuzu düzeyinde hem de populasyon düzeyinde incelenmektedir. Farklı ekosistemlerde var olan farklı populasyonların doğum ölüm ve üreme hızları karşılaştırılarak populasyon dinamiği örneklenmektedir.

Title of the course: Marine Ecology (Deniz Ekolojisi)
Code: BY-508
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Biology
Content: Environmental aspects of the sea, water circulation, and water movements, physical and chemical aspects of the marine environment, tides and the intertidal environment, the sea bottom, estuarine environment and organic production in the sea are given through this course.

Title of the course: Coastal and Marine Ecosystem (Kıyı ve Deniz Ekosistemleri)
Code: BY-628
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Biology
Content: Coastal waters and littoral habitats. Plant life in marine environments. Coastal vegetation types on the different habitats such as rocky shorelines, sandy beaches, sand dunes, salt marshes and tropical mangrove formations. Human impact on the coastal and marine ecosystems.

Title of the course: Ecological Planning (Ekolojik Planlama)
Code: PM-507
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/ Landscape Agriculture
Content: Ekolojik planlama nedir? Planlamada ekolojik verilerin değerlendirilmesi niçin önemlidir? Plan için önemli olan ekolojik veriler, doğal, potansiyel ve çevre faktörlerinin ekolojik planlama için önemi, planlamada kullanımı, çevre ile alan kullanım biçimleri arasındaki ilişki analizi ve ekolojik planlama yapımı.

Title of the course: The Aquatic Environments as Living Spaces (Sucul Çevrelerde Yaşam)
Code: BY-657
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Science/Biology
Content: Through this course the freshwater environment will be dealt on their physical and chemical properties, ecology of the standing and flowing waters and animal communities live in. The marine environment will also be dealt on their physical and chemical properties, oceanic circulation and water movement, plankton communities, oceanic nekton, the pelagic environment, the benthic environment, intertidal ecology, estuaries and human impact on the sea. This course will also include various kinds of pollution problems in the aquatic environment which affects ecological needs of aquatic animals.

Title of the course: Environmental Biology (Çevre Biyolojisi)
Code: BIY 509
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Science and Letters/Biology
Content: General definition of environmental Biology. Structure and function of nature, biotic and abiotic components, environmental principles, dynamic of ecosystem, human ecology.
Aims and Objectives of the course are to evaluate the relations between the environment and organisms. To illustrate how to protect man-destroyed environment and how to establish the ecological balance.

Title of the course: Organisms and Environment (Canlılar ve Çevre)
Code: 503
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: General features and classifications of the organisms, definition of the environment, some basic concepts in ecology, atmosphere and organisms, sun radiation and organisms, temperature and organisms, precipitation and humidity in world ecosystems, light and organisms, wind and organisms, atmospheric pressure and organisms, the effects of air pollution on organisms, the physical and chemical features of water, the importance of water for organisms, aquatic organisms and their features, the impacts of water pollution on organisms, the soil as an ecological factor, definition and features of soil, the structure of soil, the classifications of the world soils, the effects of the soil pollution on organisms, food and feeding behaviour in organisms, biological relationships.

Title of the course: Ecosystems of Turkey (Türkiye Ekosistemleri)
Code: COĞ 602
University: Fırat
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography
Content: No description.

Title of the course: Advanced Ecology (İleri Ekoloji)
Code: ÇEV 506
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Environmental Sciences
Content: Ekoloji ve çevre bilimleri, sistemler ve modeller, ekosistem kavramı, ekolojinin bilim dalı olarak gelişmesi, ekosistemlerde enerji, ekoloji ve çevre bilimlerinde enerji, enerji kavramı, birincil veya temel üretim, populasyon ekolojisi, evrimsel ekoloji, canlı doğal kaynaklarının kullanımı, tür toplulukları ve doğal alanlar, ekolojik ilkeler ve çevre planlaması, çevre korumasında bazı yeni yaklaşımlar, çevre ekonomisi ve planlaması, Türkiye'de çevre bilincinin gelişmesi.

Title of the course: Ecology of Ecosystem (Ekosistem Ekolojisi)
Code: ENV 570 (The same course is in the program of Biology department as BİY 570).
University: Gazi
Institute/Faculty/Department/: Institute of Sciences and Technology/Environmental Sciences
Content: Section 1: Community and its properties:
Concept of community, types of community, describing communities, properties of species which form community, properties of community, changing in communities.
Section 2: Ecology of Ecosystem: Concept of ecosystem, components of ecosystem, functional properties of ecosystem.

Title of the course: Ecosystem and Specificities (Ekosistem ve Özellikleri)
Code: BİY 607
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/ Faculty of Science and Letters/Biology
Content: Ecosystem, members of ecosystem, functional characteristics of ecosystems.

Title of the course: The Ecology of Ecosystem (Ekosistem Ekolojisi)
Code: 5131326
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Faculty of Engineering and Architecture/Forestry
Content: Identification, contents and varieties, ecological rank and the types.

Title of the course: Environs Ecology (Çevre Ekolojisi)
Code: 5301326
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technolog/Faculty of Engineering and Architecture/Forestry
Content: Description the ecology, relations with other sciences, habitat, biotype, ecosystem, food, chain cycle of carbon and nitrogen in nature.

Title of the course: Ecology and Agriculture (Ekoloji ve Tarım)
Code: TAB-521
University: Gaziosmanpaşa

Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Agriculture/Agriculture
Content: Ekoloji biliminin tarihçesi, ekoloji ve tarımsal ekolojinin tanımı, kapsamı, ekosistem ve özellikleri, doğal ve tarım ekosistemlerinin oluşumu ve nitelikleri, iklim-toprak-bitki ilişkileri, Türkiye'nin iklim ve tarım bölgeleri, toprak ve su kaynaklarımızın verimli kullanılması, Güneydoğu Anadolu Projesi ve Türkiye açısından önemi, tarımsal faaliyetlerin çevre kirliliğine etkileri ve Türkiye'de tarım alanlarında karşılaşılan önemli sorunlar anlatılmaktadır.

Title of the course: Ecological Construction Materials (Ekolojik Yapı Malzemeleri)
Code: MİM 542
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Architecture/Construction Architecture
Content: Yapı malzemelerinin yaşam döngüleri boyunca çevresel değerler üzerindeki etkisi / Yapı malzemelerinin iç hava kalitesi ve insan sağlığı üzerindeki etkisi / Ekolojik yapı malzemesi tanımı, özellikleri / Ekolojik yapı malzemelerinin çevresel, ekonomik ve sağlıkla
ilgili yararları / Ekolojik yapı malzemelerinin, kullanıldığı yapının özelliklerine etkisi / Ekolojik yapı malzemelerinin enerji etkinlikleri, içerik özellikleri, yeniden kullanılabilme, geri dönüşebilme ve çeşitli etkiler karşısındaki davranışları / Yaygın olarak kullanılan yapı malzemelerinin ekolojik özellikler açısından irdelenmesi, değerlendirilmesi /Alternatif ekolojik malzeme örnekleri.

Title of the course: Urban Social-Ecology (Kentsel Sosyo-Ekoloji)
Code: ŞBP-626
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute/Faculty of Architecture/City and Regional Planning
Content: No description.

Title of the course: Evolutionary Ecology (Evrimsel Ekoloji)
Code: BİO 857
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Science/ Biology and Ecology
Content: Genetics of natural selection, selection in heteregenous environment, evolution of prey-predator interaction, inter specific competition and mutualism, community structure and energetics, origine and maintenance of communities, characteristics of natural populations, major trends of re-search into natural populations.

Title of the course: Industrial Ecology (Sanayi Ekolojisi)
Code: BİO 858
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Science/ Biology and Ecology
Content: The ecosystem concept, ecological cycles, climatology, food web and food chain, energy flow in the ecosystem, availability, population increase, the level of industrial development in the world and Turkey, interactions between the environment and industry, industrial pollutants and their effects on different ecosystems, bioindicators, environmental

relations among different industries, Ecology-industry interactions, industrial impact in our century, industrial assessment and renewal, alternative sources of energy, analysing the new sectors and taking into consideration of environmental values.

Title of the course: Ecological Anthropology (Ekolojik Antropoloji)
Code: ANT 621
University: Hacettepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Letters/ Anthropology
Content: Doğal çevre ile insan toplulukları arasındaki ilşiki ve etkileşimlerin incelenmesi bu dersin esasını oluşturur. Başlıca farklı coğrafi bölgelerdeki çeşitli insan topluluklarının gerçekleştirdikleri biyo-kültürel uyarlanma şekillerinin analizi; çeşitli toplumsal örgütlenme biçimleri, doğal çevreden yararlanma, üretim-tüketim, alış-veriş ilişkileriyle, işbölümü gibi kurum ve süreçlerin, ekosistem kavramı çerçevesinde incelenerek gözden geçirilmesi.

Title of the course: Human Ecology (İnsan Ekolojisi)
Code: SOS 762
University: Hacettepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Letters/Sociology
Content: Toplum içindeki popülasyon, organizasyon ve teknoloji ilişkileri bağlamında insan ekolojisi prensipleri, popülasyon ve topluluk ekolojisi modellerinin sosyal organizasyonun incelenmesinde dikkate alınması.

Title of the course: Ecology (Ekoloji)
Code: FEDCOĞ 0607
University: Harran
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography
Content: No description.

Title of the course: Fundamentals of Ecological Planning (Ekolojik Planlamanın Temel İlkeleri)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry/Landscape Architecture
Content: Ekolojik planlamanın kapsamlı çevre koruma açısından önemi. Ekolojik düzenleyici planlamaların safhaları. Ekosistemler ve fonksiyonları. Ekolojik yönden farklı arazi kullanım konsepti. Doğal mekan birimlerinin ayrım ve potansiyellerinin saptanması. Değerlendirme süreci ve ekolojik sörvey.

Title of the course: Wildlife Ecology (Yaban Hayatı Ekolojisi)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry Engineering/ Forestry Entomology and Protection
Content: Yaban hayvanları ekolojisi ile ilgili temel kavramlar. Yaban hayvanları ekolojisini oluşturan faktörler arasındaki karşılıklı ilişkiler. Abiyotik faktörler. Besin ve beslenme faktörleri.

Title of the course: Marine Ecology (Deniz Ekolojisi)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Fishery Products/Fishery Products
Content: Dünyanın genel yapısı, denizlerin tanımı ve sınıflandırılması, deniz zemininin fizyografisi (kıta şelfi, okyanus basini). Denizel ortamın sınıflandırılması, Deniz organizmalarının ekolojik sınıflandırılması, zooplankton, fitoplankton, nekton, zoobentos ve fitobentosun dağılımları. Ekolojik faktörlerin (salinite, ışık ve radyasyon, sıcaklık ve buharlaşma, yoğunluk, viskozite, hidrostatik basınç, akıntı, dalga, med-cezir) deniz organizmaları üzerinde etkileri. Denizlerin verimliliği.

Title of the course: Environmental Problems in Ecosystems and their Solution (Ekosistemlerde Çevre Sorunları ve Çözüm Yolları)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry/Soil Science and Ecology
Content: Doğal ekosistemlerin yapısı, hava kirlenmesi, su kirlenmesi, toprak kirlenmesi, ortam kirlenmesinin canlılar üzerine etkisi.

Title of the course: Ecological Approach in City Planning Process (Şehir Planlama Sürecinde Ekolojik Yaklaşım)
Code: CP 541
University: İzmir Institute of Technology
Institute/Faculty/Department: Graduate School for Engineering and Sciences/Faculties and Schools/City and Regional Planning
Content: The role of natural systems in meeting human needs; natural systems, climate, geology, landforms, soil, vegetation and animal population as the basis of agricultural and industrial technologies. Competing demands on air, water and land. Limiting factors.

Title of the course: Fire Ecology (Yangın Ekolojisi)
Code: ORM 527
University: Kafkas
Institute/Faculty/Department: Institute of Science and Technology/Forestry Engineering/ Forest Protection and Entomology
Content: An introduction to fire ecology. Ecological principles and their relationship to fire. Fire effects on soil, water and air. Fire effects on wildlife. Fire effects on vegetation. Fires as a natural process in forests.

Title of the course: Marine Ecology (Deniz Ekolojisi)
Code: BTB 5160
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Technology Engineering/Fisheries Technology
Content: Introduction. Ecological concepts and descriptions. History and sections of ecology. Ecological state of marine environment. Sampling in seas and measurments. Enviromental parameters. Marine ecosystem. Ecological factors.

Title of the course: Politics and Ecology (Politika ve Ekoloji)
Code: 216512116
University: Marmara
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/International Relations
Content: affects of the environmental issues on the political thought; responses of major political theories, ideologies, environmentalism and ecologism as alternative ideologies; the central concepts in political ecology, major schools in green political thought.

Title of the course: Environment-Living Space Relation (Çevre-Canlı İlişkisi)
Code: 14-40336-504
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/ Environmental Sciences
Content: Canlıların doğal yaşadıkları ekosistemde organizma ve komünite olarak çevreleri ile olan etkileşimlerinin evrimsel uyum mekanizmaları ve değişen çevresel etmenlerin bunlara etkisi. Değişik ekosistemlerde yaşayan bitkiler ve hayvanlardan (insan da dahil) örnekler üzerinde açıklamalar, yeni araştırmaların bulguları tartışılarak yapılır.

Title of the course: Advanced Ecology (İleri Ekoloji)
Code: BIO 571
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Arts and Sciences/Biological Sciences
Content: Life and the physical environment. Response to physical environment. Climate, topography and the diversity in the natural environment. Population interactions. The structure and the functioning of ecological communities. Energy flow in terrestrial and aquatic ecosystems. Species extinction and their causes.

Title of the course: Major Concepts in Ecology (Ekolojide Ana Konseptler)
Code: BIO 574
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Arts and Sciences/Biological Sciences
Content: Origins and the present status of ecosystem concept, ecological niche, competitive exclusion principle, and ecological succession.

Title of the course: Aquaculture and Environment (Aquakültür ve Çevre)
Code: ÇEV-531
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Aquakültür nedir, Türkiyenin su kaynaklarinin su ürünleri yetistiriciligi açisindan incelenmesi, yapilan ve yapilacak olan yetistiricilik çalismalarinin çevre üzerine etkilerinin degerlendirilmesi.

Title of the course: Marine Ecosystems (Deniz Ekosistemleri)
Code: BY 551
University: Mustafa Kemal

Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Science and Letters/Biology
Content: This class includes the introduction to marine ecosystems, different factors that separates the ecosystems, intertidal zones, pelagic and benthic zones and the organisms that live in. Organismal life in these zones (their adaptations, organismal distribution and food web interactions).

Title of the course: Natural Ecosystems and their Formations (Doğal Ekosistemler ve Oluşumları)
Code: BY 524
University: Mustafa Kemal
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Science and Letters/Biology
Content: Description of ecosystems, terrestrial and aquatic ecosystems. Basic members of ecosystem and relationships among them. Biomass concept and measuring methods on ecosystems, the complexity in ecosystems. Concepts of Macroecosystem and microecosystem, factors of ecosystems dimensions' determinations.

Title of the course: Statistics in Environmental System Analysis (Çevre Sistem Analizinde İstatistik)
Code: PM-518
University: Mustafa Kemal
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Statistical analysis methods for environmental systems, gathering, processing and evaluating of data about ecosystem processes such as net primary productivity, biogeochemical cycles, ecosystem structure and function, ecosystem interactions, and energy flows.

Title of the course: Evolutionary Ecology (Evrimsel Ekoloji)
Code: BİO 543
University: Pamukkale
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Science and Letters/Biology
Content: Ekolojik çalışmalar, çevreye bağlı genetiksel değişiklikler, adaptasyon, doğal seçilim, tür oluşumu ve türler arası ilişkiler, hayvan ve bitki gruplarından örneklerle anlatılacak ve bir türün ekolojik olarak nasıl bir bilimsel çalışmayla inceleneceği belirtilecektir. Örnek olarak deniz kaplumbağalarının üreme biyolojisi, hayat evreleri, yuva ve kuluçka özellikleri, sıcaklığa bağlı cinsiyet değişimi, diğer çevresel olayların yaşama ortamına etkileri anlatılacaktır.

Title of the course: Ecological View of Water Pollution (Su Kirliliğinin Ekolojik Görüntüsü)
Code: ÇMYL 515
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: Temel ekolojik kavramlar; Çevre bilimi ve enerji; Ekolojik etkinlik; Bitki örneklemesi; Hayvan etkinlikleri; İklim, diversite, kompetisyon hipotezi; Eşleşme ve grup

yaşama; Predasyon; Genetik Toksikoloji; Karsigonez ; Kommunite; Besin zinciri ve kommunite dayanıklılığı;Okyanusların ekolojik görüntüsü; Fotosentez ve üretimini etkileyen fiziksel etmenler; Ötrofikasyon; Ekolojik akuatik dengeler; Doğal sulardaki patojenler; Zehirlilik; Endüstriyel kirlilik Tarımsal kirlilik etkiler ve dengenin yeniden sağlanması; Ekosistem değişmesi.

Title of the course: Ecological Problems and Effects on Field Agriculture (Ekolojik Sorunlar ve Tarla Tarımına Etkileri)
Code: TBD-618
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Field Crops
Content: Yurdumuzda doğal çevrenin (toprak, su ve havanın) yanlış kullanılması ve kirlenmesi sonucu ortaya çıkan ekolojik problemler açıklanacak ve nedenleri üzerinde durulacaktır. Bu olumsuz ortamın ortaya çıkışına tarla tarımının etkisi belirtilecektir. Doğal çevrenin korunması ve düzeltilebilmesi için alınacak önlemler ve tarla tarımında yapılması gereken değişiklikler açıklanacaktır. Alternatif tarla tarımı uygulamalarından bahsedilecektir.

Title of the course: Socio-Economical Analysis of Ecological Sustainability (Ekolojik Sürdürülebilirliğin Sosyo-Ekonomik Analizi)
Code: No code number is available on Web-site.
University: Uludağ
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: No description.

Title of the course: Environmental Biology (Çevre Biyolojisi)
Code: BİY 714
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Science and Letters/Biology
Content: National parks, Nature parks, private environment protection areas' problems interested in flora and fauna, energy sources, moderate and continue development, the relation of economy and ecology, the general view Turkey's environmental problems.

Title of the course: Cultural Ecology (Kültürel Ekoloji)
Code: 505
University: Bilkent (Private University)
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Art/Archaeology and History of Art
Content: No description.

Title of the course: Ecology (Ekoloji)
Code: IMC805
University: İstanbul Kültür (Private University)
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Fine Arts and Design/Architectural and Environmental Design

Content: İç mimarlık meslek alanında çevresel verilerin öneminin vurgulanması, yapılacak tüm uygulamalarda çevreye verilecek doğrudan ve dolaylı etkilerin ve bu etkilere karşı alınması gerekli önlemlerin belirlenmesi irdelenecektir.

Title of the course: Ecology and Sustainability in Architecture (Ekoloji ve Mimaride Sürdürülebilirlik)
Code: ARCH 573
University: Yeditepe (Private University)
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/Architecture
Content: Green Building Design/Construction/Use principles and strategies, Examining real cases / Case studies, Green Building Performance Evaluation, Development of Green Building Design, Solutions for existing environment and new designs.

Economical Planning of Natural Resources

Title of the course: Management of Natural Resources (Doğal Kaynakların Yönetimi)
Code: ZTB548
University: Atatürk
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Field Crops
Content: Otlatma Yönetimi, Tarımsal Ormancılık, Yaban Hayatının Yönetimi, Tatlı Su Kaynaklarının Korunması, ve Geliştirilmesi, Yangın ve Zararlılar İle Mücadelede Kullanılan Yöntemlerin Koordinasyonu, Tahrip Olmuş Alanların İyileştirilmesi, Doğal Kaynakların Korunması ve Bütünleşmiş (entegre) Doğal Kaynak Yönetimi.

Title of the course: Management of Natural Resources (Doğal Kaynakların Yönetimi)
Code: ÇEV 6607
University: Cumhuriyet
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Çevre açısından doğal kaynak kavramı, tükenebilir doğal hammaddelerin önemi, Başlıca doğal hammaddeler: kil (bentonit ve kaolin), zeolit, evaporit (alçıtaş ve alçı), aspest, perlit, mermer, diatomit, pomza, trona. Bu kaynakların tanımı, özellikleri, üretim yöntemi ve teknolojileri, çevre teknolojilerinde kullanım alanları ve bu kaynakların kullanılması sırasında oluşan çevre sorunları. Doğal kaynakların çevre koşullarına uygun olarak planlanması.

Title of the course: Planning Water Resources (Su Kaynakları Planlaması)
Code: ÇM-516
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Some general information on water resources planning, analysis of water resources system, determination of aims. Planning works, drawing volume surface curves, preparation of water supply charts and their correlations. Benefit cost analysis, optimization, benefit-cost analysis in flood control projects, benefit-cost analysis in hydroelectric dam projects.

Title of the course: Natural Resources Economies (Doğal Kaynaklar Ekonomisi)
Code: TE-534
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Agriculture Economies
Content: Doğal kaynakların tanımı özellikleri ve sınıflandırılması doğal gaz, petrol ve mineral çıkartılmasında ekenomik prensipler. Yenilebilir kıt bir kaynak olarak su, su dağıtım sorunları. Yenilenebilir biyolojik kaynaklar, orman ve su ürünleri. Orman ve su ürünleri işletmeciliğinin biyolojik ve zaman boyutu. Doğal kaynaklar potansiyeli ve ekonomik gelişme, doğal kaynaklar kullanımı ve çevre ilişkileri.

Title of the course: Environmental Resource Planning (Çevresel Kaynak Planlaması)
Code: 601
University: Ege
Institute/Faculty/Department: Institute of Natural and Applied Sciences/ Agriculture Sciences/ Landscape Architecture
Content: No description.

Title of the course: Planning of Natural Environment (Doğal Çevre Planlaması)
Code: COĞ 507
University: Fırat
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Geography
Content: No description.

Title of the course: Environmental Planning (Çevre Planlaması)
Code: 5311212
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Faculty of Engineering and Architecture/City and Regional Planning
Content: Definition of environment, environmental factors, physical environment and its data environmental perception, men and environment systems. Environmental considerations in planning and developments in other countries. Problems of planning of the physical environment in Turkey, planning solutions, legislative and administrative regulations, case studies from environmentally deteriorated regions.

Title of the course: Economical Planning of Natural Resources (Doğal Kaynakların Ekonomik Planlaması)
Code: ENV-508
University: Harran
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Forming ecological balance. Nature economy, close resemblance of economy and ecology, economical approaching in environmental source control, economical efficient purposes, directed treatment plants by nature economy, planning region economy by nature economy and place of economical planning in this topic.

Title of the course: Planning of Water Resources (Su Kaynakları Planlaması)
Code: TYS-527

University: Harran
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Agriculture/Agricultural Structures and Irrigation
Content: Analysis hydrologic data related water resources, comments, socioeconomic analysis, examining single and multiple goal projects.

Title of the course: Management and Use of Natural Resources (Doğal Kaynak Kullanımı ve Yönetimi)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry Engineering/ Forestry and Management
Content: Genel kavram ve tanımlar. Doğal Kaynakların sınıflandırılması ve özellikleri. Yönetimin genel ilkeleri. Doğal kaynak yönetimi. Doğal kaynak kullanımına ilişkin sorunlar.

Title of the course: Natural Resource Planning (Doğal Kaynak Planlaması)
Code: BPL 519
University: İTÜ
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/Region Planning
Content: Recognizing of natural concepts, utility tools from natural resources, all this knowledge must be learned by technical persons working in the area of Urban and Regional Planning. Relation between regional planning and natural resources like soil-plant-water.

Title of the course: Planning and Management of Natural Resources (Doğal Kaynakların Planlanması ve Yönetimi)
Code: ORM-573
University: Kafkas
Institute/Faculty/Department: Institute of Science and Technology/Faculty of Forestry Engineering/Basin Amendment
Content: Bitkisel, Yaban Hayvanları, Temiz Su, Deniz, Jeolojik, Toprak, Mağara, Paleontolojik ve Hava Kaynakları Yönetimi, Estetik Değerlerin Koruması, Yangın ve Entegre Zararlı Yönetimi, Nadir ve Egzotik türlerin Yönetimi, Riskli Alanların Yönetimi, Kaynak Kullanımı, Doğal Kaynak Yönetim Planı.

Title of the course: Natural Resources Management (Doğal Kaynak Yönetimi)
Code: ORM5420
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Forestry Engineering
Content: Vegetation, native animal, freshwater, marine, geologic, soil, cave, paleontological and air resources management. Protection of aesthetic values. Fire and integrated pest management. Endangered, threatened and rare species and exotic species management. Resource uses. Resource management plan.

Title of the course: Resources and Planning Management (Kaynak ve Planlama Yönetimi)
Code: MÇV 502

University: Kocaeli
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Doğal kaynakların değer tespiti. Kaynakların genel üretim ve ekonomi içindeki yerine göre yönetimi ile ilgili ilkeler. Planlama kavramı. Genel planı oluşturucu alt plan unsurları. Planlamanın uygulanışı ve genel yönetimle eş güdümü.

Title of the course: Trans-boundary Water Resources Management: Contending Approaches and Evolving Paradigms (Sınırlarötesi Su Kaynakları Yönetimi: Savunulan Yaklaşımlar ve Gelişen Paradigmalar)
Code: IR 678
University: METU
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/International Relations
Content: This independent study aims to introduce the students with the evolving water management paradigms and elaborate on how these dialogues culminated in defining the "integrated water resources management" as the key approach for sustainable development and poverty reduction. The course will analyze many dimensions of the transboundary water resources management by focusing on the cases from the Middle East and North Africa. Moreover, the contending approaches to water disputes in transboundary river basins, namely "the water wars," "political economy of water resources management," and "international water law" will be discussed by and large. Finally the course will present a productive approach to the development of transboundary waters, that is, to examine the benefits in the river basin from a regional approach.

Title of the course: Utilization Policies of Soil and Water Resources (Toprak ve Su Kaynakları Kullanım Politikaları)
Code: 8044011006
University: Selçuk
Institute/Faculty/Department: Institute of the Natural and Applied Sciences/Faculty of Agriculture/Agriculture Economics
Content: No description.

Title of the course: Environmental Resources Planning (Çevresel Kaynak Planlaması)
Code: PMYL 512
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Doğal ve kültürel kaynaklarla ilgili genel bilgiler, toprak, su, eğim, fauna-flora ve benzeri ekolojik verilere ait arazi gözlem, ölçüm ve analiz sonuçlarının oluşturulması ve bu kaynakların planlanmasında kullanılabilecek çağdaş teknikler ve ilgili uygulamalar. Ayrıca çevresel kaynakların ekolojik ve ekonomik çevre analizi, değerlendirme ve planlama yöntemleri ile bunların ilişkileri.

Title of the course: Environmental Planning (Çevre Planlaması)
Code: TELÜ-538
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Agriculture Economy

Content: Çevre sorunlarını çözümünde kullanılacak stratejik hareket planları yanında diğer yol ve yöntemler kronolojik olarak verilecektir. Ayrıca herhangi bir bölgenin havza veya kırsal planlaması yapılırken dikkat edilecek noktaların neler olduğu ortaya konulacaktır. Bu bölgenin mevcut doğal kaynaklarının çevresel kaynakların kullanımında ortaya çıkabilecek sosyo-ekonomik değişikliklerin planlama aşamasında gözönüne alınması için ele alınması gereken konulara değinilecektir.

Title of the course: Forest Resources Management (Orman Kaynakları Yönetimi)
Code: ORM 710
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Forestry Engineering
Content: Öncelikle doğal kaynaklar içinde önemli bir yer tutan orman kaynaklarının milli ekonomi açısından tanıtımı. Bu kaynaklardan topluma sağlanan faydalar. Bu kaynakların işlevsel bazda değişik amaçlarda tahsisi. Bunların korunması. geliştirilmesi, darboğazları, etkili yönetimi. Türkiye'de durum ve çözüm önerileri.

Title of the course: Natural Resource Management (Doğal Kaynak Yönetimi)
Code: GEO 519
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Sciences and Engineering/Faculty of Arts and Science/Geography
Content: Obtaining, using and disposing of resources has a clear geographic dimension all three phases are tied to place and all three are unevenly distributed on Earth. Understanding the geographic aspect of each phase is basic to preventing and/or solving environmental problems. This course covers environmental principles and encourages students to become actively involved in environmental issues.

APPENDIX B Descriptions of the Indirectly Related Courses

The descriptions of the courses under related titles are presented in alphabetical order with respect to the names of the universities.

Geographical Information Systems (GIS) and Remote Sensing (RS)

Title of the course: Geography Geographical Information Systems Applications I (Coğrafya Coğrafi Bilgi Sistem Uygulamaları I)
Code: No code number is available on Web-site.
University: Afyon Kocatepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Geography
Content: No description.

Title of the course: Environmental Management and Integration with Geographical Information Systems (Çevre Yönetimi ve Coğrafi Bilgi Sistemleri ile Entegrasyonu)
Code: UCS 514
University: Anadolu
Institute/Faculty/Department: Graduate School of Sciences/Remote Sensing and Geographical Information Systems
Content: GIS Use for Air Quality Management: GIS Use for Air Pollution Inventory Studies; Preparation of Pollution Maps and the Clean Air Plans; GIS as a Tool For Water Quality Management; Water Quality Monitoring Studies on The Lake, River And Sea and Preparation of the Water Pollution Maps; GIS Use for Waste Management: Selection of the landfill area and monitoring of the pollution originating from the landfill area using GIS; Importance of the GIS applications for Solution of the Environmental Problems; GIS applications for Environmental Impact Assessment (EIA).

Title of the course: Geographic Information Systems in Soil Science (Toprak Bilimlerinde Coğrafi Bilgi Sistemleri)
Code: 823565
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Faculty of Agriculture/Soil Sciences
Content: Definition of Geographic Information Systems (GIS), raster and vector data properties, soil maps and preparing soil data base of the soil maps, role and importance of the GIS on sustainable use of natural resources, uses of digital soil maps in pollution and erosion modeling studies, GIS in soil and water management studies, uses of advanced GIS sofware such as Arc View, Arc Info, Grass Land.

Title of the course: Remote Sensing in Soil Science (Toprak Bilimlerinde Uzaktan Algılama)
Code: 823566
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Faculty of Agriculture/Soil Sciences
Content: Principles and fundamentals of remote sensing, different satellite data resources and their characteristic properties, integration and uses of digital geographic data and satellite data, Global Positioning Systems (GPS) in remote sensing sutudies,

using Erdas Imagine software for error correction and registration, image analyzing, image enhancement and edge detection, image classification and interpretation.

Title of the course: Remote Sensing in Agriculture (Tarımda Uzaktan Algılama)
Code: 70204518
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Soil
Content: No description.

Title of the course: Geographical Information Systems Applications (Coğrafi Bilgi Sistem Uygulamaları)
Code: BÖC-518
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Regional Geography
Content: Coğrafya ilminde bilgi işlem teknolojilerinin kullanımı ve uzaktan algılama (Remote Sensing) Yöntemleri.

Title of the course: Geographical Information Systems Applications (Coğrafi Bilgi Sistem Uygulamaları
Code: BİC 518
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Social and Economic Geography
Content: Coğrafya ilminde bilgi işlem teknolojilerinin kullanımı ve uzaktan algılama (Remote Sensing) Yöntemleri.

Title of the course: Geographical Information System Applications (Coğrafi Bilgi Sistem Uygulamaları)
Code: TÜC-520, 570
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography of Turkey
Content: Coğrafya ilminde bilgi işlem teknolojilerinin kullanımı ve uzaktan algılama (Remote Sensing) Yöntemleri.

Title of the course: Geographical Information Systems (Coğrafi Bilgi Sistemi Uygulamaları)
Code: COG 5211
University: Balıkesir
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Letters/Geography
Content: CBS' ye giriş (CBS nedir?, mekansal analiz hakkında bilgi), Kullanılacak teknoloji, (Bilgisayar ve CBS Programları hakkında on giriş ve tanıtım), CBS' nin gelişimi, CBS data (yapısı, modeller, modellerin değiştirilmesi), Mekansal Data Modelleri,Raster data yapısı ve yeteneği, Vektor data yapısı ve yeteneği, Data Girişi ve veritabanı oluşturulması, Coğrafi grid Sistemi (harita projeksiyonu, Koordinat sistemi), Nokta dağılım ve diğer genelleme analizleri, Ağ Analizi, Harita dizaynı (yapılan hatalar), Uzaktan Algılama ve GPS, CBS ile aralarındaki ilişki, CBS içindeki hatalar ve Meta data oluşturma.

Title of the course: Special Topics: Geographical Information Systems (Özel Konular: Coğrafi Bilgi Sistemleri)
Code: ESC 593
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences
Content: Geographical Information Systems Applications.

Title of the course: Evaluated New Methods for Landscape Planning (Peyzaj Planlamada Geliştirilen Yeni Yöntemler)
Code: PM-540
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Arazi sörveylerinde, kentsel ve kırsal planlama çalışmalarında geliştirilen yöntemler. Ekolojik verilerin peyzaj planlamada değerlendirilmesi. Rekreasyonel planlama yöntemleri, planlamalarda kullanılan yeni araçlar. Bilgisayarın, uzaktan algılama sistemlerinin planlama çalışmalarında kullanımı.

Title of the course: Applications of Remote Sensing and Geographical Information Systems for Coastal Zone Management (Uzaktan Algılama ve Coğrafi Bilgi Sistemlerinin Kıyı Yönetiminde Uygulamaları)
Code: PM-546
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Kıyı ekosistemleri, uzaktan algılama ve Coğrafi Bilgi Sistemleri (CBS) ile ilgili genel bilgiler, entegre kıyı yöntemi içerisinde uzaktan algılama ve CBS'nin yeni, bölgemiz ve dünyadan örnek uygulamalarla kaynak yöntemi ve biyoçeşitliliğin korunmasında kullanılan dersin konusunu oluşturmaktır.

Title of the course: Applications of Geographical Information Systems for Landscape Planning (Peyzaj Planlamada Coğrafi Bilgi Sistemlerinin Uygulamaları)
Code: PM-561
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Coğrafi Bilgi Sistemleri (CBS) peyzaj planlamaya yönelik uygulamalarında kullanılan yöntemler, yazılım ve algoritmalar tanıtılacaktır. Peyzaj planlama çalışmalarında izlenecek stratejilerin belirlenmesi, görüntü işleme teknikleri, CBS ortamı ve terminolojileri dersin diğer konuları arasında yer almaktadır.

Title of the course: Fundamentals of Geographical Information Systems (Coğrafi Bilgi Sistemlerinin Temeli)
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Geographical Information Systems
Content: Fundamentals of Geographical Information Systems (GIS) Geographic Information is required for planning and management purposes of our infrastructure and

natural resources. The tools to produce such information in methodical ways are Geographic Information Systems. Their use has become wide in many fields of application, and throughout society: the earth science, first and foremost, but more and more also in public administration, and many forms of industry. The main objective of the course is to introduce the fundamentals of the Geographical Information Systems as a tool for spatial data handling. The principles behind it are presented one by one: the identification of relevant geographic phenomena, the options of representing them in a GIS, the associated advantages and disadvantages of operating on these representations, the preparation of spatial data sets, the spatio-analytic functionality that comes with GIS, and the methods to visualize spatial data. Fundamental spatial aspects such as spatial reference systems and spatial data quality are also the topics of the course.

Title of the course: GIS Applications in Urban Planning (Şehir Planlamasında CBS Uygulamaları)
Code: GIS 515
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Geographical Information Systems
Content: This course is designed mainly for graduate students who have had some background in the general aspects of GIS. The course will focus on GIS projects, while assisting students in evaluating the utility of this technology. The course will be based on "Problem - Based Learning" and each problem will be discussed in task - based studio workshops. Environmental assessment related to Urban Planning aspects, data visualization, resource management, etc., will be presented to students in those mentioned task - based workshop sessions. Completion of each task will allow students to distinguish between GIS applications in urban planning and other disciplines. This will also allow students to develop a final report, which will cover the various aspects of "GIS Applications in Urban Planning" in detail.

Title of the course: The Use of Geographical Information Systems in Water Resources Management (Coğrafi Bilgi Sistemlerinin Su Kaynakları Yönetiminde Kullanılması)
Code: GIS 523
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Geographical Information Systems
Content: The main objective of the course is to introduce the real GIS-based case studies on the water resources management issues. The several research areas in water resources such as water quality, basin morphology, erosion, data management, ecology and wetland, etc. are discussed in the scope of this course by considering the role of GIS in these researches.

Title of the course: Geographical Information Systems in Water Resources Research (Su Kaynakları Araştırmasında Coğrafi Bilgi Sistemleri)
Code: GIS 531
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Geographical Information Systems

Content: Fundamentals of GIS, basic anaysis methods with GIS, GIS and database integration, delineation of watershed characteristics, current application of GIS in water resources research, future directions and trends.

Title of the course: Geographical Information Systems Application in Coastal Engineering with the Arc-Info Method (Coğrafi Bilgi Sistemlerinin Kıyı Mühendisliğinde Arc-Info Metoduyla Uygulanması)
Code: GIS 533
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Geographical Information Systems
Content: Why GIS ? What is a GIS ? (Spatial operations, Data linkage), Geographic Data Concepts, Starting you ARCINFO project, Getting spatial data into ARC/INFO, Making spatial data usable, Getting attribute data into ARCINFO, Managing the database, Performing geographic analysis, Presenting the result of the analysis, Customizing ARC/INFO.

Title of the course: Environmental and Cultural Inventories via Geographical and Information Systems (Coğrafi Bilgi Sistemleri kanalıyla Çevresel ve Kültürel Envanterler)
Code: GIS 518
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Geographical Information Systems
Content: - Environmental and Cultural Inventories via GIS The aim of this Course, is to teach students how to obtain and use environmental & cultural profile instruments through GIS techniques. Cultural impact on spatial organizations and the use of environmental & cultural inventories in Urban Planning will also be discussed.

Title of the course: Environmental Inventories and Information Systems (Çevre Envanterleri ve Bilgi Sistemleri)
Code: GIS 520
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Geographical Information Systems
Content: Collection, organization and retrieval of environmental data are essential for studies in environmental sciences, engineering and management. Spatial and temporal variations of these large bodies of data reveal important features with regard to their information content. A GIS framework is essential to organize these data and to extract maximum amount of information.

Title of the course: Environmental Protection Technologies (Çevre Koruma Teknolojileri)
Code: CZM 514
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Marine Science and Technology/ Coastal Zone Management
Content: Introduction to Remote Sensing Remote sensing is the science and art of obtaining information about an object, area, or phenomenon through the analysis of data

acquired by a device that is not contact with the object, area, or phenomenon under investigation. This course is designed to apply Remote Sensing and Digital Image Processing Techniques to the oceanographic studies.

Title of the course: Geographical Information Systems for Land Use Planning I (Arazi Kullanımı Planlamasında Coğrafi Bilgi Sistemleri I)
Code: 0110503
University: Ege
Institute/Faculty/Department: Institute for Social Sciences/Faculty of Letters/Social and Economic Geography
Content: This course is designed to provide advanced GIS application skills and understand and use cutting edge GIS technologies. Students will create their independent projects related to land use and environmental planning. The course includes ; GIS as a tool for environmental and land use planning, Risk assessment and planning, Environmental impact assessment and GIS, Environmental Sensitivity, Determining the ecological zones using GIS, and Environmental databases.

Title of the course: Geographical Information Systems for Land Use Planning II (Arazi Kullanımı Planlamasında Coğrafi Bilgi Sistemleri II)
Code: 0110534
University: Ege
Institute/Faculty/Department: Institute for Social Sciences/Faculty of Letters/Social and Economic Geography
Content: This course is designed to provide advanced GIS application skills and understand and use cutting edge GIS technologies. Students will create their independent projects related to land use and environmental planning. Course Content is; Decision support systems for land use planning, Scenario approach in land use planning, Agricultural land use planning, Site selections, Transportation planning, Urban Information Systems, and Land Information Systems.

Title of the course: Geographical Information Systems for Land Use Planning I (Arazi Kullanımı Planlamasında Coğrafi Bilgi Sistemleri I)
Code: 0109505
University: Ege
Institute/Faculty/Department: Institute for Social Sciences/Faculty of Letters/Physical Geography
Content: This course is designed to provide advanced GIS application skills and understand and use cutting edge GIS technologies. Students will create their independent projects related to land use and environmental planning. The course includes ; GIS as a tool for environmental and land use planning, Risk assessment and planning, Environmental impact assessment and GIS, Environmental Sensitivity, Determining the ecological zones using GIS, and Environmental databases.

Title of the course: Geographical Information Systems for Land Use Planning II (Arazi Kullanımı Planlamasında Coğrafi Bilgi Sistemleri II)
Code: 0109530
University: Ege
Institute/Faculty/Department: Institute for Social Sciences/Faculty of Letters/Physical Geography

Content: This course is designed to provide advanced GIS application skills and understand and use cutting edge GIS technologies. Students will create their independent projects related to land use and environmental planning. Course Content is; Decision support systems for land use planning, Scenario approach in land use planning, Agricultural land use planning, Site selections, Transportation planning, Urban Information Systems, and Land Information Systems.

Title of the course: Remote Sensing Techniques (Uzaktan Algılama Teknikleri)
Code: 0109525
University: Ege
Institute/Faculty/Department: Institute for Social Sciences/Faculty of Letters/Physical Geography
Content: The course is designed to provide students with a working knowledge of the principles of obtaining information that describes natural resources and their condition from remotely sensed data.

Title of the course: Remote Sensing Applications (Uzaktan Algılama Uygulamaları)
Code: 0109526
University: Ege
Institute/Faculty/Department: Institute for Social Sciences/Faculty of Letters/Physical Geography
Content: Geological applications, Geomorphological applications; Vegetation covers applications, Urban and land use applications, Hydrological and Oceanological applications, and remote sensing and GIS integration.

Title of the course: Remote Sensing for Environment Protection (Çevre Koruma Amaçlı Uzaktan Algılama)
Code: ÇMÜ 572
University: Fırat
Institute/Faculty/Department: Institute of Physical Sciences/Faculty of Engineering/ Environmental Engineering
Content: No description.

Title of the course: Geographical Information Systems (Coğrafi Bilgi Sistemleri)
Code: COĞ 573
University: Fırat
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Letters/Geography
Content: No description.

Title of the course: Remote Sensing, Interpretation of Landsat and Arial Photographs (Uzaktan Algılama, Landsat Programı ve Hava Fotoğrafları Yorumlanması)
Code: 5201326
University: Gazi
Institute/Faculty/Department: Institute of Science and Technology/Faculty of Engineering and Architecture/Forestry Engineering
Content: Remote sensing concept, electromagnetic spectrum, photograph and its history, films, colors, the history of space photogrophy, satellite scanners, landsat program, maping processing and interpretation of arial photographs.

Title of the course: Remote Sensing (Uzaktan Algılama)
Code: TO -521
University: Gaziosmanpaşa
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Soil
Content: Uzaktan algılamanın temel esasları, güneş ışınlarının soğurulması, saçılması, yeryüzü objelerinin tanımı, uydu verilerinin yorumu, sayısal veri işlemi ve bilgi üretim metotları.

Title of the course: Geographical Information Systems (Coğrafi Bilgi Sistemleri)
Code: TO-546
University: Gaziosmanpaşa
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Soil
Content: No description.

Title of the course: Remote Sensing and its Applications (Uzaktan Algılama ve Uygulamaları)
Code: JFM-505
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Engineering/Geodetic and Photogrammetric Engineering
Content: Fundamentals of remote sensing, Resolutions (spatial, spectral, radiometric and temporal), Basic characteristics of satellite images, Image rectification and restoration, Image enhancement techniques, Principles of image acquisition systems, Well-known satellite programs and their products, Image classification methods, Accuracy assessment of image classification results, General information about most widely used image processing software (ERDAS Imagine and ER MAPPER), Provide awareness about variety of applications of remote sensing.

Title of the course: Geographical Information Systems and their Applications (Coğrafi Bilgi Sistemleri ve Uygulamaları)
Code: JFM-506
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Engineering/Geodetic and Photogrammetric Engineering
Content: Definition of GIS, Its historical development and milestones during thisdevelopment, main functions of GIS, GIS applications named according to a particular research area, classification of GIS projects in terms of their objectives, data used in GIS and the collection of these data, data types (raster and vector) used in GIS, ways of saving or recording of raster and vector data, advantages and disadvantages of vector and raster data types, issues on data quality, databases and database management systems, spatial analyses used in GIS processes. Exercise GIS projects using raster-based IDRISI project.

Title of the course: Remote Sensing (Uzaktan Algılama)
Code: ŞBP- 583
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Architecture/City and Region Planning

Content: Veri elde etme aşamasında elektro manyetik spektrum, nesnelerin yansıtma özellikleri, fotogrametrik alım sistemleri, uydu sistemleri, veri işleme ve değerlendirme aşamasında, çizgisel, resimsel ve sayısal haritaların değerlendirilmesi, uydu görüntülerinin işlenmesi, planlamada uzaktan algılama verilerinden yararlanılması anlatılacaktır.

Title of the course: Geographical Information Systems (Coğrafi Bilgi Sistemleri)
Code: ŞBP- 584
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Architecture/City and Region Planning
Content: No description.

Title of the course: Geographical Information Systems (Coğrafi Bilgi Sistemleri)
Code: TOP-540
University: Harran
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Agriculture/Soil Science
Content: Lessons will include digitizing, preparing database, data input-output, coordinate system and geographic inquiry subjects.

Title of the course: Remote Sensing and Using in Agriculture (Uzaktan Algılama ve Tarımda Kullanımı)
Code: TOP-545
University: Harran
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Agriculture/Soil Science
Content: Fundamental of Remote Sensing, landuse mapping, land cover mapping.

Title of the course: Remote Sensing (Uzaktan Algılama)
Code: FEDCOĞ 0613
University: Harran
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography
Content: No description.

Title of the course: Remote Sensing (Uzaktan Algılama)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Forestry Engineering/Measurement Information and Cadastral Survey
Content: No description.

Title of the course: Geographical Information Systems in Urban Planning (Kent Planlamasında Coğrafi Bilgi Sistemleri)
Code: SPL 502
University: İTÜ
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/Urban and Regional Planning

Content: Environmental Impact Assessment, Geographical Information Systems and Applications.

Title of the course: Geographical Information Systems and Remote Sensing (Coğrafi Bilgi Sistemleri ve Uzaktan Algılama)
Code: BPL 518
University: İTÜ
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/Urban and Region Planning
Content: Application of Geographical Information Systems.

Title of the course: Applications of Remote Sensing in Forestry (Ormancılıkta Uzaktan Algılama Uygulamaları)
Code: ORM 535
University: Kafkas
Institute/Faculty/Department: Institute of Science and Technology/Forestry Engineering/Forestry Amendment
Content: Uzaktan Algılamanın tanımı, Uzaktan Algılama Sistemleri, Görüntü-Hava Fotoğrafı Farkları, Üç Boyutlu Görüş Uygulamaları. Doğal Kaynak inceleyen uydular (Landsat, Spot, Ers, Irs, Mos). Sayısal Görüntü İşlemleri. Ağaçlandırma, orman koruma, yaban hayatı amenajmanı, orman-yol planlaması, ormancılık hukuku, peyzaj mimarlığı ve coğrafi bilgi sisteminde Uzaktan Algılamanın kullanımı.

Title of the course: Basic Principles of Geographical Information Systems in Forestry (Ormancılıkta Coğrafi Bilgi Sisteminin Temel Kavramları)
Code: ORM 539a
University: Kafkas
Institute/Faculty/Department: Institute of Science and Technology/Forestry Engineering/ Forestry Amendment
Content: Bilgi Sistemleri, Coğrafi Bilgi Sistemi kavramı, Genel Prensipleri, Bileşenleri, Temel Fonksiyonları, Veri, Bilgi, Veri Tabanı İşletim Sistemi, Vektör ve Raster Veri Modelleri, Sayısallaştırma, Konumsal Veri Analizi ve Sunumu.

Title of the course: Design and Applications of Geographical Information Systems in Forestry (Ormancılıkta Coğrafi Bilgi Sisteminin Tasarımı ve Uygulamaları)
Code: ORM 539b
University: Kafkas
Institute/Faculty/Department: Institute of Science and Technology/Forestry Engineering/ Forestry Amendment
Content: Coğrafi Bilgi Sistemi (CBS) temel prensiplerinin ve fonksiyonlarının pratiğe yönelik, özellikle ormancılık uygulamaları, Coğrafi Bilgi Sisteminin ormancılıkta nerelerde ve nasıl kullanılacağı ve karar vermede karar vericiye nasıl yardımcı olabileceği. Arc/Info yazılımlarının kullanımı.

Title of the course: Geographical Information Systems and Remote Sensing (Coğrafi Bilgi Sistemleri ve Uzaktan Algılama)
Code: TO – 517
University: Kahramanmaraş Sütçü İmam
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Soil

Content: Coğrafi bilgi sistemlerinin temel kavramları, veri girişi, veri yönetimi, veri transferi, veriler arası ilişkilendirme, sayısal arazi modeli, uzaktan algılamanın temel prensipleri, farklı yeryüzü objelerinin karakteristikleri, algılama platformları, geometrik düzeltme, görüntü işleme, arazi kullanımı, ürün ve alan tahminleri, toprak etüdleri ve tarımın diğer dallarında uydu verilerinin kullanım olanakları.

Title of the course: Applications and Designing of Geographic Information Systems in Forestry (Ormancılıkta Coğrafi Bilgi Sistemi Tasarımı ve Uygulamaları)
Code: ORM 5390
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Forestry Engineering
Content: Applications of geographic information systems in forestry. Principles of designing a spatial database including both cartographic and attribute database. The concepts of spatial data, data models and database management systems and the design principles. Concepts, components, spatial functions and cartographic modeling such as "mapmatics" of computer based spatial data analysis in decision-making will be facilitated. An opportunity to examine, evaluates and gain hands-an experience with a commercial GIS Arc/Info.

Title of the course: Remote Sensing in Forestry (Ormancılıkta Uzaktan Algılama)
Code: ORM 5400
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Forestry Engineering
Content: Definition of remote sensing. Remote sensing systems. Image-photograph difference. Ortophoto. Stereoscopic vision applications. Earth resource satellites. Multispectral scanners. Thermal scanners. Termography. Microwave sensing. Digital image processing. Comparison of aerial and satellite photographs, forest inventory, forest management, silviculture, afforestation, forest protection, forest law, cartography, landscape architecture and geographical information systems.

Title of the course: Geographical Information Systems Applications in Settlement Archaeology (Yerleşim Arkeolojisinde Coğrafi Bilgi Sistemi Uygulamaları)
Code: SA 514
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Architecture/Settlement Archaeology
Content: The aim of this course is to acquaint students with the great potential offered by GIS for the investigation of spatial relationships in archaeological data. The course consists of two parts:
In Part I, basic concepts and characteristics of GIS are discussed. Basic features of GIS, such as Digital Terrain Models, which have direct relevance to archaeology are stressed. Part II deals with archaeological applications of GIS. Using case studies the potentials of GIS as a research tool will be discussed, e.g. site catchment analysis and archaeological site inventory system. Students will have the opportunity to gain practical experience in the use of GIS using archaeological data which is available at the data bank of the METU Museum.

Title of the course: Advanced Geographical Information Systems (İleri Coğrafi Bilgi Sistemleri)
Code: GGIT 530
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Geodetic and Geographical Information Technologies
Content: This course uses and extends concepts from the introductory GIS course. It explores advanced problems and techniques in GIS Science. Topics include, layer overlays, distance measurements and transformation, data management, geo-database design, spatial analysis, data quality, error, accuracy and precision. Handling error and uncertainty in GIS is discussed. ESRI ARCGIS products are used and every student is responsible to prepare a project using the GIS functions discussed in the course and present it at the end of the semester.

Title of the course: Geographical Information Systems and Remote Sensing in Disaster Management (Afet Yönetiminde Coğrafi Bilgi Sistemleri ve Uzaktan Algılama)
Code: GGIT 532
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Geodetic and Geographical Information Technologies
Content: Principles of disaster management. Geographical Information Systems. Remote Sensing. Landslides. Floods. Snow and Avalanches. Earthquakes. Forest Fires. Usage of GIS and RS in natural disaster management.

Title of the course: Project Design in Geographical Information Systems (Coğrafi Bilgi Sistemlerinde Proje Dizaynı)
Code: GGIT 531
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Geodetic and Geographical Information Technologies
Content: Formulation of project. Literature review and determination of data requirement. Collection of data. Presentation of data in GIS format.

Title of the course: Special Topics in Information Systems for Natural Resource Management (Doğal Kaynak Yönetimi için Bilgi Sistemlerinde Özel Konular)
Code: GGIT 535
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Geodetic and Geographical Information Technologies
Content: In this course the principles presented in introductory and advanced GIS courses will be applied in the environment of natural resource management problems and organizations. The course therefore combines elements of system development with application areas. It provides principals of seamless raster data architectures, raster-vector database integration, decision support system and management information, AM/FM (Automated Mapping and Facility Management), some models and techniques, which can be used for resource management problems.

Title of the course: Principles of Remote Sensing (Uzaktan Algılama Prensipleri)
Code: GGIT 560
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Geodetic and Geographical Information Technologies
Content: Physical bases of remote sensing; photographic systems; thermal, multispectral, hyperspectral and microwave sensing; space borne sensors and platforms; fundamentals of processing and analyzing multispectral remotely sensed images, data integration.

Title of the course: Integration of Remote Sensing and Geographical Information Systems (Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Entegrasyonu)
Code: GGIT 562
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Geodetic and Geographical Information Technologies
Content: Fundamental concepts of integrating remote sensing and Geometric Information Systems (GIS); the essentials of using ancillary data in the analysis of remote sensing images. The use of remotely sensed data in GIS analysis operations. The levels and technical impediments of the integration; the required interface functions and error sources.

Title of the course: Remote Sensing (Uzaktan Algılama)
Code: GEOE 528
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Engineering/Geological Engineering
Content: Principles of Remote Sensing applications. Instrumentation. Multispectral image acquirements. Photo image analysis methods. Automation of natural resources evaluation. Aircraft program. Space program. Utility of Remote sensing data.

Title of the course: Introduction to GIS (CBS'ne Giriş)
Code: CE 413
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Engineering/Computer Engineering
Content: The course provides the students with the fundamental concepts of the Geographic Information Systems and familiarize them with a GIS software by hands-on experience. It covers: the map as a spatial database, nature of GIS, data input and output, database management systems, representation and organization of spatial data, spatial data analysis.

Title of the course: Use of Geographic Information System in Landscape Planning (Coğrafi Bilgi Sistemlerinin Peyzaj Planlamasında Kullanımı)
Code: PM-516
University: Mustafa Kemal
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Agriculture/Landscape Architecture

Content: Fundamentals of geographic information systems (GIS), input models, analysis and inquiry operations, entry of tabular and quantitative data, analysis of raster and vector data; uses of GIS in landscape planning, recreational planning and environmental impact analysis.

Title of the course: Environmental Engineering Applications in Remote Sensing (Uzaktan Algılamada Çevre Mühendisliği Uygulamaları)
Code: ÇEM 519
University: Sakarya
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Genel Kavramlar. Sınıflandırmalar. Elektromanyetik spektrum. Uydu ve algılama sistemleri. Uydu görüntülerini algılama ve yorumlama teknikleri. Çevre, çevre problemleri ve uzaktan algılama teknikleri ile yorumlanması-çözümlenmesi. Coğrafi bilgi sistemleri, tanımı, uzaktan algılama ile ilişkisi ve Çevre Mühendisliği uygulamaları.

Title of the course: Geographical Information Systems and Remote Sensing Applications in Environmental Engineering (Çevre Mühendisliğinde Coğrafi Bilgi Sistemleri ve Uzaktan Algılama Uygulamaları)
Code: 8028021015
University: Selçuk
Institute/Faculty/Department: Institute of the Natural and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: No description.

Title of the course: Geographical Information Systems Applications in Landscape Architecture (Peyzaj Mimarlığında Coğrafi Bilgi Sistemleri Uygulamaları)
Code: PMYL 506
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering and Architecture/Landscape Architecture
Content: Coğrafi bilgi sistemlerinin tanımı, tarihçesi, kavramsal çatısı, kullanım amaçları, uygulama alanları. Coğrafi bilgi sistemlerinde analiz türleri. Coğrafi bilgi sistemi oluşturulmasında kullanılan veri kaynakları. Coğrafi bilgi sistemlerinin peyzaj mimarlığına katkısı ve kullanımı ve uzaktan algılamanın peyzaj mimarlığındaki yeri.

Title of the course: Geographical Information Systems (Coğrafi Bilgi Sistemleri)
Code: TOP 935
University: Uludağ
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Agriculture/ Soil
Content: No description.

Title of the course: Remote Sensing and its Agricultural Applications (Tarımda Uzaktan Algılama Uygulamaları)
Code: TOP 609
University: Uludağ

Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Agriculture/Soil
Content: No description.

Title of the course: Geographical Information Systems (Coğrafi Bilgi Sistemleri)
Code: TOP 610
University: Uludağ
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Agriculture/Soil
Content: No description.

Title of the course: Ecological Planning and Geographical Information Systems (Ekolojik Planlama ve Coğrafi Bilgi Sistemleri)
Code: BİY 956
University: Uludağ
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Science/Biology
Content: No description.

Title of the course: Remote Sensing in Forestry (Ormancılıkta Uzaktan Algılama)
Code: ORM 750
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Forestry Engineering
Content: Uzaktan algılamanın tanımı ve içeriği, uzaktan algılamada temel esaslar ve algılama sistemleri, elektromagnetik enerji, fotoğrafik ve fotoğrafik olmayan algılama sistemleri, algılama platformları, ormancılık faaliyetleri için algılama verilerinin kazanımı ve değerlendirilmesi.

Title of the course: Remote Sensing (Uzaktan Algılama)
Code: ORM 757
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Forestry Engineering
Content: Elektromagnetik enerji, elektromagnetik ışınımın algılanması ve algılama sistemleri, fotoğrafik ve fotoğrafik olmayan sistemler algılama platformları, uzaktan algılamada kantitatif yaklaşım, veri işleme yöntemleri ve sistemleri, çok spektrumlu görüntü verilerinden elde edilen bilgiler.

Title of the course: Principles of Geographic Information Systems (Coğrafi Bilgi Sistemi Prensipleri)
Code: CE 512
University: Atılım (Private University)
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering/Civil Engineering
Content: Introduction to GIS, types of spatial data entry and data preparation, spatial data manipulation, spatial data visualization, data quality and metadata.

Title of the course: Advanced Remote Sensing and Geographical Information Systems Applications I (İleri Uzaktan Algılama ve Coğrafi Bilgi Sistem Uygulamaları I)
Code: GEO 583
University: Fatih (Private University)
Institute/Faculty/Department: Academics and Schools/Faculty of Arts and Science/Geography
Content: This course is designed to give an overview of the current state of Remote Sensing and Geographic Information Systems. It assumes a basic knowledge of Remote Sensing and GIS from the previous courses. At the end of the course you should have the knowledge to presume independently Remote Sensing and/or GIS project of your interest.

Title of the course: Advanced Remote Sensing and Geographical Information Systems Applications II (İleri Uzaktan Algılama ve Coğrafi Bilgi Sistem Uygulamaları II)
Code: GEO 584
University: Fatih (Private University)
Institute/Faculty/Department: Academics and Schools/Faculty of Arts and Science/Geography
Content: This course is designed to give an overview of the current state of Remote Sensing and Geographic Information Systems. It assumes a basic knowledge of Remote Sensing and GIS from the previous courses. At the end of the course you should have the knowledge to presume independently Remote Sensing and/or GIS project of your interest.

Title of the course: Remote Sensing (Uzaktan Algılama)
Code: GEO 594
University: Fatih (Private University)
Institute/Faculty/Department: Academics and Schools/Faculty of Arts and Science/Geography
Content: An introduction to the theory and application of remote-sensing technology, including the electromagnetic spectrum, energy interactions in the atmosphere, and energy interaction with Earth's surface features. Emphasis is on nonphotographic imaging and non-imaging remote sensors as they are useful in understanding man-made and natural features of Earth's surface. Topics covered include orbital/aircraft electro-optical scanners, active/passive microwave, thermal energy detection, digital analysis, and remote-sensing applications in plant science, earth science, and land cover.

Title of the course: Geographic Information Systems Practicum (Coğrafi Bilgi Sistem Pratiği)
Code: GEO 595
University: Fatih (Private University)
Institute/Faculty/Department: Academics and Schools/Faculty of Arts and Science, Geography
Content: Individual work experience with GIS projects, supervised by the faculty and staff of The University of Fatih. The practicum provides the student with experience making decisions and solving problems not typically encountered in the classroom.

Environmental Pollution and Prevention

Title of the course: Environmental Pollution and Plants (Çevre Kirliliği ve Bitkiler)
Code: BİY 603
University: Anadolu
Institute/Faculty/Department: Graduate School of Sciences/Faculty of Science/Biology
Content: Evaluation of Environmental Pollution; Morphological; Anatomical and Physiological Effects of Air Pollution on Plants; Morphological; Anatomical and Physiological Effects of Water Pollution on Plants; Physiological; Morphological and Anatomical Effects of Soil Pollution on Plants; Description of Biomonitor and Bioindicator Organisms**;** Their Features and Uses for Determination of Environmental Pollution; Databanks; Their Purposes and Methods.

Title of the course: Fertilizer-Environment Relationships (Gübre-Çevre İlişkileri)
Code: 823510
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Faculty of Agriculture/Soil Sciences
Content: Agriculture and environment, fertilizers and their components as input of production, the role of fertilizers and fertilization in environmental pollution, the effects of nitrogenous and phosphorus fertilizers in soil and water pollution, the relationships between plant pollution, fertilizers and nourishment materials, animal and human health, the effects of industrial wastes on environmental pollution and precautions for environmental pollution.

Title of the course: Principles of Environmental Pollution (Çevre Kirliliğinin Prensipleri)
Code: ESC 501
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Principles of ecology, nutrient cycles; water pollution, quality parameters, standards and regulations; reaction kinetics and materials balance in aquatic systems; hydraulic models, batch, complete-mix and plug flow reactors; water quality in rivers, streams and lakes; principles of water and wastewater treatment; hazardous wastes and disposal methods with emphasis on solid waste and sludge; Environmental Risk Assessment; air pollution and control; global environmental problems.

Title of the course: Biology of Air Pollution (Hava Kirliliği Biyolojisi)
Code: BIO 539
University: Celal Bayar
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Science/Biology
Content: Kirlenme düzeyleri, populasyon ve kirlenme, kirlenmenin biyolojik etkileri, atmosferik elemanlar, fosil yakitlar ve duman, motorlu tasitlardan gelen kirlenme, patojenlerin olustudugu kirlenme, sigara dumani kirlenmesi, radyasyonun biyolojik etkilenmesi ve olusturdugu mutasyonlar, kirlenmenin global etkileri.

Title of the course: Biology of Air Pollution (Hava Kirliliği Biyolojisi)
Code: BY 577
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Arts and Science/Biology
Content: Levels of pollution, population and pollution, biological effect of pollution, atmospherical elements, fosil fuels and smog, pollution from motor vehicles, pollution from pathogens, smoking pollution, biological efficiency of radiation and mutations, global effects of pollution.

Title of the course: Pollution of Water Resources (Su Kaynakları Kirliliği)
Code: TS 510
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Agriculture/Agricultural Structures and Irrigation
Content: Water quality as a global issue, non-point source pollution, scope of the problem. Public health impacts, quality criteria of irrigation waters, total soluble salt-content or salinity hazard, and sodium adsorption ratio will be discussed. Bicarbonate hazard, phototoxic substances, general appreciation of water quality in relation to soil and plants, salt balance and leaching , leaching requirement, classification of salt affected soils according to their chemical properties, sediments as water pollutants, fertilizers as water pollutants, pesticides as water pollutants, sewage and industrial wastes, and treatment to improve the water quality for pollution of water recourses.

Title of the course: Environmental Pollution (Çevre Kirliliği)
Code: BY-540
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Biology
Content: Water and air pollution; Solid wastes and radioactive pollutants; noise pollution; Control of pests and weeds.

Title of the course: Environment Pollutants (Çevre Kirleticileri)
Code: BY-626
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Biology
Content: Çevredeki kirlenme türleri, kirleticilerin özellikleri, kaynakları, organizmalara yaptığı etkiler, kirleticilerin diğer faktörlerle olan etkileşimleri, pollutantların canlılara giriş yolları, birikimleri, ayrıca organizmalardaki akut ve kronik etkileri incelenecektir.

Title of the course: Pollution Prevention (Kirliliği Önleme)
Code: BY-666
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Biology
Content: This course focuses on effects, and remedies of environmental contamination. Students are introduced to potential problems that occur as a result of acquiring contaminated properties. Topics include behavior of contaminants in the environment;

environmental liabilities; environmental auditing processes; international conventions; environmental management; risk assessment and minimization and cleanup techniques.

Title of the course: Pesticides and Environmental Pollution (Pestisitler ve Çevre Kirliliği)
Code: BK 508
University: Dicle
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Crops Prevention
Content: - Dünya'da pestisit tüketimi
- Türkiye'de pestisit tüketimi ve bölgeler göre dağılımı
- Pestisitlerin sınıflandırılması
- Pestisit kalıntılarının çevredeki hareketi
- Pestisitlerin çevrede parçalanma durumu
- Pestisitlerin doğal yaşama etkileri
- Pestisitlerin insan yaşamına etkileri
- Pestisitlerin evcil hayvanlara etkileri
- Pestisitlerin kullanılmaları ile ilgili düzenlemeler
- Gıda ve çevrede maksimum pestisit dozları, Türkiye'de ve dünyada pestisitlerden zarar gören bölgeler, giderilme yolları

Title of the course: Environmental Pollution (Çevre Kirliliği)
Code: BİY 522
University: Erciyes
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Science/Biology
Content: No description.

Title of the course: Environmental Pollution originating from Industry (Endüstriyel Kaynaklı Çevre Kirliliği)
Code: ENV 502
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Environmental Sciences
Content: Environment and environmental pollution, Environmental problems in Turkey and in the World, Classification of environmental pollution, Types of environmental pollution according to environmental components (Air, soil, water, food pollution), environmental pollution according to sources, Environmental pollution according to industry, Environmental pollution according to urban, Environmental pollution according to agriculture, Important environmental pollutants, Air pollutants,Water pollutants, Soil pollutants, Sectorial based environmental pollution originating from industry.

Title of the course: Industrial Pollution (Endüstriyel Kirlilik)
Code: ÇEV 620
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering

Content: Temel atıksu karakterleri, Endüstrilerin atıksu özellikleri; Gıda endüstrisi; Kağıt endüstrisi; Tekstil Endüstrisi ; Kağıt endüstrisi; Tekstil endüstrisi; Metal Endüstrisi; Diğer Endüstriler; Endüstriyel atıksu arıtım metodları.

Title of the course: Advanced Environmental Biology (İleri Çevre Biyolojisi)
Code: BİO 573
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Science/ Biology and Ecology
Content: Concept of ecosysteme Energy Flow in ecosysteme. Food as an environmen-tal factor. Relationship between population growth and increase in food production control of pests and weeds. Residual concentration of pesticides in environment the effect of pesticides on the human health. Air pollution. The effect of air pollution environment and human health. Water pollution Kind of water pollution. Pollution of inland waters. Cleaning of polluted waters.

Title of the course: Environmental Problems in Ecosystems and their Solution (Ekosistemlerde Çevre Sorunları ve Çözüm Yolları)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forest Engineering/ Soil Science and Ecology
Content: Doğal ekosistemlerin yapısı, hava kirlenmesi, su kirlenmesi, toprak kirlenmesi, ortam kirlenmesinin canlılar üzerine etkisi.

Title of the course: Water Pollution (Su Kirliliği)
Code: BİY 535
University: Kafkas
Institute/Faculty/Department: Institute of Science and Technology/Faculty of Applied Sciences/Biology
Content: Yer yüzündeki suların Oluşumu ve Dağılımı, Suyun Fiziksel ve Kimyasal Özellikleri, Kirlilik Unsurlarının Sınıflandırılması, Hidrolik Çevrim sırasında Su kalitesinde Doğal ve Antropojen Değişimler, Askıdaki ve Yüzücü Maddeler, Sularda Radyoaktif, Domestic, Evsel, Kimyasal ve Biyolojik Kirlenme.

Title of the course: Pollution Ecology (Pollusyon Ekolojisi)
Code: 14-10306-635
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/Faculty of Science/Biology
Content: Hava kirlenmesi, Sürekli içilen sigara vs. den kaynaklanan dumanlar, Endüstriyel faaliyetlerden kaynaklanan kirleticiler, Taşıt eksozlarından kaynaklanan kirleticiler, PAN (Peroxy acetyl nitrate) ve etkileri, Hava kirliliğinin bitkilerdeki olumsuz etkileri, Bitkileri olumsuz etkileyen bazı kirleticiler, Kükürt dioksit, FDK (fotokimyasal duman kompleksi), Ozon, Nitrojen oksitler, Floritler, Kirletici partiküllerin etkileri, Radyoaktif Madde Kirlenmesi, Radyasyon ve bitkiler üzerindeki etkileri, Toprak Kirlenmesi, Pestisitler ve özellikleri, Bitkiler üzerindeki olumsuz etkileri, Domestik atıklar ve kimyasallar ve etkileri, Ağır metallerle kirlenme, Ağır metallerle kirlenmiş karasal ortamların biyolojik olarak arıtılması, Su kirlenmesi,

Domestik atıklar, organik ve anorganik kimyasallar ve su bitkileri üzerindeki olumsuz etkileri, Sucul ortamların biyolojik olarak arıtılması.

Title of the course: Environmental Pollution (Çevre Kirliliği)
Code: ÇEV-513
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Su kirlenmesi, Hava kirlenmesi, Toprak Kirlenmesi, Atmosfer Kimyası, Su Kimyası, Arıtma teknolojileri, Kirlilik ölçüm parametreleri, Kirlilik ölçümleri, Çevresel Etki değerlendirmesi.

Title of the course: Advanced Environmental Chemistry (İleri Çevre Kimyası)
Code: KİM 507
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Chemistry/ Chemistry
Content: Su kirlenmesi, Hava kirlenmesi, Toprak Kirlenmesi, Atmosfer Kimyası, Su Kimyası, Arıtma teknolojileri, Kirlilik ölçüm parametreleri, Kirlilik ölçümleri, Çevresel Etki değerlendirmesi.

Title of the course: Agriculture-Environmental Relations (Tarım-Çevre İlişkileri)
Code: TO-508
University: Mustafa Kemal
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Soil
Content: Çevre kirlenmesi, kirlenmenin tanımı. Aşırı gübre kullanımı ve bunların beraberinde getirdiği sorunlar. Azotlu ve fosforlu gübrelerin toprak ve su kirliliğine etkileri. Şehirleşme, sanayileşme ve benzeri tarım dışı arazi kullanımlarının ve diğer tarımsal faaliyetlerin (pestisid kullanımı v.b.) günümüzde ve gelecekteki sorunları.

Title of the course: Environmental Pollution and Landscape Architecture (Çevre Kirliliği ve Peyzaj Mimarisi)
Code: 8050011001
University: Selçuk
Institute/Faculty/Department: Institute of the Natural and Applied Sciences/Faculty of Agriculture/Interior Architecture
Content: No description.

Title of the course: Effects of Environmental Pollution on Foods (Çevre Kirliliğinin Gıda Kirlenmesinde yeri ve önemi)
Code: No code number is available on Web-site.
University: Selçuk
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: 1. Çevre kirliliğinin tanımı ve çeşitleri,
2. Çevre kirliliğinin oluşumu, etki eden faktörler, etki biçimleri,
3. Gıda kirliliğinin tanımı ve çeşitleri,
4. Gıda kirliliğinin oluşumu, etki eden faktörler, etki biçimleri,
5. Hava kirliliği-gıda kirliliği ilişkileri,
6. Su kirliliği-gıda kirliliği ilişkileri,

7. Toprak kirliliği-gıda kirliliği ilişkileri,
8. Gıdaların fiziksel kirlenmesi, etki eden faktörler, etki biçimleri,
9. Gıdaların kimyasal kirlenmesi, etki eden faktörler, etki biçimleri,
10. Gıdaların mikrobiyal kirlenmesi,
Pestisitlerin Çevreye Etkileri
-Pestisitlerin tanımı ve kapsamı,
-Pestisitlerin sınıflandırılması,
-Pestisitlerin etkin maddelerinin gruplandırılması,
-Pestisit kirlenmesine etki eden faktörler ve etki biçimleri,
-Pestisitlerin su kirliliğindeki yeri ve önemi,
-Pestisitlerin hava kirliliğindeki yeri ve önemi,
-Pestisitlerin toprak kirliliğindeki yeri ve önemi,
-Pestisitlerin gıda kirliliğindeki yeri ve önemi,
-Pestisitlerin toplum sağlığı açısından önemi ve alınması gerekli tedbirler.

Title of the course: Control of Environmental Pollution (Çevre Kirlilik Kontrolü)
Code: 1302500
University: Süleyman Demirel
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Science and Letters/ Chemistry
Content: No description.

Title of the course: Environmental Problems in Ecosystems and their Solutions (Ekosistemlerde Çevre Sorunları ve Çözüm Yolları)
Code: ORM 715
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Forestry Engineering/Forestry
Content: Doğal ekosistemlerin yapısı, hava kirlenmesi, toprak kirlenmesi, su kirlenmesi, gürültü kirliliği, ortam kirlenmesinin canlılar üzerindeki etkileri.

Marine Pollution and Prevention

Title of the course: Marine Pollution (Deniz Kirliliği)
Code: ESC 515
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Technologies
Content: Introduction to coastal pollution. Oil spills and clean-up. Consequences of oil pollution. Heavy metal pollution. Marine hydrodynamics and pollutant dispersion in the marine environment. Thermal pollution.

Title of the course: Marine Pollution (Deniz Kirliliği)
Code: BIO 539
University: Celal Bayar
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Science/Biology
Content: Dünya ve ülkelerimiz sularında ötrofikasyon ve hiperötrofikasyon olayları, bu olayın sucul ekosistemlere, su ürünlerine ve insan sağlığına olumsuz etkileri, çeşitli sistematik gruplara dahil gösterge türlerin dağılımına göre kirlilik düzeyinin saptanması.

Title of the course: Marine Petroleum Pollution and Precautions (Denizlerde Petrol Kirliliği ve Önlemler)
Code: SU-518
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Arts and Science/Fishery Products
Content: The development of petrol transportation by vessels in the world, petroleum sources reaching the marine environment, effects of accidents in the seas on marine living resources.

Title of the course: The Aquatic Environments as Living Spaces (Canlı Evrende Sucul Çevreler)
Code: BY-657
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Biology
Content: Through this course the freshwater environment will be dealt on their physical and chemical properties, ecology of the standing and flowing waters and animal communities live in. The marine environment will also be dealt on their physical and chemical properties, oceanic circulation and water movement, plankton communities, oceanic nekton, the pelagic environment, the benthic environment, intertidal ecology, estuaries and human impact on the sea. This course will also include various kinds of pollution problems in the aquatic environment which affects ecological needs of aquatic animals.

Title of the course: Marine Pollution (Deniz Kirliliği)
Code: SÜ-567
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Fishery Products
Content: Deniz kirliliğinin biyolojik yönünün tanımlanması, kirleticiler ve denizel ortamdaki dağılışları, kirlilik kaynakları, besin zinciri ve beslenme düzeyi, indikatör organizmalar, kirleticilerin denizel canlılardaki mevsimsel değişimleri, ağır metaller, pestisitler, klorlu hidrokarbonlar ve denizel organizmalar arasında iletilmeleri.

Title of the course: Impact of Pollution on Coastal Ecology (Kirliliğin Kıyı Ekolojisine Etkisi)
Code: CZM 506
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Marine Sciences and Technology/Coastal Zone Management
Content: Ecology Coastal zones are probably the areas whics are most intensively exploited by Mankind, because of their richness in natural resources and usefulness for inhabitance. On the other side, coastal zones are ten times more productive than the open oceans. Therefore, the ecological processes in coastal zones have special importance for human beings.

Title of the course: Aquatic Life and Pollution (Sucul Canlılar ve Kirlenme İlişkileri)
Code: 0502 517

University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: General characteristic of aquatic environment, general characteristic of aquatic organisms, the effect of pollution on aquatic organism, general pollution effects, effects of specific pollution types, effect of radioactive biosystem levels, collecting and assesment of biological parameters.

Title of the course: The Marine Environments and Pollution (Denizler ve Kirlenme)
Code: 0502 524
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: The physical, chemical and biological features of the Seas, The biogeochemical processes in marine environments, definition of marine pollution, classifications of the pollutants, resources and inputs of pollutants in marine environments, movements and behaviour of pollutants in marine environments, the riverine transportation of pollutants, the atmospheric inputs, the accumulation mechanisms of the pollutants in marine organisms, present levels of pollution in world seas, monitoring of marine pollution with remote sensing techniques, bio-monitoring of marine pollution, the Mussel-Watch projects in the world, human foodstuff limit values of the toxic substances, EU policies on marine pollution, The national regulations for preventing the marine pollution, international conventions on marine pollution.

Title of the course: Marine Pollution and its Control (Deniz Kirliliği ve Kontrolu)
Code: ÇM654
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Engineering/Environmental Engineering
Content: Denizlerin hidrodinamiği, Denizlerin fiziksel ve kimyasal özellikleri, Denizde atık dispersiyonu ve dağılımı etkileyen faktörler, Denizlerde petrol kirliliği ve kontrolü, Denizlerde metal kirliliği ve ekosistem üzerine etkileri, Deniz deşarjlarının sınıflandırılması ve denetimi.

Title of the course: Effects of Pollution on the Aquatic Ecosystems (Kirliliğin Sucul Ekosistemlere Etkisi)
Code: BİO 639
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Science/ Biology and Ecology
Content: The structure of water environment, the change of natural statement by the environmental impacts, the resources of pollutants and its impacts to the aquatic life, plants and animals, the biological assessment programs for the monitoring and determining of water pollution, samples on this field.

Title of the course: Pollution in Water and Control (Suda Kirlilik ve Kontrolü)
Code: ENV-530
University: Harran

Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Fundamental definitions, definition of pollution, pollution criteria, chemical contaminants, concentration and measurement criterion, pollution control, relevant regulations in validity.

Title of the course: Marine Pollution (Deniz Kirliliği)
Code: BTB5240
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Engineering/Fisheries Technology Engineering
Content: Physical and chemical properties of seawater. Biochemical processes in marine enviroment. Definition of pollution. Disintegration, distribution and transportation of the pollutants in the marine enviroment. Classification and properties of marine pollutants. Effects of the pollutants to the marine organism. Modelling of marine pollution. National and international on marine pollution.

Title of the course: Marine Pollution (Deniz Kirliliği)
Code: 14-10306-614
University: Marmara
Institute/Faculty/Department: Institute for Graduate Studies in Pure and Applied Sciences/Faculty of Sciences/Biology
Content: Deniz kirlenmesi ile ilgili faktörlerin ve kirlenmesi tiplerinin (termik; evsel atıkların sebep olduğu; kimyasal; radyoaktif) tanımı, Deniz suyunda ve canlılarda ağır metallerin birikimi, Kirlenmenin organizmalar üzerin etkisi, Denizlerde kendi kendini arıtma (otoepürasyon).Monitoring kavramı. Türkiye denizlerinde kirlenme ve boyutları.

Title of the course: Marine Pollution (Deniz Kirliliği)
Code: ENVE 547
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Present health of the oceans. The need of control of pollution due to potentially harmful substances in the ocean. Definition of potentially harmful substances; İnorganics, organics, radioactive matter, solid waste. Marine environment as a waste receiving body Environmental capacity. Potential impairment of marine ecosystems and water uses.

Title of the course: Environment and Fishery (Çevre ve Balıkçılık)
Code: SÜR-549
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Fisheries/Fishery Products
Content: Genel çevre kavramı, çevre-su ve balık ilişkisi balıkçılık sektörü ile çevre kirliliği ilişkisi su kirliliğinin balıkçılık ekosistemine etkisi.

Title of the course: Marine Pollution (Deniz Kirliliği)
Code: SAI-502
University: Mustafa Kemal

Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Fishery Products/ Fishing and Fish Processing
Content: Description of the biological aspects of the pollution in the sea, pollutants and their distribution, sources of the pollution, food chain and feeding level, indicator organisms, seasonal variation of pollutant in the living tissues, heavy metals, pesticides, chlorinated hydrocarbons and their transmission within the organisms of the sea.

Title of the course: Control of Marine Pollution (Deniz Kirliliğinin Kontrolü)
Code: ÇEV 943
University: Uludağ
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Deniz kirliliğinin tanımı ve ilgili kavramlar. Deniz kirliliği türlerinin sınıflandırılması. Denizsel ekosistemler. Monitoring kavramı. Deniz kirliliğinin kontrol unda izleyici kullanma metotları. Kimyasal analizler için örnekleme metotları. Kirletici kaynaklar. Petrol kirlenmesi. Yüzeysel kirlenme. Atıksularının denizde yarattığı nutrient zenginleşmesi. Ağır metal kirliliği. Rafineri atıksuları. Toksisite. Deniz kirliliği ile ilgili yasal düzenlemeler. Denize ait verilerin elde edilmesi ve değerlendirilmesi. Prediktif modelleme.

Title of the course: Marine Pollution (Deniz Kirliliği)
Code: ENVE 508
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Sciences and Engineering/Faculty of Engineering/Environmental Engineering
Content: Introduction. Oceanic Time Scales. Mass Balance Models in Marine Environment. Pollution and Contamination. Conservative Pollutants. (Heavy Metals, Hg, Sn, Cd, Pb, Toxicity, Speciation, Fluxes, Distributions in Coastal Waters, Distributions in Open Oceans) Halogenated Hydrocarbons. (PCBs, DDT, and Green House Gases, Toxicity, Speciation, Fluxes, Distributions in Coastal Waters, Distributions in Open Oceans) None Conservative Pollutants. (Nutrients, Petroleum Hydrocarbons, Thermal Energy etc.) Global, Regional and National Marine Pollution Control Activities. Selected Case Studies. Preparation and Presentation of Term Papers. (3+0)3, Technical elective course.

Urbanization and Environmental Problems

Title of the course: Urbanization and Environmental Problems (Kentleşme ve Çevre Sorunları)
Code: No code number is available on Web-site.
University: Afyon Kocatepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: No description.

Title of the course: Cities and Ecological Principles (Kentler ve Ekolojik Prensipler)
Code: 80403507
University: Akdeniz

Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: The historical development of cities, the reasons and processes of urbanization, living in the city, the Environmental problems, concept of environment, environment-human relations, ecosystems, cycles, ecological principles, economics-ecology relations and population, energy, pollution, flora-fauna, cultural and historical environment, Environmental Imphenomenon of city and its transformation, the formation of urban land, urban theories, urbanization and urban planning in Turkey.

Title of the course: Ecological Approaches in Urban Planning (Kent Planlamada Ekolojik Yaklaşımlar)
Code: 816508
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Faculty of Agriculture/Landscape Architecture
Content: The process of urbanization, urban structure and environment, urban ecosystems and planning principles, environmental criterias for urban development, integrated planning methodology, ecology and planning, ecology and economy, integrated planning and urban management, development problems in metropolitan areas.

Title of the course: Environmental and Urban Aesthetics (Çevre ve Kent Estetiği)
Code: 816511
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Faculty of Agriculture/Landscape Architecture
Content: A study of aesthetic aspects of environment, architecture and urban fabric, the development of environmental aesthetics and the development of environmental conscioushess throughout history, discussion of the criteria for the formation of an aesthetic environment in terms of urban identity and urban image, the evaluation of the visual elements and arts and their contribution to the urban silhouette and the built environment, the interaction among art-urban design-culture and environment.

Title of the course: Urban Environment and Sustainability (Kentsel Çevre ve Sürdürülebilirlik)
Code: 816517
University: Ankara
Institute/Faculty/Department: Institute of Applied and Natural Sciences/Faculty of Agriculture/Landscape Architecture
Content: Within the course content, conceptual frame, physical and socio-economic features of urban environment, interaction of urban and rural environments, urban environment and human relations, quality of life and quality indicators in urban environments, concept of sustainability will be argued from the landscape architecture point of view.

Title of the course: Urbanization and Environmental Problems (Şehircilik ve Çevre Sorunları)
Code: ZPM505
University: Atatürk

Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/ Landscape Architecture
Content: Şehircilik ve Planlamanın Tanımı Gereği Önemi Planlama Çeşitleri, Planlama Aşamaları, Çevre Sorunlarının Oluşumu, Çeşitleri, Alışılagelen Çevre Kirlilikleri.

Title of the course: Urbanization Movements in Turkey (Türkiye'de Kentleşme Hareketleri)
Code: BÖC-703 and BÖC-753
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Regional Geography
Content: Kentleşme hareketlerinin tarihi gelişimi, bugünkü durumu ve kentleşmenin getirdiği sorunlar.

Title of the course: Metropolis Cities in Turkey (Türkiye'de Metropol Kentler)
Code: TÜC 762
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography of Turkey
Content: Türkiye'deki büyük kentlerin gelişim süreci içerisinde ortaya çıkan sorunların belirlenerek, bu sorunlara coğrafi yaklaşımlarla çözümler bulunması.

Title of the course: New Concepts in Urbanization (Kentleşmede Yeni Konseptler)
Code: MIM 516
University: Dicle
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering and Architecture/Architecture
Content: The concepts like technology, Sustainability, Environment, organization are very important in urbanization. Discussing and analysing this concepts are the main thema of the course.

Title of the course: Regional and Environmental Conditions in the Building Context (Bina Bağlamında Bölgesel ve Çevresel Şartlar)
Code: MIM 518
University: Dicle
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering and Architecture/Architecture
Content: Region and arranged border of the environment of natural, economic, cultural and "person-building", architectural-community relations would be searched in the future. Dependent on community development; social environment, natural environment, cultural environment and changes in the built environment have to be searched for regional architectural processing.

Title of the course: The Environmental Effects in Architectural Design (Çevrenin Mimari Dizayna Etkisi)
Code: MIM 519
University: Dicle
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering and Architecture/Architecture

Content: The definition of different effects during the steps of producing buildings; the searching of functional design criteria belong to this data.

Title of the course: Architecture in the Context of Environmental Design (Çevre Dizaynı Bağlamında Mimari)
Code: ARC614
University: Dokuz Eylül
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Architecture/Architectural Design
Content: Architecture in the Context of Environmental Design Evalution of the urban environment. Components of the urban environment. Pedestrians in the urban environment. Appraising the visual environment, systematic approaches. Developing a common language in the analysis of the environment. Evaluating the existing environments; case-studies.

Title of the course: Ecological Totality, Spatial Organization and Urban Approaches (Ekolojik Bütünlük, Uzamsal Organizasyon ve Kent Yaklaşımları)
Code: URD534
University: Dokuz Eylül
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Architecture/City and Regional Planning
Content: Approaches Evaluation of the concepts in relation with the context of ecology. Ecological approaches and planning related to urban design. Interrelation between ecological approaches and urban design theories and practice. The concept of space, nature and ecology. Implementation and organization of urban design process.

Title of the course: Urban Sociology (Kent Sosyolojisi)
Code: 0502 527
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: No description.

Title of the course: Urbanization and Environmental Problems (Kentleşme ve Çevre Sorunları)
Code: COĞ 536
University: Fırat
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Letters/Geography
Content: No description.

Title of the course: Regional Planning Policies (Bölgesel Planlama Politikaları)
Code: 5231212
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Faculty of Engineering and Architecture/City and Regional Planning
Content: National and regional planning, components of regional development, regional analysis and design, development policies, basic zoning principles, regional policies of the EU, NUT regions, regional policies of Turkey within the process of adaptation to EU.

Title of the course: Energy Demand in Urban Areas and Alternative Sources (Kentsel Bölgelerde Enerji Talebi ve Alternatif Kaynaklar)
Code: 5471212
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Faculty of Engineering and Architecture/City and Regional Planning
Content: Energy problems in cities, energy supply, alternative energy sources. Energy saving urban development systems and building types. Problems and solutions concerning Turkey.

Title of the course: Ecological Architecture (Ekolojik Mimari)
Code: M 612
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Faculty of Engineering and Architecture/Architecture
Content: Ecological concepts in architecture- state of art.Sustainability in use of nature and its resources.Alternative energy sources and use them in architecture (solar energy use in architecture, wind energy use in architecture). Purification of water and compodt systems.Harvesting and use of rain waters.Ediple landscape, production and economy.Use and technology of natural and harmless building materials. Vernacular architecture- ecological aspects.Healthy buildings.Principles and proposals for ecological architecture.

Title of the course: Construction Biology and Ecology (Yapı Biyolojisi ve Ekolojisi)
Code: MİM 543
University: Gebze Institute of Technology
Institute/Faculty/Department: Institute of Technology/Faculty of Architecture/Architecture
Content: Yapı biyolojisi ve ekolojisi kavramları, temel ilkeleri ve bunların mimarlıkla ilişkisi/Genel çevre sorunları/Genel çevre sorunlarına yapılaşmanın olumsuz etkileri, çevre-yapı etkileşimi/Yapıların çevreye yaptıkları olumsuz etkileri azaltan çözümler, ekolojik kriterler, yöntemler/Ekolojik yapılaşma kriterlerinin uygulandığı yurtdışı örneklerin araştırılması ve sunulması/Ekolojik yapılaşma kriterlerinin uygulandığı yurt içinden yapı örneklerinin araştırılarak sunulması/Toplumda çevre sorunlarına karşı duyarlılığın ve bilincin oluşmasında mimarların sorumluluğu.

Title of the course: Population and Settlement (Nüfus ve Yerleşim)
Code: FEDCOĞ 0603
University: Harran
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography
Content: No description.

Title of the course: City and Urbanization (Kent ve Kentleşme)
Code: KAY653
University: Hacettepe
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economic and Administrative Sciences/Public Administration

Content: The city and its culture, urbanization. Modern and traditional city, relatives and neighborhood. Modernization and participation. Urban and rural interaction. The approaches of Maine, Durkheim, Wirth, Redfield, Bendix, Epstein and Levi. Political attitudes and urbanization. Urbanization in Turkey and its problems. The concept of "gecekondu".

Title of the course: Urban Infrastructure and Environmental Planning (Kentsel Altyapı ve Çevre Planlaması)
Code: CBM 525
University: İTÜ
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Civil Engineering/ Environmental Engineering
Content: Urbanization, land use, planning, policies of urbanization, relations between urban planning and infrastructures, water supply, wastewater collection, wastewater treatment, solid waste, transportation and other environmental factors, special topics and projects related to environmental planning and infrastructural work, preparation and evaluation of environmental maps for urban planning, quality of life, planning and environment.

Title of the course: The Relations between Settlement and Environment (Yerleşim ve Çevre İlişkileri)
Code: SPL 505
University: İTÜ
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/Urban and Regional Planning
Content: Maintenance of environmental dimensions related with urbanization concepts and relations between urbanization and the environment.

Title of the course: Environmental Evaluation of Urban Open Spaces (Kent Açık Alanlarında Çevre Gelişimi)
Code: KET 506
University: İTÜ
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/City Design
Content: Bu ders analitik değerlendirmeye değinerek bir araştırma projesinin nasıl tasarlandığını göstermeye yardımcı olması için konmuş.

Title of the course: Energy Conservation in Urban Planning (Kent Planlamada Enerji Tasarrufu)
Code: SBP 614
University: İTÜ
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/City and Regional Planning
Content: Dünyada mevcut tükenebilir kaynak potansiyelinin giderek azaldığı bilinmektedir. Bu nedenle her alanda olduğu gibi, kent planlama alanında da enerjinin verimli kullanımı ve alternatif enerji kaynak kullanımına yönelik olanakların araştırılarak, kriterlerin belirlenmesi gerekmektedir. Bu ders ülkemizde mevcut kaynak potansiyelinin değerlendirilmesine yönelik araştırmalara destek vermek amacıyla açılmaktadır.

Title of the course: Analysis of Ecological Systems (Ekolojik Siatemlerin Analizi)
Code: SBP 620
University: İTÜ
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/City and Regional Planning
Content: Hızlı şehirleşme sürecinde, fiziki alanlar planlaması ile doğal çevre etkileşiminde sürdürülebilir planlama stratejilerinin paralelliğinin sağlanması. Gelişmekte olan ülkeler için büyük problem olan plansız şehirsel gelişmelere beğlı planlama politikalarının geliştirilmesi yanında global ölçekten yerel ölçeğe kadar şehirsel planlama stratejilerinin ekolojik sistemlere bağlı olarak değerlendirilmesi.

Title of the course: Urban Infrastructure Planning (Kent Altyapı Planlaması)
Code: CP 531
University: İzmir Institute of Technology
Institute/Faculty/Department: Graduate School for Engineering and Sciences/Faculty of Architecture/City and Regional Planning
Content: Explores advanced and traditional technical systems that are useful in making cities more healthful, tolerable, livable and perhaps pleasurable. Discussion encompasses settlement patterns, energy and communications, streets, water supply, sewage, solid waste disposal and other services. Analyse of several cities and metropolitan areas as to their operations.

Title of the course: Sustainable Urbanization (Sürdürülebilir Kentleşme)
Code: CP 760
University: İzmir Institute of Technology
Institute/Faculty/Department: Graduate School for Engineering and Sciences/Faculty of Architecture/City and Regional Planning
Content: The principles of sustainable urbanisation with a focus on ecological, sociological, economic linkages. Local, regional and global dimensions of sustainability.

Title of the course: Landscape Ecology and Design (Peyzaj Ekolojisi ve Dizaynı)
Code: PEM5230
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Landscape Architecture
Content: Readings, discussion and field investigations to establish a landscape ecological basis for designing ecosystems as a part of human settlement. Emphases on the design and planning implications of scientific conclusions and theory, and meaningful techniques for creating high functioning ecosystems in inhabited landscapes.

Title of the course: Environmental Factors (Çevresel Faktörler)
Code: IMB 5070
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Engineering and Architecture/Interior Design

Content: Topics such as heat, bioclimatic comfort, heating, cooling and ventilating, energy efficiency of building and condensation are covered. Physics of sound, acoustics and noise control are also discussed.

Title of the course: Urban and Regional Planning (Kentsel ve Bölgesel Planlama)
Code: 217042203
University: Marmara
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: the contemporary approaches to urban and regional planning, the role and the importance of local authorities in urban and regional planning, the practices of urban and regional planningin local authorities will be studied.

Title of the course: Urbanization and Environment (Kentleşme ve Çevre)
Code: ÇEV-519
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Kentleşmenin tarihsel gelişimi, kentleşme ve çevre sorunları ilişkisi, yerel yönetimler ve çevre, yerel çevre sorunlarının kent bağlamında irdelenmesi, tarihi çevrenin korunması.

Title of the course: Urban Sociology (Kent Sosyolojisi)
Code: KY-514
University: Mustafa Kemal
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Administration
Content: Kent, sosyolojik olarak kent, kentleşme, kentlileşme, kent-kır ayrımı, kentin toplumsal siyasal ve iktisadi yapısı, kentin nüfus yapısı, kentin kültürel yapısı, gecekondu, konut sorunu, kentsel topraklar ve arsa sorunu, kentsel sorunların toplumsal yansımaları, kentsel odaklı çevre sorunları.

Title of the course: Urban Substructure and Environmental Planning (Kent Altyapısı ve Çevre Planlaması)
Code: ENVE 716
University: Ondokuz Mayıs
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Urban Form and Affecting Factors of Urban, The Importance of Environmental Factors and Roles in Urban Planning, Drinking Water Network and Distribution Models, Place Selection Criteria and Projecting For Sewerage System and Treatment Plant, Place Selection and Planning in Solid Wastes Removing Plants.

Title of the course: Urbanization Theories (Kentleşme Teorileri)
Code: KAY-531
University: Pamukkale
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economies and Administrative Sciences/Public Administration
Content: No description.

Title of the course: Urbanization and Environment Problem (Kentleşme ve Çevre Problemi)
Code: GEO 508
University: Sakarya
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Letters/Geography
Content: The concepts and historical development of urbanization
The characteristics of urban settlements
The political, economic and social changes in urban areas.
The problems of urbanization
Environmental problems seen in urban areas.

Title of the course: Urbanization and Environmental Problems (Kentleşme ve Çevre Sorunları)
Code: 8031011013
University: Selçuk
Institute/Faculty/Department: Institute of the Natural and Applied Sciences/Faculty of Engineering and Architecture/City and Regional Planning
Content: No description.

Title of the course: Control of Environmental Conditions in Agricultural Structures (Tarımsal Yapılarda Çevre Koşullarının Denetimi)
Code: 8043001020
University: Selçuk
Institute/Faculty/Department: Institute of the Natural and Applied Sciences/Faculty of Agriculture/Agricultural Structures and Irrigation
Content: No description.

Title of the course: Urbanization and Housing Problems (Kentleşme ve Konut Problemleri)
Code: MIM 718
University: Uludağ
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Engineering and Architecture/Architecture
Content: No description.

Title of the course:Natural Environment-Architectural Design Relations (Doğal Çevre-Mimari Tasarım İlişkisi)
Code: MİM 6215
University: Yıldız Technical
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/ Architectural Design
Content: Mimari tasarıma, doğal çevrenin etkisinin irdelenmesi / Mimaride doğal çevre faktörünün öneminin teorik olarak vurgulanması / Bu amaca yönelik olarak mevcut mimari uygulamaların doğal çevre verileri ile ilişkilerini ve etkileşimini belirleyen araştırmaların yaptırılması.

Title of the course: Urban Planning and Economies (Kent Yönetimi ve Ekonomisi)
Code: ECON 5102
University: Bahçeşehir (Private University)

Institute/Faculty/Department: Institute of Applied Sciences/Environmental Design/ Economics
Content: Ekonomik konular ve metropoliten alanların yapısı incelenecektir. Ekonomik büyümenin sebepleri ve etkileri. Konumuna karar verme, arazi kullanımı, fiyatlandırma ve servis değiştirme, yerel hükümet vergilerinin derin analizi, şehir yönetimlerinin gelir ve gider yapıları. Suçlu konuları; polis koruması, ulaşım, işçi pazarı yaratılması ve işsizliğin sebepleri, süreklilik problemleri ve yoğun şehir yoksulluğu, çevre ve kirlenme.

Title of the course: Environmental Factors (Çevresel Faktörler)
Code: IAED 542
University: Bilkent (Private University)
Institute/Faculty/Department: Institute of Fine Arts/Faculty of Art, Design and Architecture/Interior Architecture and Environmental Design
Content: Topics such as heat, bioclimatic comfort, heating, cooling and ventilating, energy efficiency of buildings, and condensation are covered. Physics of sound, acoustics and noise control are also discussed.

Title of the course: Regional Development (Bölgesel Gelişme)
Code: GEO 542
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Sciences and Engineering/Faculty of Arts and Science/Geography
Content: Study of the physical and cultural features, economies, and populations of the world's geographic regions. Principles and processes of regional planning and the analytical methods appropriate for solving regional planning problems. Case studies and the role of the planner in the regional planning process are discussed.

Title of the course: Environmental Design (Çevresel Tasarım)
Code: IMC605
University: İstanbul Kültür (Private University)
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Fine Arts and Design/Architectural and Environmental Design
Content: İç mimarlık alanında çevre tanımının yeri ve önemi, mezzo ve mikro çevre ve etkileşimleri, çevre bileşenlerinin tanıtılması, doğal ve yapay çevre ikileminin irdelenmesi,çevre bilincinin oluşturulması, çevre kimliği ve bileşenleri, fiziksel, doğal ve toplumsal çevre bileşenleri söz konusudur.

Title of the course: Housing and Environmental Studies (Konutlaşma ve Çevre Çalışmaları)
Code: ARCH515
University: Lefke (Private University)
Institute/Faculty/Department: Institute of Graduate Schools/Faculty of Architecture and Engineering/Architecture
Content: This course is divided into several components enabling students contemporary issues affecting the development of housing within the built environment worldwide. Global environmental issues, urban and rural housing issues, housing delivery systems, rural community planning and development, energy conservation and the exploitation of natural resources of energy, especially solar energy, form the content of course components.

Title of the course: Housing and Environmental Design (Konutlaşma ve Çevre Dizaynı)
Code: ARCH522
University: Lefke (Private University)
Institute/Faculty/Department: Institute of Graduate Schools/Faculty of Architecture and Engineering/Architecture
Content: The environment and its effects on buildings, ultimately users, has without doubt become a corner stone in contemporary building design. No designer, nowadays,can afford to ignore environmental design due to its strong interdependence with other design related disciplines such as sociology, economics, ecology, on the one hand, and its weight in current building regulation on the other.

Title of the course: Ecology and Sustainability in Architecture (Ekoloji ve Mimaride Sürdürülebilirlik)
Code: ARCH 573
University: Yeditepe (Private University)
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering and Architecture/Architecture
Content: Green Building Design/Construction/Use principles and strategies, Examining real cases / Case studies, Green Building Performance Evaluation, Development of Green Building Design, Solutions for existing environment and new designs.

Conservation of Natural Resources

Title of the course: Protected Area Planning (Koruma Alanı Planlaması)
Code: No code number is available on Web-site.
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/ Landscape Architecture
Content: Definition and classification of protected areas. Historical progress of nature protection in Turkey and in the world, policies followed on this subject. International conventions about protected areas and related organizations. Legal arrangements concerning nature protection in Turkey. Existing protected areas (national parks, nature parks, specially protected areas, natural sites etc.) in the country. Site selection criteria and planning principles for protected areas. Preparation of master plan and management plans. Public and NGO participation in the management.

Title of the course: Nature Protection in Europe Union (Avrupa Birliğinde Doğa Koruma)
Code: No code number is available on Web-site.
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/ Landscape Architecture
Content: Terms of nature conservation, improvement of nature conservation in European Countries, legislative regulations and directives passed for the conservation of nature and natural resources, CORINE Bio-tops EUNIS Habitats, introduction of NATURA 2000 the largest nature conservation network in European Union, Flora-Fauna-Habitat Directive and its implication.

Title of the course: Protection, Evaluation and Arrangement Principles for Natural and Cultural Environment (Doğal ve Kültürel Çevreyi Koruma, Geliştirme ve Düzenleme Prensipleri)
Code: ZPM-504
University: Atatürk
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/ Landscape Architecture
Content: Doğal ve Kültürel Tabiat Varlıklarının Yöre ve Bölge Ölçeğinde Korunması, Islahı İle Planlama İmkanları, Göl, Baraj, Su Kıyılarının ve Tatil Köylerinin Yeniden İhtiyaca Göre Düzenlenmesi ve Detaylandırılması.

Title of the course: History of Environment and Environmental Protection in Turkey (Türkiye'de Çevrenin ve Çevre Korumanın Tarihi)
Code: TÜC-573
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography of Turkey
Content: Türkiye'de çevre tarihçiliğine açılırken son 25 yılda çevrenin değişimi, batı ülkelerindeki durumla karşılaştırılması ve ülkemizdeki uygulamalar (I). Türkiye'de çevreyi oluşturan karasal yaşama ortamı, su yaşama ortamındaki değişmeler, kentsel ve endüstriyel ortamlar ve buna bağlı hareketlerin durumu.

Title of the course: Conservation Biology (Koruma Biyolojisi)
Code: FBY5249
University: Balıkesir
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Science and Letters/Biology
Content: Dünyanın Biyolojik çeşitliliğini tehdit eden faktörler: Asit yağmurları, şehirleşme, yol yapımı, katı atıklar, iklim değişiklikileri ve global ısınma, Dünya insan populasyonun hızlı artışı ve beraberinde getirdiği sosyal, ekonomik ve biyolojik (ekolojik) problemler, Doğa koruması için eğitim: okul öncesi, orta ve yüksek öğretim, Tehlikede olan, tehdit altında olan ve tehdit altında olmayan türler, Endemik türler ve endemizmin korunması, Uluslar arası sözleşmeler (RAMSAR, CİTES, BERN, RİO, JOHANESBURG) ve bu sözleşmelerin Türkiyedeki uygulamaları, Gen bankaları, hayvanat bahçeleri, botanik parkları ve sulak alanlar. Tehlike sınırları ve risk analizleri, Ekosistemlerin restorasyonu, yönetimi ve koruması, Sürdürülebilir kalkınma ve koruma stratejileri.

Title of the course: Management of Protected Areas (Koruma Alanları Yönetimi)
Code: COG5206
University: Balıkesir
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography
Content: Giriş, materyal ve metod, doğa korumanın tarihçesi, önemi, doğa korumanın nedenleri, doğa korumanın kriterleri, doğa koruma alanlarının saptanması ve planlanması, doğa koruma örgütleri, Türkiye'de koruma alanları, derin ve sığ ekoloji. Milli parkları, Sulak alanları, Türkiye'de koruma alanlarının sorunları ve çözüm önerileri, Doğa koruma kanun ve yönetmelikleri.

Title of the course: Protection of Nature (Doğayı Koruma)
Code: BY 564
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Science and Arts/Biology
Content: Four factors to protect nature wihtout and spoil where they sustain their activities and lives: Urbanization, Industry, Agriculture and Forestry, Rational evaluaton. Explanation of these 4 features and determining relationships between human factor, human effects on nature and this features.

Title of the course: Nature Conservation and National Parks (Doğa Koruma ve Milli Parklar)
Code: PM-510
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Related laws and regulations, related organizations and their tasks, the ways and methods they follow, preservation usage balance.

Title of the course: Protection of Natural Life (Doğal Hayatı Koruma)
Code: SU-509
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Science and Arts/Fishery Products
Content: The importance of aquatic species in the ecosystem, their importance for the economy, their protection, the result of environmental ravages.

Title of the course: Conservation of Natural Resources (Doğal Kaynakların Korunması)
Code: BY-637
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Biology
Content: The demand for natural resources, the impact of climate change, biodiversity and species extinction, the value of biodiversity. The meaning and role of the World Heritage sites, Biosphere reserves, Botanical gardens, specially protected areas, national parks, etc.
Discussion and explain on some important international environmental agreements for protection of species and habitats, marine and atmospheric pollution.

Title of the course: Planning of Nature Protected Areas (Doğa Koruma Alanlarının Planlanması)
Code: PM-504
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Landscape Agriculture
Content: Milli park, doğa koruma alanı, doğa parkı, doğa anıtı, ve özel çevre koruma bölgesi gibi koruma alanlarının tarihi gelişimi, bu statülerdeki alanların seçim ilkeleri ve alanlarla ilgili bilgiler, sistemli bir doğa koruma planlamasının yapılabilirliği.

Title of the course: Planning of Environmental Protection (Çevre Koruma Planlaması)
Code: PM-510
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Etkili bir çevre koruma sistemi ne olmalıdır? Böyle bir sistemin sağlanabilmesinde planlama açısından yaklaşım biçimi, etkili bir korumayı gerçekleştirmek üzere koruma ve kullanım ilişkileri ve denge sağlayıcı plan yaklaşımları.

Title of the course: Environmental Protection Introduction to Environmental Protection (Çevre Koruması Çevre Korumasına Giriş)
Code: ARC524
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Architecture/Architecture
Content: Mimari çevre ile ilgili kavramlar ve tanımlar. Çevrenin özellikleri. Hukuksal ve sosyo-ekonomik faaliyetlerde çevre koruma yöntemleri. Tarihsel ve mimari çevre. Tarihsel çevre analizinde kullanılabilecek yöntemler. Tarihsel çevre analizinde kullanılabilecek yöntemler. Tarihsel çevrenin korunması ve kültürel kaynaklarının en uygun şekilde kullanılması. Tarihsel çevrede, ekonomik, sosyal kalkınma hedefleriyle uyumlu teknik düzenlemeler. Korumanın yöresel çevreye uygulanması.

Title of the course: Planning Techniques of Nature Reserve Areas (Doğa Koruma Alanı Planlama Tekniği)
Code: No code number is available on Web-site.
University: İstanbul
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry/Landscape Architecture
Content: Doğa koruma planlaması kavramı ve önemi. Doğa koruma planlamasında ana ve tali amaçlar. Doğa koruması planlamasında Mekansal planlama objeleri. Doğa koruma alanlarının saptanması, ayrılması ve tesisi. Doğa koruma alanlarının zonlara ayrılması. Ekosistem komplekslerinin iyileştirilmesi, bakımı ve yöniden yaratılması.

Title of the course: Soil and Water Protection (Toprak ve Su Koruması)
Code: TO – 510
University: Kahramanmaraş Sütçü İmam
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/Soil
Content: Toprakların verimliliklerini kaybetmesi, toprak işleme, strüktür ve koruma ilişkileri, min toprak işleme, tarımsal suların kullanımı, tarım arazilerinin ve su kaynaklarının devamlılığının sağlanması, yasalarla koruyucu önlemler.

Title of the course: Nature Conservation and Tourism (Doğa Koruma ve Turizm)
Code: PEM5180
University: Karadeniz Technical
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry/Landscape Architecture
Content: Concepts of nature conservation and protected area. Classification of protected areas. The concepts of recreation, tourism. Ecological, and perceptual recreation

tourism carrying capacities. Symbiotic relationships between tourism and nature conservation. Study of tourism potential in Turkey in relation to naure conservation.

Title of the course: Local Authorities and Environment (Mahalli Otoriteler ve Çevre)
Code: 217042104
University: Marmara
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Public Management
Content: The importance of local authorities in protection and development of environment, the important projects on environmental protection and development in local authorities will be examined in this course.

Title of the course: Nature Rehabilitation and Reclamation (Doğa Rehabilitasyon ve Reklamasyonu)
Code: PM-510
University: Mustafa Kemal
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Rehabilitation of damaged and degraded ecosystems by humans, evaluation of land uses in terms of sustainability, planning and rehabilitation processes as mitigative and preventive measures.

Title of the course: Sustainability and Land Use Planning (Sürdürülebilirlik ve Arazi Kullanım Planlaması)
Code: PM-513
University: Mustafa Kemal
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Ecological limitations and capacities to sustain human consumption activities, sustainable development, nature conservation and land use planning.

Title of the course: Principles of Nature Conservation (Doğa Koruma Prensipleri)
Code: FBİ 657
University: Ondokuz Mayıs
Institute/Faculty/Department: Graduate Schools of Natural Sciences/Faculty of Arts and Science/Biology
Content: No description.

Title of the course: Conservation and Planning Methods of Natural Areas (Doğal Alanları Koruma Planlama Yöntemi)
Code: PMYL 511
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering and Architecture/Architecture
Content: Doğal koruma kavramı, doğal alanların diğer arazi kullanımları ile ilişkileri, korumada olumsuz etmenler, doğal alanların sınıflandırılması çalışmaları, sınıflandırma sisteminde örnekler, koruma amaçlı planlama için belirleme ve sınıflandırma kriterleri, koruma önceliklerinin belirlenmesine ilişkin yöntem çalışmaları. Türkiye'de yapılan çalışmalar ve yasal düzenlemeler.

Title of the course: Conservation of Nature and Tourism (Doğa Koruma ve Turizm)
Code: PEM 722
University: Zonguldak Karaelmas
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Forestry Engineering/Landscape Architecture
Content: Doğal alanların sınıflandırılması. Turizmde genel kavramlar. Ülkemizdeki milli parklar, doğal parklar, doğal anıtlar. Doğayı koruma alanları ve özel çevre koruma bölgeleri. Korunan alanlarda turizmin çevresel etkileri. Alternatif turizm formları (yumuşak turizm, yeşil turizm, ekoturizm vb.) Korunan alanları ayırma ve planlama kriterleri. Çevresel etki değerlendirmesi. Piknik alanları, kamping alanları, kamping alanları ve tatil köyleri planlama ilkeleri. Golf, trekking, rafting ve benzeri doğa turizm etkinlikleri. Kamping alanı projesi.

Title of the course: Protection and Management of Wild Life (Yaban Hayatın Korunması ve Yönetimi)
Code: ORM 812
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry Engineering/Forestry
Content: Natural habitat and environment. Management of wild life populations. Planning environmental protection and precautions.

Title of the course: Rehabilitation of Environmental Landscape Structures (Çevre Peyzajının Rehabilitasyonu)
Code: PEM 718
University: Zonguldak Karaelmas
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Forestry Engineering/Landscape Architecture
Content: Milli parklar ve rekreasyon sahalarının ekolojik dengeleri, ziyaretçi kullanım alanları, peyzaj mimarisi, patika yolları kullanım değişiklikleri, çevre ve kuş gözetleme kuleleri ile ziyaretçi yoğunluğuyla ilişkileri.

Title of the course: Environmental Planning and Local Management Applications (Çevreci Planlama ve Yerel Yönetim Uygulamaları)
Code: ARCH 5106
University Bahçeşehir (Private University)
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Architecture/ Environmental Design
Content: Özellikle 20. yüzyılın ikinci yarısından itibaren giderek çoğalan çevre sorunlarının çözümüne çevreci kent, mimarlık ve peyzaj mimarlığı yaklaşımı ile yanıt aranacaktır. Dünyadaki sürdürülebilir kentsel ve kırsal planlama örneklerinin ve yerel yönetim yaklaşımlarının analizi yapılacaktır. Çevreci planlama ilke ve örnekleri, kentsel tasarım uygulamaları, çevreci imar ve planlama yasa ve yönetmelikleri, yerel yönetimlerin ve kararlarının tasarımda rolü tartışılacaktır.

Environmental Risk Assessment

Title of the course: Environmental Risk Assessment and Management (Çevresel Risk Değerlendirmesi ve Yönetimi)
Code: 70804613
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: Kimyasal endüstrilerde kullanılan zehirli ve yanıcı maddelerin akut zararlarının değerlendirilmesi. Hata ağaçları ile tehlikenin belirlenmesi ve matematiksel modellerle sonucun belirlenmesi. Sonuçla modellemede fiziksel prensipler. Endüstriyel risklerin değerlendirilmesi ve diğer anlaşılmayan risklerle karşılaştırılması.

Title of the course: Environmental Risk and Planning (Çevresel Risk ve Planlaması)
Code: ÇEV6608
University: Cumhuriyet
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Genel tanım, teori ve kavramlar, risk planlamasında çevresel ve insan etkenleri, toplumsal duyarlılık ve yaklaşım, teknolojik yaklaşım, risk analiz kriterleri ve parametrelerin belirlenmesi yöntemleri, öngörülen ve gerçek risk olabilirlik analizleri, risk yönetimi ve planlaması, önceliklerin belirlenmesi, uygulamalar.

Title of the course: Environmental Risk Assessment and Management (Çevresel Risk Değerlendirmesi ve Yönetimi)
Code: ÇM-525
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Çevresel risk değerlendirmesinin çevre yönetimine katkısı. Çevresel risk değerlendirmesi çalışmalarının aşamaları; planlama, problemlerin formulasyonu, risk analizi, risk karakterizasyonu, risk tahmini. İnsan sağlığı ve ekolojik sistemler üzerinde kimyasalların oluşturduğu risklerin değerlendirilmesi. Risk yönetimi. Çevresel politika ve mevzuatlarda risk değerlendirmesi uygulamaları. Risk ekonomisi ve riskin kıymetlendirilmesi.

Title of the course: Environmental Risk Assessment (Çevresel Risk Değerlendirmesi)
Code: MÇV 527
University: Kocaeli
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Kirletici kaynakların oluşumu, arıtılması ve taşınımı esnasında oluşabilecek çevresel risklerin belirlenmesi. Toksikolojik verilerin çevresel risk açısından değerlendirilmesi. Tehlikeli kimyasal maddelere ve radyoaktiviteye maruz kalma sonucu oluşacak çevresel risk boyutunun değişik senaryolar ile değerlendirilmesi. İşçilerin karşılaştıkları sağlık riskinin matematiksel olarak belirlenmesi.

Climate Changes

Title of the course: Global Environmental Systems (Küresel Çevre Sistemleri)
Code: ESC 572
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Physical, chemical and biological properties and processes of the Earth and its compartments in their past and present states.

Title of the course: Introduction to Climate Dynamics (İklim Dinamiğine Giriş)
Code: ESC 571
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Pure Sciences
Content: Instrumental and proxy climate data. History of Earth's atmosphere and oceans. Climatic subsystems and fundamental processes. Building and analyzing simple climate models. Introduction to atmospheric and oceanic general circulation models. Climates of terrestrial planets.

Title of the course: Climate and Life (İklim ve Yaşam)
Code: COĞ 612
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Geography
Content: Bu ders kapsamında iklim ile yaşam arasındaki ilişki hazırlanacak örnek projelerden hareketle incelenmektedir. Çalışılabilecek örnek konular aşağıda sıralanmıştır.
1.Coğrafi felsefe içinde iklimin yerinin sorgulanması
2. İlklim konusunun yöntemlerinin belirlenmesi
3. İklim ve sağlık
4. İklim ve yerleşme
5. İklim ve kültür
6. İklim ve toplum
7. İklim ve enerji
8. İklim ve su
9. İklim ve beslenme
10. İklim ve doğal ortam
11. İklim ve çevre sorunları.

Title of the course: Global Environmental Change (Küresel Çevre Değişimi)
Code: BY-687
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Biology
Content: Physical, chemical, biological and ecological dimentions of global environmental change; the role of human activities in shaping and changing the environment along with the discussions on the recent datas of the subject.

Title of the course: Climatic Change (İklim Değişimi)
Code: 0109501
University: Ege
Institute/Faculty/Department: Institute for Social Sciences/Faculty of Letters/Physical Geography
Content: Possible causes of climate variability and its effects.

Title of the course: Environmental Climatology (Çevre Klimatolojisi)
Code: 0109509
University: Ege
Institute/Faculty/Department: Institute for Social Sciences/Faculty of Letters/Physical Geography
Content: The circulation and dynamic factors of the climate of Turkey are also analyzed. Identification of local climate conditions causes and effects of air pollution and human activities are investigated in this respect.

Title of the course: Environmental Effects of Climate Change (İklim Değişikliğinin Çevresel Etkileri)
Code: ÇEV 531
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: İnsan etkinlikleri ve küresel iklim değişikliği; Sera gazları ve aerosoller; Küresel iklimde ve deniz seviyesinde gözlenen değişimler; İklim senaryoları; Türkiye ikliminde gözlenen değişimler; İklim değişikliğinin etkileri; Stratosferdeki ozon incelmesi; Küresel iklim sisteminin korunması; İklimsel gözlem dizilerinin istatistiksel analizi.

Title of the course: Climatology (Klimatoloji)
Code: FEDCOĞ 1503
University: Harran
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/Geography
Content: No description.

Title of the course: Methods of Climatology (Klimatoloji Metotları)
Code: GEO 501
University: Sakarya
Institute/Faculty/Department: Institute of Social Sciences/Faculty and Letters/ Geography
Content: Introduction: General Climatology and Climatologic Research Methods
General Climatology: Radiation and Temperature Conditions of Earth, Weight and Motion in Atmosphere, Watersteam in Atmosphere: Humidity, Intensify and Precipitation, Air Masses and Air Types, Cyclones, Anticyclones and Air Types according to them, General Atmosphere Circulation, Climate Classification and Climate Types, Climate Changeability
Climate Research Methods: Evaluating and Examining the Datas, Checking, Arranging and Completing the Datas, Suggestions about Examining the Climate Elements.

Title of the course: Environment and Meteorology (Çevre ve Meteoroloji)
Code: 1006510
University: Süleyman Demirel
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: No description.

Title of the course: Global Change (Küresel Değişim)
Code: GEO 508
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Sciences and Engineering/Faculty of Arts and Science/Geography
Content: Global Change is a graduate level course that examines past environmental and climate changes, especially for the Quaternary period, modern processes, and the problems facing populations and environmental planning caused by future global changes. The course content will vary year to year to focus on past, present or future changes, depending on the expertise of the lecturer and the interests of the students.

Title of the course: Human Geography (İnsan Coğrafyası)
Code: ANT 521
University: Yeditepe (Private University)
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Arts and Science/ Anthropology
Content: This graduate course will have weekly selected readings and discussion on the relationship between the physical environment and culture such as the effects of climate changes and disasters; world resources and violence; the social meaning of changing life expectancies,the social causes and impact of environmental degredation; and the politics of religion.

Coastal Zone Management

Title of the course: Coastal Planning and Management (Kıyı Planlama ve Yönetimi)
Code: No code number is available on Web-site.
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/ Landscape Architecture
Content: Definition of coast and shore concepts. Types of coasts, coastal ecosystems, coastal dynamics. Coastal management concept and related issues. International and regional programs and agreements about protection of coastal areas. Legal arrangements concerning the planning of coastal areas and shorelands in Turkey. Regional Master Plans and Structural Plans. Measures taken to conserve coastal ecosystems.

Title of the course: Environmental Oceanography (Çevre Oşinografisi)
Code: ESC 573
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Pure Sciences

Content: Introduction to coastal oceanography; shore processes, waves, tides. Transport and mixing in coastal waters; turbulence and dispersion. Coastal meteorology. Direct and remote sensing. Data analysis and coastal assessment.

Title of the course: Coastal Zone Management (Kıyı Alanları Yönetimi)
Code: ESC 592
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Pure Sciences
Content: an understanding of the human importance of the coastal zone; Dynamic nature of the coastal zone; Key issues affecting the coastal zone, particulary those related to human aspects of development and utilisation; the approach known as integrated coastal management; the structural problems underlying the adoption the implementation of integrated coastal zone management; Present use and misuse of Turkish coasts.

Title of the course: Utilization and Management of Coastal Zones (Kıyısal Alanların Kullanımı ve Yönetimi)
Code: SU-510
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Science and Arts/Fishery Products
Content: Deniz, okyanus, göl'lerle kıyısı olan bölgelerdeki özel biotopların incelenmesi, kıyı çizgisine dahil olduğu alanların farklı amaçlarla sürdürülebilir kullanılması ve konu ile ilgili çıkabilecek sorunlar ve çözüm önerileri.

Title of the course: Management and Planning of Coastal Zones (Kıyı Yönetimi ve Planlaması)
Code: SÜ-589
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Fishery Products
Content: Giriş, kıyı yönetiminin tanımı, bileşenleri ve gelişimi, su ürünlerinin kıyı yönetimindeki yeri, kıyı yönetiminin planlamayla ilişkisi, kıyı yönetim planı hazırlama yöntemleri, örnek çalışmalar, örnek proje uygulaması.

Title of the course: Integrated Coastal Zone Management (Entegre Kıyı Yönetimi)
Code: CZM505
University: Dokuz Eylül
Institute/Faculty/Department: Institute of Marine Sciences and Technology/Marine Technologies/Coastal Zone Management
Content: The aim of this course is to delineate the fundamental concepts and principles of coastal zone management (CZM) and to provide an understanding for basic methodologies.

Title of the course: Management and Planning of Coastal Zone Resources (Kıyı Kaynakları Yönetim ve Planlaması)
Code: CZM515
University: Dokuz Eylül

Institute/Faculty/Department: Institute of Marine Sciences and Technology/Marine Technologies/Coastal Zone Management
Content: Physical Infrastructures: Geology and Basic infrastructures allowing production, Marine Resources, Economics of Marine Resources, Strategic Planning of Marine Resources, Sustainable Development of Marine Resources Management, Management Requirements of Maritime Conventions, Marine Resources Management and International Organizations.

Title of the course: Wetlands of Turkey and Their Importance (Türkiye'deki Sulak Alanlar ve Önemi)
Code: BİY 568
University: Ege
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Science/Biology
Content: No description.

Title of the course: Turkish Coasts as Environmental Problems (Çevre Sorunları Açısından Türkiye Kıyıları)
Code: ÇEV 527
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Ekosistem bileşenleri, deniz ortamı, tatlısular, su kirleticileri; Kıyılarımızda termal kirlilik, hava kirliliği, toprak kirliliği, radyoaktif kirlilik, çevre kirliliğinin önlenmesi, tartışmalar.

Title of the course: Coastal Zone Management (Kıyı Alanları Yönetimi)
Code: KBM 507
University: İTÜ
Institute/Faculty/Department: Institute of Science and Technology/Coastal Sciences and Engineering
Content: Description of coastal zones. Determination of the territorial and sea boundries, Description of inner and outer parameters. General aims and organization of coastal zone management, organisational need and continuity conditions. Sustainable development concepts. Calculation methods. Environmental effects of coastal structures. Methods for monitoring coastal zones. Data categorization. Discription of coastal zones natural equlibrium components. Coastal zones behaviour as a system. Aids effects and objections of NGOs. The effects of the globalization on the coastal zones. Relations and oppositions between basin management and coastal zone management. Basic principles of the Integrated coastal zone management.

Title of the course: Wetlands and their Management (Sulak Alanlar Yönetimi)
Code: PM-512
University: Mustafa Kemal
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Status, ecological significance, protection and management of wetlands in Turkey are dealt with in this course.

Natural Treatment Systems/Fundamentals of Environmental Technologies

Title of the course: Natural Treatment Systems (Doğal Arıtma Sistemleri)
Code: ÇEV536
University: Anadolu
Institute/Faculty/Department: Graduate School of Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: : Definition, Aim and Characteristics of Natural Treatment Systems; Types of Natural Treatment Systems; Wetlands: Natural Wetlands; Wetlands in Turkey and their Environmental Potentials; Constructed Wetlands; Surface Flow Systems; Subsurface Flow Systems; Aquatic Plants and Plant Selection; Fundamental Considerations in the Application of Natural Treatment Systems; Wastewater Characteristics; Treatment Mechanisms Applied; Public Health; Slow-Rate and Rapid Infiltration Systems; Design Principles of Natural Treatment Systems; Case Studies.

Title of the course: Treatment Technologies (Arıtma Teknolojileri)
Code: ESC 543
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Social Sciences
Content: Wastewater characteristics; wastewater treatment objectives; methods; physical unit operations; chemical unit processes; biological unit-processes; treatment and disposal of sludge; advanced wastewater treatment; land-treatment systems; effluent disposal and reuse.

Title of the course: Natural Treatment Systems (Doğal Arıtma Sistemleri)
Code: ENV534
University: Dokuz Eylül
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculties of Engineering/Environmental Engineering
Content: Natural Treatment Systems The treatment of wastewaters in natural systems such as natural or consructed wetland, aquatic plant systems, land treatment and stabilization ponds are introduced. The main design parameters, process performance, advantages and disadvantages of natural treatment systems and comparison with other conventional wastewater treatment systems are discussed.

Title of the course: Environmental Technologies (Çevre Teknolojileri)
Code: ENV 505
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Environmental Sciences
Content: Environment and sustainable development, environmentally safety technologies, design of the environmentally safety new processes and integral approaches.

Title of the course: Waste Treatment (Atık Arıtımı)
Code: ÇEV 503
University: Hacettepe

Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Çevre; insanın çevre üzerine etkisi; Su, fiziksel ve kimyasal su kalite parametreleri; doğal sistemlerde su arıtımı; Su arıtmada kullanılan yöntemler; Atıksu arıtımı ve uzaklaştırılması; Hidrolik tasarım; Hava, hava kalitesi ve parametreleri, kirleticilerinin tanımı, meteorolojik olaylar ve doğal arıtım prosesleri, hava kirliliği kontrolünde mühendislik yöntemleri; Toprak, katı atık tanımı, özellikleri ve parametreleri, katı atıkların giderilmesinde mühendislik yöntemleri, enerji ve kaynak geri kazanımı.

Title of the course: Water Treatment (Su Arıtımı)
Code: SAI-535
University: Mustafa Kemal
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Fishery Products/ Fishing and Fish Processing
Content: Hardness of water and the methods of treatment of the hardness, the purpose of the treatment of the waste water, techniques for disinfections of the water and its importance from the view point of fisheries.

Title of the course: Waste Treatment of Domestic and Industrial Wastes. Reusing and Utilization in Ecological Cycles (Evsel ve Endüstriyel Atıkların Arıtılması. Geri Kazanılması ve Ekolojik Çevrimler Açısından Değerlendirilmesi)
Code: ÇMYL 514
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: Evsel ve endüstriyel atıkların gruplandırılması; Biyolojik ve mikrobiyolojik arıtımın ilkeleri; Biyolojik ve mikrobiyolojik arıtmada makro ve mikroorganizmaların fonksiyonları; Kullanılan türler ve arıtma sistemleri; Evsel atıkların arıtılması ve geri kazanılması; Endüstriyel atıkların arıtılması ve geri kazanılması; Gruplandırılması; Geri kazanım olayı ve ekolojik çevrimlerde doğal denge açısından önemi; Ekolojik çevrimler; Ekolojik çevrimlerde aşırı yükleme; Çevrimlerin kopması ve çevrimlerin korunma ilkeleri; Geri kazanım olayının ekonomik önemi.

Management of Hazardous Wastes

Title of the course: Integrated Waste Management Economics (Entegre Atık Yönetim Ekonomisi)
Code: ÇEV526
University: Anadolu
Institute/Faculty/Department: Graduate School of Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: The Selection and Application of Suitable Techniques; Technologies and Management Programs to Achieve Specific Waste Management Objectives; Cost-Benefit Analysis on the Selection of Some Disposal Alternatives; Life Cycle Inventory; Basic Environmental Effects on Sanitary Landfilling and Incineration and Their Economic Evaluation.

Title of the course: Management of Hazardous Wastes (Tehlikeli Atıkların İdaresi)
Code: CVM 5103
University: Balıkesir
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Tehlikeli atıkların tanımı ve sınıflandırılması, Tehlikeli atıklar yasal mevzuatı, Ülkemizde tehlikeli atıkların durumu ve diğer ülkelerdeki uygulamalar, Risk analizi,değerlendirmesi ve risk idaresi, Tehlikeli atıkların davranışı ve taşınımı, Tehlikeli atık kimyası ve toksikoloji, Temel Fizikokimyasal parametrelerin tanımı ve tehlikeli atık idaresinde uygulamaları, Endüstride atık azaltımı ve önlenmesi teknikleri, Atık geri kazanımı, Tehlikeli atıkların Fiziko-kimyasal yöntemler ile bertarafı, Tehlikeli atıkların arıtımında biyoteknoloji uygulamaları, Isıl işlemler, Arazide uzaklaştırma, Tehlikeli atıklar ile kirlenmiş toprakların rehabilitasyonu, Uygulama örnekleri ve çözümleri.

Title of the course: Environmental Hazard Management (Çevresel Zarar Yönetimi)
Code: ESC 575
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Pure Sciences
Content: Environmental hazards, recognitionü evaluation and recovery; environmetal aspects of natural and technological disasters; risk assessment and perception; seismic, atmospheric, hydrologic and technological hazards; disaster debris management; post-disaster sanitation.

Title of the course: Solid Waste Management (Katı Atık Yönetimi)
Code: ESC 531
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Environmental Technology
Content: Types, quantities and sources of solid wastes; collection, storage, transfer and transport. Disposal alternatives: landfills, incineration, composting. Integrated solid waste management; legistlative aspects; solid waste management by source reduction and recycling; policy development for source reduction and recycling in communities.

Title of the course: Hazardous Wastes and Their Management (Tehlikeli Atıklar ve Yönetimi)
Code: ÇEV 6610
University: Cumhuriyet
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Tehlikeli atık karakteristikleri, kaynakları ve kategorileri, yer malzemesinin fiziksel, jeoteknik ve jeokimyasal özellikleri, kirleticilerin yer materyali içinde taşınım prosesleri, tehlikeli atık bertarafı için alan seçimi, tehlikeli atık depolama teknikleri deponi sahaları ve çevresinde emniyet, ulusal ve uluslar arası hukuk içerisinde tehlikeli atıklar.

Title of the course: Management of Hazardous Wastes (Tehlikeli Atıkların Yönetimi)
Code: ENV604
University: Dokuz Eylül
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculties of Engineering/Environmental Engineering
Content: Hazardous wastes, their source and amounts. Toxicological effects of hazardous wastes. Classification of hazardous wastes. Removal techniques. Applicaiton examples. Accidental cases and measures to be taken.

Title of the course: Hazardous Waste Management (Tehlikeli ve Zararlı Atıkların Yönetimi)
Code : 0502 523
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: The problem of hazardous waste, collection and transportation problems of hazardous wastes, hazardous waste control and management.

Title of the course: Management of Hazardous Wastes (Tehlikeli Atık Yönetimi)
Code: ÇEV 528
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Tehlikeli maddeler, tehlike ve risk alma arasındaki bağlantı, deyimler ve tarifler. Biyolojik, kimyasal ve radyasyon tehlikeleri, Hava , su ve toprak kalitesine etkileri. Tehlikeli maddelerin depolanması, kullanımı ve trasportasyonu. Tehlikeli maddelerden korunma ve tedbirler. Atıkların sınıflandırılması ve bunlar içinde tehlikeli olan sıvı, katı gazların yönetimi. Tehlikeli atıkların eliminasyonu ve azaltılması.

Title of the course: Solid Waste Management (Katı Atık Yönetimi)
Code: ÇEV 609
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Katı atık, tanımlaması, sınıflandırması, toplanması; Ayıklama ve transfer istasyonları; Kompostlama; Yakma; Değerlendirme; Düzenli depolama; Tehlikeli atıklar; Hastahane atıkları; Belediyelerin sorunlarına yaklaşımlar.

Title of the course: Principles of Solid and Hazardous Waste Management (Katı ve Tehlikeli Atık Yönetiminin Esasları)
Code: CBM506
University: İTÜ
Institute/Faculty/Department: Institute of Science and Technology/Faculty of Civil Engineering/Environmental Sciences and Engineering
Content: Sources and composition of solid wastes. Physical, chemical, and biological properties of municipal solid waste. Solid waste generation and collection rates. Waste handling and separation, storage, and processing at the source. Collection of solid waste. Optimization of collection systems. Transfer and transport.Materials recycling. Landfilling; Overall picture of landfills. Landfill gas: Modelling of landfill gas

generation and movement. Modelling of landfill leachate. Thermal Conversion Technologies. Medical wastes management. Fundamentals of Hazardous Waste management; Definition, basic concepts and terms, Process fundamentals. Current Management Practices: Environmental audits, pollution prevention, facility development and operations. Treatment and disposal Methods; Physico-Chemical processes, biological methods, stabilization and solidification, thermal methods, land disposal. An overview of rehabilitation of solid waste landfills. Regulation of Hazardous Waste. Trans boundary of hazardous wastes.

Title of the course: Sustainable Waste Management (Sürdürülebilir Atık Yönetimi)
Code: MÇV524
University: Kocaeli
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Definition and classification of solid wastes. Sampling methods. Waste collection and optimization. Waste recovery technologies and new strategies. Solid waste disposal methods. Waste incineration. Design of landfills. Solid Waste Control Act. Solid waste problems and solution proposals in Turkey.

Title of the course: Hazardous Wastes (Tehlikeli Atıklar)
Code: ÇEV 935/805
University: Uludağ
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Definitions and identification of hazardous wastes, characterization of hazardous wastes, hazardous waste management, USEPA list classification system, technical and legislative procedures for hazardous waste transport and disposal, incineration technology, chemical stabilization and solidification technologies, health risk assessment methods.

Cleaner Production

Title of the course: Waste Minimization, Recycling and Clean Technologies (Atık Azaltma, Dönüşüm ve Temiz Teknolojiler)
Code: 70804514
University: Akdeniz
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Engineering/ Environmental Engineering
Content: Temiz teknolojilere olan gereksinim, temiz teknolojilerin gelişimini etkileyen faktörler ve düzenlemeler: geri kazanım ve yeniden kullanım, atık minimizasyonu, endüstriyel risk yönetimi, sürdürülebilir kalkınma, kaynak sınırlamaları, ekolojik-etiketleme, çevresel denetimler, pazarlama, biyolojik bozunabilirlik, tehlikeli atık ve atıksu kontrol ve arıtımı, standartlar; enerji ile ilgili konular: yenilenebilir enerji, enerji tasarrufu, teknosistemlerin termodinamiği, yeşil teknoloji, temiz üretim ve atık yönetimi stratejileri-uygulamaları: gıda endüstrisi, sentez prosesleri, enerji üretimi, elektronik ürünler, özel kimyasallar, otomotiv endüstrisi, ilaç kimyasalları, atık arıtımı ve arazide iyileştirme teknolojileri; Otomasyon ve enstrümentasyon, merkezi-merkezi olmayan üretim, entegre üretim, küreselleşme; temiz teknolojilerle ilgili yasal tanımlar ve

düzenlemeler, ABD ve Avrupa Birliği yaklaşımları, gelişmekte olan ülkeler, uluslararası eğilimler.

Title of the course: Cleaner Production (Temiz Üretim)
Code: ÇEV534
University: Anadolu
Institute/Faculty/Department: Graduate School of Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Basic concepts of Cleaner Production and Applications; Comparison of End-Of-Pipe and PEM (Preventive Environmental Management) Approaches; Sustainability; Industrial Development and Environmental Ethics; The Role and Importance of Various Public Actors in the Realization of Cleaner Production Applications; Tools of Cleaner Production; Good Housekeeping, Environmental Impact Assessment; Life Cycle Assessments; Environmental Technology Assessment; Chemical Assessments; Auditing of Adaptation to Environmental Legislation; Auditing of Waste Minimization; Overview of Environmental Management Systems.

Title of the course: Waste Minimization, Recycling and Clean Technologies (Atık Azaltma, Dönüşüm ve Temiz Teknolojiler)
Code: ESC 506
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences
Content: Low or no waste clean technologies, engineering and management applications for the minimization of the generation of domestic and industrial wastes. Changes that can be applied in existing industries to save raw materials-natural resources and minimize air, water and soil pollution. Environmentally friendly products. Case studies related to different industries such as meat, leather, dairy products etc. industries.

Title of the course: Atık Azaltımı, Geri Kazanımı ve Temiz Teknolojiler (Waste Minimization, Recycling and Clean Technologies)
Code: CBM614
University: İTÜ
Institute/Faculty/Department: Institute of Science and Technology/Faculty of Civil Engineering/Environmental Sciences and Engineering
Content: Need for clean technologies; factors and regulations affecting the development of clean technologies: recycle and reuse, waste minimization, industrial risk management, sustainable development, resource limitations, eco-labeling environmental audits, marketing, biodegradability, hazardous and aqueous waste handling and treatment, standards; Energy related issues: renewable energy, energy saving, thermodynamics of technosystems; Green technology, clean manufacturing and waste management strategies-case examples: food industry, synthesis processes, energy supply, electronic products, specialty chemicals, automotive industry, pharmaceutical chemicals, waste treatment and land remediation technologies; Automation and instrumentation; centralized versus decentralized production, integrated production, globalization; statutory definitions and regulations for clean technologies, US and EU approaches, developing countries, international conventions.

Water Quality Management

Title of the course: Water Quality Management (Su Kalitesi Yönetimi)
Code: ESC 514
University: Boğaziçi
Institute/Faculty/Department: Institute of Environmental Sciences/Environmental Sciences/Technology
Content: Sources and uses of water; the hydrological cycle; physical, chemical and biological characteristics and methods of analysis. Water quality standards and global perspectives. Stoichiometry, reaction kinetics and material balances; reactor models in natural systems. Modeling of water quality by "contaminant movement process" approach. Water quality in rivers, estuaries, lakes and reservoir systems. Introduction to water and wastewater treatment.

Title of the course: Water Quality Management (Su Kalitesinin Yönetimi)
Code: ÇEV 519
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Temel konular; Kalite değişim sistemleri; Evsel ve endüstriyel kullanım sonucu kalite değişimi; Tarımsal kullanım sonucu kalite değişimi; Haliçlerde su kalitesinin önemi; Yezeysel ve yeraltı sularında su kalitesindeki değişimler; Ötrifikasyon (nütrientlerin etkisi); Su kalitesi yöntemindeki kriter ve standartlar; Mühendislik açısından su kalitesinin yönetimi; arazide kurulmuş sistemlerle kalite kontrolu; Havuzlarla kalite kontrolu; Yüzeysel sularla seyreltme yoluyla kalite kontrolu; Atıkların deniz ve haliçlere deşarjı.

Code: ÇEM 506
University: Sakarya
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Su kirlenmesi; tanımı, anlam ve önemi. Kirlilik kontrolünde ulusal politikalar ve başka ülkelerin politikaları. Su kullanımlarının su kalitesine etkisi. Su kalite standartları. Su kalite izleme programı. Su kalite yönetiminde yaklaşımlar. Su kalite yönetiminin sosyo-politik içeriği. Su kalite yönetiminin seviyeleri.

Title of the course: Water Quality Management (Su Kalitesi Yönetimi)
Code: CEV 964/821
University: Uludağ
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Definition of water quality, Effect of human activities on water quality, Hydrodynamic-physico-chemical and biological components to characterize the receiving bodies, Spatial and temporal changes in water quality, Major topics for monitoring and surveying of waters, Assessment of data and quality control, Watershed management and its evaluation.

Quaternary Environments

Title of the course: Geo-Archaeology (Jeo-Arkeoloji)
Code: 0502 516
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: Impacts of natural environment in developments and changes of civilization, geomorphologic, climatologic, hydrographic and biogeography effects, paleo-geographic environmental changes in quaternary and human existence, paleo-geographic environmental changes in halogen, postglacial climatologic changes and environmental results, rise of sea level, shrinking and lowering in lakes, changes in wetlands, the effects of these environmental changes on formation of Neolithic cultures, environmental changes in Neolithic Era, expansion of alluvial areas, the relation between developments of coastal plains, delta and ancient settlements, land use in ancient times and their impacts to the environment, human and environment in historical ages and human and environment today.

Title of the course: Quaternary Paleoecology (Kuaterner Paleo-ekoloji)
Code: ARK-502
University: Mustafa Kemal
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Letters/Archaeology
Content: Prehistorik kültürlerin içinde gelişmiş olduğu ilgili çağın iklimsel, jeomorfolojik, faunal ve floral olarak değerlendirilmesinin ve bu ekolojik çevre içersinde insanın yeri ve yaşamı üzerindeki etkilerinin irdelendiği bir derstir.

Title of the course: Quaternary Environments (Kuaterner Çevreler)
Code: GEO 507
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Sciences and Technology/Faculty of Arts and Science/Geography
Content: Over recent years there has been a great growth of interest in the global climate cycles which have occurred repeatedly over the last 2.4 million years, during the Quaternary period. At least partly, this sense of interest reflects a hope amongst researchers that a better understanding of the Earth's past will allow improved prediction of human effects on the environment. There is also a great deal of purely academic curiosity amongst ecologists, archaeologists, anthropologists, climatologists and biogeochemists about the ways that the global environment has changed during the recent past, and the way in which each aspect of the global system has interacted with others.

Environment and Culture

Title of the course: Technosphere, Environment and Culture (Teknoküre, Çevre ve Kültür)
Code: STPS 544
University: METU

Institute/Faculty/Department: Institute of Social Sciences/Science and Technology Policy
Content: Workshop/Seminar in creative studies and research on the relationship of culture and nature; assessment of habitat/oecumene within cultural and natural permanence and change; creative problem-solving and problem-definition within time/space dynamics; researching new ways of integrating multiplicities. Research into the physical manifestation of culture and values. Applied execution of ideas and creative problem solving with different materials and designs.

Title of the course: Cultural Evolution (Kültürel Evrim)
Code: ARME 563
University: METU
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Archaeometry
Content: This course aims at introducing the anthropological approach in understanding what happened in history and is happening today. Therefore the concepts of culture, primate and human social organizations, evolution, cultural systems such as language and communication; marriage, family and kinship; production, consumption and exchange; social control; beliefs, myths and cosmology will be studied in terms of cultures in-nature.

Title of the course: Environment and Culture (Çevre ve Kültür)
Code: IMC08 2S
University: İstanbul Kültür (Private University)
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Fine Arts and Science/Architectural and Environmental Design
Content: Çevre – insan etkileşim sistemi kapsamında, çevre ve kültür tanımlarının irdelenmesi, çevre bileşenleri olan doğal ve yapay çevre; fiziksel ve toplumsal çevre kavramlarının irdelenmesi, kültür bileşenleri olarak maddi ve manevi kültür ögelerinin tanıtılması, kültür öz ögelerinin betimlenmesi, bu bileşenler arasındaki etkileşimlerin ortaya konulması söz konusudur.

Environmental Planning of Highways

Title of the course: Transportation and Natural Environmental Conditions (Ulaşım ve Doğal Çevre Koşulları)
Code: BİC-516
University: Atatürk
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Science and Letters/ Social and Economic Geography
Content: Ulaşım türlerinin incelenmesi. Ulaşım faaliyetlerini etkileyen fiziki coğrafya şartlarının değerlendirilmesi.

Title of the course: Environmental Planning of Highways (Karayolları Çevre Planlaması)
Code: PM-519
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Agriculture/Landscape Architecture

Content: Bu derste karayollarının çevreye getirdiği ekolojik yük, ekolojik açıdan uygun güzergah seçimi ve kriterleri. Tahrip gören alanların onarılması ve doğaya kazandırılması. Yolun trafik emniyeti açısından kullanımını sağlayıcı bitkilendirme ilkeleri.

Environmental Research Methods

Title of the course: Environmental Research Methods (Çevre Araştırma Yöntemleri)
Code: ÇEV-540
University: Muğla
Institute/Faculty/Department: Institute of Natural Sciences/Environmental Sciences
Content: Bu derste bir çevresel araştırmanın nasıl yapılacağına ilişkin olarak gerekli yöntemsel bilgi ve becerinin kazandırılması amaçlanmaktadır. Araştır yöntemleri kapsamında araştırma modelinin kurulması, uygun data toplama tekniklerinin belirlenmesi, toplanan bilginin analiz edilmesi, yorumlanması, raporlaştırılması ve yayınlanması ders konularının kapsamı içinde yer alacaktır.

Title of the course: Environmental Research (Çevre Araştırması)
Code: GEO 566
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Sciences and Engineering/Faculty of Arts and Science/Geography
Content: This course focuses on what are increasingly being referred to as "indigenously developed," and what used to be call "traditional" farming methods, and techniques. Such practices are those not dependent of either fossil fuels, chemical fertilizers, or other external inputs. They are typically small in scale, involving for the most part the labor of individuals, families, and communities. Emphasis is placed on those systems most commonly used in various parts of the world today and in times past.

Environmental Management Systems

Title of the course: Industrial Environmental Quality Management (Sanayi Çevre Kalite Yönetimi)
Code: ÇEV610
University: Anadolu
Institute/Faculty/Department: Graduate School of Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: Management of Air and Water Quality; Solid Wastes; Hazardous and Toxic Wastes at Industrial Facilities; Industrial Hygiene and Risk Management; Quality of Work Environment at Industrial Facilities and its Effect on the Health of Workers; Worker Health-Worker Safety Procedures; Environmental Impact Assessment (EIA) Studies; Environmental Quality Management Systems (EQMS) - ISO 14000 Applications; Legislation and Standards Related to Conservation of Environmental Quality; Quality Monitoring and Evaluation Studies; Procedures Applied in Impact Assessment and Regulation; Studies Toward Conservation and Improvement of Environmental Quality.

Title of the course: Environmental Management Systems (Çevre Yönetim Sistemleri)
Code: MTY-533
University: Çukurova
Institute/Faculty/Department: Institute of Applied Sciences/Engineering and Technology Management
Content: Çevre Yönetim Sistemleri. Çevre Yönetim Sistemlerinin organizasyonel fayda-masraf analizi. Çevre Yönetim Sisteminin oluşturulması; çevre politikası, çevre programı, çevre eylem planı. Çevre Yönetim Sisteminin uygulanması, izlenmesi, değerlendirilmesi ve geliştirilmesi. Çevre Yönetim Sistemleri sertifikasyonu. Çevre Yönetim Sistemi standartları, TS-ISO-14000 uygulamaları.

Title of the course: Quality and Environment Systems (Kalite ve Çevre Sistemleri)
Code: ISL 526
University: Pamukkale
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economics and Administrative Sciences/Business Administration
Content: No description.

Title of the course: Environmental Management System Standards (Çevre Yönetim Sistemi Standartları)
Code: 8028021014
University: Selçuk
Institute/Faculty/Department: Institute of the Natural and Applied Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: No description.

Title of the course: Environment Management System (Çevre Yönetim Sistemi)
Code: TELÜ 596
University: Trakya
Institute/Faculty/Department: Institute of Applied Sciences/Faculty of Agriculture/ Agriculture Economy
Content: Teklif edilen ders ile; asagida ana basliklari verilen konular incelenecektir. Çevre Yönetim Sisteminin tanitilmasi ve izlenecek prosedürün açiklanmasi Çevre Yönetim Sisteminin tarima dayali sanayi isletmelerine getirecegi faydalar verilecektir.
Çevre Yönetim Sisteminin gida sanayi isletmelerinde kullanilmasinin bu isletmelere yapacagi ekonomik katkilar ; Çevre Yönetim Standartlarinin açiklanmasi ve serilerin tanimlanmasi ; Tarimsal ürünlerin üretiminden islenmesi ve tüketilmesine kadar geçen asamada izlenmesi gereken kurallar verilecektir; Çevre Yönetim Standartlari ile ilgili mevzuat ve uygulama.

Title of the course: Environmental Management System Standards (Çevre Yönetim Sistemi Standartları)
Code: ÇEV 941
University: Uludağ
Institute/Faculty/Department: Graduate School of Natural Sciences/Faculty of Engineering and Architecture/Environmental Engineering
Content: ISO 14000 Standartları serisinin tanıtılması ; ISO 14000‘nin temel bileşenleri olarak Organizasyon Değerlendirmesi ve Ürün Değerlendirmesi; Ürün proses ve

hizmetlerin sistematik değerlendirilmesi. ISO 14001' in yürütülmesi aşamaları, standardın onaylanması ve çevre yönetimi açısından kazandırdıkları.

APPENDIX C Descriptions of the Specially Related Courses

Specially related courses

Title of the course: Biology of Turkish Seas (Türkiye Denizlerinin Biyolojisi)
Code: BIO 538
University: Celal Bayar
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Science/Biology
Content: Türkiye denizlerinin cografik, jeomorfolojik, batimetrik ve hidrografik özellikleri; Türkiye denizlerinin biyolojisini etkileyen çevresel faktörler;Türkiye denizlerinin biotasi ve verimi.

Title of the course: Ecology of Turkish Seas (Türkiye Denizleri Ekolojisi)
Code: SU-512
University: Çanakkale Onsekiz Mart
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Agriculture/Fishery Products
Content: Physico-chemical and biological features of the Mediterranean, Aegean Sea, the Straits and Black Sea, living resources, foreign and expensive species, species under threat.

Title of the course: Mediterranean Ecosystems (Akdeniz Ekosistemleri)
Code: BY-671
University: Çukurova
Institute/Faculty/Department: Institute of Basic and Applied Sciences/Faculty of Applied Sciences/Biology
Content: Ekosistemin tanımı, ekosistemlerin ayrımını tayin eden faktörler, yeryüzünde ve ülkemizde Akdeniz'in yeri, Akdeniz'in genel ekolojik özellikleri ve başlıca ekosistemler bu sistemlerin varlığını, dağılımını olumlu ve olumsuz yönde etkileyen faktörler.

Title of the course: Development Cycle of Environmental Projects and Evaluation of International Financial Instruments (Çevre Projeleri Gelişim Döngüsü ve Uluslararası Finans Gereçlerinin Geliştirilmesi)
Code: 816510
University: Ankara
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: Interpretation of environmental project cycle, reasons for failure, programming, revision of indicators, formulation of project concept, detailed specification of project idea, identifications, financing, implementation and evaluation, determination and evaluation of specific international financial instruments.

Title of the course: Plants, People and Environment (Bitki, İnsan ve Çevre)
Code: 816527
University: Ankara
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Agriculture/Landscape Architecture
Content: The features of the plants, the nature of our environment, constructive action and solutions to our environmental problems.

Title of the course: Environmental Geophysics (Çevre Jeofiziği)
Code: JF-503
University: Çanakkale Onsekiz Mart

Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Engineering and Architecture/Geological Engineering
Content: Environment, basic principles, underground water and soil pollution. Determining underground water and soil pollution by using geophysical applications, differentiating clear-salty water zones.

Title of the course: Environmental Epidemiology (Çevre Epidemiyolojisi)
Code: 526
University: Ege
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/ Environmental Sciences
Content: This course should aim as a useful learning to the conduct of epidemiological studies on the effects of non-biological and chemical environmental agents on the health of human communities. Main topics are ; descriptive studies and use of existing records, prospective and retrespective studies, case – control studies, environmental and biological assesment of exposure, combined exposures, physical and chemical interactions.

Title of the course: Environmental Chemistry (Çevre Kimyası)
Code: ÇEV 602
University: Hacettepe
Institute/Faculty/Department: Institute of Pure and Applied Sciences/Faculty of Engineering/Environmental Engineering
Content: Çevre yönetiminin fizikokimyasal süreçleri; Hava ve su kirlenmesinin denetlenmesi ve atık proseslerinin fiziksel ve kimyasal prensiplerinin analizi; Proses dinamiği; Sedimantasyon, koagülasyon, filtrasyon, adsorbsiyon, absorbsiyon, oksidasyon; Pestisitler; Hava kirlenmesi; Radyoaktif kirleticiler; Su kirlenmesi; Katı atıkların atılması.

Title of the course: Environmental Impacts of Materials and Ecological Construct Materials (Malzemelerin Çevreye Etkisi ve Ekolojik Yapı Malzemeleri)
Code: M 593
University: Gazi
Institute/Faculty/Department: Institute of Sciences and Technology/Faculty of Engineering and Architecture/Architecture
Content: The definition of the terms of sustainable, green, environmental, and ecological concepts, The emerging reasons of these concepts, Building-environment context, The place and importance of building materials in this context, The problems of defining a building material as an ecological, Environmental assessment and classification systems and standards, The definition of available and alternative energy resources, The impact of building materials on environment and on human in all their phases from “Production” to “Use” and finally to the “Demolition” of the buildings. The evaluation of building materials from viewpoints of energy use, renewable and non-renewable resource depletion, global warming, ozone depletion, toxicity, acid rain, durability and maintenance, recycle/reuse, and health hazards parameters, The exploration of environmental friendly buildings using ecological building materials.

Title of the course: Environmental Chemistry (Çevre Kimyası)
Code: TOP 522
University: Harran
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Agriculture/Soil

Content: Its definition, relationship of environment and chemistry, determination of pollution of soil, water and atmosphere, determination of pollution sources and their effectiveness analysis and comparison with standard values, all will be covered with this course.

Title of the course: Environmental Archaeology (Çevre Arkeolojisi)
Code: SA 512
University: METU
Institute/Faculty/Department: Graduate School of Natural and Applied Sciences/Faculty of Architecture/Settlement Archaeology
Content: This course deals with the study of past environments and landscapes of the Middle East and Balkans and their implications for settlement archaeology. Major topics of the course include past environments on a global scale, paleo-climates, the evolution of coastal areas and sea levels through time, investigation of the past landscapes, reconstructing the plant environment, polynology, macrobotanical remains, the animal environment, micro and macrofaunal remains, the human environment, and human impact on various environmental contexts.

Title of the course: Geology and Environmental Science (Jeoloji ve Çevre Bilimi)
Code: ÇEM 514
University: Sakarya
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Engineering/ Environmental Engineering
Content: Çevre ve jeolojinin temel prensipleri. Yerküredeki doğal afetler. İnsan ve çevre. Mineraller, enerji ve çevre. Küresel değişiklik ve arazi kullanımı. Tehlikeli, zararlı atıklar ve jeoloji. Çevre-yer bilimi hukuksal sorunları.

Title of the course: Environmental Design Applications (Çevreci Tasarım Uygulamaları)
Code: ARCH 5101
University: Bahçeşehir (Private University)
Institute/Faculty/Department: Institute of Natural Sciences/Faculty of Architecture/Environmental Design
Content: Çevreci tasarım ilkeleri, doğal döngülerin tasarımda sağlanması, yenilenebilir enerji kullanımı, su döngülerinin yapıda sağlanması, yağmur suyu toplama, doğa havalandırma. Yurt içi ve yurt dışı çevreci mimarlık örneklerinin tartışması.

Title of the course: Environmental Computer Informatics (Çevresel Bilişim)
Code: IMC014 2S
University: İstanbul Kültür (Private University)
Institute/Faculty/Department: Institute of Natural and Applied Sciences/Faculty of Fine Arts and Design/Architectural and Environmental Design
Content: Bilgisayar ile iletişim teknolojilerinin çevre beğlemında irdelenmesi, kuramsal açıdan çevre ve bilgisayarla iletişim teknolojilerinin ele alınıp incelenmesi, çokluortam düzeneği içinde bilgisayar teknolojisinin çevresel koruma ve dengelerin gözetilmesi anlamında irdelenmesi söz konusudur.

Title of the course: Current Debates in Political Theory (Politik Teoride Güncel Tartışmalar)
Code: PUB 522
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economies and Administrative Sciences/Public Administration
Content: Discussion of the main tenets and influences of the political thought emerged in twentieth century in its variety, including issues like post-modernism, feminism, environmentalism, fundamentalism.

Title of the course: Contemporary Problems in Political Theory (Politika Teorisinde Çağdaş Sorunlar)
Code: INT 551
University: Fatih (Private University)
Institute/Faculty/Department: Institute of Social Sciences/Faculty of Economies and Administrative Sciences/International Relations
Content: Critical analysis of contemporary issues in political thought such as representation, obligation, loyalty, equality, feminism, or environmentalism.

Title of the course: Environment and Space in Japan and Europe (Çevre ve Japonya ile Avrupa'da Mekan)
Code: ANT 534
University: Yeditepe (Private University)
Institute/Faculty/Department: Social Sciences Graduate Studies/Faculty of Arts and Science/Antropology
Content: The course examines the transactional relationship between individuals, culture and the physical environment. Focusing on the issues such as attitudes towards nature, architectural design, the use of space, the course aims to explore varied meanings attached to the physical environment. Cross-cultural differences and similarities in environmental meanings will be discussed through a comparison of examples mainly taken from Japan and Europe. The topics to be covered range from a small private space in the home like the bathroom, through public places such as offices and schools, to the larger-scale analysis of architecture, landscapes, and nature. References are taken from a wide variety of academic fields, such as anthropology, environmental psychology, architecture, urban sociology, humanistic geography.