

**SOCIO-ECOLOGICAL APPROACH OF TEACHING
AND RESEARCH ACTIVITIES AT THE UNIVERSITIES OF THE USA**

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Abstract. *In modern conditions one of the integral part of teaching and research activities at the universities of the United States is socio-ecological component, which includes studying about sustainable development and natural resource management, development of alternative energy sources, ensuring the quality and safety of food and so on.*

The main features of the modern system of agricultural education in the United States and features of socio-environmental philosophy with training in economic fields in universities are covered in the article.

Keywords: *socio-environmental approach, environmental protection, sustainable development, environmental management, education system, educational work, research, university, United States of America*

Introduction. In the conditions of globalization the rating of the Agricultural Universities in the United States of America (USA) is provided by high quality preparation of future experts in accordance with modern requirements of society.

The priorities of human development challenges include not only ensuring competitiveness of the agricultural products and improving technologies, but solving problems of environmental protection in the implementation of production activities, the natural resource management and environmental nature; the development of alternative energy sources; quality assurance and food safety for saving human health and to ensure their longevity.

Therefore, the researches of features of the relationship between business, society and the environment are very important. The scientific researches for solutions of social and environmental problems are important element of educational and research activities at Agricultural Universities of the USA.

Analysis of recent researches and publications. The issues of education and research activities in the United States are researched by many

foreign and domestic scientists: T. Gavrilenko, L. Knodel, M. Korn, A. Sirotin, L. Pivneva and other scientists.

Researching the politics of US high school, the structure of higher education teaching, experience of teachers in higher education etc., questions of socio-environmental philosophy bases in education and research activities remain open. Thus, the article is actual to transfer this experience in Ukrainian education system.

Purpose. The purpose of the article is to highlight the experience of the universities of the United States of America about features of social and ecological direction of their educational and research activities.

Methods. Theoretical and methodological basis of the study are the formation of social and environmental components in teaching and research activities in the US higher education. In the article is used the research of foreign and domestic scientists on the study of education and research activities at the US universities. The important is the transfer of practical experience by the authors who participated in the Faculty Exchange Program (FEP) of The United States Department of Agriculture (USDA).

To achieve stated goal, in this article were used the following research methods and techniques: induction; deduction; statistical observation; methods of causation and abstraction.

Results. Study of features of educational and scientific process at universities in USA and the introduction with modern scientific approaches to solve environmental problems was made possible due to internships of the Faculty Exchange Program. The goal of the program is to promote the development of sound agricultural policy and effective and competitive agricultural marketing and business systems. As a result of the program, participants can improve the quality of educational services through the dissemination of scientific and pedagogical, educational and cultural experiences among colleagues' agricultural universities. Faculty Exchange Program is implemented in cooperation with leading universities in the USA, including Colorado State University and The Ohio State University.

American students can study the agriculture in schools, colleges and universities. These education institutions may be different ownership (private, state or owned by state governments), level of study (bachelor's degree, master's degree, and PhD) and the areas of specializations.

The goal of US educational system is to prepare professionals able to think creatively and analyze the dynamic processes in the modern world for making the right conclusions. The focus of education is not on volume, but on fundamental education, its systematic and specialization. Students are required understanding and knowledge of certain concepts of science and technology, forming their skills further self-education.

Higher education in the United States is an optional final stage of formal learning following secondary education, often at one of the 4 724 colleges or universities and junior colleges in the country (2013) [3]. In 2008, 36 % of enrolled students graduated from college in four years. 57 % completed their undergraduate requirements in six years, at the same college they first

enrolled in. Over the past 40 years the gap in graduation rates for wealthy students and low income students has widened significantly. 77 % of the wealthiest quartile of students obtained undergraduate degrees by age 24 in 2013, up from 40 % in 1970. 9 % of the least affluent quartile obtained degrees by the same age in 2013, up from 6 % in 1970 [4].

Like high school, the four undergraduate grades are commonly called freshman, sophomore, junior, and senior years (alternatively called first year, second year, etc.). Students traditionally apply for admission into colleges. Schools differ in their competitiveness and reputation. Admissions criteria involve the rigor and grades earned in high school courses taken, the students' GPA, class ranking, and standardized test scores (Such as the SAT or the ACT tests). Most colleges also consider more subjective factors such as a commitment to extracurricular activities, a personal essay, and an interview. While colleges will rarely list that they require a certain standardized test score, class ranking, or GPA for admission, each college usually has a rough threshold below which admission is unlikely.

Once admitted, students engage in undergraduate study, which consists of satisfying university and class requirements to achieve a bachelor's degree in a field of concentration known as a major [3].

Graduate study, conducted after obtaining an initial degree and sometimes after several years of professional work, leads to a more advanced degree such as a master's degree. Some students pursue a graduate degree that is in between a master's degree and a doctoral degree called a Specialist in Education (Ed.S.).

After additional years of study and sometimes in connection with the completion of a master's degree and/or Ed.S. degree, students may earn a Doctor of Philosophy (Ph.D.), a first professional degree. Some programs, such as medicine and psychology, have formal apprenticeship procedures post-graduation, such as residencies and internships, which must be completed after graduation and before one is considered fully trained.

Entrance into graduate programs usually depends upon a student's undergraduate academic performance or professional experience as well as their score on a standardized entrance exam like the Graduate Record Examination (GRE-graduate schools in general), the Medical College Admission Test (MCAT), or the Law School Admission Test (LSAT). Many graduate and law schools do not require experience after earning a bachelor's degree to enter their programs; however, business school candidates are usually required to gain a few years of professional work experience before applying. In total, 8,9% of students receive postgraduate degrees. Most, after obtaining their bachelor's degree, proceed directly into the workforce.

Learning to obtain a Doctor of Philosophy (Ph.D.) may take three or more years. International students study for this program during five or six years [7, 8]. During the first two years, most candidates for doctorate study in classes and seminars. For at least one year, they complete their research and write a thesis or dissertation. This paper sets out the views of the candidate's research and development that have not yet been published. Some programs

of postgraduate and doctoral scholarships (The Edmund S. Muskie Graduate Fellowship Program or The Fulbright Program) are funded by The US government. These scholarships or grants easier to get those who are going to go to the US for a master's program or doctorate [8].

The working of a number of public organizations (4-H; National Future Farmers of America (FFA), Supervised Agricultural Experiences) help to spread the knowledge about activities in the agricultural sector.

It should be mentioned the social and environmental worldview in preparation of specialists on economic disciplines at American universities. Thus, at the Ohio State University students study discipline «Energy, Environment and Economy», which include the next issues: the world trends and energy demand, energy supply market equilibrium, energy transition / time dimension [6].

Studying course of «Food, Population and the Environment» addresses population growth and the challenges it poses – in particular, the challenge of providing everyone with an adequate diet while simultaneously conserving the natural resources on which agriculture and other economic activities depend. Since human numbers are increasing more rapidly in poor countries than anywhere else, special attention is paid to population growth and the prospects for environmentally sound agricultural development in Africa, Asia, and Latin America. The problems arising as a transition is made from communism to a market economy are examined as well since agricultural development has lagged, environmental deterioration has been pronounced, or both in many of the nations experiencing this transition [6].

Interesting interms of socialres possibility is the course «Environmental and Resource Economics». This course introduces the concepts and development of Environmental and Resource Economics with applications to real world problems. Topicscovered include property right sand landuse, sustainability, pollution control, nonrenewable and renewablere source management, climatechange, as well as market mechanisms and market shortcomings.

At Colorado State University students can concentrate on experience on the next academic interest areas: Arts, Humanities and Design; Environmental and Natural Resources; Health, Life and Food Sciences; Global and Social Sciences; Land, Plant and Animal Sciences; Organization, Management and Enterprise; Physical Sciences and Engineering. In the context of such branches students choose their future profession [5].

One of the most popular areas of study is Agricultural and Resource Economics. The minor in Agricultural and Resource Economics identifies students who have completed an integrated set of courses in agricultural and resource economics. Areas of study in the minor include agricultural production management, financial management, marketing management, international development and trade, natural resources, and environmental economics.

The major degree in Environmental and Natural Resource Economics prepares students to apply economic tools to evaluate the allocation and

utilization of natural resources. Economic analysis provides a strong basis for societal choices that directly and indirectly affect our environment. To strengthen their technical training, students concentrating in natural resource economics can simultaneously complete a second major in Natural Resource Management.

Agricultural and Resource Economics courses are organized by number with the freshman/sophomore-level classes, the junior-level classes, and the senior-level classes.

The freshman/sophomore-level classes include the next subjects: Agricultural and Resource Economics (introduction to decision-making by consumers, firms, and government, and resulting allocation of resources through markets); Intro to Agribusiness Entrepreneurship (introductory exposure to entrepreneurship for agribusinesses through presentations by industry professionals); Issues in Environmental Economics (discussion and economic analysis of current environmental issues with special emphasis on the impact of economic growth).

The junior-level classes involves study 10 subjects, taking into account social and environmental consequences for the business organization; for example: Agricultural & Natural Resource Enterprise Analysis (use of records in agricultural and resource enterprise management; analytical methods, budgets, and planning techniques for improved decision making); Introduction to Economics of Natural Resources (concepts, theories, institutions; analytical methods for economic evaluation of alternative resource use patterns and land use plans); Environmental Economics (economic theories and analytic frameworks are developed and applied to cotemporary problems of the use and protection of the natural environment); Water Law, Policy and Institutions (water resource evaluation; concepts, issues, and problems; techniques employed in analyzing and evaluating water use in alternative situations); Economics of Outdoor Recreation (the techniques of Benefit Cost Analysis, recreation valuation & multiplier analysis of tourism and evaluation of natural resource allocations involving recreation resources (forests, water, etc.)); Environmental Economics (economic theories and analytic frameworks are developed and applied to contemporary problems of the use and protection of the natural environment).

The senior-level classes implies study – Agricultural Production Management (economic principles of agricultural production decisions with linear programming analysis of production choices and farm planning); Agricultural Finance (monetary affairs of agribusiness and agricultural production emphasizing credit institutions and procurement, investment, and management); Agricultural Commodities Marketing (agricultural marketing and agribusiness principles applied to current marketing problems relating to livestock and field and horticultural crops); International Agricultural Trade (agricultural trade patterns and institutions; trade theory with applications to agriculture. Current issues in agricultural trade); Agricultural Business Management (economic analysis, organization, and management practices of agriculture and food industries studied through simulation, case study,

computer labs); Advanced Environmental and Resource Economics (microeconomic techniques to rigorously explore economic decision making and policy as they apply to environmental and natural resource problems); Water Resource Economics (an in-depth exploration of the role of economics in water resource planning); Basic Real Estate Appraisal Principles (theoretical principles that underlie real estate appraisal methods); Basic Real Estate Appraisal Practices (procedures and practices used in real estate appraisal); Ag- and Resource-Based Economic Development (relationships between nations affecting agricultural growth and productivity, food security, and human welfare); Agricultural Policy (formulation and administration of public policies affecting agricultural industries and rural areas in the United States).

Successful students will demonstrate: technical competency including appropriate use of economic theory in formulating analytical problems, identifying and gathering appropriate data, and employing appropriate economic methods to analyze those problems, utilizing appropriate available computer technology; ability to solve real-world problems beyond the pedagogical context. Students will be able to identify a problem and its scope, evaluate resources available to address the problem, formulate alternative solutions, and select the solutions most consistent with a stated objective.

At the Ohio State University functioning Industry Liaison Office (ILO) that was launched in December 2008 to foster economic development opportunities in Ohio and beyond by connecting business and industry to Ohio State discoveries, ground-breaking research, and experts in targeted research areas. Ohio State has achieved world-class status in such areas as global climate change, materials research, electromagnetics, medical imaging, cancer, infectious and cardiovascular diseases, environmental sciences, and agbioproducts that feed and fuel the world.

Innovation is the key to continued economic growth for Ohio and beyond. Linking the university's immense assets to industry needs can lead to new products, improved processes, and expanded services [1].

The resource base for the purposes of business and the university is the Statistical Consulting Service (SCS) that is a university resource with a mission to provide analytic services to private industry. Their goal is to solve business problems using quantitative tools including experimental design, statistical modeling, and process improvement methods. SCS uses an integrated approach, collaborating with industry partners on all aspects of problem solving from framing questions to communicating findings to stakeholders [2].

Discussion. Environmental and resource economists are employed in a wide range of fields from education and research to business and government. Profit and non-profit organizations employ economists in overseas and community development, international relations, and environmental and conservation analyses.

Therefore, higher education in the USA combine both training and job skills in students and focus their teaching experience on solving world problems about food, environmental, energy and others. Thus, implementation

of these social and environmental approaches in education process and science helps students in their further work, business, science or another field.

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СОЦІАЛЬНО-ЕКОЛОГІЧНІ ПІДХОДИ У НАВЧАЛЬНІЙ І НАУКОВІЙ РОБОТІ УНІВЕРСИТЕТІВ США

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Анотація. У сучасних умовах невід'ємною частиною навчальної та наукової роботи в університетах США є дослідження сталого розвитку та раціонального використання природних ресурсів, розвитку альтернативних джерел енергії, забезпечення якості та безпеки продуктів харчування тощо.

У статті висвітлено характерні риси сучасної системи аграрної освіти в США та особливості формування соціально-екологічного світогляду при підготовці фахівців із економічних спеціальностей в університетах.

Ключові слова: соціально-екологічний підхід, збереження довкілля, сталий розвиток, раціональне природокористування, система освіти, навчальна робота, наукові дослідження, університет, Сполучені штати Америки

СОЦИАЛЬНО-ЭКОЛОГИЧЕСКИЕ ПОДХОДЫ В УЧЕБНОЙ И НАУЧНОЙ РАБОТЕ УНИВЕРСИТЕТОВ США

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Аннотация. В современных условиях неотъемлемой частью учебной и научной работы в университетах США является исследование устойчивого развития и рационального использования природных ресурсов, развитие альтернативных источников энергии, обеспечения качества и безопасности продуктов питания.

В статье освещены характерные черты современной системы аграрного образования в США и особенности формирования социально-экологического мировоззрения при подготовке специалистов по экономическим специальностям в университетах.

Ключевые слова: социально-экологический подход, сохранение окружающей среды, устойчивое развитие, рациональное природопользование, система образования, учебная работа, научные исследования, университет, Соединенные Штаты Америки