

BACHELOR
 ECOLOGY AND ENVIRONMENTAL PROTECTION
 3RD YEAR OF STUDY, 1ST SEMESTER

COURSE TITLE	ECOLOGICAL MONITORING
COURSE CODE	B45
COURSE TYPE	full attendance
COURSE LEVEL	1 st cycle (bachelor)
YEAR OF STUDY, SEMESTER	3 rd year of study, 1 st semester
NUMBER OF ECTS CREDITS	4
NUMBER OF HOURS PER WEEK	4 (2 lecture hours + 2 seminar hours)
NAME OF LECTURE HOLDER	Mircea Nicoară
NAME OF SEMINAR HOLDER	Gabriel-Ionuț Plavan
PREREQUISITES	Advanced level of English
A	GENERAL AND COURSE-SPECIFIC COMPETENCES
	<p>General competences:</p> <ul style="list-style-type: none"> → Applying efficient and responsible work strategies, punctuality, seriousness and personal responsibility, based on the principles, norms and values of the code of professional ethics. → Applying efficient work techniques in a multidisciplinary team on various hierarchical levels. → Documentation for professional and personal development, through continuous training and efficient adaptation to new scientific discoveries <p>Course-specific competences:</p> <ul style="list-style-type: none"> → Identify and use the main laws, notions and concepts specific to Ecology and environmental protection. → Use of methods, instruments, apparatus and technologies for measurement and monitoring activities → Identifying the optimal alternatives in order to properly characterize the environmental factors and develop measures to protect them. → Use of specific applications for the processing, representation and storage of environmental data. → Analysis and communication of scientific information.
B	LEARNING OUTCOMES
	<ul style="list-style-type: none"> → Ability to work with modern systems for collecting, storing and processing information about the quality of the natural environment and to provide the necessary scientific basis for developing forecasts of its evolution.
C	LECTURE CONTENT
	<p>The environment Environmental information management The object of environmental monitoring Classification of environmental monitoring activities International ecological monitoring programs Integrated environmental quality monitoring system in Romania (S.M.I.R.) Monitoring of biosphere reserves (background level) Ecological risk Modeling ecological systems Regulating the quality of the natural environment</p>
D	RECOMMENDED READING FOR LECTURES
	<ol style="list-style-type: none"> 1. Anjaneyulu Y., Manickam V., 2007 – <i>Environmental Impact Assessment Methodologies</i>. Second Edition, BS Publications 2. Ciolpan O., 2005 – <i>Monitoringul integrat al sistemelor ecologice</i>, Ed. Ars Docendi, București 3. Hill D., Fasham M., Tucher G., Shewry M., Shaw P., 2005 – <i>Handbook of Biodiversity Methods. Survey, Evaluation and Monitoring</i>, Cambridge University Press 4. Nicoară M., 2009 – <i>Monitoring ecologic</i>, Editura Tehnopress, Iași 5. Rapport D., Lasley W., Rolston D., Nielsen O.N., Qualset C.O., Damania A.B., 2003 – <i>Managing</i>

	for Healthy Ecosystems, Lewis Publisher 6. Spellerberg I.F., 2005 – Monitoring Ecological Change. Second Edition, Cambridge University Press
E	SEMINAR CONTENT
	Environmental information management Ecological monitoring systems and techniques Use of predictive and environmental quality control models Matrix modeling Computer aided imitation modeling Applied ecological monitoring ("target" ecosystem)
F	RECOMMENDED READING FOR SEMINARS
	1. Ciolpan O., 2005 – <i>Monitoringul integrat al sistemelor ecologice</i> , Ed. Ars Docendi, București 2. Hill D., Fasham M., Tucher G., Shewry M., Shaw P., 2005 – Handbook of Biodiversity Methods. Survey, Evaluation and Monitoring, Cambridge University Press 3. Nicoară M., 2009 – <i>Monitoring ecologic</i> , Editura Tehnopress, Iași 4. Nicoară M., Bomher E., 2004 - <i>Ghidul ariilor protejate din județul Iași</i> , S.C. Tipografia Moldova, Iași 5. Spellerberg I.F., 2005 – Monitoring Ecological Change. Second Edition, Cambridge University Press
G	EDUCATION STYLE
LEARNING AND TEACHING METHODS	systematic exposure; conversation; didactic demonstration
ASSESSMENT METHODS	Exam
LANGUAGE OF INSTRUCTION	English