



**Universidad Juárez del Estado de Durango**  
**Facultad de Ciencias Forestales**



*Learning Unit Programme*  
*With an integral professional competences approach*

**I. LEARNING UNIT GENERAL DATA**

<b>1. learning Unit Name</b>		<b>2. Code</b>			
Environmental Audit		3971			
<b>3. Academic Unit</b>					
FORESTRY SCIENCES FACULTY					
<b>4. Academic programme</b>		<b>5. Level</b>			
Environmental Management Engineering		Higher			
<b>6. Training Area</b>					
Discipline					
<b>7. Academy</b>					
Management Engineering					
<b>8. Modality</b>					
Mandatory	X	Course	X	Attendance	X
Elective		Course-workshop		Non-attendance	
		Workshop		Mixed	
		Seminar			
		Laboratory, field practice, etc.	X		
		Professional Practice			
		Academic Stay			
<b>9. Pre-requirements</b>					
Environmental Legislation, Health and Environment, Environmental Education, Critical and Creative Thinking Skills					

10. Theory hours	Practice hours	Independent study hours	Total hours	Credits
2	2	0	4	4
<b>11. Names of the teachers who participated in the development and/or modification of the programme</b>				
ROBERTO FLORES ZAMORA				
12. Date of development	Date of modification		Date of approval	
09/02/2015			30/04/2015	

II. LEARNING UNIT SPECIFIC DATA	
13. Presentation	
<p>This course promotes the learning of the current basic principles and methodologies and their concepts for the application and evaluation of environmental auditing and environmental quality management systems as a tool to achieve efficiency and compliance with the regulations in activities and productive processes of the different sectors of the economy. The development of the course aims for students to be competent for the interpretation of environmental management schemes and application of the audit in the established regulatory framework and with criteria to protect the environment and the environmental and socioeconomic scenario, as inputs for the identification of protection measures and risk zones, in natural resources and in the different productive processes that involve the use of water, waste management, emissions to the atmosphere, soil and subsoil contamination, use of natural resources, risk points and safety in the job.</p>	
14. Integral professional competences to develop in the student	
<b>Generic competences</b>	<p>Instrumental:            Capability for analysis and synthesis, Capability for organization and planning, Oral and written communication, Knowledge of a foreign language, Computer skills related to the field of study, Information management capability, Problem solving and Decision making</p> <p>Personal:            Team work, Work in an interdisciplinary team, Critical thinking, Ethical commitment</p> <p>Systemic:            Autonomous learning, Creativity, Leadership and entrepreneurial spirit, Motivation for quality, Sensitivity in environmental issues, Ability to apply knowledge in practice, use of the internet as a means of communication and as a source of information, Ability to communicate with people not experts in the field.</p>
<b>Professional competences</b>	Environmental quality management systems and audits. The professional manages, audits and exercises functions that increase the quality of environmental services, adhering to the technical, ethical and scientific knowledge of the profession.

	The competences find their areas of opportunity in the Quality Departments of companies, in the independent Consultancy, in the Departments of risk prevention and in the Environmental Diagnostics of companies.			
General purpose of the course	The students will be competent in the interpretation of the elements for the evaluation of a scheme of management of environmental quality and application of the audit in the established normative frame and with criteria of protection of the environment and the environmental and socioeconomic scenario.			
15. Joint of axes				
The learning unit is articulated with the transversal axes established from the educational model and congruence and strengthen the axes of research, ethics, values and environmental awareness. The unit is integrated into the disciplinary training area				
16. development of the course				
Module 1	The Environmental Audit and the Environmental Quality Management Systems			
Intended learning	Learning contents	Learning product(s)	Strategies	Teaching resources and materials
The student distinguishes environmental compliance and self-regulation schemes as main elements in environmental management systems	Introduction and concepts of self-regulation schemes.  Schemes type ISO, SGC, AA	Report and explanation of the various concepts. Conceptual map of the theme. Exhibition using modern technology developed as a team and presented to the plenary. Targeted discussion of the contents of the schemes Written test that allows inferring degree of understanding of the processes and schemes.	Read the general documents on the subject. Write synthesis and prepare electronic exhibition and develop a conceptual map. Present an exhibition on the schemes In group dynamics reaffirms the concepts. Solve questionnaire	Computer, internet, White-board, marker for white-board, projector, multimedia presentations, referred bibliography. Reading of documents on topics, projector, round table, posters. Participates in the co- evaluation
Module 2	Type of organizations and normative framework of the EA			
Intended learning	Learning contents	Learning product(s)	Strategies	Teaching resources and materials

The student identifies types of organizations and the normative framework of the EA	Types of organizations and the figures involved in the process.	Analysis report of the types of Organizations. Exhibition on the relevant figures and the role in the EA process.	Full discussion about the analyses. Show data to PPW group. Co-evaluation is practiced.	Projector, reading documents, evaluation tools, internet use
	Normative framework of the EA, NEAP National Environmental Audit Program	Flow chart of the EA program, discussion during the exhibition. Summary of the normative documents of the Program	Presentation to the group in PPW Questionnaire or written test is solved	Projector, reading of the LGEEPA documents, Regulation regarding EM, terms of reference, NMX-AA-162-SCFI-2012
<b>Module 3</b>	Design and follow-up of action plans and management of verification units			
<b>Intended learning</b>	<b>Learning contents</b>	<b>Learning product(s)</b>	<b>Strategies</b>	<b>Teaching resources and materials</b>
The student designs an action plan for a chosen organization	Elements of an action plan according to the terms of reference and follow-up to the plan.	Action plan developed for the organization chosen according to the reference terms. Report of the official procedure to the federal or state instance. Report of visit to company of the country in the NEAP National Environmental Audit Program	The action plan is presented to the plenary in an executive summary Co-evaluation is applied A visit is made to a company in the state or outside the state, registered in the PNAA	Projector, reading of documents and use of approved formats, surfing in the webpages <a href="http://www.semarnat.gob.mx/">http://www.semarnat.gob.mx/</a> <a href="http://profepa.gob.mx">http://profepa.gob.mx</a>
	Management to operate the verification unit in accordance with EMA (Mexican accreditation entity)	Summary of requirements and procedures before the Mexican Accreditation Entity and PROFEPA	Summary of requirements and procedures to the Mexican Accreditation Entity and PROFEPA	EMA website, <a href="http://www.ema.org.mx/portal/">http://www.ema.org.mx/portal/</a> PROFEPA <a href="http://profepa.gob.mx">http://profepa.gob.mx</a>

	and regulations	PROFEPA			
17. Performance assessment:					
Performance evidence(s)	Performance criteria		Application scopes	percentage	
Report, exposition, Summaries, exercise of plan of action, checklists of self-evaluation and co-evaluation	In all the works content, extension and presentation, use of tools, capability for explanation, analysis and synthesis, understanding and handling of the debate, defence before group, team work, delivery opportunity, value judgment issuance are valued.		In the management for public or private organizations. In the formulation and management of audits. During the development in the field in the execution of an action plan.	Formative evaluation 25% Summative evaluation 60% Self-evaluation 10% Co-evaluation 5%	
18. Evaluation criteria:					
Criterion	Value				
Formative Evaluation	Teamwork, attendance and punctuality, timeliness in delivery, attitude and respect for people and property. 25%				
Summative evaluation	Form and content of products, management of the files, handling of the debate, daily participation in class, written test results, field practice report. 75%				
Criteria summation	100%				
19. accreditation					
The ideal condition is that the development of the competition is evident and adheres to the percentages established in the different criteria, however minimums are established to assess the degree of mastery of the competence and obtain the credits of the Learning Unit, in accordance with the following: 50% of their performance or summative evaluation; 10% of the formative evaluation; (self- assessment and co-evaluation).					

## 20. Information sources

<b>Basic</b>	<p>Commission of Environmental Cooperation. "Successful practices of Environmental Management Systems in small and medium enterprises, Perspectivade América del Norte". Glen. December 2005</p> <p>ISO 14001: 2004 (ES) International Standard, certified translation, 2004</p> <p>General Law of Ecological Balance and Environmental Protection, published in the Official Gazette of the Federation on January 28, 1988, the last reform published in the DOF May 13, 2016.</p> <p>Norma mexicanaNMX-AA-162-SCFI-2012, 2013, environmental audit - methodology to perform audits and diagnostics, environmental and compliance verifications of the action plan - determination of the level of environmental performance of a company -evaluation of the performance of environmental auditors. October 2nd, 2013</p> <p>PROFEPA. National Program of Environmental Audit. Website <a href="http://profepa.gob.mx">http://profepa.gob.mx</a></p> <p>Regulation of the General Law of Ecological Balance and Environmental Protection in the Field of Self-Regulation and Environmental Audits, published in the Official Gazette of the Federation on April 29, 2010</p>
<b>Complementary</b>	<p>INEGI, 2004. Auditoría Ambiental Sí Cumple. Informe.</p> <p>Oropeza Monterubio, Rafael.1996. Manual Práctico de Auditorías Ambientales. Panorama. México.</p> <p>SEMARNAT. El medio Ambiente en México. 2005. En Resumen.</p> <p>PROFEPA, 2001. Procuración de Justicia Ambiental 2001-2006. SEMARNAT, PROFEPA, Plan Nacional de Desarrollo. México.</p>

## 21. Profile for the teacher who imparts this learning unit

Master in Sciences, Management of Natural Resources and the Environment. Environmental Quality Management Systems and Audit.