25231 - Environmental audit

1.Basic info

1.1.Recommendations to take this course

This subject is offered in the [English Friendly](#) form

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

The learning process design for this subject consists of:

Theory sessions in which external expert communications are also included and participation is encourage.

Practical sessions consist of study work with materials supplied by lecturers.

5.2.Learning activities

The program offered to achieve the expected results include the next learning activities:

Theory sessions: Lectures introduce the main concepts and lines of the subject. In addition, most difficult issues will be reviewed thoroughly. Bibliography and auto-evaluation tools are provided. Readings and instructions for all practical exercises will be provided on the course website (moodle).

Practical sessions: Practical classes form part of the required activities for this course. The course involves two practical modules designed to teach students how to develop an Environmental Management System and an Environmental Audit following the regulation une-en-iso-14001:2015. If you miss a lecture or tutorial through illness or some other serious reason, it is your responsibility to attend an equivalent class from another stream. Some content and activities will not be available except by physically attending the classes, and missing material will disadvantage you in the course assessment.

5.3.Program

Theoretical Programme

BLOCK 1: ENVIRONMENTAL MANAGEMENT SYSTEMS

Topic 1. Introduction to environmental management and its importance within companies. Definitions. Sustainable development and life cycle analysis. Benefits and aims of an Environmental Management System (EMS).

Topic 2. Environmental Management Systems. EMAS regulations. ISO 14001: Introduction and documentation of an EMS. Initial environmental inspection.

Topic 3. General EMS requirements and policies. The Deming Cycle. Environmental scope and policies of an EMS.

Topic 4. Planning for the introduction of an EMS. Environmental aspects; identification and evaluation. Legal and other requisites. Objectives, goals and environmental programmes.

Topic 5. EMS implementation and operation. Resources, functions, responsibility and authority. Competence, training and awareness. Internal and external communication. Documentation and its control. Operational control.

Topic 6. Verification and revision of the EMS. Follow-up and measurement. Evaluation of legal compliance. Registers.

BLOCK 2: ENVIRONMENTAL AUDITS

Topic 1. Introduction . What is an audit? Objectives. Characteristics. Participants. Types of audit.

Topic 2. Regulations applicable to the audit process. History and evaluation of audits. Current focus: applicable legislation.

Topic 3. Auditor profile . Knowledge, competence and attributes. Experience in the workplace and of carrying out audits. Importance of maintaining and updating knowledge and expertise. Evaluation. Registers. Responsibilities.

Topic 4. Audit planning and preparation.. Planning. Revision of documentation. Audit preparation.

Topic 5. Audit process. Opening meeting. Communication during the audit. Audit execution. Closing meeting.

Topic 6. Audit report and follow-up. Preparation of the audit report. Corrective action. Approval and distribution of report. Finalisation of the audit. Follow-up.

Program of Practicals

The practical exercises are the following:

System of Environmental Management: Elaborating an Environmental Management manual according to the regulation une-en-iso-14001. Presentation and defense.

Environmental audits: External audit of the environmental management system of a company that wishes to obtain certification according to the law une-en-isi-14001. Presentation and defense.

5.4.Planning and scheduling

Summatory	8	8	10	8	8	8	8	8	7	8	8	8	8	4	8	9	8	9		151
Learning Activities/ Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	**Total**
Face-to-face instruction																					60
Lectures	2	2	2	2	2		2	2	2	2		2	2								24
Practical	2	2	2	2	2	2	2	2	2	2		2	2			2					28
Evaluation					2											2		4			8
non-classroom																					91

instruction																				
Individual work	4	6	4	4	2,5	4	2,5	3	2,5	8	4	2,5	4	6,5	5	8	5		83,5	
Group work					1,5		1,5		1,5			1,5		1,5					7,5	

5.5.Bibliography and recomended resources

Basic bibliography

BB Valdés Fernández, J.L.; Alonso García, M.C.; Calso Morales, N.; Novo Soto; M. 2016. Guía para la aplicación de UNE-EN ISO 14001:2015. AENOR Ediciones. Madrid. 368 pp.
BB Bureau Veritas. Auditorías ambientales / [autores, Bureau Business Scholl [sic] ...et al.] . 3ª ed. Madrid : Fundación Confemetal, D.L. 2011
BB AENOR, Directrices para la auditoría de los sistemas de gestión de la calidad y/o ambiental : ISO 19011:2002 . - [1a ed.] Madrid : 2002
BB Granero Castro, Javier. Cómo implantar un sistema de gestión ambiental según la norma ISO 14001:2004 / Javier Granero Castro, Miguel Ferrando Sánchez . Madrid : Fundación Confemetal, D.L. 2005BB
BB Roberts, Hewitt. ISO 14001 EMS : manual de sistema de gestión medioambiental / Hewitt Roberts, Gary Robinson . 1ª ed., 3ª reimp. Madrid : Paraninfo, 1999 (reimp. 2008)

Complementary bibliography

BC Dentch, M.P. 2016. The ISO 14001:2015 Implementation Handbook: Using the Process Approach to Build an Environmental Management System (English Edition). ASQ Quality Press. 135 pp.