



Course Code ENMA-540	Course Title Safety and Risk Management	ECTS Credits 7.5
Prerequisites None	Department Management & MIS	Semester Fall, Spring, Summer
Type of Course Core	Field Engineering Management	Language of Instruction English
Level of Course 2 nd Cycle	Lecturer(s) Dr. Marios Valiantis	Year of Study 1 st
Mode of Delivery Face to Face	Work Placement N/A	Co-requisites None

Objectives of the Course:

The main objectives of the course are to:

1. This course introduces students on safety and environmental hazards as well as the risk management. Emphasis will be given in the context of the energy sector.
2. Provides an understanding and knowledge on the risk management process.
3. Analyses the aspects and the reduction of risk.
4. Develops the tools for quantitative and qualitative performance analysis of risk management.
5. Gives students an in depth understanding of some of the classic disasters and their consequences by using a range of practical accident investigations techniques.

Learning Outcomes:

After completion of the course students are expected to be able to:

1. Explain the main characteristics of energy safety and environmental hazards and risk management
2. Use tools and practices to analyse and evaluate the performance of risk management;
3. Justify the use of risk assessment through illustration of its objectives and drivers;
4. Display mastery of clear and effective communication of risk;
5. Use a range of practical accident investigation techniques.

Course Contents:

- Incident and Accident Investigation
- Causes of Major Accidents
- Drivers for Risk Management
- Elements of the Risk Management Process
- Risk Assessment Matrix
- Qualitative and Quantitative Techniques in Risk Analysis

- Demonstration of ALARP
- Hazard identification Techniques
- Hazard identification through the project cycle
- HAZID/HAZOP
- HSE Management Systems
- Legislation, standards and guidance in HSE-MS
- Documenting and Implementing HSE-Management Systems
- Health and Environmental Risk Analysis
- Case studies on accidents/disasters

Learning Activities and Teaching Methods:

Lectures, Case Study Analysis and Discussion, Academic Paper Discussions, Presentations

Assessment Methods:

Homework/Class Discussions, Participation, Project Presentation (Group Work), Final Exam (Open Notes)

Required Textbooks / Reading:

Title	Author(s)	Publisher	Year	ISBN
Health and Safety: Risk Management	Boyle A	Routledge IOSH Services – 3 rd Ed.	2015	978-1138889637

Recommended Textbooks / Reading:

Title	Author(s)	Publisher	Year	ISBN
Effective Maintenance: Risk & Reliability Strategies of Optimizing Performance, 2 nd Ed.	V. Narayan	Industrial Press	2011	978-0831132491