Course Code	Course Title	ECTS Credits
OGEE-542DL	Safety and Risk Management	7.5
Department	**Semester**	**Prerequisites**
Engineering	Fall, Spring	None
Type of Course	**Field**	**Language of Instruction**
Required	Oil, Gas and Energy Engineering	English
Level of Course	**Year of Study**	**Lecturer(s)**
2nd Cycle	1st/2nd	Dr Ioannis Bakouros
Mode of Delivery	**Work Placement**	**Co-requisites**
Distance Learning	N/A	None

Objectives of the Course:

The main objectives of the course are to:

- Introduce students on energy safety and environmental hazards as well as the risk management
- Provide solid knowledge on the fundamentals and principles of reliability of failure and Life Cycle Aspects of Process Plants
- Analyze the aspects and the reduction of risk
- Develop the tools for quantitative and qualitative performance analysis of risk management

Learning Outcomes:

After completion of the course students are expected to:

- Explain the main characteristics of energy safety and environmental hazards and risk management
- Use engineering tools and practices to analyze and evaluate the performance of risk management
- Evaluate the aspects and the reduction of risk
- Describe various types of reliability of failure and life cycle aspects

Course Contents:

- Process functions
- Meaning & Measurements of Reliability
- Safety & Environmental Hazards
- Failure of System & Components
- Life Cycle Aspects of Process Plants
- Aspects of Risk
- Disasters
- Maintenance

- Risk reduction
- System Effectiveness
- Corporate Risk Management
- Simulation (simcron MODELLER)

Learning Activities and Teaching Methods:

Lectures, Online Questions, Projects, Discussion

Assessment Methods:

Assignments, Online Exercises, Final Exam

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
V. Narayan	Effective Maintenance: Risk & Reliability Strategies of Optimizing Performance, 2nd edition	Industrial Press	2011	

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Michael Crouchy, Dan Galai and Robert Mark	The essentials of Risk Management	McGraw-Hill	2006	
T. Aven	Risk analysis: assessing uncertainties beyond expected values and probabilities	John Wiley	2008	