

Course Title	Critical Infrastructure Protection and Reliability				
Course Code	OSH635				
Course Type	Optional				
Level	Master (2nd Cycle)				
Year / Semester	1st year/ 2nd semester				
Teacher's Name	TBA				
ECTS	10	Lectures / week	3 hours / 14 weeks	Laboratories / week	N/A
Course Purpose and Objectives	<p>The aim of the Critical Infrastructure Protection course is to introduce students to the importance of safety and security threats to large scale major hazard installations, which provide utilities and services that are critical to the functioning of a country or large sectors e.g. energy supplies such as oil refineries, petroleum and gas fuel distribution, electrical power generation and transmission, water treatment and supplies, and gas processing terminals. Environmental, societal, and financial dimensions of security and safety of large scale major hazard installations will also be dealt with. Owing to time limitations, natural disasters and other critical infrastructure such as nuclear power stations, railways and telecommunications will not be the main focus of this course, although their importance is recognized. The process of identification of Critical Infrastructures and their importance to modern societies will be highlighted. Students will be taught how to identify and understand threats. Analysis of interdependencies between CI and the link between safety and security will be explored. Finally, students will develop (a) Major Accident Prevention Policies (MAPPs) for EU Seveso II Directive compliance, (b) Operational Security Plans.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Identify local / National / EU critical infrastructures Understand major hazard and security threats Identify critical / vulnerable components of CI Evaluate major hazard safety measures/MAPPs Evaluate security measures / Operational Security Plans Report methods to revise major hazard safety and security of vulnerable assets Demonstrate mitigation of a critical infrastructure threat Understand interconnections between CI and societal impacts 				
Prerequisites	None	Required	None		
Course Content	<p>Introduction to CI and their role in modern societies. Local / National / EU critical infrastructures. European and National approaches to CI protection. Directive 114/2008 and its implementation on a national and infrastructure level. Identification and analysis of critical infrastructure systems including major hazards and security threat assessments. Includes mitigation of</p>				

	<p>threats as well as evaluation and revision of major hazards and security measures in order to protect critical infrastructures. Examples of MAPPs, statutory Safety Reports/Safety Cases and Operating Security Plans. Analysis of interconnectivity and interrelationships between CI. Sectoral examples and case studies: Energy (electrical power generation/transmission, oil refineries, gas processing terminals, fuel supplies), Water (bulk chlorine major hazards at treatment installations), Transport (bulk fuel road tankers).</p>						
Teaching Methodology	Face-to-Face						
Bibliography	<p>Required Reading</p> <p>Kelley Cronin, Nancy E. Marion, Critical Infrastructure Protection, Risk Management, and Resilience: A Policy Perspective Latest Edition, CRC Press, ISBN-10: 1498734901</p> <p>Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances, European Commission, Brussels, 2012</p>						
Assessment	<table border="1"> <tr> <td>Class Participation and Attendance</td> <td>10%</td> </tr> <tr> <td>Project</td> <td>90%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Class Participation and Attendance	10%	Project	90%		100%
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Language	English						