

DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGIES
COURSE SYLLABUS

Course Details				
Code	Academic Year			Semester
ISG001	4			7
Title	T	A	L	ECTS
Occupational Health and Safety I	2			2
Language	German			
Level	Undergraduate	✓	Graduate	Postgraduate
Department / Program	Energy Science and Technologies			
Forms of Teaching and Learning	Formal			
Course Type	Compulsory	✓	Elective	
Objectives	Students gain an understanding of the basic terms relating to occupational safety, the duties of the engineer and the manager. The ability to communicate with a specialist for occupational safety is trained.			
Content	The module is based on practical examples in occupational safety introduced. The following topics are particularly relevant: 1) Basic terms of occupational safety 2) Risk factors 3) Accident prevention procedures 4) Health protection 5) Fire and explosion protection			
Prerequisites	--			
Coordinator	--			
Lecturer(s)	Dipl.-Ing. J. KUNTZE, Arş. Gör. Dr. Ö. F. AYDIN			
Assistant(s)	--			
Work Placement	--			
Recommended or Required Reading				
Books / Lecture Notes	„Praxishandbuch Arbeitssicherheit: Rechtliche und technische Grundlagen, Praktische Umsetzung, 60 Checklisten“, Christian Mag. (FH) Bayer und Andrea Mag. Schwarz-Hausmann MBA LL.M			
Other Sources	Lecture Notes			
Additional Course Material				
Documents				
Assignments				
Exams				
Course Composition				
Mathematics und Basic Sciences				%

DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGIES
COURSE SYLLABUS

Engineering	30	%
Engineering Design		%
Social Sciences		%
Educational Sciences		%
Natural Sciences	30	%
Health Sciences		%
Expert Knowledge	10	%

Assessment

Activity	Count	Percentage (%)
Midterm Exam	1	40
Quiz		
Assignments		
Attendance		
Recitations		
Projects		
Final Exam	1	60
Total		100

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures	14	2	28
Self-Study	14	2	28
Assignments			
Presentation / Seminar Preparation			
Midterm Exam	1	3	3
Recitations			
Laboratory			
Projects			
Final Exam	1	3	3
Total Work Load			62
ECTS Points(Total Work Load / Hour)			2

Learning Outcomes

1	Students gain an understanding of the basic terms relating to occupational safety, the duties of the engineer and the managerial staff.
2	Ability to communicate with an occupational safety specialist.
3	

DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGIES
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Weekly Content

1	Introduction to Legal Basics, work safety organization, accident preconditions, risk-factors, statistics.
2	Risk avoidance, avoidance hierarchy, machine safety manipulation, Machine directive 2006/42/EC, standardisation: cable colours, pipe colours, electrical installation zones.
3	Skin, sample danger factors, mechanical dangers, TS EN ISO 7010 warnings mechanical dangers, mechanical designs avoiding squeeze EN 349.
4	Forklifts, traffic separation, labelling & communication.
5	Free moving material, internal logistics, electrical factors, IP protection, RCD (FI Schutzschalter).
6	Principles electric protection, electric competencies D-TR, 5 electric safety rules, work in increased electric risk environment, choosing electric tools, plugs & sockets, obligatory electric safety check intervals, loop impedance Zs & triggering fuses.
7	Noise & vibration factors.
8	Thermal & climatic factors.
9	Midterm Exam
10	Radiation factors: Ionization Radiation, Laser radiation, Hazardous materials 1.
11	Illumination.
12	Hazardous Materials 2.
13	Ladders, Scaffolds.
14	Fire Protection.
15	

Contribution of Learning Outcomes to Program Objectives(1-5)

	P1	P2	P3	P4	P5	P6	P7
1				5	3		5
2				5	3		5
3							
4							

DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGIES
COURSE SYLLABUS

5							
6							
Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High						
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