

Environmental, Health, Safety and Ergonomy

Code: MK3EHSK04RX17-EN

ECTS Credit Points: 4

Evaluation: exam

Year, Semester: 2nd year, 2nd semester

Its prerequisite(s): -

Further courses are built on it: Yes/No

Number of teaching hours/week (lecture + practice): 2+2

Topics:

The subject covers three main topics:

Environment (E): In connection with environment protection the most important topics are introduced to the students. The subject includes air quality, noise protection, water protection, soil protection, and waste management side topics.

Health (H): Basics of labor and health are discussed. The impact of work on health and the health impact on working ability is also a side topic. The fundamentals of occupational health and work hygiene are also involved.

Safety (S): It involves the basics of labor safety and fire protection. The lectures discuss the personal, material and organizational requirements for safe work, ergonomic fundamentals, personal protective equipment, work safety reviews, employer checks, and workplace risk assessment. Industrial safety and security is also a side topic.

The lectures introduce the most important aspects and the practices focus on examples and plant visits.

Literature:

Recommended:

- Gilbert M. Masters, Wendell P. Ela: Introduction to Environmental Engineering and Science, Pearson New International Edition, 3/E, Pearson, 2013, ISBN: 9781292025759
- David L. Goetsch, Occupational Safety and Health for Technologists, Engineers, and Managers, 8th Edition, Pearson, 2015, ISBN: 9780133484175
- Richard T. Wright, Environmental Science, Pearson, 2017, ISBN: 9780134011271

Schedule

1 st week Registration week	
2nd week: Basics of Environmental Protection and Environmental Management Lecture: Introduction to environmental protection Practice: Global issues on environmental protection	3rd week: Air Quality Control Lecture: Basics of air pollution control, processes in the atmosphere, greenhouse gases, ozone layer, smog, acid rain Practice: Exercises in connection with air pollution
4th week: Environmental Noise Lecture: The basics of environmental noise Practice: Noise measuring devices and techniques	5th week: Water Protection Lecture: Water protection and quality, pollutants Practice: Practice in connection with water protection (plant visit: wastewater treatment plant)
6th week: Soil Protection Lecture: Protection of soil quality	7th week: Waste Management Lecture: Waste management,

Practice: Practice in connection with soil protection

possibilities, disposal, techniques and hazardous waste

Practice: Practice in connection with waste management (plant visit)

8th week: 1st drawing week

9th week: Basics of labor safety and fire protection

Lecture: Personal, material and organizational requirements for safe work, ergonomic fundamentals

Practice: Practice in connection with labor safety I. (plant visit)

11th week: Labor and Health

Lecture: The impact of work on health and the health impact on working ability

Practice: Practice in connection with occupational health I.

13th week: Industrial Safety and Security

Lecture: Main goals of industrial safety and security

Practice: Practice in connection with industrial safety and security

15th week: 2nd drawing week

10th week: Occupational Safety

Lecture: Personal protective equipment, work safety reviews, employer checks, workplace risk assessment

Practice: Practice in connection with labor safety II. (plant visit)

12th week: Occupational Health and Work Hygiene

Lecture: Fundamentals of occupational health and work hygiene

Practice: Practice in connection with occupational health II.

14th week:

Lecture: Mid-semester TEST

Practice: Mid-semester TEST

Requirements

A, for a signature:

Attendance at practice classes (absence up to the permissible level)

B, for a grade:

Test grade (2: from 50%)