GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

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|---|---|---|---|
| Subject name and code | HAZARDS IN THE WORK ENVIRONMENT, PG_00048963 | | |
| Field of study | Green Technologies | | |
| Date of commencement of studies | October 2024 | Academic year of realisation of subject | 2024/2025 |
| Education level | second-cycle studies | Subject group | Optional subject group<br>Subject group related to scientific research in the field of study |
| Mode of study | Full-time studies | Mode of delivery | at the university |
| Year of study | 1 | Language of instruction | English |
| Semester of study | 2 | ECTS credits | 4.0 |
| Learning profile | general academic profile | Assessment form | assessment |
| Conducting unit | Department of Analytical Chemistry -> Faculty of Chemistry | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | |
| | Teachers | | |

**Lesson types and methods of instruction**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 30.0 | 0.0 | 15.0 | 0.0 | 15.0 | 60 |

E-learning hours included: 0.0

**Learning activity and number of study hours**

| Learning activity | Participation in didactic classes included in study plan | Participation in consultation hours | Self-study | SUM |
|---|---|---|---|---|
| Number of study hours | 60 | 10.0 | 30.0 | 100 |

**Subject objectives**

The aim of course is to give knowledge on chemical, physical and biological threats that can occur in the workplace.

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K7_U05] can formulate and test hypotheses related to the problems of engineering and simple research problems relating to the protection of the environment, new environmental technologies and analytical procedures | can fluently perform numerous analytical techniques including those applicable at sample preparation step | [SU2] Assessment of ability to analyse information<br>[SU3] Assessment of ability to use knowledge gained from the subject<br>[SU4] Assessment of ability to use methods and tools<br>[SU5] Assessment of ability to present the results of task |
| [K7_K01] is ready to solve the most common problems associated with the profession of engineer, correctly identifies and resolves dilemmas associated with the profession of engineer, assesses risks and is able to assess the effects of the activity | can predict and present impact of MSc Eng in all aspects of His/Her chemical activity | [SK2] Assessment of progress of work |
| [K7_W02] a broader and deeper knowledge of the soil, air and water from pollution useful to formulate and solve complex tasks in the field of environmental technologies and modern analytical methods | student receives knowledge on protection of waters, soils, sediments and air in the degree sufficient to solve compex tasks in the environmental protection | [SW2] Assessment of knowledge contained in presentation<br>[SW1] Assessment of factual knowledge |

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| Subject contents | Issues:<br><br>- Describing the current law regulations such as COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work and DIRECTIVE 2008/50/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 May 2008 on ambient air quality and cleaner air for Europe:<br><br>- Limit and target values of certain pollutants in air,<br><br>- Description of various types of analytical methods used in the air quality monitoring process,<br><br>- Characteristic of sampling devices and on-line equipment used to monitor the pollutants level in air,<br><br>- Proposed strategies to reduce human exposure to air pollutants present in workplace environment.<br><br>Physical hazards:<br><br>• Noise<br>• Vibration<br>• Radiation<br>• Temperature extremes<br>• Pressure extremes<br><br>Chemical hazards:<br><br>• ozone and other gases,<br>• organics,<br>• metals<br><br>Biological hazards:<br><br>• molds and Fungi<br>• bacteria<br>• enzymes<br>• recombinant organisms<br>• endotoxins<br><br>Suspended particulate matter in work environment:<br><br>1. Particulate matter definition, classification, sources in outdoor/indoor environment, related health risks;<br><br>2. Law regulations related to occupational exposure to suspended particulate matter in work environment;<br><br>3. Personal protective equipment dedicated to workers exposed to suspended particle matter in work environment;<br><br>4. Solutions/strategies for suspended particle matter monitoring in work environment;<br><br>5. Examples of workplaces characterized by high concentrations of particles in the air. |
| Prerequisites and co-requisites | - analytical, inorganic, organic, physical chemistry, toxicology |

Assessment methods and criteria

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| presentation + oral | 60.0% | 20.0% |
| test + report | 60.0% | 20.0% |
| written + oral exam | 60.0% | 60.0% |

Recommended reading

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| Basic literature | - to be given during lecture by respective tutor |
| Supplementary literature | - |
| eResources addresses | Adresy na platformie eNauczanie: |

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|---|---|
| Example issues/ example questions/ tasks being completed | - to be given during lecture by respective tutor |

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| Work placement | Not applicable |