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| Óbuda University<br>Donát Bánki Faculty of Mechanical and Safety Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                 |                 |                  | Institute for Natural Sciences and Basic Subjects |                 |
| Subject name/code: OSH safety engineering / BTEMBE3BNF<br>English language course 2025/2026 autumn semester                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                 |                 |                  | Credits: 4                                        |                 |
| Mechatronics Engineering BSc programme                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                 |                 |                  |                                                   |                 |
| Subject leader:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                 | Dr. Szabó Gyula |                  | Instructor: Vanessa Cristina Erazo Chamorro       |                 |
| Prerequisites:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                 | -               |                  |                                                   |                 |
| Weekly hours:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                 | Lecture: 1      | Group seminar: 2 | Lab: 0                                            | Consultation: 0 |
| Requirements:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                 | examination     |                  |                                                   |                 |
| Course description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                 |                 |                  |                                                   |                 |
| The aim of the course is to enable students to provide safe and non-hazardous working conditions for themselves and their subordinates as future responsible middle managers. They will be capable of addressing control, educational, and organizational tasks related to ensuring safe and healthy working environments. Students will be able to participate in the risk assessment of existing and planned workplaces and machinery, as well as in the development of accident prevention measures and interventions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                 |                 |                  |                                                   |                 |
| Schedule                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                 |                 |                  |                                                   |                 |
| Week                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Topic                                           |                 |                  |                                                   |                 |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Framework Directive. Tripartite consultation    |                 |                  |                                                   |                 |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Risk assessment                                 |                 |                  |                                                   |                 |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Workplace, temporary or mobile work sites       |                 |                  |                                                   |                 |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Machinery safety and work tools                 |                 |                  |                                                   |                 |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Physical hazards and biological agents          |                 |                  |                                                   |                 |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Personal protective equipment                   |                 |                  |                                                   |                 |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Workload, ergonomic risks                       |                 |                  |                                                   |                 |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Chemical agents and chemical safety             |                 |                  |                                                   |                 |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Psychosocial risks and workplace health         |                 |                  |                                                   |                 |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Sector specific and worker related provisions   |                 |                  |                                                   |                 |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Occupational health and safety management       |                 |                  |                                                   |                 |
| 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Accident investigation                          |                 |                  |                                                   |                 |
| 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | General and individual assessment. Re-take test |                 |                  |                                                   |                 |
| Requirements:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                 |                 |                  |                                                   |                 |
| Participation in classes: Compulsory (only 30% absence is accepted).<br>To successfully complete this university course, students must fulfill the following requirements:<br>Presentation:<br><br>Each student is required to independently prepare on a chosen topic and deliver a presentation during the semester.<br>The evaluation of the presentation will be based on three criteria of equal weight: content quality, formal quality, and presentation quality.<br>The presentation must be delivered within the given time frame.<br>If a presentation is missed, the student will be disqualified unless a makeup session is scheduled on the last available date.<br><br>Examination:<br>The examination consists of two parts.<br>Firstly, students must complete a test consisting of 10 questions and achieve a minimum score of 50% to pass this part.<br>Following a successful test, students must provide written or verbal responses to three questions.<br>To aid in exam preparation, students will receive 30 orientation questions at the beginning of the semester. |                                                 |                 |                  |                                                   |                 |

Students have the option to respond in writing to the provided questions and will be given 30 minutes for completion.

**Recommended references:**

1. Szabó Gyula: Practice of ergonomics, Obuda University
2. OSHWIKI.EU
3. Guide to application of the Machinery Directive 2006/42/EC
4. PPT presentations will be available on Moodle system.

28 August 2025

Dr. Szabó Gyula