

ID	709
Curricular Unit	Industrial Ergonomics
Regent	Maria Filomena Araújo da Costa Cruz Carnide
Learning Outcomes	<ol style="list-style-type: none"> 1. Mastery of concepts and conditions of own biomechanics and organizational exposure industrial context. 2. Capacity to delineate an ergonomic analysis of specific working conditions conducive to the development of amendments to the health industry context. 3. Mastery methodologies for integrated analysis of occupational exposure to biomechanical and organizational nature. 4. The Domain selection and application of exposure assessment tools. 5. Capacity for collecting, monitoring and analyzing data.
Syllabus	<ol style="list-style-type: none"> 1 - Principles of Industrial Ergonomics 2 - Characterization of the physical conditions of conducting the activity in industrial context 3. Methodological approaches for assessing exposure <ol style="list-style-type: none"> 3.1. Levels of exposure-response analysis: defining priorities 3.2. Delimitation of study type 3.3. Delimitation of the study population 3.4. Definition of variables relevant study 3.5. Definition of strategies of data collection 4. Methods of exposure assessment (objectives, principles of application / how and when to apply, interpreting information and limitations) <ol style="list-style-type: none"> Subjective 4.1-Trial 4.2-systematic observations (in situ and retrospectives) 4.3 direct-methods (in situ and laboratory) <ol style="list-style-type: none"> 4.3.1 Assessment of the mechanical load by using direct methods of assessing the intensity, duration and frequency of muscle activation 4.3.2 Integration of quantitative biomechanical parameters in numerical and qualitative explanatory models. 4 - Standards, recommendations and current programs on expos
Evaluation	<p>Continuous assessment :</p> <p>Theoretical-component - perform a writing frequency. The frequency must have a minimum grade of 9.5.</p> <p>-Practical component - making worksheets 2 of which must be evaluated. All entries must have a minimum grade of 9.5. The note of this component is 30% of the final mark.</p> <p>Final evaluation :</p> <ul style="list-style-type: none"> • Conducting an examination consisting of a written, practical and oral test. The final grade is 70% of theoretical and practical component of 30%.

Bibliography

Bernard, B. (1997). Musculoskeletal disorders and workplace factors. A critical review of epidemiologic evidence for work-related musculoskeletal disorders of the neck, upper extremity, and low back pain. National Institute for Occupational Safety & Health, Publ No. 97,141 .

. Colombini, D., Occhipinti, E., & Grieco, A. (2002) Risk assessment and management of repetitive movements and exertions of upper limbs: Job analysis, Ochre risk indices, prevention strategies and design principles (Vol. 2): Elsevier.

. Hagberg, C., Silverstein, B., Wells, R., Smith, MJ, Hendrick, H., Carayon, P., & Pérusse, M. (1995) Work related musculoskeletal disorders (WMSDs): a reference book for prevention . London: Taylor & Francis.

Mathiassen, SE, Burdorf, A., & Van der Beek, AJ (2002). Statistical power and measurement allocation in ergonomic intervention studies Assessing upper trapezius EMG amplitude. A case study of assembly work. Electromyography and Kinesiology Journal of, 12 , 45-57.

NRC & IOM