Zał. nr 4 do ZW 64/2012

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| FACULTY OF COMPUTER SCIENCE AND MANAGEMENT  **SUBJECT CARD**  **Name in Polish: Diagnostyka ergonomiczna i projektowanie stanowisk pracy**  **Name in English: Ergonomic diagnosis and design of work stations**  **Main field of study (if applicable): Management**  **Specialization (if applicable): Business Management**  **Level and form of studies: 1st level, full-time studies**  **Kind of subject: optional**  **Subject code: IEZ3127P**  **Group of courses NO** |

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|  | Lecture | Classes | Laboratory | Project | Seminar |
| Number of hours of organized classes in University (ZZU) |  |  |  | 30 |  |
| Number of hours of total student workload (CNPS) |  |  |  | 90 |  |
| Form of crediting |  |  |  | crediting with grade |  |
| For group of courses mark (X) final course |  |  |  |  |  |
| Number of ECTS points |  |  |  | 3 |  |
| including number of ECTS points for practical (P) classes |  |  |  | 3 |  |
| including number of ECTS points for direct teacher-student contact (BK) classes |  |  |  | 1 |  |

\*delete as applicable

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| **PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES**  Mathematical competences confirmed by positive grades from courses of Statistics or Probability Calculus or related. |

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| **SUBJECT OBJECTIVES**  C1: Acquiring basic knowledge about work station ergonomics  C2: Acquiring skills in using tools for an analysis and a design support of human’s work stations  C3: Acquisition and strengthening of social skills involving team work. Developing good habits of cooperation with employers and work organization specialists. |

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| **SUBJECT EDUCATIONAL EFFECTS**  relating to knowledge: possesses basic knowledge about workstation ergonomics  PEK\_W01: knows the terms from the work station ergonomics area and is able to select appropriate methods for diagnosing work performance conditions from the ergonomic point of view singlehandedly.  PEK\_W02: knows basic principles concerned with the influence of the work environment factors and work station arrangements on the biomechanical and psychological load and effectiveness of workers.  PEK\_W03: knows the methodology of corrective ergonomics that allows to improve working conditions on the investigated workstations.  relating to skills: is able to evaluate and design workstations according to the principles of ergonomics.  PEK\_U01: is able to apply basic methods for ergonomic investigations.  PEK\_U02: is able to specify normative conditions of the ergonomic quality  PEK\_U03: is able to employ basic tools for the ergonomic quality assessment within the framework of the ISO 9241 standard.  PEK\_U04: is able to diagnose and correct basic factors determining the level of the workstation ergonomic quality.  PEK\_U05: is able to apply selected methods to design the ergonomic workstation intended for performing specified processes and tasks.  relating to social competences: Acquiring and strengthening social skills involving the group work. Developing good habits of cooperation with manufacturers and work organization specialists.  PEK\_K01: Acquiring and developing team work skills in order to optimally solve the assigned problems.  PEK\_K02: Acquiring and developing systematic thinking about ergonomic properties of the employee’s workstations.  PEK\_K03: developing the capacity of self-esteem and self-control at work |

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| **PROGRAMME CONTENT** | | |
| **Form of classes - lecture** | | **Number of hours** |
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| **Form of classes - class** | | **Number of hours** | |
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| **Form of classes - laboratory** | | **Number of hours** |
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| **Form of classes - project** | | **Number of hours** |
| P1 | Presentation of goals and scenario of the project classes. Overview of various diagnostic methods. Examples of applying corrective ergonomics. | 2 |
| P2 | Presentation of the ergonomics diagnosis scenario and the proposed structure of the assignments. | 2 |
| P3 | Consultations with individual project teams about the selection of the thematic area | 2 |
| P4-P5 | Presentation session of initial evaluation results. Selection of diagnostic methods for individual teams. | 4 |
| P6-P13 | Consultations with project teams. | 16 |
| P14-P15 | Projects’ defenses sessions. Presenting the individual groups work results in the form of an oral presentation and the written report. | 4 |
|  | Total hours | 30 |

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| **Form of classes - seminar** | | **Number of hours** | |
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| Total hours |  | |

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| **TEACHING TOOLS USED** |
| N1. Traditional lecture with multimedia presentation  N2. Laboratory classes - computer software N3. Consultations N4. Working in groups - preparing the projects  N5. Presenting the individual group results. |

**EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT**

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| **Evaluation** (F – forming (during semester), P – concluding (at semester end) | Educational effect number | Way of evaluating educational effect achievement |
| P | PEK\_W01 – PEK\_W03  PEK\_U01 – PEK\_U06 | Assessment of the prepared project and its presentation |
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| **PRIMARY AND SECONDARY LITERATURE** |
| **PRIMARY LITERATURE:**   * + Materials from ([www.ergonomia.ioz.pwr.wroc.pl](http://www.ergonomia.ioz.pwr.wroc.pl/))   + Engel Z., Ochrona środowiska przed drganiami i hałasem, Wydawnictwo Naukowe PWN, 2001   + Koradecka D., [red.], Bezpieczeństwo pracy i ergonomia, Centralny Instytut ochrony Pracy, Warszawa, 1999   + Kozłowski S., Granice przystosowania, WP 1986   + Krause, M., Ergonomia - Praktyczna wiedza o pracującym człowieku i jego środowiskach, Śląska Organizacja Techniczna, Katowice, 1992   + Lewandowski J., [red.], Ergonomia – Materiały do ćwiczeń i projektowania, Wydawnictwo „Macus”, Łódź, 1995   + Pacholski L., [red.], Ergonomia, Wydawnictwo Politechniki Poznańskiej, 1986   + Śliwowski L., Mikroklimat wnętrz i komfort cieplny ludzi w pomieszczeniach, Oficyna Wydawnicza Politechniki Wrocławskiej, 2000   + Wykowska M., Ergonomia, Wydawnictwo AGH, Kraków, 1994   + Ziobro E., Ergonomia, Wydawnictwo Politechniki Wrocławskiej, 1989   **SECONDARY LITERATURE:**   * + Grandjean E., Ergonomia mieszkania, „Arkady”, Warszawa, 1978   + Kania. J., Metody ergonomiczne, Państwowe Wydawnictwo Ekonomiczne, Warszawa, 1980   + Norman D., The design of everyday things, Currency and Doubleday, 1990   + Pałka M., Elementy praktycznej fizjologii pracy, Instytut Wydawniczy CRZZ, Warszawa, 1977   + Proctor R.W., van Zandt T., Human factors In simple and complex systems, Allyn and Bacon, 1994   + Rosner J., Ergonomia, Państwowe Wydawnictwo Ekonomiczne, Warszawa 1985   + Traczyk W,Z. I Trzebski A., [red.], Fizjologia człowieka z elementami fizjologii stosowanej i klinicznej, PZWL, Warszawa, 1989   + Tytyk E., Projektowanie ergonomiczne, Wydawnictwo Naukowe PWN, 2001 |
| **SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)** |
| **Jerzy Grobelny, prof.PWr** [**jerzy.grobelny@pwr.wroc.pl**](mailto:jerzy.grobelny@pwr.wroc.pl)**, tel. 71 348 5050** |

MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT

**Ergonomic diagnosis and design of work stations**

AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY **Management**

AND SPECIALIZATION **Business Management**

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| **Subject educational effect** | Correlation between subject educational effect and educational effects defined for main field of study and specialization (if applicable)\*\* | Subject objectives\*\*\* | Programme content\*\*\* | Teaching tool number\*\*\* |
| **PEK\_W01** | K1\_ZARZ\_W22, K1\_ZARZ\_W06 | C1 | P1-P15 | N1 – N5 |
| **PEK\_W02** | K1\_ZARZ\_W22; K1\_ZARZ\_W04 | C1 | P1-P15 | N1 – N5 |
| **PEK\_W03** | K1\_ZARZ\_W04; K1\_ZARZ\_W06 | C1 | P1-P15 | N1 – N5 |
| **PEK\_U01** | K1\_ZARZ\_U13 | C2 | P1-P15 | N1 – N5 |
| **PEK\_U02** | K1\_ZARZ\_U04; K1\_ZARZ\_U15 | C2 | P1-P15 | N1 – N5 |
| **PEK\_U03** | K1\_ZARZ\_U04; K1\_ZARZ\_U15 | C2 | P1-P15 | N1 – N5 |
| **PEK\_U04** | K1\_ZARZ\_U13; K1\_ZARZ\_U15 | C2 | P1-P15 | N1 – N5 |
| **PEK\_U05** | K1\_ZARZ\_U11 | C2 | P1-P15 | N1 – N5 |
| **PEK\_K01** | K1\_ZARZ\_K02 | **C3** | P1-P15 | N1 – N5 |
| **PEK\_K02** | K1\_ZARZ\_K02; K1\_ZARZ\_K04 | **C3** | P1-P15 | N1 – N5 |
| **PEK\_K03** | K1\_ZARZ\_K01 | **C3** | P1-P15 | N1 – N5 |

\*\* - enter symbols for main-field-of-study/specialization educational effects

\*\*\* - from table above