Załącznik nr 2 do Zarządzenia Nr 915 z 2019 r. Rektora PB

**COURSE DESCRIPTION CARD**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Faculty of Electrical Engineering** | | | | | | | | | | |
| **Field of study** | **Electrical and Electronics Engineering** | | | | | | | **Degree level and programme type** | **Bachelor's degree Full time** | |
| **Specialization/ diploma path** | **-** | | | | | | | **Study profile** | **-** | |
| **Course name** | **Introduction to Programming in C** | | | | | | | **Course code** | **IS-FEE-10061S** | |
| **Course type** | **elective** | |
| **Forms and number of hours of tuition** | **L** | **C** | **LC** | **P** | **SW** | **FW** | **S** | **Semester** | **summer** | |
|  |  |  |  | **30** |  |  | **No. of ECTS credits** | **3** | |
| **Entry requirements** | **-** | | | | | | | | | |
| **Course objectives** | **Developing the skills of computer algorithms designing and implementing them in the form of programs in C language.** | | | | | | | | | |
| **Course content** | **Structured programming in C language: data types, variables and constants, expressions and statements, operators, precedence of operators, formatted input/output, conditional statements, loops, arrays, pointers and dynamic memory allocation, structures, unions and bit fields, text and binary files, functions, passing argument to functions.** | | | | | | | | | |
| **Teaching methods** | **Multimedia presentation, solving programming problems** | | | | | | | | | |
| **Assessment method** | **Two practical tests, evaluation of computer programs** | | | | | | | | | |
| **Symbol of learning outcome** | **Learning outcomes**  **(***After completing this course student ...)* | | | | | | | | **Reference to the learning outcomes for the field of study** | |
| **LO1** | **writes and runs simple structured programs in C language using the appropriate data types and conditional statements** | | | | | | | |  | |
| **LO2** | **uses loops and arrays in programs in C language** | | | | | | | |  | |
| **LO3** | **defines and uses its own functions in programs in C language** | | | | | | | |  | |
| **LO4** | **reads and writes data from and to files in programs written in C language** | | | | | | | |  | |
| **Symbol of learning outcome** | **Methods of assessing the learning outcomes** | | | | | | | | **Type of tuition during which the outcome is assessed** | |
| **LO1** | **practical test, evaluation of computer programs** | | | | | | | | **SW** | |
| **LO2** | **practical test, evaluation of computer programs** | | | | | | | | **SW** | |
| **LO3** | **practical test, evaluation of computer programs** | | | | | | | | **SW** | |
| **LO4** | **practical test, evaluation of computer programs** | | | | | | | | **SW** | |
| **Student workload (in hours)** | | | | | | | | | **No. of hours** | |
| **Calculation** | **participation in specialization workshop** | | | | | | | | **30** | |
| **preparation for specialization workshop** | | | | | | | | **18** | |
| **working on homework (computer programs)** | | | | | | | | **18** | |
| **participation in student-teacher sessions related to the specialization workshop** | | | | | | | | **5** | |
| **preparation for practical tests (specialization workshop)** | | | | | | | | **10** | |
| **TOTAL:** | | | | | | | | **81** | |
| **Quantitative indicators** | | | | | | | | | **HOURS** | **No. of ECTS credits** |
| **Student workload – activities that require direct teacher participation** | | | | | | | | | **35** | **1,5** |
| **Student workload – practical activities** | | | | | | | | | **81** | **3** |
| **Basic references** | **1.** **Prata S., C Primer Plus (6th Edition) (Developer's Library). Addison-Wesley Professional, 2013.**  **2.** **Kernighan B.W., Ritchie D.M., The C Programming Language. 2nd Edition, Prentice Hall, 1988.**  **3.** **Kochan S.G., Programming in C (4th Edition) (Developer's Library). Addison-Wesley Professional, 2014.** | | | | | | | | | |
| **Supplementary references** | **1.** **King K.N., C Programming: A Modern Approach, 2nd Edition. W. W. Norton & Company, 2008.**  **2.** **Reese R.M., Understanding and Using C Pointers. O'Reilly Media, 2013.**  **3.** **Shaw Z.A., Learn C the Hard Way: Practical Exercises on the Computational Subjects You Keep Avoiding (Like C). Addison-Wesley Professional, 2015.** | | | | | | | | | |
| **Organisational unit conducting the course** | **Department of Electrotechnics, Power Electronics  and Power Engineering** | | | | | | | | **Date of issuing the programme** | |
| **Author of the programme** | **Jarosław Forenc, PhD** | | | | | | | | **23.02.2020** | |

**L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work,**

**S – seminar**