Course title	**Object-Oriented Programming**
Institute/Division	Faculty of Computer Science and Telecommunication/ Department of Computer Science
Course code	F-1.OOP
Erasmus subject code	11.3 Informatics, Computer Science
Number of contact hours**	45 lecture hours (45h)
Course duration	1 semester (Fall)
ECTS credits	6
Course description	The course covers the basics and more advanced topics of object-oriented programming techniques. Students learn about the: • classes, interfaces, abstract classes, inheritance, encapsulation, implementation hiding; • design patterns – definitions and example projects; • C# realization of object oriented features; • elements of test driven development (TDD) approach to software development. • organization of the source files, compilation and linking of the processes. The course is not focused on any specific vendor tools, however Microsoft Visual Studio is used during the laboratories. After the theoretical introduction, students analyze the example programs. They are required to prepare several mini-projects.
Literature	1. Jesse Liberty. Programming C#. *Building .NET Applications with C#.* 2. John Sharp. *Microsoft Visual C# Step by Step.* 3. Elisabeth Freeman, Eric Freeman, Bert Bates, Kathy Sierra, Elisabeth Robson. *Head First Design Patterns.* 4. Steven John Metsker. *Design Patterns in C#.* 5. Matt Weisfeld. *The Object-Oriented Thought Process* (*3rd edition*).
Course type/organization	Lectures and computer laboratory
Assessment method	Projects and final test
Prerequisites	Basic knowledge of any other language (procedural programming, loops, conditional statements etc., other object oriented languages appreciated but not necessary); basic computer skills
Primary target group	2-nd – 4-th year Computer Science students
Contact person	Oleh Kobzar, PhD, e-mail: oleh.kobzar@pk.edu.pl
Remarks	

*please insert one of the following codes:
11.0 Mathematics, Informatics
11.1 Mathematics
11.2 Statistics
11.3 Informatics, Computer Science
11.4 Artificial Intelligence
11.5 Actuarial Science
11.9 Others Mathematics, Informatics

**1 lecture hour=45 minutes