



Course title	C++ Programming
Institute/Division	Faculty of Computer Science and Mathematics/ Department of Computer Science
Course code	F-1.C++
Erasmus subject code*	11.3 Informatics, Computer Science
Number of contact hours**	45 lecture hours (45h)
Course duration	1 semester (Spring)
ECTS credits	6
Course description (max 100 words)	The course covers the basics and more advanced topics of C++ programming language. Students learn about the structure of C++ projects, the organization of the source files, the compilation and linking processes. The course follows the standard C++ without focusing on any specific vendor tools, however Microsoft Visual Studio is used during the laboratories. Students learn the basics of C++ such as loops, flow control, conditional statements, arrays, pointers, etc. More advanced topics cover memory management, object oriented programming, operator overloading, I/O operations etc. After the theoretical introduction, students analyze the example programs. They are required to prepare several mini-projects.
Literature	<ol style="list-style-type: none">1. Bjarne Stroustrup. The C++ Programming Language.2. Bruce Eckel. Thinking in C++: Introduction to Standard C++, Prentice Hall.3. Matthew H. Austern. Generic Programming and the STL: Using and Extending the C++ Standard Template Library, Addison-Wesley Professional Computing Series.4. Ray Lischner. Exploring C++ 11, Apress.5. Herbert Schildt. The Complete Reference C++. 2020, Tata McGraw Hill.
Course type/organization	Lectures and computer laboratory
Assessment method	Projects and final test
Prerequisites	Basic programming knowledge in C or any other language, basic computer skills
Primary target group	3rd year Information Sciences / Physics 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