

Subject code	Credits
INF1007	6

Course title in Lithuanian

OBJEKTINIS PROGRAMAVIMAS

Course title in English

OBJECT-ORIENTED PROGRAMMING

Short course annotation in Lithuanian (up to 500 characters)

Dalykas skirtas C++ objektinio programavimo priemonių parengimo ir naudojimo principų studijoms. Studentai supažindinami rekursija, rodykle, simbolių eilučių, abstrakčių tipų sąvokomis ir jų realizavimu bei panaudojimu. Suteikiami objektinio programavimo pagrindai, mokinama formuoti objektinius programų modelius. Analizuojamos klasių aprašymo priemonės, klasių vidinės struktūros paslėpimas, išorinės sąsajos aprašymo priemonės, savybių paveldėjimas klasių šeimose ir jų polimorfiškumas, klasių kompozicijos, kritinių situacijų kontrolės bei šabloninio programavimo priemonės, susietų sąrašų tvarkymo klasės.

Short course annotation in English (up to 500 characters)

Subject is suited to learn C++ programming language as object-oriented programming tools, and to get use it in simple examples. Students are introduced to recursion, pointers, string data type, abstract data type, and concepts of their realization. Basics of object-oriented programming are provided, developing of the object models and applications are introduced. Overview of classes, objects, methods, descriptions for hiding the internal structure and external links are given. Characteristics of inheritance, polymorphism, composition classes, critical situations control, planning of graphical user interface, programming of it are explained.

Prerequisites for entering the course

Programming fundamentals course

Course aim

Understand of designing of advanced algorithms, get introduced to object oriented programming.

Content

No	Content (topics)
1.	Differences of structured/functional and object oriented programming
2.	Structure data type. Recursion. Pointers.
3.	Object-oriented concept: Object-oriented programming: an Object, a Class, Encapsulation Polymorphism, Inheritance, Multiinheritance. Construction. Destruction. Namespaces. Virtual methods. Templates.
4.	Abstract data type. Designing a General Class Structure.
5.	Classes with the Dynamical data fields
6.	Exception handling
7.	User interface, graphical user interface modelling

Distribution of workload for students (contact and independent work hours)

Practicum	75 hours
Individual students work	85 hours
Total:	160 hours

Structure of cumulative score and value of its constituent parts

Final written exam (50%), mid-term written exam (17%), and assessments of laboratory (practical) work (33%).

Recommended reference materials

No.	Publication year	Authors of publication and title	Publishing house	Number of copies in		
				University library	Self-study rooms	Other libraries
<i>Basic materials</i>						
1.	2016	V.Barzdaitis „Objektinio programavimo pagrindai“ - distance learning course				Electronic papers, in distance learning system: http://moodle.vdu.lt
2.	2013	C++ Programm-ing Language OOP				https://www3.ntu.edu.sg/home/ehchua/programming/cpp/cp3_OOP.html

3.	2008	A.Vidziūnas „C++ ir objektinis programavimas“	10	5		
Supplementary materials						
1	2016	Visual Studio Quick Reference Guidance		SlideShare		Free resources on SlideShare: https://vsarquickguide.codeplex.com
2	2016	Visual C++ Developer Center				Free resources on Internet: https://msdn.microsoft.com/en-us/vstudio/aa718325.aspx
3	2016	C++ programming tutorials, best practice examples, working examples, debugging instructions				http://www.bogotobogo.com/cplusplus/cpptut.php http://www.cplusplus.com http://www.learncpp.com/
4		Free forums resources: best news, issues solving solutions.				http://stackoverflow.com/questions/388242/the-definitive-c-book-guide-and-list https://www.quora.com/What-are-the-best-C++-books

Course programme designed by

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