Discipline	OBJECT-ORIENTED PROGRAMMING FUNDAMENTALS (C++) code: 15 **summer semester**	
Specialty	Computer Systems and Technologies	
ECTS credits: **7**	Form of assessment: exam	
Lecturer	Assoc. Prof. Vladimir Nikolov, PhD Room 405 TB Phone: +359 52 383 628 E-mail: nikolov_vn@tu-varna.bg	
Department	Computer Science and Engineering	
Faculty	Faculty of Computing and Automation	

Learning objectives:

The course is based on the knowledge acquired by the students through the preceding courses "Programming Fundamentals" and "Algorithms and data Structures". The latest trends in the appropriate courses from leading universities in Europe and USA as well as the recommendations of the C and C++ users' association have been taken into consideration for course content' designing. Presented material introduces the students with contemporary technologies for application development with usage of C++. The course consists of two parts – "Object-oriented programming in C++" and "Standard library of STL template classes". The basic principles of the object-oriented programming are presented through implementation of algorithms and data structures already studied in previous courses, while the course itself extends the knowledge in algorithms including generalization of the term algorithm and the way of its implementation.

CONTENTS:

Training Area	Hours lectures	Hours seminar exercises
Objects and classes.	5	5
Inheritance and polymorphism.	5	5
Instruments for programs' organization. STL library – description.	5	5
Consecutive containers. Suggestive containers.	5	5
Adapters of containers. Implementation of base structures in STL – stacks, queues, priority queues. Object functions and adapters. Invertors. Iterative adapters.	5	5
Algorithms and containers. General algorithms – creation principles, based on STL	5	5
TOTAL: 60 h	**30**	**30**