

1.3. Module/ course form

To be completed by Course Team	Module name : <i>Building Application in Visual Studio.Net C</i>					Module code:	
	Course name: Budowa aplikacji na platformie .NET					Course code:	
	Faculty: Applied Computer Science						
	Field of study: Computer Science						
	Mode of study : daily		Learning profile: practice			Speciality:	
	Year/ semester: 3/5		Module/ course status: compulsory			Module/ course language: English	
	Type of classes	lecture	lessons	lab	project	tutorial	other (please specify)
	Course load	30		30			

Module/ course coordinator	mgr inż. Marzanna Skowrońska
Lecturer	mgr inż. Marzanna Skowrońska
Module/ course objectives	<p>To understand issues of software development with new information technologies ;</p> <p>To acquire programming skills in the C # object-oriented language;</p> <p>To use the Microsoft Visual Studio. NET software development environment ;</p> <p>To get the ability to build Microsoft Windows Forms applications by using the Microsoft. NET Framework ;</p> <p>To implement application components;</p> <p>To build complete desktop applications;</p>
Entry requirements	fundamental knowledge of computer programming

LEARNING OUTCOME		
Nr	LEARNING OUTCOME DESCRIPTION	Learning outcome reference
Nr	Knowledge	
01	uses the C# object language grammar in the Visual Studio choosing the adequate syntax to solve a given problem	K_W11
02	models the software solution according to object-oriented paradigm, component-building, a tier application model	K_W13
	Skills	
03	manages the integrated development environment smoothly performing all necessary operations like creating, testing, code startup, reading and learning from comments and errors in English	K_U16, K_U13, K_U05

04	creates desktop applications quite complex in terms of architecture in C #	K_U19, K_U12
05	develops the ability to use different types of literature resources in English looking for the optimal solution of a given problem	K_U01, K_U05
06	takes care of ergonomic user interface of his/her programs	K_U11
	Social competences	
07	presents the results of the work to the public	K_K06
08	comments source code and composes it correctly designed for other programmers who would develop the code	K_K02

CURRICULUM CONTENTS

Lecture

1. The introduction to Microsoft .NET Framework platform: CLR, BCL. Discuss issues: assembly, programming language, memory managing, common data type. (2)
2. The core of C# language. Creating simply computer programs, compiling, debugging, running with a common editor and the C# compiler or integrated development environment – Microsoft Visual Studio. C# specific structures: namespaces, indexers, delegates, events, table indexes. Design pattern -*factory*. (8)
3. Creating a complex design of desktop window applications in Visual Studio: solutions, projects, elements of different types of projects. Analysis of starting the application (*entry point, set as startup*). The life cycle of s form. Switching a control between forms by overloading a constructor and an object cast. (1)
4. Studying basic controls provided by the environmental manufacturer like *menu, toolbar, dialog boxes*. Validation of data. Error handling. (3)
5. Create single and multiple document interface type applications (SDI,MDI). Summary of study content by an example of an own editor. (1)
6. Construction of various types of controls. Create a library of components. The three-tier application model. (4)
7. Data access methods, the idea of ADO.NET. Developing database applications with connection and disconnection access to data repository by the Object Wizard support and directly in code. (5)
8. Using the built-in report generator. (1)
9. Create prints by code. (2)
10. Enhancing application for disable users, user support and application customization. (1)
11. A multiple languages application. (1)
12. Application security, configuration management, application installation. (1)

Tutorial

The purpose of the lab is to implement aspects of application in C # with Microsoft Visual Studio. NET. At the initial class students learn the C # language and create small programs using a common editor and the C# compiler. Next they acquire the ability to use the Microsoft Visual Studio.NET integrated development environment. Then they fulfill gaps of code as well as quite complex applications according to a given scenario related to a current lecture topic. Laboratory classes are supported by the Microsoft IT Academy course "2555 Developing Microsoft. NET Applications for Windows (Visual C #. NET)" and "Programming in C #" in the form of ordinary .pdf files and multimedia files from <http://itacademy.microsoftelearning.com> .

Basic literature	<ol style="list-style-type: none"> 1. http://msdn.microsoft.com/en-us/library 2. Workbook – “Developing Microsoft .NET Applications for Windows(Visual C#.NET)”, 2002 Microsoft Corporation (plik formatu ‘pdf’). 3. Workbook – “Programming in C#.”, 2002 Microsoft Corporation (plik formatu ‘pdf’). http://itacademy.microsoftelearning.com/
Additional literature	Perry S.: <i>C# i .NET</i> . Gliwice, Helion 2006.

Teaching methods	Lecture with multimedia presentations, laboratory exercises, discussion, tasks solving, individual and team work in the laboratory, individual consultation
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Assessment methods	Learning outcome number
1. Student implements the solution of tasks defined by the teacher during laboratory classes	02,03,04,05
2. Student presents their solutions to the teacher and answers to questions about the code justifying his/her concept or explaining used language structures if it has been imposed.	01
3. At the end of the semester Student creates an application with the possibility of adoption of software components developed by others without infringing their copyright.	02,03,04,06,08
4. Student presents to the public the functional and architectural aspects of the application.	07
5. Student provides comprehensive answers to questions about the application code which implements a pointed function seen from a user perspective.	01
Form and terms of an exam	

STUDENT WORKLOAD	
	Number of hours
Participation in lectures	30
Independent study of lecture topics	10
Participation in tutorials, labs, projects and seminars	30
Independent preparation for tutorials*	20
Preparation of projects/essays/etc.*	40
Preparation/ independent study for exams	15
Participation during consultation hours	5
Other	
TOTAL student workload in hours	150
Number of ECTS credit per course unit	6 ECTS
Number of ECTS credit associated with practical classes	90 godz. 3,6 pkt ECTS
Number of ECTS for classes that require direct participation of professors	65 godz. 2,6 pkt ECTS