STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Programming platforms		**1010331451010334966**
Field of study: **Information Engineering**	Profile of study (general academic, practical): **(brak)**	Year /Semester: **3 / 5**
Elective path/specialty: **-**	Subject offered in: **polish**	Course (compulsory, elective): **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time): **full-time**	
No. of hours: Lecture: **2** Classes: **-** Laboratory: **2** Project/seminars: **-**		No. of credits: **4**
Status of the course in the study program (Basic, major, other): **(brak)**	(university-wide, from another field): **(brak)**	
Education areas and fields of science and art: **technical sciences**		ECTS distribution (number and %): **4 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	K_W04: possesses ordered and theoretically founded knowledge on the basic algorithms and analytic techniques for designing algorithms, abstract data structures and their implementation, computationally difficult problems; K_W08: has structured and theoretically founded knowledge on databases and data warehouses; K_W12: has ordered and methodological knowledge of software engineering
2	**Skills**	K_U02: is able to work independently and in a team, is able to estimate the time needed for the commissioned tasks, able to develop and implement a schedule of work to ensure deadlines, K_U03: is able to develop documentation of engineering tasks and prepare a text containing a discussion of the results of this task
3	**Social competencies**	K_K04: is aware of responsibility for his/her own work and a willingness to comply with the principles of teamwork and shared responsibility for the implementation of tasks

Assumptions and objectives of the course:

To acquaint students with the basic programming platforms. NET and Eclipse. Introduction to Model Driven Architecture metodology (MDA), analytical tools and visualization.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Student has organized knowledge with theoretical foundations of basic program constructions, algorithm implementations, paradigms and programming styles, software verification methods, formal languages, compilers, platforms. - [K_W05]
2. Student is familiarized with state of the art and current trends in computer science. - [K_W19]
3. Student knows common IT engineering technology. - [K_W18]

Skills:

1. Student is able to use software platforms and environments for simple programs encoding, running and testing in imperative, object-oriented and declarative programming languages. - [K_U10]
2. Student is able to prepare requirements, to create object model and to evaluate uncomplicated IT system, including system functions and relations between system elements. - [K_U16]
3. Student is able to evaluate tools and methods usefulness for simple engineering tasks related to computer science. Student is able to choose and to implement proper technologies. - [K_U22]

Social competencies:

1. understands the need and knows the opportunity of continuous training (second-and third-degree, postgraduate courses) ? improvement of language, professional, personal and social skills - [K_K01]

Assessment methods of study outcomes

Lecture: written exam that checks the basic knowledge of programming platforms and paradigms, and social networking applications.

Project: demonstration of the applications executed on the platforms .NET and Eclipse together with access to databases.

Project. Creating applications. NET in C #. The use of Microsoft platforms. NET Framework 3.5 and 4.0 as well as the runtime environment (Common Language Runtime - CLR) and class libraries that provide standard functionality for the application.

Eclipse platform and application development in Java. Access to relational databases using JDBC, and ADO.NET technologies. version control - SVN. Windowing applications in Java using libraries, AWT, SWT and Swing. Hibernate as a data access layer for the Java platform and. NET.

Course description

Lecture. The methodology of Model Driven Architecture using iLogix. and Rational Data and Application Modeling Bundle tools.

Methodology for the implementation of reactive systems software and automatic code generation. Systems analysis and visualization. Formalization of writing business rules - SBVR standard . SBVR to SQL translation. Open source software Types of licenses. Link analysis. Social networks. Calculations related to the use of social networks.

Projekt. Tworzenie aplikacji na platformie .NET w języku C#. Wykorzystanie platform Microsoft .NET Framework 3.5 oraz 4.0 a także środowiska uruchomieniowego (Common Language Runtime - CLR) oraz bibliotek klas dostarczających standardowych funkcjonalności dla aplikacji.

Platforma Eclipse i programowanie aplikacji w języku Java. Dostęp do relacyjnych baz danych za pomocą technologii ADO.NET oraz JDBC. system kontroli wersji - SVN. Aplikacje okienkowe w języku Java przy wykorzystaniu bibliotek AWT, SWT oraz SWING. Hibernate jako warstwa dostępu do danych na platformie Java oraz .NET.

Basic bibliography:

1. Eclipse 4 Application Development: The complete guide to Eclipse 4 RCP development (Volume 1) by Lars Vogel and Mike Milinkovich (Jun 26, 2012)

2. Essential C# 3.0 For .NET Framework 3.5, Mark Michaelis, Addison-Wesley ProfessionalISBN 0321533925; free http://free-file-hosting.info/showfile- 34/essential_csharp_3_for_dot_net_framework_3_5.zip , 2008

3. MDA Explained: MDA Explained: The Model Driven Architecture, Annette Kleppe, Jos Warmer, and Wim Bast, Addison-Wesley , 2003

4. Articles on analytical systems and reactive systems.

Additional bibliography:

1. A series of technical materials on Eclipse Indigo (3.7), http://www.eclipse.org/

2. Documentationfor visualizing network Pajek tool http://pajek.imfm.si/doku.php

3. Documentationfor on analytic Palantir Technologies tool

4. Selected articles on social networks.

Result of average student's workload

Activity	Time (working hours)
1. .Lectures	30
2. Laboratories	30
3. Preparation to laboratories	30
4. .Preparation of laboratory reports	15

Student's workload

Source of workload	hours	ECTS
Total workload	100	4
Contact hours	60	2
Practical activities	75	3