STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Databases and technologies in Internet**		Code **1010324381010324392**
Field of study **Electrical Engineering**	Profile of study (general academic, practical) **general academic**	Year /Semester **4 / 8**
Elective path/specialty **Electrical and Computer Systems in**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **part-time**	

No. of hours				No. of credits
Lecture: **9** Classes: **-** Laboratory: **18** Project/seminars: **-**				**3**

Status of the course in the study program (Basic, major, other) **other**	(university-wide, from another field) **university-wide**

Education areas and fields of science and art **technical sciences** **Technical sciences**	ECTS distribution (number and %**)** **3 100%** **3 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of computer science, the relational database model and programming in high level languages.
2	**Skills**	Support browsers. The use of communication protocols. Algorithmic thinking. Collaboration in a team (group of laboratory).
3	**Social competencies**	Recognizes the importance of working tools in electrical engineering, the ability to expand their competences.

Assumptions and objectives of the course:

Practical skills related to the creation of modern websites and designing relational databases. Sample Implementation of the project web page containing HTML tags, cascading style sheets, scripts, Java Script and XML files. The project relational database in MS SQL Server using Transact-SQL contains views, stored procedures and functions and triggers. Familiar with the technology building dynamic websites running on the server side (ASP.NET).

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

Knowledge:

1. choose the appropriate Internet technologies to the set of functional features website - [K_W10+, K_W11++]

2. propose a method of data collection and define dependencies and constraints associated - [K_W11++]

Skills:

1. design, implement and publish a Web site - [K_U04+, K_U05+]

2. to design and execute an MS SQL Server database applications engineering, define database objects, use the SQL queries - [K_U04+, K_U05+]

Social competencies:

1. awareness of the need for tools to improve the efficiency of electrical engineering and improve the economic importance of the company - [K_K05+]

Assessment methods of study outcomes

Lecture:

- assess the knowledge and skills listed on the completion of a written test and problematic.

Laboratory:

- assess the knowledge and skills related to the implementation of IT projects (two projects including: website and relational database in MS SQL Server),

- checking and rewarding knowledge and skills for the implementation issues of problem (homework).

Get extra points for the activity in the classroom, and in particular for:

- Activity classes in any attempt solutions to problems,

- ability to work as a team.

Course description

Markup Language (HTML), Cascading Style Sheets (CSS), Extensible languages XML, XSL stylesheets. The combination of HTML and CSS. Java Script scripting language. Connecting to Web pages with XML documents and Java Script. Publishing a Web site. Characteristics of MS SQL Server, SQL and Transact-SQL - create database objects (tables, views, stored procedures and functions, triggers) and queries. Fundamentals of ASP.NET. Web development using ASP.NET. Web collaboration with relational databases.

Update 2017:

MS Visual Studio development environment, HTML5 and CSS4.

Applied methods of education:

lectures - with multimedia presentations (drawings, photographs, animations) supplemented by examples given on the board, run in an interactive way, with questions to students or specific students, presenting a new topic preceded by a reminder of related content known to students from other subjects;

laboratories - supplemented with multimedia presentations, use of tools to enable students to perform home-based tasks (open source software), demonstrations.

Basic bibliography:

1. Duckett J., HTML i CSS: zaprojektuj i zbuduj witrynę WWW, Helion, 2014

2. Haverbeke M., Zrozumieć JavaScript: wprowadzenie do programowania, Helion 2015

3. Balter A., T-SQL dla każdego, Helion, 2016.

4. Matulewski J., ASP.NET Web Forms: kompletny przewodnik dla programistów interaktywnych aplikacji internetowych w Visual Studio, Helion, 2014.

5. Jajczyk J., Medycki M.: Personalizacja witryn internetowych z wykorzystaniem architektury WebParts, ZKwE, 2009, s. 419-420.

Additional bibliography:

1. Goldberg K. H., XML: przewodnik po świecie XML!, Helion 2014

2. Mendrala D., Potasiński P., Szeliga M., Widera D.: Serwer SQL 2008. Administracja i programowanie, Wydawnictwo Helion, Gliwice 2009.

3. Jahołkowski T., Matulewski J.: Technologie ASP.NET i ADO.NET w Visual Web Developer, Wydawnictwo Helion, Gliwice 2007.

4. Jajczyk J., Kasprzyk L., Matuszak K.: Zastosowanie technologii ASP do wspomagania procesu dydaktycznego, ZKwE, 2003, s. 691-694.

Result of average student's workload

Activity	Time (working hours)
1. Participation in class lectures	9
2. Participation in laboratory classes	18
3. Participate in the consultations on the lecture	3
4. Participate in the consultations on the lab	8
5. Preparation laboratory	16
6. Implementation of project tasks	22

Student's workload

Source of workload	hours	ECTS
Total workload	76	3
Contact hours	38	1
Practical activities	64	2