1.3. Module/ course form

<table>
<tr><td rowspan="9" style="writing-mode:vertical">To be completed by Course Team</td><td>Module name :
DATABASES</td><td colspan="5">Module code: M9</td></tr>
<tr><td>Course name:
Internet Applications I</td><td colspan="5">Course code:</td></tr>
<tr><td colspan="6">Faculty:
The Institute of Applied Informatics</td></tr>
<tr><td colspan="6">Field of study:
Informatics</td></tr>
<tr><td colspan="2">Mode of study :</td><td colspan="2">Learning profile:
PRACTICAL</td><td colspan="2">Speciality:</td></tr>
<tr><td colspan="2">Year/ semester:
2/3</td><td colspan="2">Module/ course status:
mandatory</td><td colspan="2">Module/ course language:
polish/anglish</td></tr>
<tr><td>Type of classes</td><td>lecture</td><td>lessons</td><td>lab</td><td>project</td><td>tutorial</td><td>other (please specify)</td></tr>
<tr><td>Course load</td><td>30</td><td></td><td>30</td><td></td><td></td><td></td></tr>
</table>

Module/ course coordinator	dr inż. Jerzy Buriak
Lecturer	dr inż. Jerzy Buriak, mgr inż. Daria Rybarczyk
Module/ course objectives	Ability for self-learning. Analyses and foresees trends of Internet technology development. Ability to create dynamic www services with fundamental know-how about: connection strings to databases, html forms, logon form and authentication methods, tables and data lists as examples of www service reports, cascade style sheets. Programs www services with use of extensible markup languages. Transforms XML documents by Extensible Stylesheet Language XSLT. Defines structures of XML data by Document Type Definition and XML Schema
Entry requirements	Methods of data presentation, Databases, Fundamentals of programming

LEARNING OUTCOME		
Nr	LEARNING OUTCOME DESCRIPTION	Learning outcome reference
01	Uses basic definitions of internet applications	K_W16
02	Introduces and describes HTML elements and CSS properties	K_W15 K_W16
03	Identifies key words and structure of PHP language, including database functions	K_W14
04	Has the ability to create dynamic web services with database interface	K_U19 K_U16

05	Has the ability to create web pages as: forms, login pages, reports with tables and lists of items. Uses the cascading style sheets CSS.	K_U19
06	Has the ability to transform XML documents using XSLT sheets.	K_U24
07	Follows the rules of professional ethics, in particular honesty, respect copyright and respect for the diversity o ideas of views	K_K03
08	Differentiates and critically assess the scope of their knowledge and skills.	K_K01
09	Recognize the need for continuous training and professional development.	K_K01

CURRICULUM CONTENTS
Lecture
1. Refreshing a knowledge about SQL. Data manipulation in databases by SQL queries 2. Fundamentals of www technologies: www servers, HTTP protocol, URL addresses, Cookie files, sessions, HTML and HTML forms 3. Client-server architecture. Clients of MySQL, PostgreSQL, MS SQL Server, Oracle databases. Application servers. 4. Open data connectivity drivers. Disadvantages and advantages of ODBC and JDBC. Overview of data providers. 5. PHP scripts. A connection strings to databases. 6. XML documents oriented to data storage 7. Document Type Definition DTD 8. Document structure definition with XML Schema 9. Querying of XML documents by XPath and XQuery 10. Transforms XML documents by Extensible Stylesheet Language XSLT 11. Implementation of cascade style sheets in www services
Tutorial
During laboratory students will improve data base querying abilities. Students implement course examples and create own scripts and documents XHTML and XML. Also create DTD, XML Schema and XSLT documents. They are querying XML documents with XPath expressions. They presents data in XML documents by style sheets in CSS and XSLT documents. Students will create simple www service with dynamic communication with postgreSQL data base. Design and create database tables with references and other constraints. Create sequences, triggers and functions, view, rules and other necessary data base objects. Design service interface and program scripts with logon form, other forms for data collection and manipulation.

Basic literature	1. Judith S. Bowman , Sandra L. Emerson , Marcy Darnovsky: Using Structured Query Language (3rd Edition) (ISBN: 0201447878 / 0-201-44787-8) Pearson Education, 1996 2. Richard Stones, Neil Matthew: Data bases andi PostgreSQL. ISBN: 83-7197-650-X, Helion 2002 3. Wankyu Choi, Allan Kent, Chris Lea, Ganesh Prasad, Chris Ullman: Beginning PHP 4 4. Bates, Ch.: XML in Theory and Practice, John Wiley & Sons, 2003
Additional literature	1. Mark Graves Designing XML Databases. 2. Steve Holzner: Inside XSLT. ISBN: 83-7197-635-6. 3. Richard Stones, Neil Matthew: Beginning Databases with PostgreSQL: From Novice to Professional. Publisher: Apress, ISBN: 1590594789, edition 2005

Teaching methods	1) lecture / lecture with multimedia presentation 2) exercises in auditorium with implementation of the project method for practical tasks

3) work in group of students (case studies, solving of the problems) 4) exercises In computer laboratory 5) housework. 6) blended-learning	

Assessment method	Learning outcome number
Practical task	04,05,06,07,08,09
Housework	04,05,06,07,08
Test – HTML, CSS, PHP	01,02,03
Test – XML, XSLT	06,08

Form and terms of an exam	Parts of course evaluation: 50% course exam, 50% laboratory score.

STUDENT WORKLOAD	
	Number of hours
Participation in lectures	15
Independent study of lecture topics	10
Participation in tutorials, labs, projects and seminars	30
Independent preparation for tutorials*	10
Preparation of projects/essays/etc.*	10
Preparation/ independent study for exams	5
Participation during consultation hours	2
Other	
TOTAL student workload in hours	82
Number of ECTS credit per course unit	**3 ECTS**
Number of ECTS credit associated with practical classes	50 **2 ECTS**
Number of ECTS for classes that require direct participation of professors	47 **1,9 ECTS**