Course Syllabus

I. General Information

Course name	Internet applications development
Programme	Informatics
Level of studies (BA, BSc, MA, MSc, long-cycle MA)	BA
Form of studies (full-time, part-time)	Full-time
Discipline	Informatics
Language of instruction	English

Course coordinator/person responsible	Dr Rafał Stęgierski

Type of class *(use only the types mentioned below)*	Number of teaching hours	Semester	ECTS Points
lecture			5
tutorial	30	IV	
classes			
laboratory classes	30	IV	
workshops			
seminar			
introductory seminar			
foreign language classes			
practical placement			
field work			
diploma laboratory			
translation classes			
study visit			

Course pre-requisites	Basics of algorithms and programming

II. Course Objectives

C1 - Getting to know the basics of the PHP language
C2 - Getting acquainted with web application programming techniques
C3 - Familiarizing with the programming techniques of console applications
C4 - Getting to know the basic design patterns
C5 - Getting acquainted with the structure and the cycle of web application implementation

III. Course learning outcomes with reference to programme learning outcomes

Symbol	Description of course learning outcome	Reference to programme learning outcome
	KNOWLEDGE	
W_01	Has general knowledge of algorithmics, design and programming, operating systems, computer networks, software engineering, databases, artificial intelligence and computer graphics	K_W06
	SKILLS	
U_01	Is able to independently acquire and use information helpful in solving specific IT problems from technical documentation, help files as well as Internet resources and available literature	K_U02
U_02	????????????????????????????	K_U04
	SOCIAL COMPETENCIES	
K_01	????????????????????????????	K_K01

IV. Course Content

1. The WWW network
a. The http protocol
b. GET and POST requests
c. Processing on the client's side
d. Processing on the server side
e. REST
f. Asynchronous and asynchronous transfer (AJAX)
2. Syntax of the PHP language
a. Output instructions and subtitles
b. Constants, variables, expressions and operators
c. Control instructions
d. Functions in PHP
e. Encoding standards
3. Object-oriented programming
a. Classes and objects
b. Constructors, destructors and cloning
c. Components
d. Inheritance
e. Specifications of component visibility
f. Static components
g. Permanent
h. Abstract classes
i. Interfaces
j. Exceptions
k. Classes and final methods
l. Magic methods
m. Callbacks, anonymous functions and closures
n. Naming spaces
o. Interface "reflection API"
4. Design patterns

a. Basic information about design patterns b. Selected design patterns 5. ORM software 6. Software framework

V. Didactic methods used and forms of assessment of learning outcomes

Symbol	Didactic methods *(choose from the list)*	Forms of assessment *(choose from the list)*	Documentation type *(choose from the list)*
	KNOWLEDGE		
W_01	Conversational lecture, Guided practice	Exam	Protocol
	SKILLS		
U_01	Practical classes	Preparation / implementation of the project	Project rating card
U_02	Practical classes	Preparation / implementation of the project	Project rating card
	SOCIAL COMPETENCIES		
K_01			

VI. Grading criteria, weighting factors.....

At grade 3, the student can:
W1 - can characterize the differences between the interpretation and compilation of the code
W2 - discuss the syntax of the PHP language
W3 - describe the mechanism of launching the web application (client / server model)
U1 - run sample internet applications made in various frameworks / languages
U2 - implement simple applications based on processing strings, arrays and files
K1 - can formulate opinions on basic PHP language constructs
K2 - can individually plan work on the application

At grade 4, the student can:
W1 - contrastively discuss the syntax of the PHP language in relation to any other language (eg C ++)
W2 - exchange and briefly characterize the known design patterns
U1 - implement object-oriented libraries that solve more advanced tasks
U2 - use your own libraries to implement the application
K1 - work individually and in groups to plan work on the application

At grade 5 the student can:
W1 - give examples of the use of the discussed design patterns
U1 - use design patterns in practice to implement your own libraries

U2 - publish your own libraries as Open Source projects

U3 - use OpenSource libraries

VII. Student workload

Form of activity	Number of hours
Number of contact hours (with the teacher)	***90***
Number of hours of individual student work	***50***

VIII. Literature

Basic literature
1. Robin Nixon, Learning PHP, MySQL & JavaScript 5e (Learning PHP, MYSQL, Javascript, CSS & HTML5), O'Reilly; 5th ed. edition (8 Jun. 2018) 2. Lorna Jane Mitchell, PHP Web Services: APIs for the Modern Web, O\'Reilly Media; 2 edition (6 Jan. 2016)
Additional literature