FACULTY W-8 / DEPARTMENT………………

SUBJECT CARD

Name in Polish Systemy multimedialne

Name in English Multimedia Information Systems

Main field of study (if applicable): IT

Specialization (if applicable):

Level and form of studies: 1st/ ~~2nd~~* level, full-time / part-time*

Kind of subject: ~~obligatory~~ / optional / ~~university-wide~~*

Subject code INZ0272Wl

Group of courses YES / ~~NO~~*

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)	30		30		
Number of hours of total student workload (CNPS)	60		90		
Form of crediting	~~Examination~~/ crediting with grade*	Examination / crediting with grade*	~~Examination~~/ crediting with grade*	Examination / crediting with grade*	Examination / crediting with grade*
For group of courses mark (X) final course	X				
Number of ECTS points	2		3		
including number of ECTS points for practical (P) classes			2		
including number of ECTS points for direct teacher-student contact (BK) classes	1,2		1,8		

*delete as applicable

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES
1. Knowledge of object-oriented programming.
2. Basic knowledge of computer application interface design.
3. Elementary knowledge of graphics programs.
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SUBJECT OBJECTIVES
C1 Provide basic knowledge of the design of multimedia applications.
C2 Learning programming multimedia applications in Adobe Flash and HTML5.
C3 Presentation graphics software.

SUBJECT EDUCATIONAL EFFECTS

relating to knowledge:

PEK_W01 He knows and understands multimedia applications specific.

PEK_Wo2 Has knowledge of the design and development of multimedia applications.

PEK_W03 Has knowledge of software tools for processing and multimedia creation.

relating to skills:

PEK_U01 Able to define a set of potential functional requirements of multimedia applications and, based on this set, can design a multimedia application.

PEK_U02 He can build a multimedia application.

PEK_U02 He can convert and generate media.

relating to social competences:

PEK_K01 Able to work with a potential user of multimedia application in order to define the set of possible functional requirements.

PEK_K02 It can take into account in the design process of mobile application interface specific requirements of a potential user.

PROGRAMME CONTENT

Form of classes - lecture	Number of hours
Lec 1 The presentation of the lecture plan. A review of selected multimedia applications implemented in different runtime environments. Presentation of Adobe Flash Environment. Demonstration of constructing multimedia applications in Adobe Flash.	2
Lec 2 Presentation of the basic elements of the Adobe Flash. Presentation of the principles of design and multimedia applications run in Adobe Flash. Programming mechanisms of interaction.	2
Lec 3 Lec 4 Grammar describes the basics of ActionScript 3.0. Presentation and discussion of selected examples of programs in ActionScript 3.0.	4
Lec 5 Analysis of complex mechanisms of interaction and navigation multimedia application. Presentation of the AS 3.0 code fragments implementing mechanisms of navigation.	2
Lec 6 Lec 7 A review of selected media data compression formats. Presentation methods of media management in Adobe Flash CS6 from the timeline and ActionScript 3.0. Discussion of mechanisms for streaming media data, and methods for working with audio and video. Presentation and analysis of the source code for multimedia applications using audio and video. Overview of multimedia application design principles of the peculiarities of the target group, the platform runtime and lifetime of the application.	4
Lec 8 Describes the basics of computer animation. Discussion of the animation in the timeline and animation implemented in AS 3.0. Presentation of the arrangements for using the motion editor panel (Motion Editor). Explanation idea of inverse kinematics and transformations.	2
Lec 9 Overview and characteristics of programming environments used for multimedia processing components of multimedia applications. Describes the basics of using Photoshop. Presentation 3ds Max Design. Discussion of the principles of cooperation Photoshop and 3ds Max Design with the Adobe Flash environment.	2
Lec 10 Discussion of the principles of design and construction of multimedia mobile applications in Adobe Flash. Presentation and discussion of program code in AS	2

	3.0, dedicated mobile platforms.	
Lec 11 Lec 12	Presentation environments alternatives to Adobe Flash for example, Adobe Director, Microsoft Silverlight and HTML5. Describes the basics of grammar HTML5. Overview of HTML5 canvas elements. Presentation of the principles API canvas elements. Discussion of the principles of working with images and video clips. Discussion of the principles of animation and interaction with the elements of the canvas. Presentation and discussion of the code sample programs implemented in HTML5.	4
Lec 13 Lec 14	Discussion of the principles of the use of 3D graphics for multimedia applications. Presentation and discussion of the example design and animation of 3D objects in the environment 3ds Max Design. Creating and managing objects in a 3D environment in Adobe Flash. Discussion environments support the creation of 3D graphics in AS 3.0. The presentation the possibility Papervision and Away3D environments. Presentation and discussion of the principles of combining components Papervision and Away3D with native code multimedia applications in AS 3.0.	4
Lec 15	Summary of the lecture. Discuss the importance of mobile multimedia applications. Discussion of factors affecting the commercial success of a multimedia application.	2
	Total hours	30

Form of classes - class		Number of hours
Cl 1		
Cl 2		
Cl 3		
Cl 4		
..		
	Total hours	

Form of classes - laboratory		Number of hours
Lab 1	Presentation of the principles of operation of the laboratory and the principles of assessment. Basic use of the Adobe Flash environment. How to use the GUI tools. Animations in the timeline.	2
Lab 2	Defining symbols: buttons, movie clip and graphic. The implementation of the mechanisms of interaction. Importing multimedia components to the working environment.	2
Lab 3	An interactive gallery of photos from the alpha channel animation in the timeline (in the form of movie clips). Construction applications on multiple layers. Interaction and animation in AS 3.0.	2
Lab 4	Design interactive photo gallery with exciting animation and sound. Coding in AS 3.0. Downloading multimedia components from the application library.	2
Lab 5	Construction of the complex mechanisms, interactive animation in AS 3.0.	2
Lab 6	Constructing an application that retrieves multimedia components from external sources (from the indicated storage location) in AS 3.0.	2
Lab 7	Constructing sound management of multimedia applications and video in AS 3.0. Implementation of the built-in mechanisms audio and video.	2
Lab 8	Using the motion editor panel (Motion Editor). Preparing an animated banner using motion editor.	2
Lab 9	Designing a 3D object model and implementation of animation in 3ds Max Design environment.	2
Lab 10	Designing complex 3D object in the 3ds Max Design. The implementation of a set	4

Lab 11	of animation movements between selected points 3d object. Export animation to Adobe Flash. Programming navigation mechanism in AS 3.0.	
Lab 12	Implementation interactive animation in HTML5.	2
Lab 13 Lab 14	Designing a multimedia e-learning applications (with elements of interactive tests), implementation in AS 3.0, running and testing of the tablet with Android.	4
Lab 15	Summary laboratory. Credit lab.	2
	Total hours	30

Form of classes - project		Number of hours
Proj 1		
Proj 2		
Proj 3		
Proj 4		
…		
	Total hours	

Form of classes - seminar		Number of hours
Sem 1		
Sem 2		
Sem 3		
…		
	Total hours	

TEACHING TOOLS USED

N1. Lectures in the form of multimedia presentations.

N2. Introduction to laboratory prepared in the form of a multimedia presentation that contains the specification of the tasks and detailed, documented and contain comments sections of code, useful for the task. Materials sent by e-mail.

N3. Collections of web addresses and articles in electronic form, which are an additional source of teaching material, contextually related laboratory tasks. Materials sent by e-mail.

N4. Individual consultations.

EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT

Evaluation (F – forming (during semester), P – concluding (at semester end)	Educational effect number	Way of evaluating educational effect achievement
F1	PEK_W01 PEK_W02 PEK_W03 PEK_U01	During the laboratory classes, students solve 9 laboratory tasks in accordance with the specification. For each correctly solved problem is worth 0, 1 or 2 points.

	PEK_U02	
	PEK_U03	
F2	PEK_W01	The summary of the laboratory is design multimedia e-learning applications (with elements of interactive tests) according to the specifications of 10 laboratory task in AS 3.0 and run on an Android tablet. The task 10 may be obtained 0, 1, 2, 3 or 4 points.
	PEK_W02	
	PEK_W03	
	PEK_U01	
	PEK_U02	
	PEK_U03	
	PEK_K01	
	PEK_K02	

C The final evaluation of the laboratory is determined by the points P obtained during the laboratory according to the table. Assessment 5.0 and 5.5 can be obtained only under the condition that solves the task 10

P	10-11	12-13	14-15	16-17	18-20	21-22
Grade	3,0	3,5	4,0	4,5	5,0	5,5

The final evaluation of the laboratory is determined by the points P obtained during the laboratory according to the table. Assessment 5.0 and 5.5 can be obtained only under the condition that solves the task 10

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

[1] Derrick Ypenburg, ActionScript 3.0: Visual QuickStart Guide, Peachpit Press, 2009.
[2] Adobe Creative Team, Adobe Flash Professional CS6 Classroom in a Book, Adobe System Incorporeted, 2012.
[3] Keith Peters, ActionScript 3.0 Animation. Making Things Move !, Friendsof, 2007.
[4] Stephen Chin, Dean Iverson, Oswald Campesato, Paul Trani, Pro Android Flash, Appres, 2011.
[5] Eric T Freeman, Elizabeth Robson, Head First HTML5 Programming: Building Web Apps with JavaScript, O'Reilly, 2011.
[6] Eric Rowell, HTML5 Canvas Canvas Cookbook, Packt Publishing, 2011.

SECONDARY LITERATURE:

[1] Matthew MacDonald, HTML5: The Missing Manual, O'Reilly, 2011.
[2] Chuck Hudson, Tom Leadbetter, HTML5 Developer's Cookbook, Addison-Wesley, 2012.
[3] Shelley Powers, Painting the Web, Shelley Powers, 2008.
[4] Jim Ver Hague, Chris Jackson, Flash 3D: animation, interactivity and games, Elsevier/ Focal Press, 2006.
[5] Adobe Creative Team, Adobe Photoshop Professional CS6 Calssroom in a Book, Adobe System Incorporated, 2012.
[6] Sham Tickoo, Autodesk 3ds Max Design2013: A Tutorial Approach, Autodesk, 2012.
[7] Cameron Chapman, The Smashing Idea Book: From Inspiration to Application (Smashing Magazine Book Series), Wiley and Sons, 2011.
[8] Pete Brown, Silverlight 5 in Action, Manning Publications Co, 2012.
[9] Mike Snell, Lars Powers, Microsoft Visual Studio 2010 Unleashed, Pearson Education Inc, 2011.

SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)
Doc. dr inż. Krzysztof Waśko, krzysztof.wasko@pwr.wroc.pl

MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR
SUBJECT
Multimedia Information Systems
AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY
IT
AND SPECIALIZATION …………………………..

Subject educational effect	Correlation between subject educational effect and educational effects defined for main field of study and specialization (if applicable)**	Subject objectives***	Programme content***	Teaching tool number***
PEK_W01 (knowledge)	K1INF_W05, K1INF_W23	C1,C2,C3	Lec1-Lec15	N1, N2, N3, N4
PEK_W02	K1INF_W05, K1INF_W23	C1,C2,C3	Lec1-Lec15	N1, N2, N3, N4
PEK_W03	K1INF_W05, K1INF_W23	C1,C2,C3	Lec1-Lec15	N1, N2, N3, N4
PEK_U01 (skills)	K1INF_U10, K1INF_U11	C1,C2,C3	Lab1-Lab15	N1, N2, N3, N4
PEK_U02	K1INF_U10, K1INF_U11	C1,C2,C3	Lab1-Lab15	N1, N2, N3, N4
PEK_U03	K1INF_U10, K1INF_U11	C1,C2,C3	Lab1-Lab15	N1, N2, N3, N4
PEK_K01 (competences)	K1INF_K01, K1INF_K02	C1,C2,C3	Lec1-Lec15 Lab1-Lab15	N1, N2, N3, N4
PEK_K02	K1INF_K01, K1INF_K02	C1,C2,C3	Lec1-Lec15 Lab1-Lab15	N1, N2, N3, N4

** - enter symbols for main-field-of-study/specialization educational effects

*** - from table above