Course name : **Programming of interactive computer graphics on WWW pages.**		
Błąd! Nie można odnaleźć źródła odwołania.: Błąd! Nie można odnaleźć źródła odwołania.	**Błąd! Nie można odnaleźć źródła odwołania.**: Błąd! Nie można odnaleźć źródła odwołania.	Course code:
Błąd! Nie można odnaleźć źródła odwołania.: Błąd! Nie można odnaleźć źródła odwołania.	**Błąd! Nie można odnaleźć źródła odwołania.**:	**Błąd! Nie można odnaleźć źródła odwołania.**: **Błąd! Nie można odnaleźć źródła odwołania.**:
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COURSE GUIDE

AIMS

A1. Familiarize students with technologies to create the interactive computer graphics on WWW pages.

A2. The acquisition of knowledge needed to create of the interactive computer graphics on WWW pages.

A3. The acquisition of practical skill needed to create of the interactive computer graphics on WWW pages.

PREREQUISITES

1. Ability to program in any high level language.
2. Basic knowledge of the design WWW pages (HTML, CSS).
3. Ability to use different sources of information and technical documentation.
4. Ability to work independently and in a group.
5. Ability to correctly interpret and present their own activities.

LEARNING OUTCOMES

EE 1 – has a basic theoretical knowledge in the field of programming of interactive computer graphics on WWW pages,

EE 2 – knows the basic technologies that enabling create of interactive computer graphics on WWW pages,

EE 3 – is able to select appropriate technologies to the problem and to use them,

EE 4 – is able to influence on content of the WWW pages, change their appearance in response to user activity,

EE 5 – is able to animate content of the WWW pages using appropriate technologies in response to user activity.

CONTENT

Lectures	Hours
Lect. 1 - Introduction to the programming of interactive computer graphics on WWW pages, technology overview.	**2**
Lect. 2 – Introduction to the JavaScript, event handling.	**2**
Lect. 3 – Manipulating elements of the Document Object Model (DOM) using JavaScript.	**2**
Lect. 4 – JQuery library, CSS selectors.	**2**
Lect. 5 – Manipulating elements of the DOM using JQuery.	**2**
Lect. 6 – Working with properties and attributes of the element. Animations of the elements.	**2**
Lect. 7 – JQuery UI library.	**2**
Lect. 8 – Creating interaction and animation by using the CSS.	**2**
Lect. 9 – Drawing paths and texts on the Canvas.	**2**
Lect. 10 – Transformations of the Canvas, use of the stack.	**2**
Lect. 11 – Drawing shapes on the Canvas.	**2**
Lect. 12 – Basic interactions with the Canvas.	**2**
Lect. 13 – Animations on the Canvas.	**2**
Lect. 14 – Working with Images and Videos.	**2**
Lect. 15 – The 3D graphics on the Canvas.	**2**
LABORATORIES	Hours
Lab. 1 - Introduction to the programming of interactive computer graphics on WWW pages, technology overview and programming tools.	**2**
Lab. 2 – Event handling, implementation of the simple interaction.	**2**
Lab. 3 – Implementation of the simple animations on the WWW pages using JavaScript.	**2**
Lab. 4 – Practical use of the jQuery library to selecting elements of the DOM.	**2**
Lab. 5 – Practical use of the jQuery library to manipulating elements of the DOM.	**2**
Lab. 6 – Practical use of the jQuery library to creating animation on the WWW pages in response to user activity.	**2**
Lab. 7 – Practical use of the jQuery UI library.	**2**
Lab. 8 – Practical use of the CSS to creating interaction and animation.	**2**
Lab. 9 – Practical use of the Canvas to drawing the paths and text.	**2**
Lab. 10 - Practical use of transformations and the stack on the Canvas.	**2**
Lab. 11 - Practical draw the shapes on the Canvas.	**2**
Lab. 12 – Practical implementation of basic interactions with the Canvas.	**2**
Lab. 13 – Practical implementation of animations on the Canvas.	**2**
Lab. 14 – Practical working with images and videos.	**2**
Lab. 15 – Practical use of the 3D graphics on the Canvas.	**2**

TEACHING TOOLS

1. – lectures using multimedia presentations
2. – blackboard and chalk or whiteboards and pens
3. – laboratory guides
4. – reports from laboratory activities
5. – computers with software

LITERATURE

Billy Lamberta, Foundation HTML5 Animation with JavaScript, Apress 2010
Jeremy Keith, Jeffrey Sambells, DOM Scripting: Web Design with JavaScript and the Document Object Model: Second Edition, 2010
Bear Bibeault, Yehuda Katz, jQuery in Action, Second Edition, 2010
Eric Rowell, HTML5 Canvas CookBook, 2011
Tony Parisi, Programming 3D Applications with HTML5 and WebGL, 2014
Diego Cantor, Brandon Jones, WebGL Become a master of 3D web programming in WebGL and JavaScript, 2012

TEACHERS

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ADDITIONAL NOTES

Links to course unit teaching materials can be found on the http://iisi.pcz.pl/FMECS / website for current students.