COURSE SPECIFICATION

Course code	full-time studies	**Z-ZB-E-609b**
	part-time studies	**-**
Course title in English	**Visual identification in computer graphics**	
Course title in Polish	**Identyfikacja wizualna w grafice komputerowej**	
Valid from academic year	**2025/2026**	

PLACEMENT IN THE TEACHING PROGRAM

Programme of study	**BUSINESS MANAGAMENT**
Level of education	**1st degree**
Studies profile	**academic**
Form and mode of study	**full-time programme**
Scope	**e-commerce**
Academic unit responsible for the course	**Department of Metrology and Unconventional Manufacturing Methods**
Course coordinator	**dr hab. inż. Marcin Graba, prof. uczelni**
Approved by	**dr hab. inż. Dariusz Bojczuk, prof. uczelni**

GENERAL CHARACTERISTIC OF THE COURSE

Teaching block		**Specialist subject**
Course status		**Obligatory**
Language of instruction		**English**
Semester of delivery	full-time studies	**Semester VI**
	part-time-studies	**-**
Prerequisites		**Knowledge of information technology and basic computer science.**
Exam (YES/NO)		**NO**
ECTS		**2**

Method of conducting classes		**lecture**	**classes**	**laboratory**	**project**	**other**
Number of hours per semester	full-time			**24**		
	part-time					

LEARNING OUTCOMES

Category	Outcome code	Course learning outcomes	Reference to the directional learning effect
Knowledge	W01	The student knows and is able to classify computer graphics, distinguishing between raster and vector graphics, and defining the concepts of raster and vector graphics.	ZB1_W09
	W02	The student has basic knowledge necessary for installing, operating, and maintaining graphic software for handling raster and vector graphics.	ZB1_W09
	W03	The student has elementary knowledge of creating project documentation using graphic software for raster and vector graphics processing, as well as for presentation purposes.	ZB1_W09
	W04	The student possesses knowledge of perception psychology, cognitive processes, and color theory. The student understands the cultural and social context of art and the role of images as autonomous creations.	ZB1_W05 ZB1_W10
	W05	The student has essential knowledge of the technologies and materials used in graphic design and is aware of the ongoing developments in these fields.	ZB1_W09
	W06	The student understands visual perception processes, including the perception of visual form, shape, color, and composition. The student is aware of perceptual conditions in design and understands the significance of "visuality."	ZB1_W05 ZB1_W10
Skills	U01	The student can use design tools for creating raster, vector, and presentation graphics.	ZB1_U05
	U02	The student has the ability to create and edit two-dimensional raster, vector, and presentation graphics.	ZB1_U05
	U03	The student can implement design concepts in visual communication, combining aesthetic values with functional requirements.	ZB1_U05
	U04	The student is capable of using artistic means to achieve planned effects, giving a unique character to his / her work.	ZB1_U05
Social competences	K01	The student applies knowledge, skills, and creative abilities in raster, vector, and presentation graphics to solve practical tasks related to the development of various business materials. He / She can collect, analyze, and consciously interpret necessary information.	ZB1_K01
	K02	The student can present specialized tasks and projects related to business management in an accessible manner while interacting with professionals from other fields, using elements of raster, vector, and presentation graphics.	ZB1_K01
	K03	The student recognizes the broader context of visual communication design and understands the necessity of further developing skills in this field.	ZB1_K01 ZB1_K02

COURSE CONTENT

Method of conducting classes	Course content
laboratory	Introduction to Raster Graphics in GIMP: Getting started with GIMP. GIMP basics: program installation, launching, program window structure, creating a new image, selection tools, toolbox, freehand selection. Independent projects: house and meadow, deer, dark road. GIMP – Advanced Options: Loading images, layers, guides and their use (examples: sword and road sign). Paths and their applications. Practical tasks – paths and layers. Working with text; text filled with an image. GIMP – Photo Editing: Image in a sphere. Face swapping. Blending and merging photos. Photo caricature. Creating a tiny planet panorama. Converting photos into drawings. Mosaic effect. Glass darkened frame. Removing red-eye effect. Photo frame design. Transforming a photo into a specific shape. Background removal. Adding text to a photo. GIMP – Creating Simple Graphic Projects: Geometric shapes. House on a meadow. Mountain peak – photo modifications. Multicolor mosaic with filling. Electronic circuit board. Dog and bone. Brush and special effects. Retouching graphic elements. Introduction to Vector Graphics in Inkscape: Getting started with Inkscape – environment setup. Inkscape basics: document properties, fill and stroke, object editing. Inkscape – Objects: Rectangles – basic modifications, frame, 3D cube. Ellipses – basic modifications, elliptical frame, PAC-MAN. Ellipses – atom, shaded sphere, flower. Polygons and stars. Spiral. Inkscape – Lines: Segments – modifications, cross, bicycle wheel. Curves – modifications, rosette. Broken lines – modifications, right triangle. Bézier curves. Inkscape – Shaping Objects: Combining objects. Object modifications. Merging curves. Shape modifications – 3D cylinder, vintage TV, heart. Logical operations on objects. Object positioning. Inkscape – Creating Simple Graphic Projects: Business card. Map fragment. Advertisement for a selected public utility facility. Visual Communication in the Design Process: Social communication – basic concepts and their translation into visual communication elements in design. Logo design for a selected public utility place. Architecture of the Visual Message: Introduction. Communication process. Expansion of visual message architecture. Semiotics of visual messages. Knowledge of perception. Psychology of vision. Models of cognitive processes. Rationalization of visual activities. Designing a visual advertisement for a selected product – tri-fold leaflet. Visual Communication in Design Practice: The essence of visual communication. The role of visual communication in human activities. How visual communication works. When visual communication fails. Graphic Design of an Advertisement for a Study Program / Faculty / University (A4 or A3 format). Basics of Presentation Graphics: How to create a good presentation? Layout, typography, colors, composition, graphics, animations. Designing a presentation animation for a selected product. Guidelines for Visual Communication, Visual Identity, and Visual Activities Based on publications from the Ministry of Regional Development and recommendations from European Union bodies. Preliminary graphic design of a 4-page brochure advertising a selected initiative, project, product, or service.

METHODS FOR VERIFYING LEARNING OUTCOMES

Outcome code	Learning outcomes verification methods					
	Oral examination	Written examination	Test	Project	Report	Other
W01			X	X		X
W02			X	X		X
W03			X	X		X
W04			X	X		X
W05			X	X		X
W06			X	X		X
U01			X	X		X
U02			X	X		X
U03			X	X		X
U04			X	X		X
K01			X	X		X
K02			X	X		X
K03			X	X		X

FORM AND CONDITIONS OF ASSESSMENT

Form of classes	Assessment type	Assessment Criteria
laboratory	Credit with grade	Completion of 12 laboratory assignments (minimum score of 50%). Obtaining two passing grades from two control tests (minimum score of 50%).

STUDENT WORKLOAD

ECTS Balance							
No.	**Activity type**	**Student workload**					**Unit**
		full-time					
1.	Scheduled contact hours	W	C	L	P	S	h
				24			
2.	Other (consultations, exams)			**2**			h
3.	**Total number of contact hours**	**26**					h
4.	**Number of ECTS credits for contact hours**	**1,0**					ECTS
5.	**Number of hours of independent student work**	**24**					h
6.	**Number of ECTS points that a student obtains through independent work**	**1,0**					ECTS
7.	**Workload related to practical classes**	**50**					h
8.	**Number of ECTS credit points which a student receives for practical classes**	**2,0**					ECTS
9.	**Total number of hours of a student's work**	**50**					
10.	**ECTS credits for the course** *1 1 ECTS credit =25 student learning hours*	**2**					ECTS

W - LECTURE C – CLASSES L – LABORATORY P- PROJECT S – SEMINAR

READING LIST

1. John F. Hughes, Andries van Dam, Morgan McGuire, David F. Sklar, James D. Foley, Steven K. Feiner, Kurt Akeley – Computer Graphics: Principles and Practice, Addison-Wesley, 2013.
2. Steve Marschner, Peter Shirley – Fundamentals of Computer Graphics, A K Peters/CRC Press, 2021.
3. Alan Watt – 3D Computer Graphics, Addison-Wesley, 2000.
4. Tomas Akenine-Möller, Eric Haines, Naty Hoffman – Real-Time Rendering, A K Peters/CRC Press, 2018.
5. Rick Parent – Computer Animation: Algorithms and Techniques, Morgan Kaufmann, 2012.
6. Tutorial for Paint.NET.
7. Tutorial for GIMP.
8. Tutorial for Corel PhotoPaint.