

1.3. Module/ course form

To be completed by Course Team	Module name : Block of elective subjects					Module code: M23	
	Course name: Computer techniques photo processing					Course code:	
	Faculty: Institute of Applied Informatics						
	Field of study: Informatics						
	Mode of study : Full-time		Learning profile: Practical			Speciality: Computer graphics and multimedia	
	Year/ semester: 3/5		Module/ course status: obligatory			Module/ course language: english	
	Type of classes	lecture	lessons	lab	project	tutorial	other (please specify)
	Course load	15		30			

Module/ course coordinator	dr Łukasz Żołędziewski
Lecturer	dr Łukasz Żołędziewski, mgr inż. Wiesław Gerej
Module/ course objectives	<ul style="list-style-type: none"> Giving and enhancing knowledge about the image with special emphasis on light and color as the material for the realization of artistic images, both using traditional techniques and computer processing Familiarizing students with the influence of colors and forms of human senses and their role these attributes in the architecture of the image and visual communication. Program content includes the basic concepts and terms of the theory of image and issues concerning the blending of colors and digital image processing vector and bitmap. Acquainted with the operation of the camera. Presented will be the impact of aperture, shutter speed, focal length, ISO to visual arts photos (using digital equipment). It will be built in a photo studio basic layout of lights to implement a portrait. So the recorded image will be subjected to a processing in Adobe Photoshop. Discussed and implemented will be selected digital effect for portraits.
Entry requirements	Knowledge of computer graphics, the ability to plan and create image composition, basic knowledge of photographic workshop and concepts composition, color, light and shade.

LEARNING OUTCOME		
	LEARNING OUTCOME DESCRIPTION	Learning outcome reference
Nr	Knowledge	
1	has knowledge of the general issues of computer science and computer graphics	K_W05

2	knows the basic principles taking into account light and color as the material for the implementation of visual images	K_W06
	Skills	
3	supports a modern photographic equipment	K_U01
4	modeling compositions with the use light and shade	K_U20
5	processes the digital image reaching the desired visual effects	K_U02
6	exploit existing projects to build graphical interfaces, web and multimedia presentations	K_U19, K_U20
	Social competence	
7	is aware of the need to permanently raise the level of IT knowledge	K_K01
8	cooperating in the group using social networking tools	K_K07

CURRICULUM CONTENTS

Lecture

Introduction: What is photography.

Key issues: Focal length. Types of lenses. Auto-focus. ISO. Shutter. Aperture. Manual mode.

Use of the basic types of light: front side, bottom, counter top, front in the implementation portraits.

Advanced photographic techniques - HDR.

The construction scene composition of elements in the scene, the contrast of objects, textures and lights.

Fundamentals of physiology of vision.

Mixing color additive and subtractive. Illuminancy. Metamerism.

Induction of colors. Thresholds colors. Weber-Fechner law. Right Bezold-Bruckego. Rights Grossmann. Helmholtz right.

Trichromatic synthesis.

Tutorial

The practical application of the principles relating to the depth of field, aperture, exposure.

Working in pre-selection mode, time and aperture. Factors affecting the visual arts the image.

Create lighting using studio lights.

Support for advanced camera functions.

Features Photoshop used to create photo-realistic works.

Coloring pictures, moods, color vision by man.

The use Photoshop to work associated with 3D graphics. Matte painting. Mixing layers "layers" of the operations of addition and subtraction of colors.

Modern digital painting. Advanced features painting in Photoshop.

Extended "reality" in the digital programs HDR.

Advanced features retouching "Vanishing Point," "HDRI" The final composition of the project.

Submission of images created in Photoshop, illustrator, Indesign a form ready for printing, preparing items to create web pages and presentations on DVD.

Basic literature	<ol style="list-style-type: none"> 1. Varis L.: Skin: The Complete Guide to Digitally Lighting, Photographing, and Retouching Faces and Bodies, Wiley, Indianapolis 2010. 2. Kelby S.: The Digital Photography Book, PeachPit Press, San Francisco 2009. 3. Peterson B.: Learning To See Creatively- Design, Color & Composition, Amphoto Books, New York 2015. 4. Freeman M.: The Photographer's Eye: Composition and Design for Better Digital Photos, Focal Press, Burlington 2013.
Additional literature	Blackwell G.: Humanity: A celebration of Friendship, Family, Love & Laughter, PQ Blackwell, New York 2010.

Teaching methods	Lecture with a multimedia presentation, laboratory exercises	
	Assessment method	Learning outcome number
practical project		02, 03, 05, 06, 07, 08

solving problems	01, 04,
discussion	07
Form and terms of an exam	Theoretical final exam, laboratory project

STUDENT WORKLOAD	
	Number of hours
Participation in lectures	15
Independent study of lecture topics	15
Participation in tutorials, labs, projects and seminars	30
Independent preparation for tutorials*	40
Preparation of projects/essays/etc. *	25
Preparation/ independent study for exams	
Participation during consultation hours	5
Other	
TOTAL student workload in hours	130
Number of ECTS credit per course unit	5 ECTS
Number of ECTS credit associated with practical classes	95 3,8 ECTS
Number of ECTS for classes that require direct participation of professors	50 2 ECTS