WSB University						
Field of study: Computer Science						
Course: Computer Graphics and Image Processing						
Educational profile: ***~~general~~/practical***						
Education level: I-cycle studies						
Number of hours per semester	1		2		3	
	I	II	III	IV	V	VI
Full -time studies (L/C/lab/pr/e)*			16lab			
Part-time studies (L/C/lab/pr/e)						
CLASS LANGUAGE	English					
LECTURER	M.Sc.Joanna Suchogórska					
FORM	Laboratory					
COURSE OBJECTIVES	The objective of the course is to introduce students to the fundamental elements of computer graphics and to provide the essential knowledge required for independently creating graphic designs using digital tools, including **GIMP**.					

Reference to learning outcomes		**Description of learning outcomes**	**Verification of learning outcomes**
Field-related learning outcome	**PQF**		
Knowledge			
INF_W04	P6S_WG	Knows and understands the basic concepts of computer graphics. Knows the basic methods of image processing.	Work individually by completing relevant laboratory tasks.
Skills			
INF_U01 **INF_U02** **INF_U15**	P6S_UW P6S_UW P6S_UW	The student can independently create selected graphic designs.	Implementation of the project.
INF_U15	P6S_UW	The student is able to use the methods and tools of image processing and modify selected elements of the photo	Work individually by completing relevant laboratory tasks.
Social competences			

Students' own workload (in didactic hours 1h=45 minutes)**

Full- time	**Part-time**
Participation in lectures =	Participation in lectures =
Participation in classes = 16	Participation in classes =
Preparation to classes =	Preparation to classes =
Preparation to lectures =	Preparation to lectures =
Preparation to an examination =	Preparation to an examination =
Project tasks =	Project tasks =
e-learning = 8	e-learning =
Credit/examination = 4	Credit/examination =
others (indicate which) =	others (indicate which) =

TOTAL: 16 **ECTS points:** 2 **Including practical classes:**	**TOTAL:** **ECTS points:** **Including practical classes:**

PREREQUISITES	The student knows the basic concepts of computer graphics.
COURSE CONTENT (Division into contact hours and e-learning)	Content implemented in direct form and in the form of e-learning: 1. Tools - **GIMP software** for graphic design and image editing.2. Perception of color, brightness, contrast. 3. Masks and their types, as well as layer management and organization. 4. Image processing techniques, including retouching and photomontage. 5. Methods of image filtering and their practical applications for improving image quality, creating special effects, and artistic enhancements. 6. Techniques for correcting and enhancing photos and raster images. 7. Selection tools and techniques, including creating and filling selections. 8. Text editing and typography within GIMP.
LITERATURE (compulsory reading)	• Jason van Gumster, Robert Shimonski: GIMP Bible, Helion 2011 • Bernard't Hooft: The Ultimate GIMP Guide: Learn Professional photo editing (2018 release) • Sven Hirschmann: *GIMP 2.10 Cookbook*, Packt Publishing, 2020 • Klaus Goelker: *Mastering GIMP*
OPTIONAL LITERATURE (including at least two items in English, either books or articles)	• Fabio Ganovelli, Massimiliano Corsini, Sumanta Pattanaik, Marco Di Benedetto Introduction to Computer Graphics: A Practical Learning Approach, CRC 2014. • Scott Kelby: *The Digital Photography Book*, Peachpit Press, 2019. • Katrin Eismann, Wayne Palmer: *The Art of Digital Photo Editing*, Focal Press, 2018.
SCHOLARLY PUBLICATIONS BY PERSONS WHO CONDUCT CLASSES, WHICH ARE RELATED TO THE MODULE SUBJECT	-
TEACHING METHODS (Division into contact hours and e-learning)	In a face-to-face format: Short theoretical introduction with the use of a multimedia projector, followed by practical tasks performed on computers using **GIMP** under the supervision of the instructor. Instructional materials created and provided by the instructor are used throughout the course. In the form of e-learning: Practical tasks are performed individually on computers using **GIMP**, with guidance and instructional materials created and provided by the instructor available online.
TEACHING AIDS	Multimedia presentations, GIMP software.
PROJECT (if implemented in the framework of a	The condition for passing the laboratory is: - ½ grade - average of individual tasks completed during class sessions - ½ grade - completion of the project with attached source files in ,xcf format with unflattened

classes module)	layers.
FORM AND CONDITIONS OF ASSESSMENT (Division into contact hours and e-learning)	

** L-lecture, C- classes lab- laboratory, pro- project, e- e-learning*