#### card of course

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| Subject name | Designing graphical user interfaces |

1. The placement of the subject in the study system

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| 1.1. Field of study | Computer science |
| 1.2. Form and path of study | Full-time/Part-time |
| 1.3. Level of education | First-cycle studies |
| 1.4. Study profile | Practical |

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| 1. 5. Specialty | Web Technologies and the Internet of Things |
| 1.6. Subject Coordinator | Mgr inż. Michał Brogowski |

2. General characteristics of the subject

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| 2.1. Belonging to a subject group | Optional/practical |
| 2.2. Number of ECTS | 4 |
| 2.3. Language of lectures | English |
| 2.4. Semesters in which the subject is taught | III |
| 2.5.Criteria for selecting course participants | For the specialization: Web Technologies and Internet of Things |

1. Learning outcomes and course delivery
	1. Subject Objectives

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| No. | Subject Objectives |
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| C1 | Learning Figma (general outline of the program, basic functions and tools). |
| C2 | Learning to design wireframes . |
| C3 | Learning to design prototypes. |
| C4 | Learning to design graphic mockups . |

* 1. Subject-specific learning outcomes, divided into knowledge , skills and competences , with reference to the directional learning outcomes

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| --- | --- | --- | --- |
| No. | Description of subject learning outcomes | Reference to directional effectslearning (symbols) | Method of implementation (mark "X") |
| ST | NST |
| Classes at the University | Activities on the platform | Classes at the University | Activities on the platform |
| After passing the course, the student knows and understands **the knowledge** |
| W1 | Knows what an interface is and how to design it | INF\_W09INF\_W20INF\_W21 | X |  |  | X |
| W2 | Knows what the GUI design process looks like | X |  |  | X |
| W3 | Knows what wireframe is | X |  |  | X |
| W4 | Knows what a prototype is | X |  |  | X |
| W5 | Knows what a graphic mockup is | X |  |  | X |
| After passing the course, the student is **able** to: |
| U1 | Analyze the brief with guidelines | INF\_U07 INF\_U21 INF\_U28 | X |  | X |  |
| U2 | Design a wireframe | X |  | X |  |
| U3 | Design a prototype | X |  | X |  |
| U4 | Design a graphic mockup | X |  | X |  |
| After completing the course, the student is ready to take part in **social competences.** |  |  |  |  |  |
| K1 | Presentation/defense of your interface design | INF\_K04 | X |  | X |  |
| K2 | Collaboration in the implementation of the interface project | X |  | X |  |

3.3. Forms of teaching and their number of hours - Full-time studies (ST), Part-time studies (NST)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Path | Lecture | Exercises | Design | Workshop | Laboratory | Seminar | Lecturer | Classes conducted using distance learning methods and techniques in the form of a lecture | Other | **ECTS points** |
| **ST** | 20 |  |  |  | 30 |  |  |  |  | 4 |
| **NST** |  |  |  |  | 15 |  |  | 10 |  | 4 |

3.4. Content of education (separately for each form of classes: (W, ĆW, PROJ, WAR, LAB, LEK, OTHER). It should be marked (X) how the given content will be implemented (classes at the university or classes on the e-learning platform conducted using distance learning methods and techniques)

TYPE OF CLASS: LECTURE

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| No. | Content of the course | Reference to subject-specific learning outcomes | Method of implementation (mark "X") |
| ST | NST |
| **Classes at the University** | **Activities on the platform** | **Classes at the University** | **Activities on the platform** |
| 1. | Figma Basics Part 1 – General Program Outline, Basic Features and Tools | W1, W2, W3, W4, W5 | X |  |  | X |
| 2. | Figma Basics Part 2 – Frames, Media Insertion, Interaction Options | W1, W2, W3, W4, W5 | X |  |  | X |
| 3. | Figma Basics Part 3 – Components, Interactions | W1, W2, W3, W4, W5 | X |  |  | X |
| 4. | Figma Basics Part 4 – Useful Plugins and Tools | W1, W2, W3, W4, W5 | X |  |  | X |
| 5. | Figma Basics Part 5 – Prototypes | W1, W2, W3, W4, W5 | X |  |  | X |
| 6. | Project assumptions and wireframe design | W1, W2, W3, W4, W5 | X |  |  | X |
| 7. | Wireframe + Prototype Design | W1, W2, W3, W4, W5 | X |  |  | X |
| 8. | Designing graphic mockups | W1, W2, W3, W4, W5 | X |  |  | X |
| 9. | Logo, visualization and presentation | W1, W2, W3, W4, W5 | X |  |  | X |
| 10. | Summary of classes and discussion of grades |  | X |  |  | X |

TYPE OF CLASS: LABORATORY

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| --- | --- | --- | --- |
| No. | Content of the course | Reference to subject-specific learning outcomes | Method of implementation (mark "X") |
| ST | NST |
| **Classes at the University** | **Activities on the platform** | **Classes at the University** | **Activities on the platform** |
| 1. | Figma basics - exercise in the program basics, vector graphics, creating a simple prototype | U1, U2, U3, U4, K2 | X |  | X |  |
| 2. | Work on the graphical interface project part 1 – application wireframe project | U1, U2, U3, U4, K2 | X |  | X |  |
| 3. | Work on the graphical interface project part 2 – application wireframe project , graphic design | U1, U2, U3, U4, K2 | X |  | X |  |
| 4. | Work on the graphical interface project part 3 – graphical design of the application, introduction of color, images | U1, U2, U3, U4, K2 | X |  | X |  |
| 5. | Work on the graphical interface project part 4 – graphic design of the application, typography, preliminary prototyping | U1, U2, U3, U4, K2 | X |  | X |  |
| 6. | Work on the graphical interface project part 5 – graphical design of the application, defining styles and variables, prototyping | U1, U2, U3, U4, K2 | X |  | X |  |
| 7. | Work on the graphical interface project part 6 – refining the graphical design, prototyping | U1, U2, U3, U4, K2 | X |  | X |  |
| 8. | Working on the graphical interface project part 7 – prototyping and testing | U1, U2, U3, U4, K2 | X |  | X |  |
| 9. | Working on the graphical interface project part 8 – final wireframe corrections , graphic modifications, prototype testing | U1, U2, U3, U4, K2 | X |  | X |  |
| 10. | Project defense/presentation | K1 | X |  | X |  |
| 11. | Summary of classes and discussion of grades |  | X |  | X |  |

3.5. Methods of verifying learning outcomes (indication and description of methods of conducting classes and verification of achievement of learning outcomes and method of documentation)

LECTURE – A lecture is given before each laboratory and is an informative introduction to the student's own work in the laboratory. The laboratories and lectures are thematically linked so that the student can use the knowledge from the lecture in creating a semester project.

At the end of the semester, there is a test of 10 questions, single choice. Each question concerns one lecture and the content presented in it.

* Test containing a set of 10 questions - 10 closed, single-choice questions, 2 points each = 20 points

Percentage range and score for each rating:

Grade 3 (sufficient): 51 – 60% 11 – 12 points

Rating 3.5 (sufficient plus): 61 – 70% 13 – 14 points

Rating 4 (good): 71 – 80% 15 – 16 points

Rating 4.5 (good plus) 81 – 90% 17 – 18 points

Rating 5 (very good): 91 – 100% 19 – 20 points

LABORATORY – The laboratory begins with general exercises related to navigating the Figma program and learning individual functions. From the second class, work on the semester project begins, which must be defended at the last meeting. Students are tasked with creating an application interface project according to the instructor's guidelines. The student must present how he built the interface, show the techniques and tools used, create a prototype with interactions and navigation around the application.

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| Subject Effects | Teaching methods | Methods of verifying learning outcomes | Documentation methods |
| KNOWLEDGE |
| W1-W5 | Lecture - informative introduction. | Passing the exam in the form of a test(description above the table) | Archived test |
| SKILLS |
| U1-U4 | General exercises related to navigating around Figma and learning individual functions, working on interface design. | Semester project(description above the table) | Project files (with evaluation information) |
| SOCIAL COMPETENCES |
| K1 -K2 | General exercises related to navigating around Figma and learning individual functions, working on interface design. | Semester project(description above the table) | Project files (with evaluation information) |

3.6. Assessment criteria for the achieved learning outcomes

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| Learning effect | For a grade of 3 or " zal ."the student knows and understands/is able to/is ready to | For a grade of 3.5, the student knows and understands/is able to/is ready to | For a grade of 4, the student knows and understands/is able to/is ready to | For a grade of 4.5, the student knows and understands/is able to/is ready to | For a grade of 5, the student knows and understands/is able to/is ready to |
| W | 51-60% of knowledge indicated in learning outcomes | 61-70% of knowledge indicated in learning outcomes | 71-80% of knowledge indicated in learning outcomes | 81-90% of knowledge indicated in learning outcomes | 91-100% of knowledge indicated in learning outcomes |
| U | 51-60% of skills indicated in learning outcomes | 61-70% of skills indicated in learning outcomes | 71-80% of skills indicated in learning outcomes | 81-90% of skills indicated in learning outcomes | 91-100% of skills indicated in learning outcomes |
| K | 51-60% of skills indicated in learning outcomes | 61-70% of skills indicated in learning outcomes | 71-80% of skills indicated in learning outcomes | 81-90% of skills indicated in learning outcomes | 91-100% of skills indicated in learning outcomes |

3.7. Literature

**Basic**

Google material design - <https://m3.material.io>

Nielsen norman group design guidelines - <https://www.nngroup.com>

Figma community - <https://www.figma.com/community>

**Supplementary**

Apple Human Interface Guidelines - <https://developer.apple.com/design/human-interface-guidelines/>

Smashing Magazine - <https://www.smashingmagazine.com>

4. Student workload - ECTS points balance

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| --- | --- |
| **Types of student activity** | **Student Load** |
| **ST** | **NST** |
| **Classes requiring direct contact between the student and the academic teacher at the university premises** | **50** | **25** |
| Classes included in the study plan | 50 | 25 |
| **Student's own work** | **50** | **75** |
| Ongoing preparation for classes, preparation of project work/presentations/etc. | 25 | 35 |
| Preparation for passing classes | 25 | 40 |
| **TOTAL STUDENT HOURLY LOAD** | **100** | **100** |
| **Number of ECTS points** | **4** | **4** |

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| Last change date | 30/09/2024 |
| The changes were introduced | INF Education Quality Team |
| The changes were approved | Arkadiusz Gwarda, M.A. |