#### card of course

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| --- | --- |
| Subject name | Internet technologies |

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 | - |
| 1.6. Subject Coordinator | Dr inż. Kamil Żyła |

2. General characteristics of the subject

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| --- | --- |
| 2.1. Belonging to a subject group | Directional/Practical |
| 2.2. Number of ECTS | 5 |
| 2.3. Language of lectures | English |
| 2.4. Semesters in which the subject is taught | VI |
| 2.5.Criteria for selecting course participants | - |

1. Learning outcomes and course delivery
   1. Subject Objectives

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| No. | Subject Objectives |
|
| C1 | Learn about the history of the Internet and its development. |
| C2 | To introduce students to Internet protocols and servers. |
| C3 | Acquiring skills in creating pages in HTML/XHTML. |
| C4 | Acquiring skills in using CSS and JavaScript to operate a website. |
| C5 | Learning Web technologies. |

* 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 effects  learning (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 | The process of designing and programming Internet technologies. | INF\_W05  INF\_W20  INF\_W21 |  | X |  | X |
| W2 | Application interface design stages. |  | X |  | X |
| W3 | HTML, CSS document structure. |  | X |  | X |
| W4 | Creating scripts in JS. |  | X |  | X |
| After passing the course, the student is **able** to: | | | | | | |
| U1 | Obtain information from appropriately selected sources in order to design a website. | INF\_U01  INF\_U21  INF\_U29 | X |  | X |  |
| U2 | Use tools to implement projects in HTML, CSS, JavaScript. | X |  | X |  |
| U3 | Design web applications with human-computer interaction in mind. | X |  | X |  |
| U4 | Use web technologies to create pages. | X |  | X |  |
| After completing the course, the student is ready to take part in **social competences.** | | | | | | |
| K1 | Applying non-technical aspects of engineering activities in practice. | INF\_K02 INF\_K05 | X |  | X |  |
| K2 | To apply and observe the principles of professional ethics, cares about the tradition of the profession. | 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** |  |  |  |  | 30 |  |  | 15 |  | 5 |
| **NST** |  |  |  |  | 15 |  |  | 10 |  | 5 |

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. | Internet – a historical outline | W1, W2, W3, W4 |  | X |  | X |
| 2. | Internet Protocols | W1, W2, W3, W4 |  | X |  | X |
| 3. | Website Servers | W1, W2, W3, W4 |  | X |  | X |
| 4. | Tools used in creating websites | W1, W2, W3, W4 |  | X |  | X |
| 5. | HTML / XHTML - structure and history | W1, W2, W3, W4 |  | X |  | X |
| 6. | CSS – CSS structure, implementation methods | W1, W2, W3, W4 |  | X |  | X |
| 7. | JavaScript – the basics of website interaction with the user | W1, W2, W3, W4 |  | X |  | X |
| 8. | Presentation of other web technologies | W1, W2, W3, W4 |  | X |  | X |
| 9. | 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** |
| 2. | Internet Protocols in Practice | U1, U2, U3, U4, K1, K2, K3 | X |  | X |  |
| 3. | The most popular website servers | U1, U2, U3, U4, K1, K2, K3 | X |  | X |  |
| 4. | Tools used when creating websites.  Project assumptions | U1, U2, U3, U4, K1, K2, K3 | X |  | X |  |
| 5. | HTML 5 – structure, meaning of individual tags. | U1, U2, U3, U4, K1, K2, K3 | X |  | X |  |
| 6. | CSS – CSS structure, implementation methods, creating a CSS document | U1, U2, U3, U4, K1, K2, K3 | X |  | X |  |
| 7. | JavaScript – the basics of website interaction with the user, use in the project | U1, U2, U3, U4, K1, K2, K3 | X |  | X |  |
| 8. | Presentation of other Web technologies.  Presentation of projects. | U1, U2, U3, U4, K1, K2, K3 | X |  | X |  |
| 9. | 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)

Methods of verifying learning outcomes:

* **Lecture -** Test containing a set of 20 questions - 20 closed single/multiple choice questions, 1 point 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** - Website design

Task description:

Each student independently creates a simple website that meets certain requirements:

1. HTML Structure: Contains a valid HTML5 document structure using basic tags.
2. CSS Styling: Applying basic CSS rules in a separate file to ensure a clean and aesthetically pleasing appearance of the page.
3. User interaction: Simple functionality implemented in JavaScript (e.g. interactive form, dynamic changes to content or style).
4. Project documentation: A short report (up to 1 page) in which the student describes:
   * Where did he obtain the information to carry out the task?
   * What technologies did he use and why?
   * What principles of professionalism and ethics did he take into account?
5. Presentation: A short overview of the site, with a demonstration of how it works and answers to questions from the presenter.

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| --- | --- | --- | --- |
| Subject Effects | Teaching methods | Methods of verifying learning outcomes | Documentation methods |
| KNOWLEDGE | | | |
| W1-W4 | Elements of a traditional lecture, consultations. | Knowledge test. | Test sheet |
| SKILLS | | | |
| U1-U4 | Laboratory exercises, individual work – preparation for the laboratory, individual work – independent studies | Website Design - 100% Final Lab Grade  Description above the table. | Archived project. |
| SOCIAL COMPETENCES | | | |
| K1-K3 | Laboratory exercises, individual work – preparation for the laboratory, individual work – independent studies | Website Design - 100% Final Lab Grade  Description above the table. | Archived project. |

3.6. Assessment criteria for the achieved learning outcomes

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| **Learning effect** | **For a grade of 3 or "pass."**  **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**

Gajda Włodzimierz, HTML5 i CSS3: praktyczne projekty

Baker Donna L., HTML. Kurs webmastera

Lis Marcin, JavaScript: praktyczny kurs

**Supplementary**

Zakas Nicholas C. JavaScript dla webmasterów : zaawansowane programowanie

Crockford, Douglas, JavaScript: mocne strony

4. Student workload - ECTS points balance

|  |  |  |
| --- | --- | --- |
| **Types of student activity** | **Student Load** | |
| **ST** | **NST** |
| **Classes requiring direct contact between the student and the academic teacher at the university premises** | **45** | **25** |
| Classes included in the study plan | 45 | 25 |
| **Student's own work** | **80** | **100** |
| Ongoing preparation for classes, preparation of project work/presentations/etc. | 40 | 50 |
| Preparation for passing classes | 40 | 50 |
| **TOTAL STUDENT HOURLY LOAD** | **125** | **125** |
| **Number of ECTS points** | **5** | **5** |

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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. |