**SYLLABUS**

**regarding the qualification cycle FROM 2024TO 2025**

1. Basic Course/Module Information

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| --- | --- |
| Course/Module title | *Internet Applications* |
| Course/Module code \* |  |
| Faculty (name of the unit offering the field of study) | *College of Natural Sciences* |
| Name of the unit running the course | *Institute of Computer science* |
| Field of study | *Computer Science & Computer Science and Econometrics* |
| Qualification level  | *First degree* |
| Profile | *Academic* |
| Study mode | *Full-time* |
| Year and semester of studies | *Year 2, semester 4* |
| Course type | *Major engineering* |
| Language of instruction | *English* |
| Coordinator | *Piotr Lasek, PhD* |
| Course instructor | *Piotr Lasek, PhD* |

\* - as agreed at the faculty

1.1.Learning format – number of hours and ECTS credits

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Semester(n0.) | Lectures | Classes | Colloquia | Lab classes | Seminars | Practical classes | Internships | others | **ECTS credits**  |
|  |  |  |  | 30 |  |  |  |  | 4 |

1.2. Course delivery methods

- conducted in a traditional way

- involving distance education methods and techniques

1.3. Course/Module assessment (exam, pass with a grade, pass without a grade)

pass with a grade

2. Prerequisites

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| Databases I |

3. Objectives, Learning Outcomes, Course Content, and Instructional Methods

3.1. Course/Module objectives

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| --- | --- |
| O1 | Getting to know the history of the development of the Internet as well as with the basic Internet technologies |
| O2 | Familiarization with technologies used to build websites and websites, such as: XHTML, XML, CSS, JavaScript, jQuery, PHP, CGI. |

3.2. Course/Module Learning Outcomes (to be completed by the coordinator)

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| --- | --- | --- |
| Learning Outcome | The description of the learning outcome defined for the course/module | Relation to the degree programme outcomes |
| LO\_01 | The student knows the basic principles of creating websites | K\_W01, K\_W04, K\_W38, K\_W39 |
| LO\_02 | The student has knowledge of the architecture of web applications | K\_W01, K\_W04, K\_W22, K\_W38, K\_W39 |
| LO\_03 | The student knows the basic scripting languages used to implement web applications | K\_W01, K\_W04, K\_W22 |
| LO\_04 | The student is able to design and implement a dynamic website using a scripting language and adapt the appearance to the graphic design. | K\_U29, K\_U35 |
| LO\_05 | The student is able to use languages such as CSS, JavaScript, jQuery, etc. | K\_U29, K\_U35 |

**3.3. Course content (to be completed by the coordinator)**

1. Lectures

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| Content outline |
| 1. Basic principles of designing and creating web pages.
2. Basics of creating pages in HTML.
3. Cascading style sheets.
4. Client-side programming.
5. Server-side programming.
6. Create dynamic web pages.
7. Create database-based services.
8. Languages for the description and representation of data.
9. Test, publish, and manage your website.
10. Content management systems.
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1. Classes, laboratories, seminars, practical classes

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| Content outline  |
| Designing and implementing a sample webpage using multiple technologies such as HTML, JavaScript, etc. |

3.4. Methods of Instruction

*Lecture: a problem-solving lecture/a lecture supported by a multimedia presentation/ distance learning*

*Laboratory classes: project work*

4. Assessment techniques and criteria

4.1 Methods of evaluating learning outcomes

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| --- | --- | --- |
| Learning outcome | Methods of assessment of learning outcomes (e.g. test, oral exam, written exam, project, report, observation during classes) | Learning format (lectures, classes,…) |
| LO-01 | test | lecture |
| LO-o2 | test | lecture |
| LO-03 | test | lecture |
| LO-04 | project, observation during classes | laboratory |
| LO-05 | project, observation during classes | laboratory |

4.2 Course assessment criteria

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| Learning outcome | Grade | Criteria |
| LO-01 | C | The student knows the basic principles of creating websites. |
| B | The student knows the basic principles of creating websites and assess whether the indicated website meets these rules.  |
| A | The student knows the basic principles of creating websites and assess whether the indicated website meets these rules. The student is able to indicate what modifications should be made so that the website best fulfills its function. |
| LO-02 | C | The student has knowledge of web application architecture. |
| B | The student has knowledge of the architecture of web applications and is able to assess and justify whether a given application has been designed in an appropriate way. |
| A | The student has knowledge of the architecture of web applications and is able to assess and justify whether a given application has been designed in an appropriate way. The student has the knowledge to propose a web application project that meets the given requirements. |
| LO-03 | C | The student knows the basic scripting languages used to implement web applications  |
| B | The student knows the basic scripting languages used to implement web applications and is able to compare available technologies and assess the degree of suitability of a given technology to achieve the set goal. |
| A | The student knows the basic scripting languages used to implement web applications and is able to compare available technologies and assess the degree of suitability of a given technology to achieve the set goal. The student is able to use the available tools and libraries to facilitate the creation of extensive web applications. |
| LO-01 | C | The student is able to design and implement a dynamic website using a scripting language. |
| B | The student is able to design and implement a dynamic website using a scripting language using a database. |
| A | The student is able to design and implement a dynamic website using a scripting language using a database. The student knows and is able to use at least 1 library (YII, Symfony 2, etc.) used to implement complex web applications. |
| LO-02 | C | The student is able to adapt the appearance of a simple page to the graphic requirements using CSS. |
| B | The student is able to adapt the appearance of a simple page to graphic requirements using CSS and choose the appropriate technology (e.g. JavaScript, jQuery, etc.) and implement the given functionality of the website on the client side using it. |
| A | The student is able to customize the implementation of a graphically and functionally complex website using CSS, JavaScript, jQuery, etc.) and implement the given functionality of the website on the client side. |

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5. Total student workload needed to achieve the intended learning outcomes

– number of hours and ECTS credits

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| --- | --- |
| Activity | Number of hours |
| Scheduled course contact hours | 30 |
| Other contact hours involving the teacher (consultation hours, examinations) | 10 |
| Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.) | 90 |
| Total number of hours | 130 |
| Total number of ECTS credits | 4 |

\* One ECTS point corresponds to 25-30 hours of total student workload

6. Internships related to the course/module

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| --- | --- |
| Number of hours |  |
| Internship regulations and procedures |  |

7. Instructional materials

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| Compulsory literature:* Kiersten Conner-Sax, Ed Krol: Internet. The Next Generation, Wydawnictwo RM, Warsaw 2000
* McFarland, David Sawyer: JavaScript and jQuery, Helion Publishing House, Gliwice, 2013
* Christoper Schmitt: CSS : designing professional websites, Helion, Gliwice, 2009.
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| Complementary literature: * Bartosz Danowski HTML 4. *Ćwiczenia praktyczne*, Wydawnictwo Helion, Gliwice, 2000
* Thomas Franke WWW. *Prosto i przystępnie*, ZNI „MIKOM”, Warszawa 1997
* Agnieszka Michałowska, Sławomir Michałowski: *Ćwiczenia z Internetu*. Wydawnictwo „MIKOM”, Warszawa, 2000
* Marcin Lis Java: *Ćwiczenia praktyczne. Wydanie III*, Wydawnictwo Helion, Gliwice, 2011
* Eric A. Meyer: *CSS. Kaskadowe arkusze stylów. Przewodnik encyklopedyczny*, Wydawnictwo Helion, Gliwice, 2008
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Approved by the Head of the Department or an authorised person