



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Internet applications

Course

Field of study

Year/Semester

Education in Technology and Informatics

1/1

Area of study (specialization)

Profile of study

Level of study

general academic

Second-cycle studies

Course offered in

Form of study

Polish

full-time

Requirements

compulsory

Number of hours

Lecture

Laboratory classes

Other (e.g. online)

30

30

Tutorials

Projects/seminars

Number of credit points

4

Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

dr inż Marcin Borowski

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Wydział Informatyki i Telekomunikacji

Politechnika Poznańska

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Prerequisites

In terms of knowledge, the student should have basic knowledge of structured and object-oriented programming, basic knowledge of Internet technologies and basic knowledge of database design and use. He should have the ability to solve basic problems related to the process of designing IT systems and the ability to obtain information from the indicated sources. In terms of social competences, the student must present such attitudes as honesty, responsibility, perseverance, cognitive curiosity, creativity, personal culture, respect for other people.

Course objective

1. Provide students with basic knowledge on designing web applications, information flow in such applications, technologies used in their construction.



2. Developing students' skills in solving problems related to designing web applications, using Open Source solutions, frameworks and libraries supporting the construction of such solutions.

3. Shaping students' teamwork skills and independence in solving problems.

Course-related learning outcomes

Knowledge

1. has ordered, theoretically founded general knowledge in the field of algorithms, computer systems architecture, operating systems, network technologies, programming languages, graphics, artificial intelligence, databases, decision support, learning systems and software engineering [K2_W10].
2. has theoretically founded detailed knowledge related to selected issues in the field of computer science [K2_W11].
3. knows the basic methods, techniques and tools used in solving complex engineering tasks in the selected area of computer science and technology [K2_W07].

Skills

1. potrafi pozyskiwać informacje z literatury, baz danych oraz innych źródeł (w języku ojczystym i angielskim), integrować je, dokonywać ich interpretacji i krytycznej oceny, wyciągać wnioski oraz formułować i wyczerpująco uzasadniać opinie, w szczególności korzystać z różnego rodzaju dokumentacji technicznych oraz API narzędzi wykorzystywanych w trakcie zajęć praktycznych dotyczących budowy aplikacji internetowych oraz mobilnych [K2_U04].
2. potrafi wykorzystać nabycą wiedzę matematyczną do opisu procesów, tworzenia modeli oraz zapisu algorytmów [K2_U01].
3. potrafi zgodnie z zadaną specyfikacją zaprojektować urządzenie, system informatyczny lub proces używając właściwych metod, technik i narzędzi [K2_U22].

Social competences

1. understands that knowledge and skills become obsolete very quickly in computer science - understands the need to learn throughout life. He can inspire and organize the learning process of other people [K2_K01].
2. is able to interact and work in a group, assuming various roles in it, in particular during the implementation of IT projects [K2_K03].
3. can set priorities for the implementation of tasks defined by himself or others, in particular during the implementation of IT projects [K2_K04].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

1. In the field of lectures:



a. on the basis of answers to questions about the material discussed in previous lectures,

2.in the field of laboratories / exercises:

a. on the basis of an assessment of the current progress in the implementation of tasks,

Summative assessment:

a) in the field of lectures, verification of the assumed learning outcomes is carried out by:

1.assessment of the knowledge and skills shown in the problematic test (the student can use any teaching materials) / in the form of a selection test (30 questions for a total of 60 points (2 points for the correct answer), passing from 60% + 1)

• discussion of the results of the test,

b) in the field of laboratories / exercises, verification of the assumed learning outcomes is carried out by:

1. assessment and "defense" by the student of the report on the implementation of the project,

Obtaining additional points for activity during classes, especially for:

1. discuss additional aspects of the issue,

• the effectiveness of applying the acquired knowledge while solving a given problem,

1. remarks related to the improvement of teaching materials,

identifying students' perceptual difficulties enabling ongoing improvement of the teaching process.

Programme content

The lecture program covers the following topics:

Basics of XML, DTD, XML Schema technologies. The structure and syntax of HTML5, CSS3. Basics of JavaScript language, use of jQuery library. Programming in PHP. Overview of the Yii2 framework and creating applications based on this framework.

Laboratory exercises are conducted in the form of fifteen two-hour classes in the computer laboratory. The first classes are intended to familiarize students with the rules of using the laboratory and completing the exercises. Classes are carried out by two-person teams of students. The program of laboratory classes covers the following topics:

HTML5 website development. Creating CSS3 style sheets. Using JavaScript libraries. Programming in PHP5. Building an application using the Yii2 framework.

Teaching methods

1st lecture: multimedia presentation, presentation illustrated with examples given on the board, solving problems, multimedia show, demonstration.



2. laboratory classes: practical exercises, discussion, team work, multimedia show, case studies, demonstration.

Bibliography

Basic

1. jQuery Documentation - <http://api.jquery.com>
2. Yii2 Framework - <http://www.yiiframework.com>
3. Bootstrap Framework – <http://getbootstrap.com>

Additional

Breakdown of average student's workload

	Hours	ECTS
Total workload	77	4,0
Classes requiring direct contact with the teacher	65	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	40	1,0

¹ delete or add other activities as appropriate