# Internet applications programming - course description

## General information

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|---|---|
| Course name | Internet applications programming |
| Course ID | 13.2-WF-FizD-IAS-S17 |
| Faculty | Faculty of Physics and Astronomy |
| Field of study | Physics |
| Education profile | academic |
| Level of studies | Second-cycle studies leading to MS degree |
| Beginning semester | winter term 2020/2021 |

## Course information

| | |
|---|---|
| Semester | 2 |
| ECTS credits to win | 4 |
| Available in specialities | Computer Physics |
| Course type | obligatory |
| Teaching language | english |
| Author of syllabus | • dr Marcin Kośmider |

## Classes forms

| The class form | Hours per semester (full-time) | Hours per week (full-time) | Hours per semester (part-time) | Hours per week (part-time) | Form of assignment |
|---|---|---|---|---|---|
| Lecture | 15 | 1 | - | - | Exam |
| Laboratory | 30 | 2 | - | - | Credit with grade |

## Aim of the course

The aim of this course is to introduce the programming techniques required to develop and create internet applications – how to design and code frontend in css and html, hot to store and analyse data (relational databases). Open source software is important part of this course.

## Prerequisites

Basic programming in python (with OOP)

Relational databases on the basic level

## Scope

1. HTML

- Document structure

- Blok and „in-line” elements

- Data presentation

- Links

- Graphics

- Lists

- Tables

- Forms

- HTML 5

2. CSS

- Selectors

- Data formating

- Box model

- Positioning

- Layouts

- Menu

3. JQuery

- JavaScript – introduction

- JQuery – introduction

- Jquery UI

- Plugins

- Ajax

4. Django framework

- Python – OOP techniques

- Django installation and configuration

- View and urls

- Models and relational databases

- Admin panel

- Forms

## Teaching methods

**Lecture:**

Conventional lecture, work with problems, discussion, workshop.

**Laboratory:**

Laboratory exercise, project, work in group, presentation, work with documentation, independent work, brain storm.

## Learning outcomes and methods of theirs verification

| Outcome description | Outcome symbols | Methods of verification | The class form |
|---|---|---|---|
| Student can design database based internet service and create it in Django framework. Student can discuss role of the database web services in modern world. | • K2_U09<br>• K2_U10<br>• K2_K04 | • a discussion<br>• a project<br>• an exam - oral, descriptive, test and other<br>• an ongoing monitoring during classes | • Lecture<br>• Laboratory |
| Student can find, choose and use external libraries, frameworks and other solutions according to the licences and the law. Student can describe what OpenSource means and discuss why Open Source Software is a good alternative to commercial software and why is worth to use. | • K2_W09<br>• K2_U09<br>• K2_U10<br>• K2_K04 | • a discussion<br>• a project<br>• an ongoing monitoring during classes | • Lecture<br>• Laboratory |
| Student can prepare web page according to the W3C standards. Student can discuss why data and presentation layer should be separated. | • K2_U09<br>• K2_U10 | • a discussion<br>• a project<br>• an exam - oral, descriptive, test and other<br>• an ongoing monitoring during classes | • Lecture<br>• Laboratory |

## Assignment conditions

**Lecture:**

final procject – 40% (Html + CSS + Jquery), 40% design, quality of code, 20% presentation and discussion.

**Laboratory:**

20% - tests during laboratories

40% - frontend project

40% - Django project

## Recommended reading

[1] http://www.w3.org/Style/Examples/011/firstcss

[2] http://www.w3schools.com/

[3] http://docs.jquery.com/Tutorials

[4] http://www.djangobook.com/

[5] https://docs.djangoproject.com/en/1.3/

## Further reading

[1] http://www.smashingmagazine.com/

[2] Internet

## Notes

Modified by dr hab. Piotr Lubiński, prof. UZ (last modification: 09-06-2020 22:39)