



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

E-commerce

### Course

Field of study

Computing

Area of study (specialization)

Games and Internet Technologies

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

1/1

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

### Number of hours

Lecture

30

Laboratory classes

30

Other (e.g. online)

Tutorials

Projects/seminars

### Number of credit points

5

### Lecturers

Responsible for the course/lecturer:

Prof. dr hab. inż. Czesław Jędrzejek

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Faculty of Computing and Telecommunications

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### Prerequisites

A student starting this course should have at least basic knowledge of structured and object-oriented programming, programming using MVC architecture, basic knowledge of web technologies (HTML, CSS, JS), and basic knowledge of database design. 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. They should also understand the need to expand their competences / be ready to cooperate as part of a team. They should have the skills to solve basic problems related to the process of designing IT systems and the ability to obtain information from the indicated sources. They should also understand the need to expand their competences / be ready to cooperate within the team.



### Course objective

1. Provide students with knowledge about technologies used in the construction of e-commerce systems, in terms of approaches to design, technology selection and implementation (including solutions for mobile devices).
2. Developing students' skills in solving problems related to designing e-commerce web applications, using frameworks, libraries and other tools supporting the construction of websites related to commercial activity on the Internet.
3. Shaping students' teamwork skills and independence in solving problems.

### Course-related learning outcomes

#### Knowledge

1. has an ordered, theoretically founded knowledge in the field of network technologies and internet applications related to the construction of e-commerce tools
2. has detailed knowledge related to selected issues in the field of computer science, such as: object-oriented programming, MVC, designing e-commerce web applications, designing databases for web applications
3. has knowledge about development trends in IT and selected related disciplines - technologies used to build e-commerce applications and integration with other services - 4. has knowledge about the life cycle of e-commerce IT systems using, among others HTML, CSS, JS, PHP, R language technologies

#### Skills

1. has an ordered, theoretically founded knowledge in the field of network technologies and internet applications related to the construction of e-commerce tools
2. has detailed knowledge related to selected issues in the field of computer science, such as: object-oriented programming, MVC, designing e-commerce web applications, designing databases for web applications
3. has knowledge about development trends in IT and selected related disciplines - technologies used to build e-commerce applications and integration with other services - 4. has knowledge about the life cycle of e-commerce IT systems using, among others HTML, CSS, JS, PHP, R language technologies

#### Social competences

can obtain information from literature, databases and other sources (in the native language and English), integrate them, interpret and critically evaluate them, draw conclusions and formulate and exhaustively justify opinions, in particular use various types of technical documentation and API tools used during laboratories

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment



- a. lecture - based on activity during the interactive parts of the lectures and 2 tasks (20%)
- b. laboratory - based on the assessment of the current progress in the implementation of tasks;

Summative assessment

- a. lecture - verification of the assumed learning outcomes implemented by:
  - assessment of the acquired knowledge and skills demonstrated by the project, simulating the carbon footprint of e-commerce processes in the R language (30%) and on the exam - a test conducted with the use of e-courses; general questions (choice test) and open-ended questions (50%)
- b. laboratory - verification of the assumed learning outcomes implemented by:
  - students' assessment and defense of prepared tasks - projects;

When issuing the final grade, the student may obtain an upgrade for:

- discussion of additional aspects of the presented issues, not presented during classes;
- using skills and knowledge from outside the study program to solve the tasks performed;
- help in improving teaching materials related to the subject

### Programme content

The lecture program covers the following topics:

Basics of e-commerce. Digital economy and e-commerce on the example of Facebook's business model. Legal aspects of conducting commercial activity on the Internet. Designing business models based on commercial activities on the Internet - an online store. Logistics of e-commerce business processes - simulation of the carbon footprint of e-commerce processes. Other forms of conducting commercial activity on the Internet (auctions, price comparison websites, advertising portals, etc.). Electronic payments. Internet advertising. RTB (real time bidding). Adwords, website positioning. Recommendations. Differences between Chinese and Western approaches to e-commerce. Purchase on Allegro.

Laboratory classes are conducted in the form of fifteen 2-hour exercises with computers. The tasks are carried out by students alone or by 2-person teams of students (with a proportional increase in the difficulty of the task). The program covers the following topics:

Using existing e-commerce systems to quickly launch the foundation of an online store (on the example of PrestaShop). Building an application using the Yii2 framework. Designing e-commerce applications using the "Three-Tier Architecture" approach. Construction of a product catalog, implementation of the shopping cart and order processing as well as electronic payments. Construction of additional components and functionalities increasing the usability / attractiveness of the solution.

### Teaching methods



1015/5000

Formative assessment

- a. lecture - based on activity during the interactive parts of the lectures and 2 tasks (20%)
- b. laboratory - based on the assessment of the current progress in the implementation of tasks;

Summative assessment

- a. lecture - verification of the assumed learning outcomes implemented by:
  - assessment of the acquired knowledge and skills demonstrated by the project, simulating the carbon footprint of e-commerce processes in the R language (30%) and on the exam - a test conducted with the use of eCourses; general (choice test) and open-ended questions (50% of the grade)
- b. laboratory - verification of the assumed learning outcomes implemented by:
  - students' assessment and defense of prepared tasks - projects;

When issuing the final grade, the student may obtain an upgrade for:

- discussion of additional aspects of the presented issues, not presented during classes;
- using skills and knowledge from outside the study program to solve the tasks performed;
- help in improving materials.

## Bibliography

Basic

1. Digital Business and E-commerce Management 6-th edition (electronic) 2015

By Dave Chaffey, David Edmundson-Bird, Tanya

Elements of 7-th edition (electronic) 2018

[https://books.google.pl/books?id=oYufDwAAQBAJ&pg=PT63&source=gbs\\_toc\\_r&cad=3#v=onepage&q&f=false](https://books.google.pl/books?id=oYufDwAAQBAJ&pg=PT63&source=gbs_toc_r&cad=3#v=onepage&q&f=false)

2. Introduction to E-commerce, Khurana 2018, <https://fliphtml5.com/affxa/tuqx/basic>

3. 1. Beginning PHP and PostgreSQL E-Commerce. From Novice to Professional, C.Darie, E.Balanescu, M.Bucica, Apress, 2006

Additional

articles from ft, wsj, industry portals



### Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	60	2,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	65	2,5

<sup>1</sup> delete or add other activities as appropriate