# COURSE DESCRIPTION CARD - SYLLABUS

Course name
Human-Computer Interaction [S1Inf1>KCK]

## Course

Field of study
Computing

Year/Semester
3/5

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

## Number of hours

Lecture
16

Laboratory classes
16

Other
0

Tutorials
0

Projects/seminars
0

## Number of credit points

2,00

## Coordinators

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## Lecturers

## Prerequisites

Students starting this module should have basic knowledge regarding of programming languages and computer system architectures. Students should be able to solve basic problems in the range of design, checking the correctness and implementing algorithms in the Python programming language and the ability to acquire information from the indicated sources. Students should also understand the necessity to broaden own competences/be ready to cooperate within the team. In addition, in the field of social competence, the student must present such attitudes as honesty, responsibility, perseverance, cognitive curiosity, creativity, personal culture, respect for other people.

## Course objective

Teach students basic knowledge of the construction, principles and practical aspects of interactions between human and computer systems. Develop students" ability to solve simple problems of designing, implementing and testing of graphical user interfaces. Teach students basic knowledge about human, its possibilities and limitations. Teach students basics of collecting and validating of requirements specification of user interfaces. Expand students" knowledge about previously used programming environments and programming languages as a result of looking at them from the perspective of the designer and the implementer, not just the user.

## Course-related learning outcomes

Knowledge:
1. the student has an expanded and deep knowledge in the field of human-computer interaction, including knowledge of the psychology and ergonomics regarding the design of user interfaces.
2. the student has a basic knowledge in the field of cognitivity, biocybernetics and hardware aspects of human-computer interfaces.
3. the student knows the basic techniques, methods and tools used in the process of solving IT problems in the field of human-computer interaction and design and evaluation of task-oriented and user-oriented interfaces.

Skills:
1. the student can, by formulating and solving IT tasks, apply properly selected analytical and experimental methods.
2. the student can design, build and validate a friendly, intuitive and easy-to-use user interface for various classes of IT systems.

Social competences:
1. the student understands that in the filed of human-computer interaction, knowledge and skills can quickly become obsolete.
2. the student is aware of the importance of knowledge in solving engineering problems and knows examples and understands the reasons for malfunctioning IT systems that led to serious financial and social losses or to serious health conditions or even to death.

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Verification of assumed learning objectives related to lectures:
- evaluation of acquired knowledge on the basis of the written test (30-40 close questions, 50% points needed to pass).

Verification of assumed learning objectives related to laboratory classes:
- assessment of skills related to the project/laboratory task,
- assessment of the project implementation report.

## Programme content

Lectures cover the following topics:
1. Introduction to the human-computer interaction
2. Basics of interaction design
3. Introduction to issues related to the psychophysiology and human cognitive processes
4. Overview of requirements collection methods
5. Interface design rules and heuristic evaluation
6. Prototyping of graphical user interfaces
7. Presentation of methods of formulation of experimental hypotheses and carrying out correct experiments
8. Design of web pages
9. Advanced user interfaces based on touch, voice and vision pattern recognition
10. Visualization of information

During laboratory classes, students solve tasks related to:
- using colors to visualization of information
- recognition of objects in images
- recognition of a person"s gender based on his/her speech
- design prototypes of graphical user interfaces

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## Teaching methods

1. lecture: multimedia presentation, presentation illustrated with examples shown on the blackboard
2. laboratory classes: solving tasks, discussion, multimedia presentation, projects demonstration

## Bibliography

Basic
1. Human-Computer Interaction, A. Dix, J. Finlay, G.D. Abowd, R. Beale, Pearson Prentice Hall, 2004
2. Interaction Design: Beyond Human-Computer Interaction, H. Sharp, Y. Rogers, J. Preece, Wiley & Sons, 2007
Additional
1. The Design of Everyday Things, D. Norman, Basic Books, 2002
2. Don’t make me think, S. Krug, New Riders, 2005
3. Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Rules, J. Johnson, Elsevier, 2010

## Breakdown of average student's workload

| | Hours | ECTS |
|---|---|---|
| Total workload | 50 | 2,00 |
| Classes requiring direct contact with the teacher | 32 | 1,50 |
| Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation) | 18 | 0,50 |