

Faculty: FACULTY OF TELECOMMUNICATIONS AND MANAGEMENT
Department: INFORMATION TECHNOLOGIES
Professional Field: 5.3 COMMUNICATION AND COMPUTER TECHNOLOGY
Specialty: SOFTWARE DEVELOPMENT
Educational-qualification degree: PROFESSIONAL BACHELOR

LEARNING COURSE DESCRIPTION

1. Course title: *INTRODUCTION TO THE SPECIALTY COURSES*

2. Course code: *P.17.002.1*

3. Type of the course: *compulsory*

4. Level: *Professional Bachelor*

5. Year of study: *first*

6. Semester: *first*

7. Number of credits: 3

8. Name of the lecturer: *Assoc. Prof. Dr. Eng. Ivan Ivanov, Assoc. Prof. Dr. Eng. Pavlinka Radoyska*

9. Course learning outcomes:

The aim of the course is to give students an overview and to form basic knowledge necessary for conducting an in-depth study of aspects of computer administration of software applications.

Students who have completed their training in the discipline must acquire:

Basic knowledge of presenting information in computer systems, their architecture, principles of operation and resource management, network communications, programming languages and styles, basic concepts of databases, basic requirements for the preparation of scientific documentation and literature.

Practical skills for working with binary and hexadecimal number systems, installation of operating systems and basic configuration settings, network addressing of terminal devices, use of cloud-based and desktop environments for software application development, basic skills for designing relational databases.

Competencies: Upon completion of the course, students must have mastered the basic concepts in the field of computer architectures, operating systems, network communications, databases and programming languages and software development environments and be able to prepare high-level scientific documentation.

10. Teaching methods:

Teaching methods: the training in the subject is conducted in the lecture and discussion form, according to the specifics of the themes. Multimedia is used in the classes, audio-video presentations on the topics are uploaded in the e-learning system of UTP.

11. Prerequisites:

Students should have prior knowledge in the disciplines: prior knowledge of computers and the Internet.

Courses using the discipline are: all courses included in the curriculum of the specialty.

12. Course contents:

The course includes an overview of the main topics of the specialty, including the organization of the learning process, approaches to the preparation of scientific papers, number systems and presentation of data in computer systems. Basic concepts related to computer architectures, operating systems, programming, databases and computer networks are discussed.

13. Bibliography

Basic literature:

1. Спиров Р, Иванов И. Ръководство за практически упражнения по компютърни архитектури, изд. център-БУТП, София, 2017, ISBN: 978-954-9332-97-1 (мека подвързия), ISBN: 978-954-9332-98-8 (pdf).
2. Р. Романски, Съвременни компютърни архитектури, Авангард Прима, 2019
3. Avi Silberschatz, Peter Baer, Galvin Greg Gagne. Operating System Concepts. Tenth Edition. John Wiley & Sons, Inc. 2018.

4. Andrew S. Tanenbaum, Herbert Bos. Modern Operating Systems, Fourth Edition. Pearson Prentice-Hall, Pearson Education, Inc., 2015.
5. Василев, А., Java за всички, ISBN 9786197356922, Асеновци, 2020
6. Крушков, Хр., Програмиране на C# - Практическо ръководство, ISBN 9786197134445, Коала прес, 2017
7. Светлин Наков и колектив, "Основи на програмирането с Python", ISBN: 978-619-00-0806-4, <https://python-book.softuni.bg/>, Faber Publishing, София, октомври, 2018 г.
8. D.K. Academy, Компютърни мрежи - наръчник на системния администратор, ISBN: 9786197356502, Издателство Асеновци, 2018

Additional literature:

1. Morris, M., Computer System Architecture, PDFDRIVE, 2014.
2. Stallings, W., Computer Organisation and Architecture, PDFDRIVE, 2012.
3. Николов Л., Операционни системи, ИК "СИЕЛА", 2012.
4. Basics of Java Programming, University of Helsinki's free massive open online course, <https://java-programming.mooc.fi/>, последно видян на 27.05.2020
5. W3Schools, Java Tutorial, <https://www.w3schools.com/java/default.asp>, последно видян на 27.05.2020
6. Javatpoint, Computer Network Tutorial, <https://www.javatpoint.com/computer-network-tutorial>, последно видян на 27.05.2020

14. Assessment methods and criteria:

The course completes with an exam.

30% of the final grade is formed by the results of the current electronic tests, 20% is formed by the implementation of the practical exercises and 50% by the final test. The current tests and the final test are electronic and are published in the e-learning system of UTP. These include open and closed questions. Some of the questions are related to solving cases in order to check the creative application of the acquired knowledge.

15. Language of instruction: *Bulgarian/English*