Study program: Informatics

Course title: Introduction to programming

Professor/assistant: Vladimir M. Nedić

Type of course: Compulsory

ECTS credits: 7

Prerequisites: none

Aims of the course: Introduction to basic theoretical principles and practical approaches to programming methods, necessary for better understanding computer programming and further improving the knowledge of programming languages which are the tools for software development. After completing the course, the student acquires the knowledge necessary for following courses: Object-oriented Programming, Programming Languages, and Designing Database Applications. On practical training, the student designs and develops programs in VB, Java Script, or .NET environment.

Learning outcomes: After passing the exam, the student will be able to design and program in VB, Java Script and .NET environment

Syllabus:

Theoretical part:

1. Introduction (the problem-solving process – problem modeling, algorithm design, implementation of algorithm by programming)
2. Algorithm structures (algorithm characteristics, algorithm formation, elementary algorithm structures - linear, cyclic and complex, coupled/nested cyclic structures)
3. Classic programming methods (structural programming, modular programming - concepts and basic characteristics, demo examples)
4. Building a program by translating algorithm into program structures with examples in script languages. The concept of a compiler and translation into the IDE environment.

Practical part: Practical exercises

Literature:

1. Cay S. Horstmann, Gary Cornell, Java (SE 7) Tom I – Osnove, prevod devetog izdanja, CET, Beograd, 2013. (prvih 6 poglavlja)
2. Robin A. Reynolds-Haertle, OOP sa Microsoft tehnologijama Visual Basic .NET i Visual C# .NET, Korak po korak, CET, Beograd, 2006. (prvih 7 poglavlja)
3. Yakov Fain, Java 8 programiranje, Kompjuter biblioteka, Beograd, 2015. (dodatna literatura)
4. David Flanagan, JavaScript: sveobuhvatni vodič, Mikro knjiga, 2008 (dodatna literatura)
5. Cay Horstmann, Gary Cornell, Java: Tom 1. Osnove, CET, 2013

Total number of active classes: 75	**Lectures:** 45	**Practical classes:** 30

Teaching methods: Lectures, practical computer exercises

Grading system (maximum 100 points)

grading scale from 5 to 10: below 51 points – student fails the exam, grade 6 from 51- 60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91- 100 points.

Pre-exam obligations:	**Points:**	**Final exam:**	**Points:**
Activity during lectures	max 5	Oral exam	50
Practical training	max 5		
Written test(s)	max 10		
Project	max 30		
Minimum requirement for the final exam	30		