Study programmes: Bachelor studies - Informatics

Course name: R245 - Programming language paradigms

Lecturers: Milena Vujošević Janičić and other lecturers of the Department for Computer Science

Status: Compulsory

ECTS: 6

Attendance prerequisites: P100, P101, P102

Course aims: Getting to know characteristics of different programming paradigms and the most important programming languages of each programming paradigm.

Course outcome: After the course, the student is able to recognize relationships between programming languages and programming paradigms. Also, the student adopted the most important concepts of each programming paradigm, especially for object-oriented paradigm, logic paradigm, functional paradigm and script paradigm.

Course content: Development of programming language paradigms. Basic characteristics of the most important programming language paradigms: procedural programming, object-oriented programming, functional programming, logic programming, concurrent programming and script programming. Comparison on different programming paradigms.

Literature:

1. A. Tucker and R. Noonan: Programming Languages: Principles and Paradigms, McGraw-Hill Science, 2001.
2. S. Barry Cooper, Benedikt Löwe, and Andrea Sorbi: New Computational Paradigms: Changing Conceptions of What is Computable, Springer Verlag, 2007.
3. C. Tsang: Object-Oriented Technology from Diagram to Code with Visual Paradigm for UML, McGraw-Hill Science, 2006.

(the lecturer can choose another appropriate literature)

Number of hours: 5	**Lectures: 2**	**Tutorials: 3**	**Laboratory: -**	**Research: -**

Teaching and learning methods: Frontal/Group work/Practical work.

Assessment (maximal 100 points)

Course assignments	**points**	**Final exam**	**points**
Lectures	5	Written exam	-
Exercises / Tutorials	20	Oral exam	-
Colloquia	20	Written-oral exam	50
Essay / Project	5		