Study Program: Mathematics

Type and level of studies: Bachelor studies, VI semester

**Course name: Mathematical logic**

**Lecturer: Ivan D. Aranđelović**

Status: Elective

ECTS: 8

Attendance Prerequisites: none

**Course aims:**

The goal of teaching is to enable students to master the higher mathematics courses through knowledge of the basic concepts of mathematical logic.

**Course outcome:**

Acquiring basic knowledge necessary for a proper understanding of the basics of modernity mathematics.

**Course content**

*Theoretical part*

Statement account. Tautologies. Canonical forms. Bases. Hypotheses and consequences. Predicate calculus. Predicate formulas, interpretation and truthfulness. Valid formulas and applications. Predicate calculus as a formal theory. Sets and relations. Axiomatic basis. Principles of defining sets. Relations. Functions. Cardinal numbers. Groups. Groupoids, quasigroups and semigroups. Groups, subgroups, normal subgroups. Homomorphisms and congruences. Order of group, cyclic groups. Rings and fields. Networks and Boolean algebras.

*Practical part*

Exercises and homework accompany the lectures in terms of content.

**Literature**


1. С. Прешић, Елементи математичке логике, Завод за уџбенике и наставна средства, Београд 1983. М. Божић, С. Вујић, Математичка логика са елементима опште логике, Научна књига, Београд 1988


| **Number of active classes** | | | | Other classes: |
|---|---|---|---|---|
| Lectures :2 | Practical classes: 2 | Students' research work: | Other forms of teaching: | |

**Teaching methods**

Oral presentation method, interview method, active methods

**Assessment (maximum 100 points)**

| **Course assignments** | **points** | Final exam | **points** |
|---|---|---|---|
| activity during lectures | 10 | written exam | 20 |
| practical classes | | oral exam | 30 |
| term test(s) | 20 | | |
| seminar(s) | 20 | | |
| | 50 | | 50 |