

Course title: Wireless Communications
Course code: 41050
ECTS credits: 5
Requirements: None
Basic information
Level of studies: Undergraduate applied studies
Year of study: 2
Trimester: 3
Goal: Students acquire basic knowledge of wireless transmission, familiarize themselves with radio transmission and functioning of radio-devices and mobile radio-systems, solve practical radio-communication range problems, and learn to design radio-link systems.
Outcome: After completion of the course, students should be able to determine signal-to-noise ratio in simple telecommunications systems. They will understand concepts of amplitude, phase and frequency of electromagnetic waves. They will understand radio wave propagation on transmission lines and compute reflection coefficients. They will be able to compute necessary transmitter power and antenna gains in order to achieve prescribed signal-to-noise ratio in radio-links.
Contents of the course
Theoretical instruction
1. Radio spectrum, standardization
2. Generation and propagation of electromagnetic waves
3. Transmission channel
4. Classification of noises and interferences
5. Fading, diversity
6. Transmitter and receiver
7. Antennas
8. Radio-frequency transmission lines and waveguides
9. Amplifiers
10. Matching circuits, frequency selective circuits
Practical instruction (Problem solving sessions/Lab work/Practical training)
1.
2.
3.
Textbooks and References

1. M. L. Dukic, Principi telekomunikacija, Akademska misao, Beograd, 2008
2. M. D. Dragovic, Antene i prostiranje radio-talasa, Akademska misao, Beograd, 2005
3. B. D. Popovic, Elektromagnetika, Akademska misao, Beograd, 2004
4. I. S. Stojanovic, Osnovi telekomunikacija, Naucna knjiga, Beograd, 1990
Number of active classes (weekly)
Lectures: 3
Practical classes: 2
Other types of classes:
Grading (maximum number of points: 100)
Pre-exam obligations: Points
Activities during lectures: 5
Activities on practical exercises:
Seminary work: 10
Colloquium: 50
Final exam: Points
Written exam: 35
Oral exam:
Lecturer
Miroslav Đorđević, PhD
Associate