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| **Study program:** Chemistry (PhD) |
| **Course title: Selected chapters of techniques and methods characterization of inorganic compounds** |
| **Name of lecturer/lecturers: Dragan M. Đorđević** |
| **Type of course: elective** |
| **Number of ECTS allocated 10** |
| **Course objectives: Acquaintance with modern and complex instrumental techniques that are applied in characterization of inorganic compounds** |
| **Course outcomes: Upon successful completion of this course, the student is able to:****• foresee the technique and methods for obtaining certain specific information about compounds,****• with the help of literature, he can analyze the results obtained by a certain analysis technique.** |
| **SYLLABUS***Lectures**Introduction. Sampling. Statistical processing of measurement results. UV-VIS spectroscopy. Infrared spectrophotometry. X-ray spectroscopy. Nuclear magnetic resonance spectrometry. Electronically spin resonance spectrometry. Mass spectrometry. Electron microscopy with a microprobe. Atomic absorption spectrophotometry. Optical-emission spectroscopy. Optical emission spectroscopy with inductively coupled plasma. Collection and processing of literature data and measurement results. Seminar papers* |
| **References**1. P. Patnaik, Handbook of environmental analysis: chemical pollutants in air, water, soil and solid wastes. 2nd ed.. Boca Raton (2010) 2. F. M. Dunnivant, Environmental laboratory exercises for instrumental analysis and and environmental chemistry. Hoboken (2004) 3. D. A. Skoog, F. J. Holler, T. A. Nieman, Principles of Instrumental Analysis (Saunders Golden Sunburst Series), Brooks Cole (1997) 4. R.V. Parish, NMR, NQR, EPR, and Mossbauer Spectroscopy in Inorganic Chemistry, Ellis Horwood Ltd (1991) |
| **Active teaching classes** | **Lectures 105** | **Laboratory work** |
| **Teaching mode:** **Interactive lectures, homework, seminar work, panel discussions** |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| Activity during lectures 5; Seminar 50; Oral examination 45 points; |