



Study program: Doctoral Academic Studies in Biomedical Sciences
Name of the subject: LABORATORY WORK
Teacher(s): Velibor S. Čabarkapa, Romana R. Mijović, Branislava P. Ilinčić, Radmila R. Žeravica, Biljana A. Vučković, Stanislava V. Nikolić
Status of the subject: elective
Number of ECTS points: 15
Condition: -
<p>Goal of the subject</p> <p>Acquaintance with modern principles and methods of laboratory work in everyday medical practice, which will enable a critical assessment of the role, possibilities and limitations of certain laboratory methods, and contribute to the general and specific competence of candidates in the field of work in medical laboratories.</p>
<p>Outcome of the subject</p> <p>The student will acquire the necessary knowledge for the functional use of modern methods of laboratory work in everyday medical practice, and especially for the critical analysis of the obtained laboratory results.</p> <p>Students will be able to perform certain modern methods of laboratory testing, as well as to critically analyze the results obtained.</p>
<p>Content of the subject</p> <p><i>Theoretical lectures</i></p> <ol style="list-style-type: none"> 1. Principles of application of biochemical methods in medical laboratories 2. Electrophoresis and immunofixation of proteins, clinically relevant proteins and enzymes 3. Tumor markers in laboratory diagnostics 4. Laboratory diagnostics of haematological disorders 5. Laboratory diagnostics of endocrinological disorders 6. Laboratory diagnostics of gastrointestinal diseases 7. Laboratory diagnostics of nephrological diseases 8. Laboratory diagnostics of neurological diseases 9. Gas chromatography and mass spectrometry 10. Flow cytometry 11. Radioimmunometric analyzes 12. Polymerase chain reaction (PCR) and its application in medical laboratories 13. Centrifugal analysis 14. Basic principles of infectious agent diagnostics <p><i>Practical lectures</i></p> <ol style="list-style-type: none"> 1. Principles of application of biochemical methods in medical laboratories 2. Electrophoresis and immunofixation of proteins, clinically relevant proteins and enzymes 3. Tumor markers in laboratory diagnostics 4. Laboratory diagnostics of haematological disorders 5. Laboratory diagnostics of endocrinological disorders 6. Laboratory diagnostics of gastrointestinal diseases 7. Laboratory diagnostics of nephrological diseases 8. Laboratory diagnostics of neurological diseases 9. Gas chromatography and mass spectrometry 10. Flow cytometry 11. Radioimmunometric analyzes 12. Polymerase chain reaction (PCR) and its application in medical laboratories 13. Centrifugal analysis 14. Basic principles of infectious agent diagnostics
<p>Recommended literature</p> <p><i>Compulsory</i></p> <ol style="list-style-type: none"> 1. Rifai N, Horvath AR, Wittwer CT, eds. Tietz textbook of clinical chemistry and molecular diagnostics. Sixth edition. St Louis, Missouri: Elsevier; 2018.

2. McPherson R, Pincus M. Henry's Clinical diagnosis and management and laboratory methods, 23rd edition. Elsevier, 2017.
3. Laposata M. Laposata`s Laboratory Medicine. Diagnosis of Disease in the Clinical Laboratory. Third Edition. New York: McGraw-Hill Education; 2019.

Additional

1. Greer J, Arber D, Glader B. et al. Wintrob's Clinical Hematology, 13th edition. Wolters Kluwer – Lippincot Williams&Wilkins, 2014.
2. Strasinger SK, Di Lorenzo MS. Urinalysis and body fluids, 6th edition. F. A. Davis Company, 2014

Number of active classes	Theory: 60	Practice (SRW): 45
---------------------------------	-------------------	---------------------------

Methods of delivering lectures: Interactive lectures and practices; Consultations; Essays

Evaluation of knowledge (maximum number of points 100)

practices: 30

essay: 20

practical exam: 50