

| Higher education institution: <i>Slovak Medical University in Bratislava</i> | | | | | | | | | | | | | | | | | |
|---|----|----|--|----|----|---|---|---|---|---|----|----|----|----|----|----|----|
| Faculty: <i>Faculty of Medicine</i> | | | | | | | | | | | | | | | | | |
| Course code: <i>GM 003A</i> | | | Course title: <i>Medical Biology(1)</i> | | | | | | | | | | | | | | |
| Type, extent and method of educational activity: <i>Number of hours per semester: 56</i> <i>Lectures: 28/2 hours per week</i> <i>Practices: 28/2 hours per week</i> <i>(Total work load of the student is 125 h)</i> <i>Method of the education: full-time study (distance study)¹</i> <i>Form of the study: full-time</i> | | | | | | | | | | | | | | | | | |
| Number of credits: <i>5 credits</i> | | | | | | | | | | | | | | | | | |
| Recommended semester/trimester study: <i>1st</i> | | | | | | | | | | | | | | | | | |
| Level of higher education study: <i>1. + 2. Level</i> | | | | | | | | | | | | | | | | | |
| Prerequisite courses:- | | | | | | | | | | | | | | | | | |
| Requirements for completion of the course: <i>80% participation at lectures, 100% participation at practices.</i> <i>Credit (written test); Final test: minimum threshold of success: 60%.</i> <i>Evaluation: A: 95% -100%, B: 88% -94% C: 77% -87%, D: 66% -76%, E: 60% -65%</i> <i>Student workload is 69 hours (preparation for practices, preparation of a presentation, preparation for the credit tests).</i> | | | | | | | | | | | | | | | | | |
| Learning outcomes: <i>Acquaint students with current knowledge in cytology, molecular biology and genetics.</i> | | | | | | | | | | | | | | | | | |
| Brief content of the course (syllabus): <i>Introduction to biology, hierarchy of living systems, cell theory, chemical composition of cells. Biomembranes, transport, receptors, cell to cell communication.</i> <i>Cellular organelles, morphology and function. Cytoskeleton and molecular motors. Structure of eukaryotic cell nucleus levels of chromatin condensation, chromosome territories.</i> <i>Cell cycle, cell division, mitosis, meiosis. Regulation and deregulation of cell cycle in eukaryotic organisms.</i> <i>Chromosomes, chromosome aberrations. Chromosome breakage syndromes.</i> <i>Types and shapes of cells, methods of observation, differences between prokaryotic and eukaryotic cells, cell and tissue cultures.</i> <i>Cell death, necrosis, apoptosis, cellular senescence.</i> <i>Gametogenesis, fertilization.</i> | | | | | | | | | | | | | | | | | |
| Recommended literature: <i>1. Lectures.</i> <i>2. Cummings, M R: Human Heredity. ITP Company, New York, 1997</i> <i>3. Lodish et al.: Molecular Cell Biology, Eighth Edition © 2016 WH Freeman and Company.</i> | | | | | | | | | | | | | | | | | |
| Language requirements: <i>English</i> | | | | | | | | | | | | | | | | | |
| Notes: <i>The course runs in English language.</i> | | | | | | | | | | | | | | | | | |
| Course assessment Assessed students in total: 0 <table border="1" data-bbox="188 1608 1394 1682"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>FX</th> </tr> </thead> <tbody> <tr> <td>0%</td> <td>0%</td> <td>0%</td> <td>0%</td> <td>0%</td> <td>0%</td> </tr> </tbody> </table> | | | | | | A | B | C | D | E | FX | 0% | 0% | 0% | 0% | 0% | 0% |
| A | B | C | D | E | FX | | | | | | | | | | | | |
| 0% | 0% | 0% | 0% | 0% | 0% | | | | | | | | | | | | |
| Lecturers: <i>RNDr. Katarína Volkovová, PhD.,</i> <i>Mgr. Veronika Šarayová</i> | | | | | | | | | | | | | | | | | |
| Date of last modification: <i>05.11.2021</i> | | | | | | | | | | | | | | | | | |
| Approved by: <i>person responsible for realization, development and ensuring of the study program quality</i> <i>prof. MUDr. Iveta Šimková, CSc.</i> | | | | | | | | | | | | | | | | | |

¹§ 108e ods. 2 zákona č. 131/2002 Z.z. o vysokých školách

Course Information Sheet

| | | | | | |
|---|----|----|--|----|----|
| Higher education institution: <i>Slovak Medical University in Bratislava</i> | | | | | |
| Faculty: <i>Faculty of Medicine</i> | | | | | |
| Course code: <i>GM 003B</i> | | | Course title: <i>Medical Biology(2)</i> | | |
| Type, extent and method of educational activity: <i>Number of hours per semester: 56</i> <i>Lectures: 28/2 hours per week</i> <i>Practices: 28/2 hours per week</i> <i>(Total work load of the student is 150 h)</i> <i>Method of the education activity: full-time study(distance study)¹</i> <i>Form of the study: full-time</i> | | | | | |
| Number of credits: <i>6 credits</i> | | | | | |
| Recommended semester/trimester study: <i>2nd</i> | | | | | |
| Level of higher education study: <i>1. + 2. Level</i> | | | | | |
| Prerequisite courses: <i>Medical Biology (1)</i> | | | | | |
| Requirements for completion of the course: <i>80% participation at lectures, 100% participation at practices.</i> <i>Credit (written test); Final test: minimum threshold of success: 60%.</i> Exam. <i>A, B, C, D, E, FX</i> <i>Student workload is 94 hours (preparation for practices, preparation of a presentation, preparation for the credit tests, preparation for the exam).</i> | | | | | |
| Learning outcomes: <i>Acquaint students with current knowledge in cytology, molecular biology and genetics.</i> | | | | | |
| Brief content of the course (syllabus): <i>Nucleic acids, genetic information, replication. Transfer of genetic information, transcription, translation.</i> <i>Regulation of gene expression.</i> <i>HGP, human genome, repetitive DNA sequences.</i> <i>Genetic regulation of cellular differentiation, stem cells.</i> <i>Reactive oxygen species, antioxidants, oxidative stress. Mutagenesis, teratogenesis.</i> <i>Prokaryotes, viruses, prions.</i> <i>Basic laboratory techniques in molecular biology.</i> <i>Genetic methods, population genetics, monogenic inheritance. Blood groups, autosomal dominant and recessive inheritance, gonosomal inheritance, polygenic and multifactorial inheritance.</i> <i>Genetic engineering, recombinant DNA, vectors, gene therapy.</i> <i>Oncogenesis and molecular mechanisms of the most common forms of cancer.</i> | | | | | |
| Recommended literature: <ol style="list-style-type: none"> <i>1. Lectures.</i> <i>2. Cummings, M R: Human Heredity. ITP Company, New York, 1997</i> <i>3. Lodish et al.: Molecular Cell Biology, Eighth Edition © 2016 WH Freeman and Company.</i> | | | | | |
| Language requirements:- | | | | | |
| Notes: <i>The course runs in English language.</i> | | | | | |
| Course assessment Assessed students in total: <i>0</i> | | | | | |
| A | B | C | D | E | FX |
| 0% | 0% | 0% | 0% | 0% | 0% |
| Lecturers: <i>RNDr. Katarína Volkovová, PhD.,</i> <i>Mgr. Veronika Šarayová</i> | | | | | |
| Date of last modification: <i>05.11.2021</i> | | | | | |
| Approved by: <i>person responsible for realization, development and ensuring of the study program quality</i> <i>prof. MUDr. Iveta Šimková, CSc.</i> | | | | | |

¹§ 108e ods. 2 zákona č.131/2002 Z.z. o vysokých školách