

CELL BIOLOGY, BIOCHEMISTRY THEORY COURSE topics, 2021/2022 I. - Pécs

| Week | Day | Time | Lecture | Topic | Progress exam | Lecturer |
|----------------|------------|-------------|----------------|--|--|-----------------|
| 2 week | Wednesday | 15.00-17.30 | 1 | Introduction to cell biology. The structure of pro-and eukaryote cell. | | OF |
| 4 week | Wednesday | 15.00-17.30 | 2 | Biomolecules of the cell: Saccharides. Mono- and disaccharides. Polysaccharides. | | OF |
| 5 week | Wednesday | 15.00-17.30 | 2 | The structure of amino acids and proteins. Function of Proteins. Peptides with biological properties. The structure and function of enzymes. Regulation of enzyme activity. | | OF |
| 6 week | Wednesday | 15.00-17.30 | 3-4 | Lipids. Biomembranes: lipid composition and structural organization. | | OF |
| 7 week | Wednesday | 15.00-17.30 | 4 | Overview of membrane transport. ATP-powered pumps and the intracellular ionic environment. Nongated ion channels and the resting membrane potential. | | OF |
| 8 week | Wednesday | 15.00-17.30 | 5-6-7 | Integrating cells into tissues. Cell adhesion molecules and junctions. The cytoplasm. The cell skeleton. Microfilaments and microtubules. | | OF |
| 10 week | Wednesday | 15.00-17.30 | 8-9 | Rough and smooth endoplasmatic reticulum. Lysosomes. Golgi body. Reactive oxygen species and antioxidant molecules. | | OF |
| 11 week | Wednesday | 15.00-17.30 | 10 | Mitochondria. Principles of Bioenergetics. Glycolysis. Glycogen breakdown. | | OF |
| 12 week | Wednesday | 15.00-17.30 | 11 | The structure and properties of nucleus. Nuclear transport processes. Chromosomes and DNA structure. mRNA, tRNA, rRNA structure | Wednesday: 1 PE 15.00-15.30 Material: 1-9 L | OF |
| 13 week | Wednesday | 15.00-17.30 | 12 | Cell cycle. Mitosis and meiosis. | | OF |
| 14 week | Wednesday | 15.00-17.30 | 13 | DNA replication, transcription and translation. | | OF |
| 15 week | Wednesday | 15.00-17.30 | 13 | DNA replication, transcription and translation. | Wednesday: Corr. PE 17.00-17.30 | OF |