

CELL BIOLOGY, BIOCHEMISTRY THEORY COURSE topics, 2020/2021 I. – Pécs

Week	Day	Time	Lecture	Topic	Progress exam	Lecturer
2 week	Wednesday	8.20-10.25	1	Introduction to cell biology. The structure of pro-and eukaryote cell.		TK
3 week	Wednesday	8.20-10.25	2	Biomolecules of the cell: Saccharides. Mono- and disaccharides. Polysaccharides.		TJ
4 week	Tuesday	13.40-15.40	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.		TJ
5 week	Tuesday	13.40-15.40	3-4	Lipids. Biomembranes: lipid composition and structural organization.		TJ
6 week	Tuesday	13.40-15.40	4	Overview of membrane transport. ATP-powered pumps and the intracellular ionic environment. Nongated ion channels and the resting membrane potential.		TJ
7 week	Tuesday	13.40-15.40	5-6	Integrating cells into tissues. Cell adhesion molecules and junctions.		OF
8 week	Tuesday	13.40-15.40	7	The cytoplasm. The cell skeleton. Microfilaments and microtubules.	Wednesday: 1 PE 8.20-8.50 Material: 1-6 L	OF
10 week	Tuesday	13.40-15.40	8-9	Rough and smooth endoplasmatic reticulum. Lysosomes. Golgi body. Reactive oxygen species and antioxidant molecules.		OF
11 week	Tuesday	13.40-15.40	10	Mitochondria. Principles of Bioenergetics. Glycolysis. Gycogen breakdown.		OF
12 week	Tuesday	13.40-15.40	11	The structure and properties of nucleus. Nuclear transport processes. Chromosomes and DNA structure. mRNA, tRNA, rRNA structure		OF
13 week	Tuesday	13.40-15.40	12	Cell cycle. Mitosis and meiosis.		OF
14 week	Tuesday	13.40-15.40	13	DNA replication, transcription and translation.		OF
15 week	Tuesday	13.40-15.40	13	DNA replication, transcription and translation.	Wednesday: Corr. PE 9.55-10.25	OF