

CELL BIOLOGY, BIOCHEMISTRY THEORY COURSE topics, 2019/2020 I. – Pécs

Week	Day	Time	Lecture	Topic	Progress exam	Lecturer
1 week	Wednesday	13.15-14.40 14.50-16.10	1	Introduction to cell biology. The structure of pro-and eukaryote cell.		TK
2 week	Wednesday	13.15-14.40 14.50-16.10	2	Biomolecules of the cell: Saccharides. Mono- and disaccharides. Polysaccharides.		TJ
3 week	Wednesday	11.20-12.45 12.55-14.15	3	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
4 week	Wednesday	11.20-12.45 12.55-14.15	3-4	Biomembranes: lipid composition and structural organization. Overview of membrane transport. ATP-powered pumps and the intracellular ionic environment. Nongated ion channels and the resting membrane potential.		LR
6 week	Wednesday	13.15-14.40 14.50-16.10	5-6-7	Integrating cells into tissues. Cell adhesion molecules and junctions. The cytoplasm. The cell skeleton. Microfilaments and microtubules.		LR
10 week	Wednesday	13.15-14.40 14.50-16.10	8-9	Rough and smooth endoplasmatic reticulum. Lysosomes. Golgi body. Reactive oxygen species and antioxidant molecules.	Wednesday: 1 PE 13.15-14.00 Material: 1-6 L	LR
11 week	Wednesday	13.15-14.40 14.50-16.10	10	Mitochondria. Principles of Bioenergetics. Glycolysis. Gycogen breakdown.		ZA
12 week	Wednesday	11.20-12.45 12.55-14.15	11	The structure and properties of nucleus. Nuclear transport processes. Chromosomes and DNA structure. mRNA, t RNA, rRNA structure		ZA
13 week	Wednesday	13.15-14.40 14.50-16.10	12	Cell cycle. Mitosis and meiosis.	Wednesday: Corr. PE 15.10-16.10	ZA
14 week	Wednesday	11.20-12.45 12.55-14.15	13	DNA replication, transcription and translation.		ZA