HARRAN UNIVERSITY FACULTY OF ARTS & SCIENCE
BIOLOGY DEPARTMENT

Name of the course	Code of the course	Semestre	T + P	Credits	ECTS
Cell Physiology	0804731	7	2+0	2	3

Course prerequisite	N/A

Language of the course	Turkish
Type of the course (Obligatory/Elective)	Elective
Name of the instructor who taught the course last semester	Assist. Prof. Dr. Hatice (Gümüşhan) AKTAŞ
Aim and goals of the course	General aim of the course is to learn the functions of the cell and the vital events that take place in the cell and the mechanisms of these functions.
Learning Outcomes of the Course	**At the end of this course the student;** 1. Comprehends the structure of biological membranes. 2. Learns the mechanisms of substance transport through the cell membrane. 3. Learns the structure of ion channels. 4. Learns the mechanisms of formation of membrane and action potentials. 5. Comprehends the structure of the cell skeleton. 6. Understands how cells communicate. 7. Learns the mechanisms of cell death.
Contents of the course	Physiology of cell membrane, Formation of membrane and action potential, Intermolecular substance exchange and intracellular transport, Cell skeleton, Cellular interaction, communication and stimulation mechanisms, Cell death

Weeks	Semester Teaching Plan
1	Introduction to Cellular Physiology
2	Chemical Structure of the Cell
3	Structure of Biological Membranes
4	Membrane Transport
5	Ion Channels
6	Membrane Physiology
7	Midterm
8	Membrane Potential
9	Action Potential
10	Cellular Skeleton
11	Intracellular Transport
12	Intercellular interaction mechanisms
13	Cell-to-cell communication mechanisms
14	Cell death mechanisms

General Competences
Comprehending the structure of biological membrane; Understanding the cell membrane and cell transport mechanisms, Learning the formation and importance of membrane and action potential, Understanding of cellular interaction and communication mechanisms, cell death mechanisms.

References
1. ALBERTS, B., JOHNSON, A., LEWIS, J., RAFF, M., ROBERTS, K., WALTER, P., 2002, Molecular Biology of the Cell, 4th ed., Garland Science, New York. 2. BLAUSTEIN, M.P., KAO, J.P.Y., MATTESON, D.R., 2012, Cellular Physiology and Neurophysiology, 2nd ed., Elsevier, Philadelphia, 978-0-3230-5709-7. 3. COOPER, G.M., HAUSMAN, R.E., 2006, Hücre: Moleküler Yaklaşım, 3. Baskı, İzmir Tıp Kitabevi, İzmir, 9944-5148-0-2. 4. ASHCROFT,F.M., 2000, Voltage Gated Na+ Channels, In: Ion Channels and Disease, Chapter 5, 1st ed., Elsevier Inc., Amsterdam, 978-0-12-065310-2,pp.67-96.

Evaluation
Midterm: 40% Final exam: %60