



The Goodman
Faculty of Life Sciences
Bar-Ilan University

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Biology of the Cell

80-103-01/10/30

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Academic year: 2021-2022 Semester: 2nd Hours/credits: 2 hours lecture. 2 credits

Mandatory / elective (mark the relevant)

Prerequisites: None

Year in program & how often given, if relevant: 1st year undergraduate course given once a year

Course Overview – Short abstract: The aim of this course is to familiarize students with basic biological terms while providing the students with the basic concepts about the structure and function of the animal cell and some of its fundamental processes.

Learning outcomes – short descriptions (don't have to write if you don't have LO): The students will acquire a biology vocabulary and gain basic knowledge about the structure and function of the animal cells. This knowledge will lay the ground for more advanced courses that the students will take during the undergraduate studies.

Assessment: Coursework and Grade structure: 100% final exam

Week-by-Week content, assignments and reading

Lesson #	Subject	
1	General introduction	
2	Cell membrane – structures and function	

3	Cell membrane – carriers and transporters	
4	Cell membrane – endocytosis and exocytosis	
5	The cytoskeleton – structures and function + motor proteins	
6	Cell junctions	
7	Cell communication – receptors, ligands and signal transduction	
8	The nucleus	
9	DNA replication	
10	DNA organization and chromatin structure	
11	Transcription and RNA processing	
12	The nucleolus	
13	Protein translation, folding and degradation	
14	Intracellular protein targeting	

Required text: relevant chapters in the textbook of the course – Molecular Biology of the cells/ Alberts et al.