



## שם הקורס

Developmental Biology

## מרצה

Prof. Ruth Ashery Padan, Dr. Omri Wurtzel, Prof. Chen Luxenburg, Prof. David Sprinzak

## סמסטר

א'

## דרישות הקורס

There are no prerequisites for taking the course, but we highly recommend the students to complete a basic course in molecular biology or in cell biology prior to taking the developmental biology course.

## הרכב הציון הסופי

70% Final exam, 30% Presentation. Up-to 10% of the final grade can be secured by participation in 4 lectures dedicated for discussion in lectures (4 lectures; 2.5% each).

## מבנה הקורס

The developmental biology class is open for students of the Life Sciences Faculty, the Faculty of Medicine, and Sagol School of Neuroscience. Students from the joint program can choose this course instead of the developmental biology and human embryology course as the requirement for the degree.

The course emphasizes the concepts that underlie development, and introduces cutting-edge research methods that are used in developmental biology studies.

The course is divided into 4 sections: (1) Early development in invertebrates; (2) early development in vertebrates; (3) development of the nervous system; and (4) organogenesis and regeneration. In the beginning of the course, the class will be divided into 4 groups. Each group will receive a research article on the topic covered in class. In the final lecture of each section, these research articles will be presented by the students who will discuss the scientific and experimental principles presented in these articles.

Topic	Date
Introduction: principles and research methods Development of the body plan in Drosophila (Wurtzel)	15/10/23
Polarity and segmentation in Drosophila, genetically and molecularly (Wurtzel)	22/10/23
Cellular polarity in development (Wurtzel) <b>Presentation #1: Early development in invertebrates</b>	29/10/23
Early Development of Vertebrates: stem cells (Luxenburg)	5/11/23
Early Development of Vertebrates: cleavage, gastrulation, and axis formation	12/11/23



(Luxenburg)	
Development of the Ectoderm (Luxenburg) <b>Presentation #2: Early development in vertebrates</b>	19/11/23
Early stages of neural development in vertebrates; formation of the neural tube (Ashery Padan)	26/11/23
Development of the central nervous system (Ashery Padan)	3/12/23
Development of the peripheral nervous system (Ashery Padan)	17/12/23
Development of the visual system (Ashery Padan) <b>Presentation #3</b>	24/12/23
Organogenesis: Limb development (Wurtzel)	31/12/23
Coordination of neighboring cells in development (Sprinzak)	7/1/24
Regeneration of adult tissues and summary (Wurtzel) <b>Presentation #4: Tissue patterning</b>	14/1/24
	<b>קריאת חובה</b>
	<b>קריאת רשות</b>
	<b>ספרי הקורס:</b>
<ul style="list-style-type: none"> <li>• Developmental Biology, Michael Barresi, Scott F. Gilbert</li> <li>☞ Principles of Development, Lewis Wolpert, Cheryll Tickle, Alfonso Martinez Arias</li> </ul>	
	<b>הערות</b>