



Full Syllabus



Course Title

0452312501 - Medicine and nano-biotechnology using glycobiology
שימושים של גליקוביולוגיה ברפואה וננו-ביוטכנולוגיה

Lecturer

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Semester

A

Course requirements

Attendance

Final grade components

(50%) Article presentation + (50%) Written research proposal (two pages)

Course schedule

Class no. / Date	Subject and Requirements (assignments, reading materials, tasks, etc.)
1	Course Overview, Basic principles of glycobiology + Guidelines for article presentation and writing research proposal
2	Nuclear and cytoplasmic glycosylation, O-GlcNAc
3	Glycoproteins I: Structures, N-linked, O-linked
4	Glycoproteins II: Biosynthesis, N-glycosylation, O-glycosylation
5	Glycoproteins III: Glycan related enzymes and their modulation in diseases
6	Glycoproteins in cancer and viral infection; inhibitors and glycoengineering
7	Glycosphingolipids and GPI anchors
8	Sialic acids and I-type lectins, Galectins
9	P-type lectins and Lysosomal degradation
10	Glycans in signaling, glycomics in disease diagnostics, monitoring and therapy
11	Polysaccharides as building blocks in nano-therapeutics I
12	Polysaccharides as building blocks in nano-therapeutics II
13	Article presentation + Reminder guidelines for writing research proposals

Required course reading

Optional course reading

Essentials of Glycobiology, 3rd Ed: <https://www.ncbi.nlm.nih.gov/books/NBK310274/>
Introduction to Glycobiology, 3rd edn. M.E. Taylor, K. Drickamer, Oxford University Press, 2011



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Comments

The course teaching in English