

The Fungi. עולם הפטריות

Course Number: 0119.5640.01 2023-2024

Live in class+ simultaneously on ZOOM+Taped, 1st semester, Thursdays 10-12 am

Prof. Nir Osherov (Dept of Clinical Microbiology and Immunology, Sackler, TAU)

Prof. Amir Sharon (Dept of Life Sciences, Tel Aviv University)

Exam: Multi-choice, 50 questions.

Eligibility: 3rd year Biology and advanced degrees.

Introduction to fungi:

19.10.23. Lesson 1. Prof. Nir Osherov / General intro to fungi: The ecological and human impact of fungi.

26.10.23. Lesson 2 Prof. Nir Osherov. General intro to fungi: Classification, asexual and sexual life cycles.

2.11.23. Lesson 3 Prof. Nir Osherov. General intro to fungi: Asexual and sexual life cycles, spore dissemination strategies.

9.11.23. Lesson 4 Prof. Nir Osherov. General intro to fungi: Fungal structure and growth.

Human Fungal pathogens (N. Osherov):

16.11.23. Lesson 5. Prof. Nir Osherov. Fungal structure and growth (continued). Introduction to medical mycology. An overview of human fungal pathogens.

23.11.23. Lesson 6. Prof. Nir Osherov. Opportunistic pathogens: Aspergillus: biology, classification, pathogenesis, diseases and treatment. Molecular studies.

30.11.23. Lesson 7. Prof. Nir Osherov. Opportunistic pathogens, Candida: biology, classification, pathogenesis.

7.12.23. Lesson 8. Prof. Nir Osherov. Opportunistic pathogens, Candida: diseases and treatment. **Antifungals and drug resistance:** major drug families.

14.12.23. Lesson 9. Prof. Nir Osherov. Antifungals and drug resistance: major drug families, mode of action and use, novel antifungals and new approaches

Plants and Fungi-biotechnology and plant disease

21.12.23. Lesson 10. Prof. Amir Sharon. Fungal Biotechnology 1: Introduction, metabolite production, enzyme production

28.12.23. Lesson 11. Prof. Amir Sharon. Fungal Biotechnology 2: Expression systems, molecular tools, protein production

4.1. 24. Lesson 12. Prof. Amir Sharon. Fungal endophytes, fungal symbiosis with other organisms

11.1.24. Lesson 13. Prof. Amir Sharon. Plant pathogens. An overview of plant fungal pathogens, epidemics and emerging diseases, the plant defense system