

READING ASSIGNMENTS FOR BIOLOGY 345

Readings are from the required text: Madigan and Martinko. 2006. *Brock: Biology of Microorganisms*, 11th Edition. Prentice Hall Publishers.

LECTURE TOPIC

Overview and Historical Perspective

READINGS

Chapter 1; Ch 2 (2.3)

Microbes as Cellular Systems

The Prokaryotic Cell

Chapter 2 (2.1 - 2.2); Ch 7 (7.3);

Review Chapter 7 (Table 7.6);

Chapter 4 (4.4 - 4.6, 4.8 - 4.16)

Microbial Taxonomy and Classification

Chapter 11 (11.10 - 11.13)

Phylogeny of Microorganisms

Chapter 11 (11.5 - 11.9)

Microbial Diversity

Chapter 2 (2.5); Ch 12 (12.1 - 12.2);

Chapter 13 (13.1 - 13.2)

Microbes as Energy Transducers

Metabolic Strategies

Overview

Chapter 2 (2.4);

Chapter 5 (5.6 - 5.8)

Respiration & Fermentation

Chapter 5 (5.9 - 5.14);

Chapter 17 (17.13 & 17.20 - 17.21)

Chemolithotrophy

Chapter 17 (17.8-17.12; 17.15, 17.17)

Photoautotrophy

Chapter 17 (17.1 - 17.7)

Biogeochemical Cycles

Chapter 19 (19.6 - 19.14, skip 19.11);

Chapter 12 (12.4 - 12.5)

Metabolism in Early Organisms

Chapter 11 (11.1 - 11.4)

Microbial Growth

Chapter 5 (Intro, 5.1 - 5.2); (Fig 19.14);

Chapter 6 (Intro, 6.1 - 6.16)

Microbial Genomes & Molecular Processes

Bacterial Chromosomes

Chapter 7 (7.4); Ch 10 (10.19)

Comparative Prokaryotic Genomics

Chapter 15 (15.4 - 15.5)

Plasmids & Pathogenicity Islands

Chapter 10 (10.7 - 10.11)

Attenuation, Quorum Sensing,

Chapter 8 (8.10 - 8.12);

Signal Transduction & Riboswitches

(8.4 - 8.9 & 8.13 - 8.14)

Microbes as Agents of Infectious Disease

Normal Flora

Chapter 21 (Intro, 21.1 - 21.5)

Virulence and Pathogenicity

Chapter 21 (21.6 - 21.12)

Antibiotics

Chapter 20 (20.6 - 20.9);

Chapter 30 (30.5 - 30.6)

Antibiotic resistance

Chapter 20 (20.12 - 20.13)

Viruses, Viroids, and Prions

Chapter 9 (Intro, 9.1 - 9.2; 9.5 - 9.6;

9.13 - 9.14)

Emergent Diseases

Chapter 25 (25.11 - 25.13)