

1. Record Nr.	UNINA990002964470403321
Autore	Valdez, Stephen
Titolo	An introduction to global financial markets : an extensively revised edition of An introduction to Western financial markets / Stephen Valdez
Pubbl/distr/stampa	Basingstoke ; London : Macmillan, 2000
ISBN	0-333-76447-1
Edizione	[3rd ed]
Descrizione fisica	xvi, 327 p. ; 24 cm
Disciplina	332.042
Locazione	MAS
Collocazione	MIV-C-93
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr.	UNINA9910795833603321
Autore	Hogg Stuart
Titolo	Essential Microbiology
Pubbl/distr/stampa	Hoboken : , : John Wiley & Sons, Incorporated, , 2013 ©2013
ISBN	9781118527252 9781119978909
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (527 pages)
Disciplina	579
Soggetti	Microbiological Phenomena Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Essential Microbiology -- Contents -- Preface to Second Edition -- Preface to First Edition -- Acknowledgements -- About the Companion Website -- I Introduction -- 1 Microbiology: What, Why and How? -- 1.1 What is microbiology? -- 1.2 Why is microbiology important? -- 1.3 How do we know? Microbiology in perspective: to the Golden Age and beyond -- 1.4 Light microscopy -- 1.5 Electron microscopy -- 2 Biochemical Principles -- 2.1 Atomic structure -- 2.1.1 Isotopes -- 2.1.2 Chemical bonds -- 2.2 Acids, bases and pH -- 2.3 Biomacromolecules -- 2.3.1 Carbohydrates -- 2.3.2 Proteins -- 2.3.3 Higher levels of protein structure -- 2.3.4 Nucleic acids -- 2.3.5 Lipids -- 3 Cell Structure and Organisation -- 3.1 The prokaryotic cell -- 3.1.1 Prokaryotic cell structure -- 3.1.2 Genetic material -- 3.1.3 Ribosomes -- 3.1.4 Inclusion bodies -- 3.1.5 Endospores -- 3.1.6 The plasma membrane -- 3.1.7 The bacterial cell wall -- 3.1.8 Beyond the cell wall -- 3.2 The eukaryotic cell -- 3.2.1 The nucleus -- 3.2.2 Endoplasmic reticulum -- 3.2.3 Golgi apparatus -- 3.2.4 Lysosomes -- 3.2.5 Mitochondria -- 3.2.6 Chloroplasts -- 3.2.7 Vacuoles -- 3.2.8 Plasma membrane -- 3.2.9 Cell wall -- 3.2.10 Flagella and cilia -- 3.3 Cell division in prokaryotes and eukaryotes -- II Microbial Nutrition, Growth and Metabolism -- 4 Microbial Nutrition and Cultivation -- 4.1 Nutritional categories -- 4.2 How do nutrients get into the microbial

cell? -- 4.3 Laboratory cultivation of microorganisms -- 4.3.1  
Obtaining a pure culture -- 4.3.2 Growth media for the cultivation of  
bacteria -- 4.3.3 Preservation of microbial cultures -- 5 Microbial  
Growth -- 5.1 Estimation of microbial numbers -- 5.2 Factors affecting  
microbial growth -- 5.2.1 Temperature -- 5.2.2 pH -- 5.2.3 Oxygen --  
5.2.4 Carbon dioxide -- 5.2.5 Osmotic pressure -- 5.2.6 Light.  
5.3 The kinetics of microbial growth -- 5.3.1 Lag phase -- 5.3.2 Log  
(exponential) phase -- 5.3.3 Stationary phase -- 5.3.4 Death phase --  
5.3.5 Batch culture and continuous culture -- 5.4 Growth in  
multicellular microorganisms -- 6 Microbial Metabolism -- 6.1 Why is  
energy needed? -- 6.2 Enzymes -- 6.2.1 Enzyme classification -- 6.2.2  
Certain enzymes have a non-protein component -- 6.2.3 How do  
enzymes speed up a reaction? -- 6.2.4 Environmental factors affect  
enzyme activity -- 6.3 Principles of energy generation -- 6.3.1  
Oxidation-reduction reactions -- 6.3.2 Why glucose? -- 6.3.3  
Glycolysis -- 6.3.4 Glycolysis is not the only way to metabolise glucose  
-- 6.3.5 Aerobic respiration -- 6.3.6 Oxidative phosphorylation and  
the electron transport chain -- 6.3.7 Fermentation -- 6.3.8 Other types  
of fermentation -- 6.3.9 Metabolism of lipids and proteins -- 6.3.10  
Anaerobic respiration -- 6.3.11 Energy may be generated by the  
oxidation of inorganic molecules -- 6.4 Photosynthesis -- 6.4.1  
Oxygenic photosynthesis -- 6.4.2 Where does photosynthesis take  
place? -- 6.4.3 'Light' reactions -- 6.4.4 'Dark' reactions -- 6.4.5  
Anoxygenic photosynthesis -- 6.5 Anabolic reactions -- 6.5.1  
Biosynthesis of carbohydrates -- 6.5.2 Biosynthesis of lipids -- 6.5.3  
Biosynthesis of nucleic acids -- 6.5.4 Biosynthesis of amino acids --  
6.6 The regulation of metabolism -- III Microbial Diversity -- 7  
Prokaryote Diversity -- 7.1 Domain: Archaea -- 7.1.1 General features  
of the Archaea -- 7.1.2 Classification of the Archaea -- 7.2 Domain:  
Bacteria -- 7.2.1 Phylum: Proteobacteria -- 7.2.2 Other Gram-negative  
phyla -- 7.2.3 The Gram-positive bacteria: phyla Actinobacteria,  
Firmicutes and Tenericutes -- 8 The Fungi -- 8.1 General biology of  
the fungi -- 8.1.1 Morphology -- 8.1.2 Nutrition -- 8.1.3 Reproduction  
-- 8.2 Classification of the Fungi -- 8.2.1 Phylum Ascomycota.  
8.2.2 Phylum Basidiomycota -- 8.2.3 Phylum Microsporidia -- 8.2.4  
Phylum Chytridiomycota -- 8.2.5 Phylum Blastocladiomycota and  
phylum Neocallimastigomycota -- 8.2.6 Phylum Glomeromycota --  
8.2.7 Subphyla incertae sedis -- 9 The Protista -- 9.1 The 'algae' --  
9.1.1 Structural characteristics of algal protists -- 9.1.2 Euglenophyta  
-- 9.1.3 Dinoflagellata -- 9.1.4 Diatoms -- 9.1.5 Chlorophyta -- 9.1.6  
Phaeophyta -- 9.1.7 Rhodophyta -- 9.2 The 'protozoa' -- 9.2.1 The  
zooflagellates (Mastigophora) -- 9.2.2 The amoebas (Sarcodina) --  
9.2.3 Amoebas with external shells: Foraminifera and Radiolaria --  
9.2.4 The ciliates (Ciliophora) -- 9.2.5 The Sporozoans (Apicomplexa)  
-- 9.3 The slime moulds and water moulds (the fungus-like protists) --  
9.3.1 Oomycota (water moulds) -- 9.3.2 Myxogastriada (Myxomycota,  
the plasmodial slime moulds) -- 9.3.3 Dictyostelida (cellular slime  
moulds) -- 9.4 Protistan taxonomy: a modern view -- 10 Viruses --  
10.1 What are viruses? -- 10.2 Viral structure -- 10.2.1 The viral  
genome -- 10.2.2 Capsid structure -- 10.2.3 The viral envelope --  
10.3 Classification of viruses -- 10.4 Viral replication cycles -- 10.4.1  
Replication cycles in bacteriophages -- 10.4.2 Lysogenic replication  
cycle -- 10.4.3 Replication cycles in animal viruses -- 10.4.4  
Replication of RNA viruses -- 10.4.5 Replication cycles in plant viruses  
-- 10.5 Viroids -- 10.6 Prions -- 10.7 Cultivating viruses -- IV  
Microbial Genetics -- 11 Microbial Genetics -- 11.1 How do we know  
genes are made of DNA? -- 11.2 DNA replication -- 11.2.1 DNA  
replication in prokaryotes -- 11.2.2 What happens when replication

goes wrong? -- 11.2.3 DNA replication in eukaryotes -- 11.3 What exactly do genes do? -- 11.3.1 How does a gene direct the synthesis of a protein? -- 11.3.2 The genetic code -- 11.3.3 Transcription in prokaryotes -- 11.3.4 Translation.

11.4 Regulation of gene expression -- 11.4.1 Induction of gene expression -- 11.4.2 Repression of gene expression -- 11.4.3 Global gene regulation -- 11.5 The molecular basis of mutations -- 11.5.1 How do mutations occur? -- 11.5.2 Mutations can add or remove nucleotides -- 11.5.3 Mutations can be reversed -- 11.5.4 Mutations have a variety of mechanisms -- 11.5.5 Mutations also occur in viruses -- 11.5.6 Mutagenic agents increase the rate of mutations -- 11.5.7 DNA damage can be repaired -- 11.5.8 Carcinogenicity testing: the Ames test -- 11.6 Genetic transfer in microorganisms -- 11.6.1 Transformation -- 11.6.2 How does transformation occur? -- 11.6.3 Induced competence -- 11.6.4 Conjugation -- 11.6.5 Gene transfer in conjugation is one way only -- 11.6.6 Transduction -- 11.6.7 Transposable elements -- 12 Microorganisms in Genetic Engineering -- 12.1 Plasmid cloning vectors -- 12.2 Bacteriophages as cloning vectors -- 12.3 YACs, BACs and PACs -- 12.4 Expression vectors -- 12.5 Eukaryotic cloning vectors -- 12.6 Viruses as vectors in eukaryotic systems -- 12.7 Cloning vectors for higher plants -- 12.8 Applications of gene cloning in the microbial world -- 12.9 DNA microarrays -- 12.10 Polymerase chain reaction (PCR) -- V Microorganisms in the Environment -- 13 Microbial Associations -- 13.1 Microbial associations with animals -- 13.2 Microbial associations with plants -- 13.2.1 Plant diseases -- 13.3 Microbial associations with other microorganisms -- 14 Microorganisms in the Environment -- 14.1 The carbon cycle -- 14.2 The nitrogen cycle -- 14.3 The sulphur cycle -- 14.4 The microbiology of soil -- 14.5 The microbiology of freshwater -- 14.6 The microbiology of seawater -- 14.7 Detection and isolation of microorganisms in the environment -- 14.8 Beneficial effects of microorganisms in the environment.

14.8.1 Solid waste treatment: composting and landfill -- 14.8.2 Wastewater treatment -- 14.8.3 Bioremediation -- 14.9 Harmful effects of microorganisms in the environment -- VI Medical Microbiology -- 15 Human Microbial Diseases -- 15.1 Transmission -- 15.2 Attachment and colonisation -- 15.2.1 Skin -- 15.2.2 Mucous membranes -- 15.2.3 How do pathogens penetrate the mucosa? -- 15.3 Bacterial toxins -- 15.3.1 Exotoxins -- 15.3.2 Endotoxins -- 15.3.3 Superantigens -- 15.3.4 Siderophores -- 15.4 Bacterial diseases in humans -- 15.4.1 Waterborne transmission: cholera -- 15.4.2 Airborne transmission: 'strep' throat -- 15.4.3 Contact transmission: syphilis -- 15.4.4 Vector-borne transmission: plague -- 15.5 Viral diseases in humans -- 15.5.1 Airborne transmission: influenza -- 15.5.2 Transmission by water or food: viral gastroenteritis -- 15.5.3 Vector-borne transmission -- 15.5.4 Latent and slow (persistent) viral infections -- 15.5.5 Viruses and cancer -- 15.5.6 Emerging and re-emerging viral diseases -- 15.5.7 Virus vaccines -- 15.6 Protists and disease -- 15.6.1 Malaria -- 15.6.2 Toxoplasmosis -- 15.6.3 Cryptosporidiosis -- 15.6.4 Leishmaniasis -- 15.6.5 Amoebic dysentery -- 15.7 Fungal diseases in humans -- 15.8 Algal diseases of humans -- 16 The Control of Microorganisms -- 16.1 Sterilisation -- 16.1.1 Sterilisation by irradiation -- 16.1.2 Filtration -- 16.1.3 Sterilisation using ethylene oxide -- 16.2 Disinfection -- 16.2.1 Alcohols -- 16.2.2 Halogens -- 16.2.3 Phenolics -- 16.2.4 Surfactants -- 16.3 The kinetics of cell death -- 16.3.1 Killing by irradiation -- 17 Antimicrobial Agents -- 17.1 Antibiotics -- 17.1.1 What other properties should an antibiotic have? -- 17.1.2 How do antibiotics

work? -- 17.1.3 I: Inhibitors of cell wall synthesis -- 17.1.4 II: Antibiotics that disrupt cell membranes -- 17.1.5 III: Inhibitors of protein synthesis.  
17.1.6 IV: Inhibitors of nucleic acid synthesis.

---

## Sommario/riassunto

Essential Microbiology 2nd Edition is a fully revised comprehensive introductory text aimed at students taking a first course in the subject. It provides an ideal entry into the world of microorganisms, considering all aspects of their biology (structure, metabolism, genetics), and illustrates the remarkable diversity of microbial life by devoting a chapter to each of the main taxonomic groupings. The second part of the book introduces the reader to aspects of applied microbiology, exploring the involvement of microorganisms in areas as diverse as food and drink production, genetic engineering, global recycling systems and infectious disease. Essential Microbiology explains the key points of each topic but avoids overburdening the student with unnecessary detail. Now in full colour it makes extensive use of clear line diagrams to clarify sometimes difficult concepts or mechanisms. A companion web site includes further material including MCQs, enabling the student to assess their understanding of the main concepts that have been covered. This edition has been fully revised and updated to reflect the developments that have occurred in recent years and includes a completely new section devoted to medical microbiology. Students of any life science degree course will find this a concise and valuable introduction to microbiology.

---