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Cellular Molecular, Microbiology & Genetics

Molecular Biology

International Edition

NEW

MOLECULAR BIOLOGY

4th Edition

By Robert Weaver, University of Kansas-Lawrence

2008 (January 2007)

ISBN-13: 978-0-07-331994-0 / MHID: 0-07-331994-5

ISBN-13: 978-0-07-110216-2 / MHID: 0-07-110216-7 [IE]

Molecular Biology, 4/e by Robert Weaver, is designed for an introductory course in molecular biology. The text is geared not only toward presenting concepts of molecular biology, but also the experiments that led to those concepts. Guided by this experimental approach, Dr. Weaver has been published by National Institutes as well as National Geographic.

NEW TO THIS EDITION

- Information on Affinity Chromatography—Chapter 5 (Molecular Tools for Studying Genes and Gene Activity) now includes information on Affinity Chromatography, one of the most powerful separation techniques, and also touches on Forensic Uses of DNA Fingerprinting and DNA Typing.

- Thoroughly Revised Website—McGraw-Hill's ARIS—Assessment, Review, and Instruction System for Molecular Biology, 4/e is a complete electronic homework and course management system. Instructors can create and share course materials and assignments with colleagues with a few clicks of the mouse. Instructors can edit questions and algorithms, import their own content, and create announcements and due dates for assignments. ARIS has automatic grading and reporting of easy-to-assign algorithmically generated homework, quizzing, and testing. Once a student is registered in the course, all student activity within McGraw-Hill's ARIS is automatically recorded and available to the instructor through a fully integrated grade book that can be downloaded to Excel. Contact your local McGraw-Hill Publisher's representative for more information on getting started with ARIS.

- New material on Eukaryotic RNA—Chapter 10 (Eukaryotic RNA Polymerases and Their Promoters) includes lots of new material, including Three Dimensional Structure of RNA Polymerase II in the Post-Translocation State and info on Rpb1's interaction with the DNA-RNA hybrid.

- New Information on Structure and Function of eIF3—Chapter 17 (The Mechanism of Translation I: Initiation) includes new information on the Structure and Function of eIF3 as well as Shifts in mRNA Secondary Structure.

- New Information on the X Chromosome and more!—Chapter 24 (Genomics, Proteomics, and Bioinformatics) includes new information on the X Chromosome and its role in sex-linked diseases. Also discussed in this chapter is the "Barcode of Life", a section connecting DNA to how taxonomists now classify organisms. A few other new topics touched upon is Whole Chromosome Transcriptional Mapping, Genomic Functional Profiling, Tissue-Specific Functional Profiling, and RNAi Analysis.

- New End-of-Chapter Material—Along with the revision of End-of-Chapter Review Questions and Analytical Questions, new References and Suggested Readings have been added throughout the text.

- Revised Art Program!—Many of the illustrations in this edition have been redrawn to further clarify details, make content current, and to create a consistent appearance.

FEATURES

- Guide to Experimental Techniques—A summary guide to more than 75 experimental techniques, referenced to the pages on which the techniques are discussed, is found in the front matter.

- Material from Original Publications—Significant data and autoradiographs from original publications are included to support the narrative and to help students analyze data.

- Analytical Questions—As part of the End-Of-Chapter material, these questions encourage students to use outside tools to further their understanding of that particular chapter's concepts. (Answers will be provided on the new Fourth Edition website.)

- Text-Specific Website—The text-specific website includes updated references, downloadable line art and tables from the text, and links to relevant instructive sites on the web.

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1 Introduction 1 A Brief History 2 The Molecular Nature of Genes 3 An Introduction to Gene Function **2 Methods of Molecular Biology** 4 Molecular Cloning Methods 5 Molecular Tools for Studying Genes and Gene Activity **3 Transcription in Prokaryotes** 6 The Mechanism of Transcription in Prokaryotes 7 Operons: Fine Control of Prokaryotic Interactions in Prokaryotes **4 Transcription in Eukaryotes** 10 Eukaryotic RNA Polymerases and Their Promoters 11 General Transcription Factors in Eukaryotes 12 Transcription Activators in Eukaryotes 13 Chromatin Structure and Its Effects on Transcription **5 Posttranscriptional Events** 14 Messenger RNA Processing I: Splicing 15 Messenger RNA Processing II: Capping and Polyadenylation 16 Other RNA Processing Events **6 Translation** 17 The Mechanism of Translation I: Initiation 18 The Mechanism of Translation II: Elongation and Termination 19 Ribosomes and Transfer RNA **7 DNA Replication, Recombination, and Transposition** 20 DNA Replication I: Basic Mechanism and Enzymology 21 DNA Replication II: Detailed Mechanism 22 Homologous Recombination 23 Transposition **8 Genomes** 24 Genomics and Proteomics

SCHAUM'S OUTLINE OF MOLECULAR BIOLOGY

By William Stansfield, California State Polytechnic University

1996 / 384 pages

ISBN-13: 978-0-07-060898-6 / MHID: 0-07-060898-9

[A Schaum Professional Publication]

CONTENTS

1. Cells / 2. Biomacromolecules / 3. Chromosomes / 4. Transcription and Gene Regulation / 5. Translation / 6. Mutations / 7. The Genetics of Bacteria and Their Viruses / 8. Genetic Engineering / Recombinant DNA Technology / 9. Nucleic Acid Manipulations / 10. Eukaryotic Cells and Their Viruses / 11. Cellular Communication / 12. Development in Multicellular Organisms / 13. The Immune System / 14. Molecular Evolution.

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Website: www.mcgraw-hill.com.sg

Developmental Biology / Embryology

International Edition

ANALYSIS OF BIOLOGICAL DEVELOPMENT

2nd Edition

By Klaus Kalthoff, University of Texas at Austin

2001 / 816 pages

ISBN-13: 978-0-07-118078-8 / MHID: 0-07-118078-8 [IE]

Website: www.mhhe.com/kalthoff

CONTENTS

Part I From Gametogenesis to Histogenesis 1 Analysis of Development 2 The Role of Cells in Development 3 Gametogenesis 4 Fertilization 5 Cleavage 6 Cell Fate, Potency and Determination 7 Genomic Equivalence and the Cytoplasmic Environment 8 Localized Cytoplasmic Determinants 9 Axis Formation and Mesoderm Induction 10 Gastrulation 11 Cell Adhesion and Morphogenesis 12 Organogenesis 13 Ectodermal Organs 14 Endodermal and Mesodermal Organs **Part II Control of Gene Expression in Development** 15 The Use of Mutants and Transgenic Organisms in the Analysis of Development 16 Transcriptional Control 17 RNA Processing 18 Translational Control and Post-translational Modifications 19 Genetic and Paragenetic Information **Part III Current Topics in Developmental Biology** 20 Cell Differentiation 21 Pattern Formation and Embryonic Fields 22 Genetic and Molecular Analysis of Pattern Formation in the Drosophila Embryo 23 Genetic and Molecular Analysis of Vertebrate Development 24 Genetic and Molecular Analysis of Pattern Formation in Plants 25 Experimental and Genetic Analysis of *Caenorhabditis elegans* Development 26 Sex Determination 27 Hormonal Control of Development 28 Organismic Growth and Oncogenes

Immunology

SCHAUM'S OUTLINE OF IMMUNOLOGY

By George Pinchuk

2002 / 304 pages

ISBN-13: 978-0-07-137366-1 / MHID: 0-07-137366-7

[A Schaum Professional Publication]

CONTENTS

1. Overview of Immunity and the Immune System / 2. Cells, Tissues, and Organs of the Immune System / 3. Antibodies and Antigens / 4. Maturation of B Lymphocytes and Expression of Immunoglobulin Genes / 5. The Major Histocompatibility Complex / 6. Antigen Processing and Presentation / 7. T-Lymphocyte Antigen Recognition and Activation / 8. B-Lymphocyte Activation and Antibody Production / 9. Immunologic Tolerance / 10. Cytokines / 11. Innate Immunity / 12. Effector Mechanisms of Cell-Mediated Immunity / 13. Effector Mechanisms of Humoral Immunity / 14. Immunity to Microbes / 15. Transplantation Immunology / 16. Immunity to Tumors / 17. Autoimmunity and Autoimmune Diseases / 18. Immunodeficiencies.

Virology

International Edition

THE BIOLOGY OF VIRUSES

2nd Edition

By Bruce Voyles, Grinnell College

2002 / 432 pages

ISBN-13: 978-0-07-120477-4 / MHID: 0-07-120477-6 [IE]

CONTENTS

1 Viruses and Host Cells 2 Getting In: Attachment, Penetration, and Uncoating 3 Expression and Replication of the Viral Genome in Prokaryotic Hosts 4 Expression and Replication of the Viral Genome in Eukaryotic Hosts: The RNA Viruses 5 Expression and Replication of the Viral Genome in Eukaryotic Hosts: The DNA Viruses 6 Assembly, Maturation, and Release of Virions 7 Effects of Viral Infection on Host Cells: Cytological and Inductive Effects 8 Effects of Viral Infection on Host Cells: Integrated Viruses and Persistent Infections 9 Subviral Entities, Viral Evolution, and Viral Emergence

Human Genetics

International Edition



HUMAN GENETICS

7th Edition

By Ricki Lewis, SUNY at Albany

2007 (Nov 2005)

ISBN-13: 978-0-07-310143-9 / MHID: 0-07-310143-5

ISBN-13: 978-0-07-110779-2 / MHID: 0-07-110779-7 [IE]

Human Genetics, Seventh Edition, is a non-science majors human genetics text that clearly explains what genes are, how they function, how they interact with the environment, and how our understanding of genetics has changed since completion of the human genome project. It is a clear, modern, and exciting book for citizens who will be responsible for evaluating new medical options, new foods, and new technologies in the age of genomics.

NEW TO THIS EDITION

- Chapter openings have been reworked to include a Case Study at the beginning of each chapter. These Case Studies provide students with real-life applications of the concepts to be discussed in the chapter.
- Relating the Concept sections are incorporated throughout every chapter, relating content back to the real-life Case Study in the chapter opener.

FEATURES

- Problems requiring the use of web resources have been included within the Applied Questions at the end of each chapter.
- On-page references to specific topics on the Online Learning Center have been added to provide additional information to the student.
- Figure references in the text have been highlighted so that it is easier for students to locate references within the narrative.

Cellular Molecular, Microbiology & Genetics

- Cutting-edge scientific coverage is incorporated throughout the book. The author's experience as a scientific journalist enables her to keep current with breaking topics in genetics, giving students the most up-to-date human genetics text on the market.

- Case Studies. Human Genetics has always been full of cases studies, from the end-of-chapter pedagogy, to the "In Their Own Words" boxes, to the case workbook, to the narrative itself. These cases allow students to see that the research today deals with populations and common ills and traits.

- Over 50 pieces of color-coded art present basic concepts of single-gene inheritance, chromosome structure, and DNA structure and function, helping students visualize the material they have just read.

- Compelling, human interest examples from the author's extensive experience as a genetic counselor and science journalist keep the students interested in the textual material.

- This text weaves relevance throughout by including stories about real people dealing with real genetic issues. Through In Their Own Words Essays, individuals tell of their experience with genetic conditions. In addition, Bioethics: Choices for the Future Boxes, found at the ends of appropriate chapters, encourage students to ask difficult questions of themselves, and to predict how the new science of genetics might impact their lives.

- Instructors can customize this text using our do-it-yourself website. The Primis Content Center features more than one million items, including this and hundreds of other best-selling McGraw-Hill textbooks, laboratories, case studies, and readings. These materials, along with others including your own notes, can be customized into a black and white, high resolution printed textbook or a full-color Primis eBook that saves your students 1/3 off bookstore prices. Log on to our website, register, and create your own complimentary copy. www.primiscontentcenter.com

- In the Online Learning Center, instructors will find the instructor's manual, answer key to the case study workbook, additional case studies, and links to additional resources.

- In appropriate locations in the text, step-by-step problem-solving strategies have been included to give students a complete understanding of how to work out specific problems.

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General Genetics

International Edition

NEW

GENETICS

From Genes to Genomes, 3rd Edition

By Leland Hartwell, University of Washington

2008 (October 2006)

ISBN-13: 978-0-07-322738-2 / MHID: 0-07-322738-2

ISBN-13: 978-0-07-110215-5 / MHID: 0-07-110215-9 [IE]

Genetics: From Genes to Genomes is a cutting-edge, introductory genetics text authored by an unparalleled author team, including Nobel Prize winner, Leland Hartwell. The Third Edition continues to build upon the integration of Mendelian and molecular principles, providing students with the links between early genetics understanding and the new molecular discoveries that have changed the way the field of genetics is viewed.

NEW TO THIS EDITION

- Additional problems have been added throughout each chapter, providing students and teachers with more variety in the level of problems. At the end of each chapter, the level of difficulty is indicated for each problem, giving instructors the ability to select problems to assign based upon the level of difficulty.

- New "On Our Website" feature, at the end of each chapter, directs students and teachers to additional, more detailed information on specialized topics not found in the textbook. This information is in the form of content, references, or links, for easy access.

- New Chapter 12: Systems Biology is included in the new edition, giving students information on a new way of studying genetics by looking at every system of biology as a whole.

- New "Internet Assignments and Exercises" offer students an interactive way to read and complete additional exercises beyond those offered in the textbook.

FEATURES

- Model Organism Portrait chapters--These additional chapters, located at the text-specific website, are written by contributing experts in the field to reflect the most current information on each organism. Students concentrate on the most widely used model organisms--yeast, arabidopsis (plant), *C. elegans* (worm), fruit fly, and mouse--to understand how the developmental mechanisms of the model organisms gives insight into human development and genomics.

- Fast Forward Boxes are one of the mechanisms used to implement the integration of Mendelian and molecular genetics.

- Genetics & Society Boxes require students to critically think about the ethical and social questions arising from the application of modern genetic knowledge to issues like privacy and reproduction.

- End-of-Chapter Problems have been revised and expanded! Social & Ethical Issues--these questions prompt the student to apply problem-solving skills to the type of real-world situations that scientific breakthroughs have forced us to face as a society. Solved Problems--sample problems covering topical material with complete answers to aid the student in understanding the problem solving process. Problems & Questions--exercises that allow the student to develop their own problem solving skills. Answers to selected questions are in the back of the book.

- An Unparalleled Author Team--Included in this winning team are Nobel prize-winning yeast specialist, Leland Hartwell; pioneer geneticist and physician, Leroy Hood; a leading *Drosophila* expert, Michael Goldberg; a leading mouse expert, Lee Silver; and a distinguished science writer, Ruth Veres. This team continues to incorporate the most up-to-date, cutting-edge research throughout the breadth of the book.

Cellular Molecular, Microbiology & Genetics

- The text's detailed, accurate and instructive art program also includes "Feature Figures," which combine art and text in special two-page and four-page spreads that summarize the central genetic processes for students who appreciate a visual synopsis of the core ideas.

- The Digital Content Manager is an instructor-based presentation CD-ROM that contains all the illustrations, tables, and photos found in the text in jpeg format. In addition, professors have access to numerous genetics animations, active art, and chapter-specific PowerPoint lecture presentations.

- Part 3 (Genomes) has been extensively revised! Completely restructured and updated, Chapters 9, 10, and 11 (formerly 8-10) focus on the dramatic explosion of information that is the result of the completion of the Human Genome Project, as well as continuing genome research on a wide variety of organisms. Students will have the opportunity to read the most current coverage available of this critical topic and have a complete understanding of the "hows and whys" of genetic research.

- Professors have the option of creating a customized version of the text by selecting only the chapters they cover in lecture, allowing students savings in book costs. Customization can occur in two ways:

- Chapter-by-chapter color customization (printed book).

- Primis Online--choose the appropriate chapters and mix and match with other items on Primis Online, allowing maximum choice and flexibility. Choose between two delivery formats: custom printed books (in black and white) or custom eBooks (in color).

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1 Genetics: The Study of Biological Information 2 Mendel's Breakthrough: Patterns, Particles, and Principles of Heredity 3 Extensions to Mendel: Complexities in Relating Genotype to Phenotype 4 The Chromosome Theory of Inheritance 5 Linkage, Recombination, and the Mapping of Genes on Chromosomes 6 DNA: How the Molecule of Heredity Carries, Replicates, and Recombines Information 7 Anatomy and Function of a Gene: Dissection Through Mutation 8 Gene Expression: The Flow of Genetic Information from DNA to RNA to Protein 9 Deconstructing the Genome: DNA at High Resolution 10 Reconstructing the Genome Through Genetic and Molecular Analysis 11 The Direct Detection of Genotype Distinguishes Individual Genomes 12 Systems Biology and Proteomics 13 The Eukaryotic Chromosome: An Organelle for Packaging and Managing DNA 14 Chromosomal Rearrangements and Changes in Chromosome Number Reshape Eukaryotic Genomes 15 The Prokaryotic Chromosome: Genetic Analysis in Bacteria 16 The Chromosomes of Organelles Outside the Nucleus Exhibit Non-Mendelian Patterns of Inheritance 17 Gene Regulation in Prokaryotes 18 Gene Regulation in Eukaryotes 19 Cell-Cycle Regulation and the Genetics of Cancer 20 Using Genetics to Study Development 21 The Genetic Analysis of Populations and How They Evolve 22 Evolution at the Molecular Level

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Website: www.mheducation.com

International Edition

NEW

INTRODUCTION TO GENETICS

By David Hyde, University of Notre Dame

2007 (March 2007)

ISBN-13: 978-0-07-110803-4 / MHID: 0-07-110803-3 [IE]

Hyde's Introduction to Genetics teaches the principles of genetics with an innovative approach that emphasizes the basic concepts involved in solving problems as well as teaching students how to manipulate genetic data. While most genetics textbooks provide some examples and several problems for the student to work, the texts primarily stress facts and historical information. It is often left to the student to make the connection from what is in the text to elucidating the approaches to solve problems. Dr. David Hyde presents these skills to the students throughout the narrative in a stepped-out fashion, making an explicit tie between the facts and their application. This text maintains the rigor that faculty require in a genetics book, while incorporating a student-friendly presentation style that helps the reader comprehend the material. The four key features of Hyde's Introduction to Genetics include:

1. Innovative, problem-solving-based approach maintains the connection between basic genetic principles and their application to problems using a stepped-out system. The text also links specific portions of the text with selected end-of-chapter problems to direct the student to problems that will test their comprehension of the material they just studied.

2. Strong and accessible molecular genetics coverage discusses in a clear and basic manner the new information on molecular processes and new techniques. This is achieved without sacrificing either the content or depth of material.

3. Dynamic illustration and photo program incorporates vibrant colors and three-dimensional effects with pedagogically sound layouts that greatly assist students in visualizing and understanding difficult genetic processes.

4. Superior media package offers instructors full access to textbook art, photos and tables, as well as high-quality animations and customizable PowerPoint lecture presentations. The Online Learning Center provides students with additional study tools and problem-solving exercises.

FEATURES

- Up to date and accurate content

- Organization that matches the current trends in genetics

- Key concepts are easier to identify

- Genetics Lab activities are in each chapter and are linked to the OLC

- Genetics Student resource CD-ROM

Cellular Molecular, Microbiology & Genetics

GENETICS DEMYSTIFIED

By Edward Willet

2006 (September 2005) / 210 pages

ISBN-13: 978-0-07-145930-3 / MHID: 0-07-145930-8

[A Professional Reference Title]

Genetics Demystified offers an up-to-date, highly readable explanation of the basic principles of genetics, covering key topics such as human genetics, DNA, heredity, mutations, traits, chromosomes, and much more. This self-teaching guide comes complete with key points, background information, quizzes at the end of each chapter, and even a final exam. Simple enough for beginners but challenging enough for advanced students, this is a lively and entertaining brush-up, introductory text, or classroom supplement.

CONTENTS

Chapter 1: Mendelism and Classical Genetics Chapter 2: The Cell—The Basic Unit of Life Chapter 3: DNA—The Chemical Basis of Heredity Chapter 4: Chromosomes—Organized DNA Chapter 5: Traits—How Genes Are Expressed Chapter 6: Genomes—Reading the Genetic Code Chapter 7: Mutations—Misreading the Code Chapter 8: Cancer—Genetics Gone Awry Chapter 9: Bacteria—A Different Way of Doing Things Chapter 10: Organelles—Genetics Outside the Nucleus Chapter 11: Viruses—Hijacking Heredity Chapter 12: Genetic Engineering—Sculpting the Code Chapter 13: Evolution—Change Driven by Genetics Chapter 14: Humans—How Genetics Affect Us / Final Exam / Answers to Quiz and Final Exam Questions / Suggested Additional References / Glossary / Index

International Edition

GENETICS

Analysis and Principles, 2nd Edition

By Robert J Brooker, University of Minnesota — Minneapolis

2005 (Jan 2004)

ISBN-13: 978-0-07-296597-1 / MHID: 0-07-296597-5

(with OLC Bind-In Card)

ISBN-13: 978-0-07-111099-0 / MHID: 0-07-111099-2

[IE with OLC Bind-In Card]

Website: <http://www.mhhe.com/brooker>

Genetics: Analysis and Principles is a one-semester, introductory genetics textbook that takes an experimental approach to understanding genetics. By weaving one or two experiments into the narrative of each chapter, students can simultaneously explore the scientific method and understand the genetic principles that have been learned from these experiments.

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SCHAUM'S OUTLINE OF GENETICS

4th Edition

By Susan Elrod, California Polytechnic State University - San Luis Obispo

2002 / 500 pages

ISBN-13: 978-0-07-136206-1 / MHID: 0-07-136206-1

[A Schaum Professional Publication]

CONTENTS

1. The Physical Basis of Heredity / 2. Patterns of Inheritance / 3. The Biochemical Basis of Heredity / 4. Genetic Interactions / 5. The Genetics of Sex / 6. Linkage and Chromosome Mapping / 7. Cytogenetics / 8. Quantitative Genetics / 9. Population Genetics and Evolution / 10. Genetics of Bacteria / 11. Viruses, Transposable Elements, and Cancer / 12. Molecular Genetics and Biotechnology / 13. The Molecular Biology of Eukaryotes.

International Edition

PRINCIPLES OF GENETICS

7th Edition

By Robert Tamarin, University of Massachusetts

2002

ISBN-13: 978-0-07-124320-9 / MHID: 0-07-124320-8

[IE with OLC&CD]

Website: www.mhhe.com/tamarin7

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I Genetics and the Scientific Method 1 Introduction II Mendelism and the Chromosomal Theory 2 Mendel's Principles 3 Mitosis and Meiosis 4 Probability and Statistics 5 Sex Determination, Sex Linkage, and Pedigree Analysis 6 Linkage and Mapping in Eukaryotes 7 Linkage and Mapping in Prokaryotes and Bacterial Viruses 8 Cytogenetics III Molecular Genetics 9 Chemistry of the Gene 10 Gene Expression: Transcription 11 Gene Expression: Translation 12 DNA: Its Mutation, Repair, and Recombination 13 Genomics, Biotechnology, and Recombinant DNA 14 Gene Expression: Control in Prokaryotes and Phages 15 The Eukaryotic Chromosome 16 Gene Expression: Control in Eukaryotes 17 Non-Mendelian Inheritance IV Quantitative and Evolutionary Genetics 18 Quantitative Inheritance 19 Population Genetics: The Hardy-Weinberg Equilibrium and Mating Systems 20 Population Genetics: Processes That Change Allelic Frequencies / Appendix A Brief Answers to Selected Exercises, Problems, and Critical Thinking Questions / Appendix B Suggestions for Further Reading

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Introductory Microbiology – Majors Text

International Edition

NEW

PRESCOTT/HARLEY/KLEIN'S MICROBIOLOGY

7th Edition

By Joanne Willey, Hofstra University, Linda Sherwood, Montana State University-Bozeman and Chris Woolverton, Kent State University-Kent

2008 (January 2007)

ISBN-13: 978-0-07-330208-9 / MHID: 0-07-330208-2

ISBN-13: 978-0-07-110231-5 / MHID: 0-07-110231-0 [IE]

The brand new author team of Prescott, Harley and Klein's Microbiology continues the tradition of past editions by providing a balanced, comprehensive introduction to all major areas of microbiology. Because of this balance, the Seventh Edition of Microbiology is appropriate for microbiology majors and mixed majors courses. The new authors have focused on readability, artwork, and the integration of several key themes (including evolution, ecology and diversity) throughout the text, making an already superior text even better.

NEW TO THIS EDITION

■ The Seventh Edition introduces a brand new author team with over 40 years of combined research and teaching experience. Joanne Willey, Linda Sherwood, and Christopher Woolverton focused on readability, artwork, and the integration of several key themes throughout the text, making an already superior text even better.

■ Increased emphasis on microbial evolution and diversity. The themes of microbial evolution, ecology, and diversity are now more than ever integrated throughout the Seventh Edition. Several chapters have been revised and reorganized to reflect this integration, including Chapter 19, which now covers microbial evolution in greater depth than other texts. The chapters that are specifically devoted to ecology (27-29) have also undergone significant revisions.

■ The most up-to-date information to maintain accurate descriptions of structures and processes, as well as provide exciting recent discoveries to illustrate essential points, has been added. A few specific examples include:

- a current description of the structure and function of DNA polymerase III

- the role of viruses in marine ecosystems

- the ubiquitous nature of type III secretion systems

- an updated coverage of the inflammatory response

- the current understanding of HIV origins

- the avian influenza epidemiology

● Nearly 200 new and 300 revised illustrations and photos featuring three-dimensional renditions and bright, attractive colors are part of the extensively revised art program! The art program also includes new pedagogical features such as concept maps and annotation of key pathways and processes.

● New study aids have been developed to help students better understand the vast array of microbiology concepts:

- New questions that require critical thinking skills have been added throughout.

- Important names of scientists, techniques, and microbes are now called out to students by being highlighted in red font.

- In addition to every term being page-referenced, the updated glossary now also includes 200 new and revised entries.

● New instructor and student technology resources available with the 7th edition!

- The 50 high-quality animations that were available with the 6th edition are even more improved with the 7th edition! With an additional 25 new animations available (75 total), students can now quiz themselves over each animation, receive automatic feedback on correct/incorrect answers, and then submit their answers to their instructors for grading.

- McGraw-Hill's ARIS is a new complete electronic homework and course management system, designed for greater ease of use than any other system available. Instructors can create and share course materials and assignments with colleagues with a few clicks of the mouse. Instructors can edit questions, import their own content, and create announcements and due dates for assignments. ARIS has automatic grading and reporting of homework, quizzing, and testing. Once a student is registered in the course, all student activity within McGraw-Hill's ARIS is automatically recorded and available to the instructor through a fully integrated grade book that can be downloaded to Excel.

FEATURES

● The Seventh Edition continues to present material in short chapters organized thematically into eleven separate sections. Shorter chapters are less daunting and more "digestible" for most students. Furthermore, they offer the professor a greater degree of flexibility so that the order in which chapters are covered can be tailored to meet the needs of an individual class.

CONTENTS

Part I Introduction to Microbiology 1 The History and Scope of Microbiology 2 The Study of Microbial Structure: Microscopy and Specimen Preparation 3 Prokaryotic Cell Structure and Function 4 Eucaryotic Cell Structure and Function **Part II Microbial Nutrition, Growth, and Control** 5 Microbial Nutrition 6 Microbial Growth 7 Control of Microorganisms by Physical and Chemical Agents **Part III Microbial Metabolism** 8 Metabolism: Energy, Enzymes, and Regulation 9 Metabolism: Energy Release and Conservation 10 Metabolism: The Use of Energy in Biosynthesis **Part IV Microbial Molecular Biology and Genetics** 11 Microbial Genetics: Gene Structure, Replication, and Expression 12 Microbial Genetics of Gene Expression 13 Microbial Genetics: Mechanisms of Genetic Variation **Part V DNA Technology and Genomics** 14 Recombinant DNA Technology 15 Microbial Genomics **Part VI The Viruses** 16 The Viruses: Introduction and General Characteristics 17 The Viruses: Viruses of Bacteria and Archaea 18 The Viruses: Eucaryotic Viruses and Other Acellular Infectious Agents **Part VII The Diversity of the Microbial World** 19 Microbial Evolution, Taxonomy, and Diversity 20 The Archaea 21 Bacteria: The Deinococci and Nonproteobacteria Gram Negatives 22 Bacteria: The Proteobacteria 23 Bacteria: The Low G + C Gram Positives 24 Bacteria: The High G + C Gram Positives 25 The Protists 26 The Fungi (Eumycota) **Part VIII Ecology and Symbiosis** 27 Biogeochemical Cycling and Introductory Microbial Ecology 28 Microorganism in Marine and Freshwater Environments 29 Microorganisms in Terrestrial Environments **Part IX Nonspecific (Innate) Resistance and the Immune Response** 30 Microbial Interactions 31 Nonspecific (Innate) Host Resistance 32 Specific (Adaptive) Immunity 33 Pathogenicity of Microorganisms **Part X Microbial Diseases and Their Control** 34 Antimicrobial Chemotherapy 35 Clinical Microbiology 36 The Epidemiology of Infectious Disease 37 Human Diseases Caused by Viruses 38 Human Diseases Caused by Bacteria 39 Human Diseases Caused by Fungi and Protists **Part XI Food and Industrial Microbiology** 40 Microbiology of Food 41 Applied and Industrial Microbiology Appendix I A Review of the Chemistry of Biological Molecules Appendix II Common Metabolic Pathways

Cellular Molecular, Microbiology & Genetics

Introductory Microbiology - Non Majors Text

Allied Health Emphasis

International Edition

NEW

FOUNDATIONS IN MICROBIOLOGY

6th Edition

By Kathleen Park Talaro, Pasadena City College

2008 (September 2006)

ISBN-13: 978-0-07-330540-0 / MHID: 0-07-330540-5

ISBN-13: 978-0-07-110229-2 / MHID: 0-07-110229-9 [IE]

Written with the non-major/allied health student in mind, Foundations in Microbiology offers an engaging and accessible writing style through the use of tools such as case studies and analogies to thoroughly explain difficult microbiology concepts. A taxonomic approach is used for the study of pathogens.

NEW TO THIS EDITION

- The immunology chapters have been extensively reorganized and updated:

- Chapter 14, now titled "Nonspecific Host Defenses", only includes material on nonspecific immunity.

- Chapter 15, now titled "Specific Immunity and Immunization", includes material on specific immunity and immunization.

- The previous edition's Chapter 16 material on immunization is now placed in Chapter 15, and previous material on immune assays can now be found in the new Chapter 17 on diagnosing infections. The new Chapter 16 is "Disorders in Immunity" (old Chapter 17).

- Chapter 17, Diagnosing Infections, is brand new to this edition! Bringing together in one place the methods used to diagnose infectious diseases, the chapter starts with collecting samples from the patient and details the biochemical, serological and molecular methods used to identify causative microbes.

- Each chapter now begins with a "Real Case Study in Microbiology", giving students an opportunity to appreciate and understand how microbiology impacts their lives on a daily basis. The solutions appear at the end of the chapter, after the necessary elements have been presented.

- Over 200 new and revised illustrations add to the existing art program's display of realistic views of microbiology.

- The boxed readings in previous editions have been updated to "Insight Boxes" in the 6th edition. These interesting boxed readings found throughout each chapter include Historical, Medical, Discovery, and Cultural spotlights on microbiology. Questions at the end of each reading reinforce for students the important material they have just read (answers can be found on the ARIS website).

- Concept Questions found at the ends of chapters now include page references, allowing students to easily page back and review the information they are looking for.

- New instructor and student technology resources available with the 6th edition!

- 100+ animations available with the Sixth Edition! Students can quiz themselves over each animation, receive automatic feedback on correct/incorrect answers, and then submit their answers to their instructors for grading.

- McGraw-Hill's ARIS is a new complete electronic homework and course management system, designed for greater ease of use than any other system available. Instructors can create and share course materials and assignments with colleagues with a few clicks of the mouse. Instructors can edit questions, import their own content, and create announcements and due dates for assignments. ARIS has automatic grading and reporting of homework, quizzing, and testing. Once a student is registered in the course, all student activity within McGraw-Hill's ARIS is automatically recorded and available to the instructor through a fully integrated grade book that can be downloaded to Excel.

FEATURES

- Talaro's text takes a taxonomic (organism) approach to the disease coverage (Ch. 18-25). Students are introduced to each pathogen by a description of the class it belongs to, the diseases (and characteristic symptoms) it causes, and the diagnosis and treatment of those diseases.

- A Basic Principles version (Chapters 1-17 of this text) is also available.

- Excellent learning aids such as bulleted Chapter Overview sections, Chapter Checkpoint reviews, footnoted word origins, and pronunciation guides help students better comprehend difficult material.

CONTENTS

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International Edition

NEW

FOUNDATIONS IN MICROBIOLOGY

Basic Principles, 6th Edition

By Kathleen Park Talaro, Pasadena City College

2008 (September 20060)

ISBN-13: 978-0-07-330947-7 / MHID: 0-07-330947-8

ISBN-13: 978-0-07-330655-1 / MHID: 0-07-330655-X

(with ARIS QuickStart Guide)

ISBN-13: 978-0-07-110230-8 / MHID: 0-07-110230-2 [IE]

Written with the non-major/allied health student in mind, Foundations in Microbiology: Basic Principles offers an engaging and accessible writing style through the use of tools such as case studies and analogies to thoroughly explain difficult microbiology concepts. This version includes chapters 1 through 17 of the full Foundations in Microbiology text, teaching only the basic principles of microbiology and not covering the clinical aspects.

NEW TO THIS EDITION

- The metabolism (8) and immunology chapters have been extensively revised. The reorganized and updated immunology chapters include:

- Chapter 14, now titled "Nonspecific Host Defenses", only includes material on nonspecific immunity.

- Chapter 15, now titled "Specific Immunity and Immunization", includes material on specific immunity and immunization.

- The previous edition's Chapter 16 material on immunization is now placed in Chapter 15, and previous material on immune assays can now be found in the new Chapter 17 on diagnosing infections. The new Chapter 16 is "Disorders in Immunity" (old Chapter 17).

- Chapter 17, Diagnosing Infections, is brand new to this edition! Bringing together in one place the methods used to diagnose infectious diseases, the chapter starts with collecting samples from the patient and details the biochemical, serological and molecular methods used to identify causative microbes.

- Each chapter now begins with a "Real Case Study in Microbiology", giving students an opportunity to appreciate and understand how microbiology impacts their lives on a daily basis. The solutions appear at the end of the chapter, after the necessary elements have been presented.

- Over 200 new and revised illustrations add to the existing art program's display of realistic views of microbiology.

- The boxed readings in previous have been updated to "Insight Boxes" in the 6th edition. These interesting boxed readings found throughout each chapter include historical, medical, and cultural spotlights on microbiology. Questions at the end of each reading reinforce for students the important material they have just read (answers can be found on the ARIS website).

- Concept Questions found at the ends of chapters now include page references, allowing students to easily page back and review the information they are looking for.

- New instructor and student technology resources available with the 6th edition!

- The 50 high-quality animations that were available with the 5th edition are even more improved with the 6th edition! With an additional 25 new animations available (75 total), students can now quiz themselves over each animation, receive automatic feedback on correct/incorrect answers, and then submit their answers to their instructors for grading.

- McGraw-Hill's ARIS is a new complete electronic homework and course management system, designed for greater ease of use than any other system available. Instructors can create and share course materials and assignments with colleagues with a few clicks of the mouse. Instructors can edit questions, import their own content, and create an-

nouncements and due dates for assignments. ARIS has automatic grading and reporting of homework, quizzing, and testing. Once a student is registered in the course, all student activity within McGraw-Hill's ARIS is automatically recorded and available to the instructor through a fully integrated grade book that can be downloaded to Excel.

FEATURES

- The full version of this text, Foundations in Microbiology, has additional chapters 18-26, which include material on diseases (organized by pathogen) and environmental and applied microbiology.

- Excellent learning aids such as bulleted Chapter Overview sections, Chapter Checkpoint reviews, footnoted word origins, and pronunciation guides help students better comprehend difficult material.

CONTENTS

Chapter 1 The Main Themes of Microbiology Chapter 2 The Chemistry of Biology Chapter 3 Tools of the Laboratory: The Methods for Studying Microorganisms Chapter 4 An Introduction to Cells and Prokaryotic Cell Structure and Function Chapter 5 Eucaryotic Cells and Microorganisms Chapter 6 An Introduction to the Viruses Chapter 7 Elements of Microbial Nutrition, Ecology, and Growth Chapter 8 Microbial Metabolism: The Chemical Crossroads of Life Chapter 9 Microbial Genetics Chapter 10 Genetic Engineering: A Revolution in Molecular Biology Chapter 11 Physical and Chemical Control of Microbes Chapter 12 Drugs, Microbes, Host—The Elements of Chemotherapy Chapter 13 Microbe—Human Interactions Chapter 14 Nonspecific Host Defenses Chapter 15 Adaptive, Specific Immunity and Immunization Chapter 16 Disorders in Immunity Chapter 17 Diagnosing Infections

International Edition

NEW

MICROBIOLOGY

A Human Perspective, 5th Edition

By Eugene W Nester, Denise G Anderson and C Evans Roberts Jr of University of Washington, Martha T Nester

2007 (Nov 2005)

ISBN-13: 978-0-07-321152-7 / MHID: 0-07-321152-4

ISBN-13: 978-0-07-110781-5 / MHID: 0-07-110781-9 [IE]

Website: <http://www.mhhe.com/nester4>

Appropriate for the non-major/allied health student, this authoritative text carefully explains the fundamentals of microbiology, providing a general overview of the principles followed by more detailed explanations. With its clear and concise writing style, Microbiology: A Human Perspective offers modern coverage on such topics as genomics, biofilms, and quorum sensing. A body systems approach is used in the coverage of diseases.

NEW TO THIS EDITION

- The Digital Content Manager and Text Website now include 75 animations (25 are brand new to this edition!) for students and instructors to view in and out of class. Students can quiz themselves over each animation, receive automatic feedback on correct/incorrect answers, and then submit their answers to their instructors for grading.

- Several chapters have been thoroughly revised, restructured, and updated to provide students with the most modern coverage available in a concise, easy-to-read presentation. Examples include:

- Chapter 4: Dynamics of Prokaryotic Growth – reorganized to increase emphasis on biofilms

- Chapter 5: Control of Microbial Growth—reorganized so that the methods of physical control are covered adjacent sections; new section that describes the use of high pressure to pasteurize foods such as guacamole; new section describes the role of water treatment facilities in providing pathogen-free drinking water; mentions amended regulations that require water treatment facilities to minimize the level of disinfection by-products and Cryptosporidium oocysts.

Cellular Molecular, Microbiology & Genetics

– Chapter 9: Biotechnology and Recombinant DNA—chapter now begins with a section that describes the fundamental tools used in biotechnology (restriction enzymes, gel electrophoresis, nucleic acid probes and primers)

– Chapter 17: Applications of Immune Responses – extensive revision of the section on immunological testing

- Over 75 new and revised pieces of art! Knowing that the art program is a key element of the learning process, each figure in the text was developed as the narrative was written, providing students with a concrete, visual reinforcement of the topics discussed throughout the text. Colors and symbols are used consistently throughout the text. Legends are short, clear, and descriptive.

- A list of key terms and their definitions has been added at the beginning of each chapter to help students understand the terms to be covered.

- Each section now begins with a list of “Focus Points” learning objectives, helping students focus on key areas as they proceed through each section.

- Science cartoons have been added throughout various chapters, relating microbiology to everyday life.

FEATURES

- Expert Approach to Writing. Because of their individual specializations and their research and educational backgrounds, the authors remain in the hub of the scientific community and can provide accurate and modern coverage spanning the breadth of microbiology. More importantly, the authors write in a clear and concise manner, striving to present material that easily speaks to the students reading it.

- Excellent Disease Coverage. The chapters on infectious diseases are organized by body system and contain exceptional student learning tools:

–Consistent coverage of all diseases including symptoms, pathogenesis, epidemiology, prevention and treatment.

–Case studies are included that relate basic science to actual clinical situations; the case studies are accompanied by several questions with answers provided.

–“Disease Summaries” have been designed for each major disease. These include 1) a summary table 2) a drawing showing human symptoms, portals of entry and exit and location of pathology, and 3) a step-by-step description of infection process. These are presented in the book for selected diseases and on the web page for all diseases discussed in the book.

- Major sections end with a short “Microcheck” that summarizes the major concepts in that section and offers both review questions and critical thinking questions (in blue) to assess understanding of the preceding section.

- Applications to Promote Further Interest. Applications throughout the text not only help students understand microbiology’s history but also how microbiology influences their daily lives and futures.

–“Glimpse of History” stories about the men and women who pioneered the field of microbiology open each chapter.

–“Perspective” boxes introduce a human perspective by showing how microorganisms and their products influence our lives in a myriad of different ways.

–“Future Challenges” essays conclude each chapter to inform students of a pending challenge facing current and future microbiologists.

CONTENTS

1 Life and Death of Microorganisms 1 Humans and the Microbial World 2 The Molecules of Life 3 Microscopy and Cell Structure 4 Dynamics of Prokaryotic Growth 5 Control of Microbial Growth 6 Metabolism: Fueling Cell Growth 7 The Blueprint of Life, from DNA to Protein 8 Bacterial Genetics 9 Biotechnology and Recombinant DNA **2 The Microbial World** 10 Identification and Classification of Prokaryotes 11 The Diversity of Prokaryotic Organisms 12 The Eukaryotic Members of the Microbial World 13 Viruses of Bacteria 14 Viruses, Prions and Viroids: Infectious Agents of Animals and Plants **3 Microorganisms and Humans** 15 The Innate Immune Response 16 The Adaptive Immune Response 17 Applications of Immune Responses 18 Immunologic Disorders 19 Host-Microbe Interactions 20 Epidemiology 21 Antimicrobial Medications **4 Infectious Diseases** 22 Skin Infections 23 Wound Infections 24 Respiratory System Infections 25 Alimentary System Infections 26 Genitourinary Infections 27 Nervous System Infections 28 Blood and Lymphatic Infections 29 HIV Disease and Complications of Immunodeficiency **5 Applied Microbiology** 30 Microbes and the Environment 31 Applications of Environmental Microbiology: Water and Waste Treatment 32 Food Microbiology

International Edition

MICROBIOLOGY

An Organ Systems Approach

By Marjorie Kelly Cowan, Miami University –Oxford and Kathleen Park Talaro, Pasadena City College

2006 (Jan 2005)

ISBN-13: 978-0-07-304838-3 / MHID: 0-07-304838-0

ISBN-13: 978-0-07-111572-8 / MHID: 0-07-111572-2 [IE]

Website: <http://www.mhhe.com/cowan1>

Up-to-date and extensively reviewed, Microbiology is written with the non-major/allied health student in mind. Offering both an engaging writing style through the use of case studies and analogies and a vivid art program, the text thoroughly explains difficult microbiology concepts in an accessible manner. Utilizing an organ systems approach, the unique in-chapter organization of the disease/clinical chapters provides students a realistic viewpoint of the clinical experiences they will encounter in the future.

CONTENTS

1 The Main Themes of Microbiology. 2 From Atoms to Cells: A Chemical Connection. 3 Tools of the Laboratory: The Methods for Studying Microorganisms. 4 Prokaryotic Profiles: The Bacteria and Archaea. 5 Eucaryotic Cells and Microorganisms. 6 An Introduction to the Viruses. 7 Elements of Microbial Nutrition, Ecology, and Growth. 8 Microbial Metabolism: The Chemical Crossroads of Life. 9 Microbial Genetics. 10 Genetic Engineering: A Revolution in Molecular Biology. 11 Physical and Chemical Control of Microbes. 12 Drugs, Microbes, Host–The Elements of Chemotherapy. 13 Microbe-Human Interactions: Infection and Disease. 14 Nonspecific Host Defenses. 15 Specific Immunity and Immunization. 16 Disorders in Immunity. 17 Diagnosing Infections. 18 Infectious Diseases Affecting the Skin and Eyes. 19 Infectious Diseases Affecting the Nervous System. 20 Infectious Diseases Affecting the Cardiovascular and Lymphatic Systems. 21 Infectious Diseases Affecting the Respiratory System. 22 Infectious Diseases Affecting the Gastrointestinal Tract. 23 Infectious Diseases Affecting the Genitourinary System. 24 Environmental and Applied Microbiology. Appendix A Answers to Multiple-Choice Questions and Selected Matching.

International Edition

MICROBIOLOGY

Essentials and Applications,

2nd Edition

By Larry McKane, California State Polytechnic and Judy Kandel, California State – Fullerton

1996 / 880 pages

ISBN-13: 978-0-07-045154-4 / MHID: 0-07-045154-0

(Out of Print)

ISBN-13: 978-0-07-117933-1 / MHID: 0-07-117933-X

[IE with Microbes in Motion II, Mandatory Package]

Introductory Microbiology - Non Majors Multimedia

HYPERCLINIC 2 CD-ROM FOR WINDOWS

2nd Edition

By Lewis L Tomalty and Gloria J Delisle of Queen's University

2001

ISBN-13: 978-0-07-232312-2 / MHID: 0-07-232312-4

HyperClinic is an interactive multimedia program appropriate for undergraduate microbiology students majoring in the health sciences or for medical students studying clinical microbiology. It is used very differently in the two modes. Allied health students are asked to evaluate a realistic case study that includes a patient history and description of signs and symptoms and to analyze the results of physician-ordered clinical tests to reach a diagnosis. Medical students will evaluate a case study scenario and then decide which clinical samples should be taken and which diagnostic tests run. Immediate feedback and prompts help the students evaluate their decisions. Animations and movies provide detailed information on how the clinical tests are conducted, providing the undergraduate with an excellent introduction to a clinical lab and providing a solid review for the more experienced student.

Introductory Microbiology Laboratory



MICROBIOLOGY LAB MANUAL

7th Edition

By John Harley, Eastern Kentucky University

2008 (March 2007) / 480 pages

ISBN-13: 978-0-07-299293-9 / MHID: 0-07-299293-X

Laboratory Exercises in Microbiology, 7/e has been prepared to accompany Prescott, Harley and Klein's Microbiology, 7e, written by new authors Joanne Willey, Linda Sherwood, and Christopher Woolverton. Like the text, the laboratory manual provides a balanced introduction to laboratory techniques and principles that are important in each area of microbiology.

NEW

BENSON'S MICROBIOLOGICAL APPLICATIONS

Laboratory Manual in General Microbiology,

Complete Version, 10th Edition

By Alfred E Brown, Auburn University-Auburn

2007 (April 2006) / 544 pages

ISBN-13: 978-0-07-299273-1 / MHID: 0-07-299273-5

The classic resource for undergraduate microbiology laboratory courses just keeps getting better. The self-contained, clearly illustrated exercises and full-color format make Microbiological Applications: Laboratory Manual in General Microbiology the ideal lab manual. Appropriate for either a majors or non-majors lab course, this manual assumes no prior organic chemistry course has been taken.

NEW TO THIS EDITION

- Content has been updated throughout, especially in Part 8: Identification of Unknown Bacteria, and in Part 13: Medical Microbiology and Immunology, to include the latest research. Also updated was Exercise 78: A Synthetic Epidemic, in keeping with lab safety requirements.

FEATURES

- Benson's Complete Version (78 experiments) provides the largest variety of laboratory exercises to accommodate all laboratory curricula—from a medical emphasis to an environmental emphasis and everything between. (A Short Version with 60 experiments is also available.)

- Full-color examples of lab test results appear in the lab exercises so students have an immediate reference against which they can compare their results.

- Because you may prefer or require a different way to stage a lab exercise, this lab manual includes suggestions for alternative approaches and procedures in the appendixes and in the Instructor's Manual.

- The Instructor's Manual provides a materials list and guidelines for conducting all the experiments, as well as answers to the lab exercises. It can be found at www.mhhe.com/labcentral

- Customize this book through Primis Online! This title is part of the Primis Online Database: www.mhhe.com/primis/online. You can customize this book to meet your exact needs and mix and match with other items on Primis Online—allowing you maximum choice and flexibility. Instructors can also choose between two delivery formats: custom printed books (in black and white) or custom eBooks (in color).

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Cellular Molecular, Microbiology & Genetics

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■ Because you may prefer or require a different way to stage a lab exercise, this lab manual includes suggestions for alternative approaches and procedures in the appendixes and in the Instructor's Manual.

■ The Instructor's Manual provides a materials list and guidelines for conducting all the experiments, as well as answers to the lab exercises. It can be found at www.mhhe.com/labcentral

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BENSON'S MICROBIOLOGICAL APPLICATIONS Laboratory Manual in General Microbiology, Short Version, 10th Edition

By Alfred E Brown, Auburn University-Auburn

2007 (April 2006) / 432 pages

ISBN-13: 978-0-07-299272-4 / MHID: 0-07-299272-7

The classic resource for undergraduate microbiology laboratory courses just keeps getting better. The self-contained, clearly illustrated exercises and four-color format make Microbiological Applications: Laboratory Manual in General Microbiology the ideal lab manual. Appropriate for either a majors or non-majors lab course, this lab manual assumes no prior organic chemistry course has been taken.

NEW TO THIS EDITION

■ Content has been updated throughout, especially in Part 8: Identification of Unknown Bacteria, and in Part 11: Medical Microbiology and Immunology, to include the latest research. Also updated was Exercise 60: A Synthetic Epidemic, in keeping with lab safety requirements.

FEATURES

■ Benson's Short Version (60 experiments) provides a large variety of laboratory exercises to accommodate all laboratory curricula—from a medical emphasis to an environmental emphasis and everything between. (A Complete Version with 78 experiments is also available.)

■ Full-color examples of lab test results appear in the lab exercises so students have an immediate reference against which they can compare their results.



MICROBIOLOGY EXPERIMENTS

A Health Science Perspective, 5th Edition

By John Kleyn and Mary Bicknell of University of Washington

2007 (Nov 2005) / 352 pages

ISBN-13: 978-0-07-299949-5 / MHID: 0-07-299949-7

All experiments are correlated to Nester's *Microbiology: A Human Perspective, 5/e*, but can be used with any non-majors/allied health microbiology textbook.

NEW TO THIS EDITION

- Changes made to the 5th edition:
 - » The exercise involving the identification of Gram negative organisms (Exercise 24) has been expanded .
 - » The controls in the transformation experiment (Exercise 16) are no longer explained, forcing the student to analyze them more carefully .
 - » The Ribosomal Data Project directions (Exercise 35) have been updated to reflect the changes of the web site (Michigan State online analysis—<http://rdp.cme.msu.edu>).
 - » Alternate procedures: Some instructors requested other procedures for making plate counts, calculating dilutions, and increased data collecting opportunities for graphing. These procedures were included, but in such a way that they were optional for an instructor who preferred the original methods.
 - » The safety of certain organisms was carefully considered and some organisms were removed that might pose a potential hazard even though there have not been problems in the past.
 - » A bibliography of books related to microbiology was added to the appendix which should be interesting to students that now have a background in microbiology.
 - » Questions have been added to the Prep Manual that do not appear in the Lab Manual. Answers are also provided in the Prep Manual.
 - » The lab manual is correlated to the new edition of Nester's *Microbiology: A Human Perspective, 5/e*. Nester page references are given in each chapter of the manual.
 - » The instructor's manual to the lab can be found online at Lab Central, a password protected site for instructor resources. www.mhhe.com/labcentral

FEATURES

- Experiments follow the spirit of the ASM guidelines for laboratory content.
- Kleyn features health-oriented experiments covering topics that are included in a lecture course for non-majors going into an allied health field. The manual also includes:

–Two experiments in which students apply some of the techniques used in biotechnology to identify DNA.

–Four individual projects provide flexibility in teaching and also expand the breadth of the manual beyond health-related topics and into the diversity of nonpathogenic microorganisms. Students will isolate and culture bacteria that degrade oil spills, that glow in the dark, that consume 1-carbon compounds, and that are resistant to UV light.

–Seven appendices provide basic technique and practice problems in using the metric system, making pH adjustments measuring cell size, counting cells, and preparing slide cultures.

- Experiments are basic, easy to follow, inexpensive, and time-efficient, and are, therefore, ideal for instructors who have little time, expertise, or money.

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Cellular Molecular, Microbiology & Genetics

LABORATORY MANUAL AND WORKBOOK IN MICROBIOLOGY

8th Edition

By Josephine A. Morello, University of Chicago, Paul A. Granato, SUNY Health Science Center, Helen Eckel Mizer, Western Connecticut State University

2006 (Jan 2005) / 320 pages

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This laboratory manual and workbook, now in its Eighth Edition, maintains its original emphasis on the basic principles of diagnostic microbiology for students preparing to enter the allied health professions. It remains oriented primarily toward meeting the interests and needs of those who will be directly involved in patient care and who wish to learn how microbiological principles should be applied in the practice of their professions.

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LABORATORY EXERCISES IN MICROBIOLOGY

6th Edition

By John Harley, Eastern Kentucky University

2005 (Feb 2004) / 480 pages

ISBN-13: 978-0-07-255680-3 / MHID: 0-07-255680-3

Website: <http://www.mhhe.com/prescott6>

Laboratory Exercises in Microbiology, 6/e has been prepared to accompany Prescott et al's Microbiology, 6/e. Like the text, the laboratory manual provides a balanced introduction to laboratory techniques and principles that are important in each area of microbiology.

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International Edition

LABORATORY EXERCISES IN ORGANISMAL AND MOLECULAR MICROBIOLOGY

By Steve K. Alexander, University of Mary Hardin Baylor, Dennis Strete, McLennan Community College and Mary Jane Niles, University of San Francisco

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A modern general microbiology laboratory manual that combines the procedural details of a laboratory manual with the photographic support of a laboratory atlas. The 46 class-tested laboratory experiments are divided into 9 specialty areas, and the extensive four-color illustration program includes 220 photos and micrographs plus 150 line drawings.

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Microbiology Printed - Supplements

SCHAUM'S OUTLINE OF MICROBIOLOGY

By Edward Alcamo, SUNY-Farmingdale

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[A Schaum Professional Publication]

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Biotechnology

BIOTECHNOLOGY DEMYSTIFIED

By Sharon Walker

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[A Professional Publication]

This self-teaching guide explains the basic concepts and fundamentals in all the major subtopics of biotechnology. The content advances logically from the basics of molecular and cellular biology to more complex topics such as DNA, reproductive cloning, experimental procedures, infectious diseases, immunology, the Human Genome Project, new drug discoveries, and genetic disorders.

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Cellular Molecular, Microbiology & Genetics

International Edition

BIOTECHNOLOGY

DNA to Protein: A Laboratory Project in Molecular Biology

By Teresa Thiel and Shirley Bissen of University of Missouri-St Louis and Eilene Lyons, St. Louis Community College at Florissant Valley
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STDs / AIDS



AIDS UPDATE 2007

By Gerald J Stine, University of North Florida

2008 (January 2007) / 512 pages

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AIDS Update 2007 presents a balanced review of current research and information on HIV infection, HIV disease, and AIDS. AIDS Update 2007 places this discussion within a biological, medical, social, economic and legal framework, helping readers to more fully understand this modern-day pandemic.

FEATURES

- The new edition now has 14 chapters. Chapter 11 deals only with women and children. A new Chapter 12 deals with HIV/AIDS among young adults, ages 13 to 24.
- Almost half of the photographs, figures and line drawings are new to this edition.
- AIDS Update 2007 has been updated with the most current data and emerging studies and research involving this devastating disease.

FEATURES

• Further Information sources, including Internet addresses and national hotline numbers, give students additional resources to contact. A list of References also allows students to see the sources of all scientific and social data within the book involving this devastating disease, including the following information:

* Estimated data and information out to years 2035 and 2060 are provided.

* New information on the first 25 years of HIV/AIDS.

* An explanation of why HIV/AIDS is a unique and exceptional disease among all other diseases.

* What the impact of a global HIV vaccine will be if one becomes available.

• A variety of boxed essays provide supplemental information on chapter topics and illustrate important events and information about HIV/AIDS.

• Discussion Questions encourage students to think critically about difficult and controversial issues associated with HIV and provide a starting point for lively class discussions.

• Each chapter begins with a Chapter Concepts section that allows students to preview the material and stay focused on key topics. Chapter Summary and Review Questions provide students with a quick review of the key concepts of the chapter and help students test their understanding of the chapter's material.

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