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CONTENTS

AGRICULTURE

Agriculture 3

BIOLOGY

Anatomy & Physiology 11
Animal Science/Zoology 14
General Biology 17
Dictionary of Biology 22

BIOTECHNOLOGY

Biochemistry 25
Biostatistics 27
Introductory Biotechnology 28
Genetics 28
Ecology 32
Immunology 34
Intellectual Property Rights (Biotech) 34
Microbiology 35
Molecular Biology 37

GEOLOGY & OCEANOGRAPHY

Environmental Geology 43
Mineralogy 46
Oceanography 47
Petrology 48

NURSING

Biochemistry 53
Emergency & Medical Care 53
Nursing 54
English for Nursing 58
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicinal Chemistry</td>
<td>63</td>
</tr>
<tr>
<td>Pharmaceutical Inorganic Chemistry</td>
<td>63</td>
</tr>
<tr>
<td>Pharmaceutical Physical Chemistry</td>
<td>64</td>
</tr>
<tr>
<td>Pharmaceutical Analysis / Chemical Analysis</td>
<td>64</td>
</tr>
<tr>
<td>Pharmaceutics/Pharmaceutical Technology</td>
<td>65</td>
</tr>
<tr>
<td>Pharmacognosy</td>
<td>66</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>66</td>
</tr>
</tbody>
</table>
Agriculture

Principles of Crop Production: Theory, Techniques, and Technology, 2e
George Acquaah
ISBN: 9789332555181
© 2015
Pages: 768

About the Book
For undergraduate courses in Crop Science. May also be appropriate for Plant Science, and Horticulture courses.
This book provides the most comprehensive, detailed coverage of crop production issues in the United States.

Features
- NEW—Significantly expanded content, with 12 new chapters—Provides crop-specific information for 10 selected field crops and essential coverage of latest developments.
- Makes text suitable for use in preparing for the Crop Certification exams.
- Allows students to understand the distinct techniques and technology associated with production of each crop.
- NEW—Over 50 new figures and 40 new charts.
- Enhances the presentation and student comprehension of the text.
- Emphasis on the underlying science of crop production—Views the crop producer as a manager of resources.
- Recognizes the varying backgrounds and geography of students taking this course, provides the “how and why” things are the way they are, and recognizes the business of crop production. Basic principles presented are applicable to anywhere in the world.
- Coverage of latest trends impacting crop production—i.e., sustainable agriculture, organic farming, environmental safety consciousness, etc.
- Gives students an understanding of how crop production is evolving and arms them with information for solid decision making on the job.

Contents
Part I. UNDERLYING PRINCIPLES.
1. Crop Production and Society.
2. Plant Morphology.
3. Fundamental Plant Growth Processes.
4. Plant Growth and Development.
5. Crop Improvement.
6. Climate and Weather.
7. Soil and Land.
13. Transgenics in Crop Production.
15. Tillage Systems and Farm Energy.
17. Harvesting and Storage of Crops.
18. Marketing and Handling Grain Crops.

Part II. COMMERCIAL PRODUCTION OF SELECTED FIELD CROPS.
20. Rice.
21. Corn.

Horticulture: Principles and Practices, 4e
George Acquaah
ISBN: 9789332556942
© 2015
Pages: 816

About the Book
For undergraduate courses in Introduction to Horticulture, Introduction to Plant Science, and Principles of Crop Production.
This comprehensive introduction to horticulture as a science, art, and business covers all the essential principles and practices of the field. It discusses aspects pertaining to both indoor and outdoor production and provides sound scientific background of modern horticulture. Vividly illustrated throughout, the emphasis is on the underlying science—covering current technology—and how it is applied in practical horticulture. This edition has been significantly revised to include four new chapters, a reorganized Part 7 and contributions from leading industry professionals.

Features
- Hallmark Features
- Discusses the science, art, and business of horticulture.
- Helps students develop a broad understanding of all the dimensions of the field, showing how they are interconnected, and expanding their view of the opportunities available.
- Provides a broad overview of basic principles and practices.
- Minimizes regional and national biases and gives consistent treatment to the basics of horticulture.
- Presents materials that are appropriate for both small- and large-scale production.
- Includes coverage of indoor and outdoor production—see Part IV and Part V.
- Familiarizes students with all aspects of horticultural production.
- Blends both science and practice—by discussing plant taxonomy, anatomy, growth environment, physiology, and genetics.
- Introduces students to the role of these disciplines and how they are applied to increase performance.
- Offers an extensive illustration program—featuring 600 photographs and line drawings with comprehensive captions, and numerous detailed tables.
- Provides students with visual reinforcement of concepts that facilitate learning.
- Gives instructors sufficient visuals to support their lectures.

Contents
I. THE UNDERLYING SCIENCE.
1. What Is Horticulture?
2. Classifying and Naming Horticultural Products.
5. Plant Physiology.
6. Breeding Horticultural Plants
II. PROTECTING HORTICULTURAL PLANTS.
and non-majors, this text highlights the many interactions between the soil and other components of forest, range, agricultural, wetland and constructed ecosystems.

14th edition, this text is designed to help make students study of soils a fascinating and intellectually satisfying experience. Written for both majors and non-majors, this text highlights the many interactions between the soil and other components of forest, range, agricultural, wetland and constructed ecosystems.

Features
- New section on septic tank drain fields
- Expanded and totally revised section on irrigation management
- Updated section on engineering properties of soils which includes consistence, consistency, soil strength and sudden failure in cohesive and non-cohesive soils
- Text is organized with several cross referencing chapters
- Special topics are treated in boxes
- Study questions have been added to the end of each chapter to help students think and review the topics and their interactions

Contents
1. Glossary of Soil Science Terms
2. The Soils Around Us
3. Formation of Soils from Parent Materials
4. Soil Classification

The Nature and Properties of Soil, 14/e
Nyle C. Brady
ISBN: 9789332519107
© 2014
Pages: 922

About the Book
The Nature and Properties of Soils, 14e can be used in courses such as Soil Fertility, Land Resources, Earth Science and Soil Geography. Now in its 14th edition, this text is designed to help make students study of soils a fascinating and intellectually satisfying experience. Written for both majors and non-majors, this text highlights the many interactions between the soil and other components of forest, range, agricultural, wetland and constructed ecosystems.

Features
- A focus on sustainable development puts students in touch with one of the most significant shifts in thinking and action in the environmental and resource management arenas. A variety of lasting solutions are provided that make sense from social, economic, and environmental perspectives.
- Critical thinking and ethics are stressed throughout and teach students to question and analyze issues from a variety of perspectives and to distinguish good information from bad.
- “Case Study,” “A Closer Look,” and “Ethics in Resource Conservation” boxes delve into the heart of controversial issues and provide a look at some career opportunities in natural resource conservation.
- Updated material throughout incorporates the latest statistics and includes a new chapter on global warming and climate change.
- Expanded coverage of social and policy issues includes coverage of environmental justice, free trade, and the impacts of globalization.
- International examples provide a broader scope of coverage and includes environmental and resource issues from around the globe.
- New “Go Green!” feature gives students tips and suggestions on reducing their carbon footprint.
Contents
1. Natural Resource Conservation and Management: Past, Present and Future
2. Economics, Ethics, and Critical Thinking: Tools for Creating a Sustainable Future
3. Lessons from Ecology
4. The Human Population Challenge
5. World Hunger: Solving the Problem Sustainably
6. The Nature of Soils
7. Soil Conservation and Sustainable Agriculture
8. Integrated Pest Management
9. Aquatic Environments
10. Managing Water Resources Sustainability
11. Water Pollution
12. Fisheries Conservation
13. Rangeland Management
14. Forest Management
15. Plant and Animal Extinction
16. Wildlife Management
17. Sustainable Waste Management
18. Air Pollution
19. Global Warming and Climate Change
20. Acid Deposition and Stratospheric Ozone Depletion
21. Minerals, Mining, and a Sustainable Society
22. Nonrenewable Energy Resources: Issues and Options
23. Creating a Sustainable System of Energy

About the Authors
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Samuel L. Tisdale
Werner L. Nelson
James D. Beaton, Potash and Phosphate Institute of Canada

Hartmann & Kester’s Plant Propagation: Principles and Practices, 8/e
Hudson T. Hartmann
Dale E. Kester
Fred T. Davies
Robert Geneve
ISBN: 9789332550025
© 2015
Pages: 928

About the Book
The world standard for plant propagation and horticulture for over 50 years, Hartmann and Kester’s Plant Propagation continues to be the field’s most complete, up-to-date text on plant propagation. It now contains color figures throughout, promoting learning and making it an even more useful working text and reference. It also contains extensive updates reflecting the latest commercial techniques and understanding of propagation biology. Like previous editions, it is organized into paired chapters on principles and practices, so it can easily be adapted for teaching courses that cover only practical topics, and for courses that also cover conceptual issues.

Features
• Paired practical and conceptual chapters—alternate the principles underlying the science of propagation alternate with the technical practices and skills used for commercial plant propagation
• Clear chapter introductions and objectives—help students understand exactly what they will learn in each chapter, and why it is important
• Discussion items, keyword lists, in-depth boxed features, and extensive references—promote a deeper and more thorough understanding of the entire field
• Comprehensive coverage—from historical background and basic plant biology concepts through environmental impact and both seed (sexual) and vegetative (clonal) propagation
• Thorough reference chapters on specific propagation methods—for fruit, herbaceous annual and perennials, and woody plants, respectively

Contents
PART I. GENERAL ASPECTS OF PROPAGATION
1. How Plant Propagation Evolved In Human Society
2. Biology of Plant Propagation
3. The Propagation Environment
PART II. SEED PROPAGATION
4. Seed Development
5. Principles and Practices of Seed Selection
6. Techniques of Seed Production and Handling
7. Principles of Propagation from Seeds

Fred T. Davies, Jr., Professor of Horticultural Sciences, and Molecular and Environmental Plant Sciences, Texas A&M University, has taught courses in plant propagation and nursery production and management since 1979. He has co-authored over 100 research and technical publications. He was a Fulbright Senior Fellow to Mexico (1993) and Peru (1999), and a J.S. Guggenheim Fellow (1999). He received the Distinguished Achievement Award for Nursery Crops from the American Society of Horticultural Sciences (1989), L.M. Ware Distinguished Research Award-ASHS-SR (1995), and S.B. Meadows Award of Merit-International Plant Propagator’s Society-SR (1994). He is a recipient of the Association of Former Students Distinguished Achievement Award for Teaching-TAMU (1997), Chancellor of Agriculture’s Award in Excellence in Undergraduate Teaching-TAMU (1998), L.M. Ware Distinguished Teaching Award, ASHS-SR (1998), and L.C. Chadwick Educator’s Award, American Nursery and Landscape Association (1999). He is the International Division Vice-President-ASHS. He was President, and is currently Editor, of the IPPS-SR.

Robert L. Geneve is a Professor in the Department of Horticulture at the University of Kentucky. He teaches courses in plant propagation and seed biology. He has co-authored over 70 scientific and technical articles in seed biology, cutting propagation, and tissue culture. He is also the co-editor of the book Biotechnology of Ornamental Plants and author of A Book of Blue Flowers. He has served as a board member for the International Plant Propagators’ Society-Eastern Region and serves on the Editor for the international horticulture journal, Scientia Horticulturnae.

About the Authors

Dale E. Kester is Professor of Pomology emeritus at the University of California, Davis. During his 40 years at the University of California he taught courses in plant propagation and pomology. He has been a member of the American Society of Horticultural Science, becoming a Fellow in 1977. He received jointly the Stark Award in 1980. He has published over 100 research and popular publications in plant propagation and pomology. He has had a lifelong collaboration with Dr. Hudson T. Hartmann which resulted in the publication of the first edition of Plant Propagation: Principles and Practices in 1959, followed by other editions in 1968, 1975, 1983, and 1990. One of the founders of the Western Region of the International Plant Propagators’ Society (1960), he has served the society in various capacities including Vice-President, program chair (1996) and President (1997). He received the Curtis J. Alley Achievement Award in 1999.

Marketing of Agricultural Products has provided instructors a comprehensive and balanced treatment of food marketing systems since its introduction in 1955. It blends marketing and economic theory with real world analytical tools in order to assist students in better understanding the food system and making profitable marketing decisions.

Features

• NEW - Completely updated content, tables, figures, and references—Uses 1997 Census of Agriculture and Business, Trade data, and U.S. Department of Agriculture studies.
• Gives students the most up-to-date information on the changing structure of the food industry.
• NEW - New mini-cases dramatizing food marketing situations and problems.
• Assists students in understanding and appreciating the real world of food marketing problem solving and applying text materials to real life situations.
• NEW - New educational objectives/expected outcomes and quotations at the beginning of each chapter, and questions for discussion at the end of chapters.
• Provides students with a preview of the most important chapter material and a post-test for checking their understanding.
• NEW - Added information on career opportunities in food marketing.
• Helps students explore their career interests and encourages them to explore career opportunities in food marketing.
• NEW - Increased treatment of food value-adding and marketing management—including advertising, new product development, sales promotion, pricing, and logistics.

Contents

I. THE FRAMEWORK OF THE MARKETING PROBLEM.
1. Introduction to Food Marketing.
3. Agricultural Production and Marketing.
II. FOOD MARKETS AND INSTITUTIONS.
4. Food Consumption and Marketing.
5. Food Processing and Manufacturing.
6. Food Wholesaling and Retailing.
7. The International Food Market.
III. PRICES AND MARKETING COSTS.
10. Farm and Food Prices.
11. Food Marketing Costs.
IV. FUNCTIONAL AND ORGANIZATIONAL ISSUES.
12. The Changing Organization of Food Markets.
17. Standardization and Grading.
18. Transportation.
V. THE GOVERNMENT AND FOOD MARKETING.
22. Food Marketing Regulations.
VI. COMMODITY MARKETING.
23. Livestock and Meat Marketing.
29. Fruit and Vegetable Marketing.

About the Authors
Richard Kohls, a pioneer in agricultural marketing, is Emeritus Professor of Agricultural Economics at Purdue University. Born in 1921 in Kentland, Indiana, he received his degrees in Agricultural Economics from the University of Missouri and Purdue. He wrote the first edition of this pathbreaking book in 1955, when interest in agricultural marketing was beginning to increase. After teaching agricultural marketing for several years and conducting research and extension programs in the area, he served as Dean of Agriculture at Purdue from 1968 to 1980. Professor Kohls was awarded the American Agricultural Economics Association Outstanding Teacher Award in 1966.

Joe Uhl has been a professor of food marketing at Purdue University since 1966. He was born in Lima, Ohio in 1939. He teaches agricultural and food marketing classes, including the class that uses this text. He also counsels students and does research in food marketing. He served on the staff of the National Commission of Food Marketing in 1966, and he has lectured widely in Eastern Europe. He began collaborating with R. L. Kohls on this book in 1980. Professor Uhl has won both student counseling and teaching awards, the most recent for Distinguished Undergraduate Teaching from the American Agricultural Economics Association in 1989.
About the Book
Appropriate for one-semester junior-graduate level courses in Endocrinology, Endocrine Physiology, as well as courses in medicine, dentistry, pharmacology, nutrition, nursing and other related medical or animal sciences where endocrinology is the focus. Hadley provides comprehensive coverage of endocrinology, centralizing on the critical roles of glands, hormones, receptors, and molecular signaling pathways in the control of physiological processes. This up-to-date Sixth Edition reviews the basic concepts, research methodologies, and the scientific understanding of each of the major endocrine systems, in examples designed specifically for premedical and related professional courses.

Features
- Emphasizes that all aspects of hormone function—synthesis, secretion, delivery, action and disposal—are of great physiological significance.
- Special reference to the roles of chemical messengers in the control of homeostatic systems in the overall discussion of homeostasis.
- Coverage of the most recent molecular, genetic, and physiological as well as the more classical methodologies.
- Traces the evolution of hormone structure in relation to the comparative endocrinology of neurohypophysial hormones.

Contents
1. Introduction to Endocrinology
2. The Vertebrate Endocrine System
3. General Mechanisms of Hormone Action
4. Endocrine Methodologies
5. Pituitary Hormones
6. The Endocrine Hypothalamus
7. Neurohypophysial Hormones
8. Melanotropic Hormones
9. Hormonal Control of Calcium Homeostasis
10. Gastrointestinal Hormones
11. Pancreatic Hormones and Metabolic Regulation
12. Growth Hormones
13. Thyroid Hormones
14. Catecholamines and the Sympathoadrenal System
15. Adrenal Steroid Hormones
16. Endocrinology of Sex Differentiation and Development
17. Hormones and Male Reproductive Physiology
18. Hormones and Female Reproductive Physiology
19. Endocrinology of Pregnancy, Parturition and Lactation
20. Endocrine Role of the Pineal Gland

About the Authors
Elaine Marieb began her teaching career at Springfield College, where she taught anatomy and physiology to physical education majors. She then joined the faculty of the Biological Science Division of Holyoke Community College.
after receiving her Ph.D. in zoology from the University of Massachusetts at Amherst.
Patricia Brady Wilhelm received her Ph.D. in Biological and Medical Sciences from Brown University and is currently Professor of Biology at the Community College of Rhode Island. She has been teaching anatomy to undergraduates for more than 12 years at Brown University, Rhode Island College, and the Community College of Rhode Island.

Jon Mallatt earned his Ph.D. in Anatomy from the University of Chicago. Dr. Mallatt is currently an Associate Professor of Biological Sciences at Washington State University, where he has been teaching human anatomy to undergraduates of all backgrounds for 24 years.

Essentials of Human Anatomy & Physiology, 10e
Elaine N. Marieb
ISBN: 9789332578548
© 2016
Pages: 648

About the Book
With the Ninth Edition of Human Anatomy & Physiology, trusted authors Elaine N. Marieb and Katja Hoehn have produced the most accessible, comprehensive, up-to-date and visually stunning anatomy & physiology textbook on the market. Marieb draws on her career as an A&P professor and her experience completing her nursing education; Hoehn relies on her medical education and award-winning classroom instruction— together, they explain anatomy & physiology concepts and processes in a meaningful and memorable way.

In the most extensive revision to date—the Ninth Edition presents information in smaller and more digestible bites, making it easier to read and navigate.

Features
• The clear and inviting writing style engages students with everyday analogies that explain difficult concepts and hold students’ attention.
• Check Your Understanding concept check questions, which are tied to section.
• The enhanced art program accelerates the learning process with large, clear anatomical figures, handy illustrated tables, color-coded flow charts, and realistic illustrations of microscopic structures.
• Muscle art features realistic, natural-looking colors and textures that are consistent in style from figure-to-figure.
• Blue text acts as the author’s voice and explains processes. In some figures the text is broken into numbered steps to help students more easily understand processes one step at a time.
• Comprehensive clinical applications appear in numerous Homeostatic Imbalance examples throughout every chapter, Closer Look enrichment essays, and the new At the Clinic section, which offers End-of-Chapter Case Studies for 24 of the 29 chapters. Critical Thinking and Clinical Application Questions help students further apply their knowledge.

Contents
1. The Human Body: An Orientation
2. Chemistry Comes Alive
3. Cells: The Living Units
4. Tissue: The Living Fabric
5. The Integumentary System
6. Bones and Skeletal Tissues
7. The Skeleton
8. Joints
9. Muscles and Muscle Tissue
10. The Muscular System
11. Fundamentals of the Nervous System and Nervous Tissue
12. The Central Nervous System
13. The Peripheral Nervous System and Reflex Activity
14. The Autonomic Nervous System
15. The Special Senses
16. The Endocrine System
17. Blood
18. The Cardiovascular System: The Heart
19. The Cardiovascular System: Blood Vessels
20. The Lymphatic System and Lymphoid Organs and Tissues
22. The Respiratory System
23. The Digestive System
24. Nutrition, Metabolism, and Body Temperature Regulation
25. The Urinary System
26. Fluid, Electrolyte, and Acid-Base Balance
27. The Reproductive System
28. Pregnancy and Human Development
29. Heredity

Fundamentals of Anatomy & Physiology, 9e
Frederic H. Martini
Judi L. Nath
Edwin F. Bartholomew
ISBN: 9789332578579
© 2016
Pages: 1280

About the Book
Frederic (“Ric”) Martini, joined by accomplished educator, award-winning teacher, and co-author Judi Nath, has substantially revised Fundamentals of Anatomy & Physiology to make the Ninth Edition the most readable and visually effective edition to date. New Spotlight figures integrate brief text and visuals for easy reading.

Features
• Spotlight Figures provide highly visual one- and two-page presentations of tough topics in the book, with a particular focus on physiology.
• Clinical Notes appear within every chapter, expand upon topics just discussed, and present diseases and pathologies along with their relationship to normal function. These Clinical Notes relate directly to what students will encounter in their future careers.
• Checkpoints ask students to pause and check their understanding of facts and concepts. They are located at predictable points throughout the chapter, at the end of each major topic, and the answers are at the back of the book.
• Tips & Tricks boxes are brief and concrete learning tools that give students simple analogies and easy memory devices to help them remember facts and concepts.
• Important topics coverage such as The Endocrine System, The Lymphatic System and Immunity, The Respiratory System, The Digestive System, The Urinary System, The Reproductive System

Contents
1. An Introduction to Anatomy and Physiology
2. The Chemical Level of Organization
3. The Cellular Level of Organization
4. The Tissue Level of Organization
5. The Integumentary System
6. Osseous Tissue and Bone Structure
7. The Axial Skeleton
8. The Appendicular Skeleton
9. Articulations
10. Muscle Tissue
11. The Muscular System
12. Neural Tissue
14. The Brain and Cranial Nerves
15. Neural Integration I: Sensory Pathways and the Somatic Nervous System
16. Neural Integration II: The Autonomic Nervous System and Higher-Order Functions
17. The Special Senses
18. The Endocrine System
20. The Heart
22. The Lymphatic System and Immunity
23. The Digestive System
24. The Respiratory System
25. Metabolism and Energetics
26. The Urinary System
27. Fluid, Electrolyte, and Acid-Base Balance
28. The Reproductive System
29. Development and Inheritance

About the Authors
Dr. Frederic ("Ric") Martini received his Ph.D. from Cornell University in comparative and functional anatomy for work on the pathophysiology of stress.
Dr. Judi L. Nath is a biology professor at Lourdes College, where she teaches anatomy and physiology, pathophysiology, medical terminology, and pharmacology.
Ed Bartholomew received his undergraduate degree from Bowling Green State University and his M.S. from the University of Hawaii.
Bill Ober is the lead illustrator on all Martini titles. Bill is an Affiliate Professor of Biology at Washington and Lee University (Lexington, VA) and is part of the Core Faculty at Shools Marine Laboratory (Portsmouth, NH), where he teaches Biological Illustration most summers.
Claire E. Ober is an illustrator who works closely with Bill Ober.

About the Book
Human Physiology: An Integrated Approach broke ground with its thorough coverage of molecular physiology seamlessly integrated into a traditional homeostasis-based systems approach. The newly revised Sixth Edition introduces a major reorganization of the early chapters to provide the best foundation for the course and new art features that streamline review and essential topics so that students can access them more easily on an as-needed basis.

Features
• Four chapters on Integrative Physiology (chapters 6, 13, 20, and 25) demonstrate how physiological processes work together in an integrated system. These chapters also explore how body systems influence each other and show that overall systems are often more complicated than the sum of their component parts.
• Interactive pedagogy encourages students to assess their knowledge as they read rather than waiting until the end of the chapter:
• Background Basics sections at the beginning of each chapter encourage students to revisit and review topics for the upcoming chapter.
• Concept Links (signaled with white and blue chain link symbols) help students locate material they need to review.
• Concept Checks are placed at intervals throughout the chapters and ask students to test their understanding before continuing to the next topic.
• Figure and graph questions promote analytical skills by encouraging students to interpret data and information.
• Running Problems appear in segments throughout each chapter and require students to apply what they have learned to a real life pathophysiology case study.
• The end-of-chapter, four-level learning system helps build student confidence and understanding by progressing from factual questions to conceptual problems, and from these, to analytical exercises to quantitative questions.

Contents
I. BASIC CELL PROCESSES: INTEGRATION AND COORDINATION
1. Introduction to Physiology
2. Molecular Interactions
3. Compartmentation: Cells and Tissues
4. Energy and Cellular Metabolism
5. Membrane Dynamics
6. Communication, Integration, and Homeostasis
II. HOMEOSTASIS AND CONTROL
7. Introduction to the Endocrine System
8. Neurons: Cellular and Network Properties
9. The Central Nervous System
10. Sensory Physiology
11. Efferent Division: Autonomic and Somatic Motor Control
12. Muscles
13. Integrative Physiology I: Control of Body Movement
III. INTEGRATION OF FUNCTION
14. Cardiovascular Physiology
15. Blood
16. Blood Flow and the Control of Blood Pressure
17. Mechanics of Breathing
18. Gas Exchange and Transport
19. The Kidneys
20. Integrative Physiology II: Fluid and Electrolyte Balance
IV. METABOLISM, GROWTH, AND AGING
21. Digestion
22. Metabolism and Energy Balance
23. Endocrine Control of Growth and Metabolism
24. The Immune System
25. Integrative Physiology III: Exercise
26. Reproduction and Development

About the Authors
Dee Unglaub Silverthorn studied biology as an undergraduate at Tulane University and received a Ph.D. in marine science from the University of South Carolina. Her research interest is epithelial transport, and recent work in her laboratory has focused on transport properties of the chick allantoic membrane. She began her teaching career in the Physiology Department at the Medical University of South Carolina but over the years has taught a wide range of students, from medical and college students to those still preparing for higher education. At the University of Texas-Austin she teaches physiology in both lecture and laboratory settings, and instructs graduate students on developing teaching skills in the life sciences. She has received numerous teaching awards and honors, including the 2009 Outstanding Undergraduate Science Teacher Award from the Society for College Science Teachers, the American Physiological Society’s Claude Bernard Distinguished Lecturer and Arthur C. Guyton Physiology Educator of the Year, UT System Regents’ Outstanding Teaching Award, and multiple awards from UT-Austin, including the Burnt Orange Apple Award. The first edition of her textbook won the 1998 Robert W. Hamilton Author Award for best textbook published in 1997—98 by a University of Texas faculty member.

Animal Nutrition 6/e
Peter McDonald
Dr R. Edwards
Dr C A Morgan
Professor J F D Greenhalgh
ISBN: 9788131717608
© 2002
Pages: 708

About the Book
The latest edition of this classic text, now in a larger format with improved artwork, continues to provide a clear and comprehensive introduction to the science and practice of animal nutrition.

Features
• New chapter on Animal Nutrition and the Consumers of Animal Products addressing contemporary concerns for safety in human diets.
• New chapter on Feed Additives.
• Major revisions of chapters on food analysis, lipids, metabolism, energy systems and protein evaluation.
• Now includes comments on the nutrition of the horse and feeding standards for this species.
• New chapter summaries and problems and solutions to aid student learning.
• Updated suggestions for further reading

Contents
1. The animal and its food
2. Carbohydrates
3. Lipids
4. Proteins, nucleic acids and other nitrogenous compounds
5. Vitamins
6. Minerals
7. Enzymes
8. Digestion
9. Metabolism
10. Evaluation of foods (A) Digestibility
11. Evaluation of foods (B) Energy content of foods and the partition of food within the animal
12. Evaluation of foods (C) Systems for expressing the energy value of foods
13. Evaluation of foods (D) Protein
14. Feeding standards for maintenance and growth
15. Feeding standards for reproduction
16. Lactation
17. Voluntary intake of food
18. Animal nutrition and the consumers of animal products
19. Grass and forage crops
20. Silage
21. Hay, artificially dried forages straws and chaff
22. Roots, tubers and related by-products
23. Cereal grains and cereal by-products
24. Protein concentrates
25. Food additives

About the Author
P McDonald was formerly Head of the Department of Agricultural Biochemistry at Edinburgh School of Agriculture. RA Edwards was formerly Head of the Department of Animal Nutrition at Edinburgh School of Agriculture. JFD Greenhalgh is Emeritus Professor of Animal Production.
and Health at the University of Aberdeen. CA Morgan is an animal nutritionist at the Scottish Agricultural College, Edinburgh.

**Fishes: An Introduction to Ichthyology, 5/e**

Peter B. Moyle
Joseph J. Cech

Pages: 744

**About the Book**

One of the most comprehensive and current general sources of information on fishes, this text covers a broad number of topics such as including the structure and physiology, evolution, systematics, genetics, and conservation of fishes. While providing the basic background of fish biology, the conservation approach and up-to-date coverage conveys the excitement being generated by recent research on fishes.

**Features**

- Provides more global comprehensive examples for a broader perspective of fishes.
- Conservation orientation—Includes references to applied problems in all chapters that reflect the interests of the authors in real-world issues.
- Sustains students’ interest and takes the subject matter beyond the classroom.
- “Lessons” from the chapter—Appear in the text at the end of each chapter.
- Provides students with the most important concepts and key ideas from the chapter. Offers instructors a good basis for essay-type questions.
- Unique system-by-system coverage of ecology—Provides detailed examinations of specific habitats, their fish assemblages, and the special physical, chemical, and biological factors that characterize them.
- Gives students solid, thorough coverage of the unique ecologies of many different fish habitats.
- Updated fish classification system.
- Provides students with the latest version of Nelson’s book on fish classification.

**Contents**

1. Introduction.
2. Form and Movement.
3. Respiration.
5. Buoyancy and Thermal Regulation.
7. Feeding, Nutrition, Digestion, and Excretion.
8. Growth.
10. Sensory Perception.
12. Systematics, Genetics and Speciation.
15. Sharks, Rays and Chimaeras.
16. Relict Bony Fishes.
17. Bonytongues, Eels and Herring.
18. Minnows, Characins, and Catfishes.
19. Smelt, Salmon and Pike.
20. Angler Fish, Barracudinas, Cods, and Dragonfishes.
22. Opa, Squirrelfish, Dories, Pipefish, and Sculpins.
23. Perciformes: Snooks to Snakeheads.
24. Flounders, Puffers, and Molas.
25. Zoogeography of Freshwater Fishes.
27. Introduction to Ecology.
28. Temperate Streams.
29. Temperate Lakes and Reservoirs.
30. Tropical Freshwater Lakes and Streams.
32. Coastal Habitats.
33. Tropical Reefs.
34. Epipelagic Zone.
35. Deep Sea Habitats.
36. Polar Regions.

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**Principles of Animal Physiology, 2e**

Christopher D. Moyses
Patricia M. Schulte

Pages: 768

**About the Book**

Principles of Animal Physiology, Second Edition continues to set a new standard for animal physiology textbooks with its focus on animal diversity, its modern approach and clear foundation in molecular and cell biology, its concrete examples throughout, and its fully integrated coverage of the endocrine system. Carefully designed, full-color artwork guides students through complex systems and processes while in-text pedagogical tools help them learn and remember the material. The book includes the most up-to-date research on animal genetics and genomics, methods and models, and offers a diverse range of vertebrate and invertebrate examples, with a student-friendly writing style that is consistently clear and engaging. Christopher Moyses and Patricia Schulte present animal physiology in a current, balanced, and accessible way that emphasizes the integration of physiological systems, an overarching evolutionary theme, and thorough coverage of the cellular and molecular basis of animal physiology.

**Features**

- Applications boxes show students how animal physiology is relevant to a variety of fields.
- Thorough, up-to-date coverage of the cellular and molecular basis of physiology provides a solid introduction to recent research developments.
- Promoting effective learning is a key goal of the text, with several methods to help students get the most out of the course.
- NEW! Concept Check Questions appear throughout each chapter. Answers can be found on the text’s Companion Website.
- End-of-chapter Review, Synthesis, and Quantitative (NEW!) Questions provide increasingly sophisticated and challenging ways for students to test their comprehension of important concepts. Answers can be found on the text’s Companion Website.
- Overview figures begin each chapter, helping encapsulate the key concepts of the chapter and providing a guide for review and self-study.
- Sentence-format headings enhance student comprehension and allow for efficient review.
- Clear and engaging writing style captures students’ attention and
makes complex physiological concepts and processes easy to understand.

Contents

Part I. The Cellular Basis of Animal Physiology
1. Introduction to Physiological Principles
2. Chemistry, Biochemistry, and Cell Physiology
3. Cell Signaling and Endocrine Regulation
4. Neuron Structure and Function
5. Cellular Movement and Muscles

Part II. Integrating Physiological Systems
6. Sensory Systems
7. Functional Organization of Nervous Systems
8. Circulatory Systems
9. Respiratory Systems
10. Ion and Water Balance
11. Digestion
12. Locomotion
13. Thermal Physiology
14. Reproduction

About the Authors

Christopher D. Moyes received his Ph.D. in Zoology from the University of British Columbia in the area of comparative muscle physiology. After postdoctoral fellowships in molecular physiology at the U.S. National Institutes of Health and Simon Fraser University, he took a position at Queen’s University, where he is an associate professor in the Department of Biology. He teaches a spectrum of courses in cell biology and animal physiology, while continuing to pursue his research interests in molecular physiology and biochemistry.

Patricia M. Schulte received her Ph.D. in Biological Sciences from Stanford University in the area of evolutionary physiology focusing on the role that changes in gene expression play in evolution. She is currently an assistant professor in the Department of Zoology at the University of British Columbia in Vancouver, where she teaches animal physiology and evolutionary physiology and runs an active research program.

Scientific Farm Animal Production, 10/e
Robert W. Taylor
Tom G. Field
ISBN: 9789332550049
© 2015
Pages: 672

About the Book

Scientific Farm Animal Production: An Introduction to Animal Science, Tenth Edition, offers students a comprehensive, science-based approach to managing livestock for food, fiber, and recreation. This best-selling text examines the biological principles, scientific relationships, and management practices of livestock production, providing students the context and foundation upon which they can determine their academic and career focus. Updated with new figures, color photos, and current demographic data, the tenth edition is the best reference and resource available to teachers and students at the introductory level in animal sciences.

Features

• Offers both breadth and depth that is unparalleled—making this a best-seller and frequent reference for livestock producers and students.
• Views livestock production from various disciplines—such as growth, genetics, reproduction, nutrition, lactation, animal health, etc.
• Covers eight primary livestock industries—beef, dairy, sheep, goats, swine, horses, poultry, and aquaculture.
• Gives insight into the societal issues surrounding the livestock industry.
• Includes a separate chapter on Careers—available online.
• Uses numerous photographs and line drawings—throughout the text.

Contents

1. Animal Contribution to Human Needs
2. Overview of the Livestock and Poultry Industries
3. Red Meat Products
4. Poultry and Egg Products
5. Milk and Milk Products
6. Wool and Mohair
7. By-Products of Meat Animals
8. Market Classes and Grades of Livestock, Poultry, and Eggs
10. Reproduction
11. Artificial Insemination, Estrous Synchronization, and Embryo Transfer
12. Genetics
13. Genetic Change through Selection
14. Mating Systems
15. Nutrients and Their Functions
16. Digestion and Absorption of Feed
17. Providing Nutrients for Body Functions
18. Growth and Development
19. Lactation
20. Adaptation to the Environment
21. Animal Health
22. Animal Behavior
23. Beef Cattle Breeds and Breeding
24. Feeding and Managing Beef Cattle
25. Dairy Cattle Breeds and Breeding
26. Feeding and Managing Dairy Cattle
27. Swine Breeds and Breeding
28. Feeding and Managing Swine
29. Sheep and Goat Breeds and Breeding
30. Feeding and Managing Sheep and Goats
31. Horse Breeds and Breeding
32. Feeding and Managing Horses
33. Poultry Breeding, Feeding, and Management
34. Aquaculture

About the Authors

Robert E. Taylor was raised on an Idaho livestock operation where several livestock species were produced. He received a B.S. degree in animal husbandry and a Master’s degree in animal production from Utah State University. This background, combined with his Ph.D. work in animal breeding and physiology from Oklahoma State University, provided much depth to his knowledge of livestock production. He has had practical production experience with beef cattle, dairy cattle, horses, poultry, sheep, and swine.

Thomas G. Field was raised on a Colorado cow-calf and seedstock enterprise. He managed a seedstock herd of cattle after completing his B.S. degree. A competitive horseman as a youth, he has had practical experience with seedstock cattle, commercial cow-calf production, stockers, and horses. He has a B.S., M.S., and Ph.D. in animal science from Colorado State University.
Biology: Life on Earth with Physiology, 10/e
Gerald Audesirk
Teresa Audesirk
Bruce E. Byers
ISBN: 9789332570986
© 2016
Pages: 1056

About the Book
Biology: Life on Earth with Physiology, Tenth Edition continues this book’s tradition of engaging non-majors biology students with real-world applications, high-interest case studies, and inquiry-based pedagogy that fosters a lifetime of discovery and scientific literacy. Maintaining the friendly writing style that has made the book a best-seller, the Tenth Edition continues to incorporate true and relevant stories using a chapter-opening Case Study that is revisited throughout the chapter and concluded at the end of the chapter. New to the Tenth Edition are Learning Goals and Check Your Learning questions that help students assess their understanding of the core concepts in biology. To increase the book’s focus on health science, additional Health Watch essays are provided throughout units, and more anatomy & physiology content has been incorporated into the main narrative.

Features
• Case Study features, which open all chapters in the book and draw students in by telling a true yet extraordinary story that relates to the biological theme of the chapter.
• Every chapter uses an inquiry approach, encouraging students to pause, think, and then answer questions as they read.
• Check Your Learning questions now conclude each main section, and encourage students to assess their understanding of recently read material.
• Boxed essays in every chapter expose students to biology that relates to everyday issues and events which they may encounter in their lives or in the news:
• A vibrant and accessible art program visually draws students into learning the material and effectively teaches concepts:
• Numbered steps within the artwork break down complex processes into more manageable chunks.

Contents
1. An Introduction to Life on Earth
I. THE LIFE OF THE CELL
2. Atoms, Molecules, and Life
3. Biological Molecules
4. Cell Structure and Function
5. Cell Membrane Structure and Function
7. Capturing Solar Energy: Photosynthesis
8. Harvesting Energy: Glycolysis and Cellular Respiration
II. INHERITANCE
9. The Continuity of Life: Cellular Reproduction
10. Patterns of Inheritance
11. DNA: The Molecule of Heredity
12. Gene Expression and Regulation
III. EVOLUTION AND DIVERSITY OF LIFE
13. Principles of Evolution
14. How Populations Evolve
15. The Origin of Species
16. The History of Life
17. Systematics: Seeking Order Amid Diversity
18. The Diversity of Prokaryotes and Viruses
19. The Diversity of Protists
20. The Diversity of Plants
21. The Diversity of Fungi
22. Animal Behavior
23. Population Growth and Regulation
24. Community Interactions
25. Energy Flow and Nutrient Cycling in Ecosystems
26. Earth’s Diverse Ecosystems
27. Conserving Earth’s Biodiversity

About the Authors
TERRY AND GERRY AUDESIRK
grew up in New Jersey, where they met as undergraduates. After marrying in 1970, they moved to California, where Terry earned her doctorate in marine ecology at the University of Southern California and Gerry earned his doctorate in neurobiology at the California Institute of Technology. As postdoctoral students at the University of Washington’s marine laboratories, they worked together on the neural bases of behavior, using a marine mollusk as a model system. They are now emeritus professors of biology at the University of Colorado Denver, where they taught introductory biology and neurobiology from 1982 through 2006.

BRUCE E. BYERS
is a midwesterner transplanted to the hills of western Massachusetts, where he is a professor in the biology department at the University of Massachusetts, Amherst. He’s been a member of the faculty at UMass (where he also completed his doctoral degree) since 1993. Bruce teaches introductory biology courses for both nonmajors and majors; he also teaches courses in ornithology and animal behavior. A lifelong fascination with birds ultimately led Bruce to scientific exploration of avian biology.
About the Book
This best-selling textbook, known for its scientific accuracy, clear explanations, and intuitive illustrations, has been revised to further emphasize the relevance of biology to everyday life, using memorable analogies, real-world examples, conversational language, engaging new Why Biology Matters photo essays, and more.

Features
• Why Biology Matters photo essays engage student curiosity about biology through the use of dynamic photographs and intriguing scientific observations. Each intriguing science fact is later revisited in the chapter narrative to help students see the link between the everyday application of biology and the chapter material.
• Analogies and applications to everyday life have been added throughout the prose and the illustrations, making key concepts easier to visualize and to remember for students who are learning the material for the first time.
• Chapter threads explore a single high-interest topic throughout each chapter in “Biology and Society” essays, “Process of Science” investigations, and “Evolution Connection” discussions.
• Interpreting Data end-of-chapter questions help students learn to use quantitative material by analyzing graphs and interacting with other data.
• Process of Science essays appear in every chapter and walk students through each step of the scientific method as it applies to a specific research question.

Contents
Preface
Acknowledgements
1 Introduction: Biology Today
UNIT 1 Cells
2 Essential Chemistry for Biology
3 The Molecules of Life
4 A Tour of the Cell
5 The Working Cell
6 Cellular Respiration: Obtaining Energy from Food
7 Photosynthesis: Using Light to Make Food
UNIT 2 Genetics
8 Cellular Reproduction: Cells from Cells
9 Patterns of Inheritance
10 The Structure and Function of DNA
11 How Genes Are Controlled
12 DNA Technology
UNIT 3 Animal Structure and Function
13 Unifying Concepts of Animal Structure and Function
14 Nutrition and Digestion
15 Circulation and Respiration
16 The Body’s Defenses
17 Hormones
18 Reproduction and Development
19 Nervous, Sensory, and Locomotor Systems
UNIT 4 Plant Structure and Function
20 The Life of a Flowering Plant
21 The Working Plant
Appendices
Credits
Self-Quiz Answers
Glossary
Index

About the Authors
Eric Simon, Department of Biology and Health Science, New England College, Henniker
Jean Dickey, Department of Biology, Clemson University, Clemson
Kelly Hogan, Department of Biology, University of North Carolina, Chapel Hill
Jane Reece, Berkeley, California

Biological Science, 5e
Scott Freeman
Kim Quillin
Lizabeth Allison
ISBN: 9789332575912
© 2016
Pages: 1502

About the Book
Scott Freeman’s Biological Science is beloved for its Socratic narrative style, its emphasis on experimental evidence, and its dedication to active learning. In the Fifth Edition, the author team has expanded to include new members—bringing a fresh focus on accuracy and currency, and multiplying the dedication to active learning by six.

Features
• Research Boxes and many new in-text discussions highlight the latest research and show students the ongoing nature of scientific discovery.
• Chapter-opening Roadmaps visually group and organize information to help students anticipate key ideas as well as recognize meaningful relationships and connections between the ideas.
• Big Picture concept maps integrate visuals and words to help students synthesize information across chapters and units on challenging topics in biology.
• Quantitative questions are identified throughout the text, helping professors and students engage in computational problem-solving.
• Data sources have been identified for all graphs and charts throughout the text, to emphasize the research process that leads to our understanding of biological ideas.

Contents
1. Biology and the Tree of Life
II. THE MOLECULES OF LIFE
2. Water and Carbon: The Chemical Basis of Life
3. Protein Structure and Function
4. Nucleic Acids and the RNA World
5. An Introduction to Carbohydrates
6. Lipids, Membranes, and the First Cells
II. CELL STRUCTURE AND FUNCTION
7. Inside the Cell
8. Cell-Cell Interactions
9. Cellular Respiration and Fermentation
10. Photosynthesis
11. The Cell Cycle
III. GENE STRUCTURE AND EXPRESSION
12. Meiosis
13. Mendel and the Gene
and was subsequently awarded an Alfred P. Sloan Postdoctoral Fellowship in Molecular Evolution at Princeton University. His current research focuses on the scholarship of teaching and learning and he recently published two papers on his work: (1) how active learning and peer teaching techniques increase student learning and improve performance in introductory biology (Freeman, S., E. O’Connor, J.W. Parks, M. Cunningham, D. Hurley, D. Haak, C. Dirks, and M.P. Wenderoth. 2007.

Kim Quillin
Illustrator, Kim Quillin, combines expertise in biology and information design to create lucid visual representations of biological principles. She received her B.A. in Biology at Oberlin College and her Ph.D. in Integrative Biology from the University of California, Berkeley (as a National Science Foundation Graduate Fellow), and has taught undergraduate biology at both schools.
Principles of Cancer Biology, 1e
Lewis J. Kleinsmith
ISBN: 9789332577480
© 2016
Pages: 320

About the Book
Principles of Cancer Biology, is an engaging book focused on providing students with a “big picture” view of cancer. Author Lewis Kleinsmith has written an instructional text focusing on key concepts for both students and a general audience. For those instructors who wish to delve into particular aspects of cancer biology in greater depth, each chapter contains a list of suggested readings that expand the detail as needed.

The text also emphasizes the scientific evidence that underlies cancer biology, and teaches students to think critically about this evidence— as there are constantly new “breakthroughs” and reports in this field. For students who need the review, there are brief reviews of several topics related to DNA replication and repair, cell division, cell signaling, and inheritance patterns in chapters where these subjects are relevant. By including these reviews, the text is both accessible and engaging to a broad audience of readers who are studying cancer biology for the first time, as well as an interested general audience.

Features
• Focus on the key concepts to help build a foundation for further study.
• Scientifically based. The text teaches students how to read and critically evaluate the current research.
• Every chapter is subdivided into a series of conceptual sections, each introduced by a Sentence Heading that summarizes the Principle being described in that section.
• Art that Teaches. Each piece of art in the text has been carefully considered to ensure that readers can easily absorb the data.
• A bulleted Summary of Main Concepts is found at the end of each chapter helping students review the major principles covered in that chapter.
• Suggested Reading lists are included at the end of each chapter with an emphasis on review articles and carefully selected research publications that students are likely to find especially relevant and understandable.

Contents
1. What Is Cancer?
2. Profile of a Cancer Cell
3. How Cancers Spread
4. Identifying the Causes of Cancer
5. Chemicals and Cancer
6. Radiation and Cancer
7. Infectious Agents and Cancer
8. Heredity and Cancer
9. Oncogenes
10. Tumor Suppressor Genes and Cancer Overview
11. Cancer Screening, Diagnosis, and Treatment
12. Preventing Cancer
Appendix A. Main Types of Cancer
Appendix B. Human Carcinogens
Glossary
Index

About the Authors
Lewis J. Kleinsmith, University of Michigan

Biology: A Guide to the Natural World, 5e
David Krogh
ISBN: 9789332578562
© 2016
Pages: 824

About the Book
David Krogh's Biology: A Guide to the Natural World leads readers on a memorable journey through the world of biology, using relevant examples, clearly-developed illustrations, and helpful insights that resonate with today's students.

Widely-recognized as a book that students enjoy reading, the Fifth Edition has been thoroughly updated with new discussions on social concerns and health applications, along with streamlined chapter summaries and expanded review questions. To address different learning styles, the book's clear illustrations and exercises are reinforced with a full suite of instructor resources.

Features
• Accessible writing style acts as a helpful companion that guides non-majors students through the subject of biology by placing unfamiliar biology topics in context with everyday life.
• The Process of Science essays present scientific research and discovery with contemporary and historical topics of interest to students.
• Strong Illustration Program guides students through structures and processes with clear three-dimensional detail; key information from the text is reinforced in the illustrations.
• “So Far” Questions interspersed throughout each chapter give students a moment to reflect on what they have been reading and check understanding.

Contents
2. Fundamental Building Blocks: Chemistry, Water, and pH
3. Life's Components: Biological Molecules
4. Life's Home: The Cell
5. Life's Border: The Plasma Membrane
7. Vital Harvest: Deriving Energy from Food
8. The Green World's Gift: Photosynthesis
9. The Links in Life's Chain: Genetics and Cell Division
11. The First Geneticist: Mendel and His Discoveries
12. Units of Heredity: Chromosomes and Inheritance
13. Passing On Life's Information: DNA Structure and Replication
14. How Proteins Are Made: Genetic Transcription, Translation, and Regulation
15. The Future Isn't What It Used to Be: Biotechnology
16. An Introduction to Evolution: Charles Darwin, Evolutionary Thought, and the Evidence for Evolution
17. The Means of Evolution: Microevolution
18. The Outcomes of Evolution: Macroevolution
19. A Slow Unfolding: The History of Life on Earth
20. Arriving Late, Traveling Far: The Evolution of Human Beings
21. Viruses, Bacteria, Archaea, and Protists: The Diversity of Life I
22. Fungi: The Diversity of Life II
23. Animals: The Diversity of Life III
24. Plants: The Diversity of Life IV
25. The Angiosperms: Form and Function in Flowering Plants
27. Communication and Control I: The Nervous System
28. Communication and Control 2: The Endocrine System
Human Biology: Concepts and Current Issues, 7/e

Michael D Johnson
ISBN: 9789332573895
© 2016
Pages: 688

About the Book
Through his teaching, his textbook, and in his online blog, award-winning teacher Michael D. Johnson sparks the interest of today's science-intimidated student by connecting basic biology to real-world issues relevant to students' own lives. Through a storytelling approach and extensive online support, Human Biology: Concepts and Current Issues, Seventh Edition not only demystifies how the human body works but drives students to become better consumers of health and science information. Each chapter opens with Johnson's popular "Current Issues" essays, and BlogInFocus references within the chapter direct students to his frequently-updated online blog for breaking human biology-related news.

The Seventh Edition offers stronger student self-assessment tools with new and expanded critical thinking questions throughout each chapter and in the end-of-chapter reviews.

Features

Contents
1. Human Biology, Science, and Society
2. The Chemistry of Living Things
3. Structure and Function of Cells
4. From Cells to Organ Systems
5. The Skeletal System
6. The Muscular System
7. Blood
8. Heart and Blood Vessels
9. The Respiratory System: Exchange of Gases
10. The Immune System and Mechanisms of Defense
11. The Nervous System: Integration and Control
12. Sensory Mechanisms
13. The Endocrine System
14. The Digestive System and Nutrition
15. The Urinary System
16. Reproductive Systems

About the Authors
Dr. Michael D. Johnson earned his B.S. degree in Zoology from Washington State University and then moved East to earn a Ph.D. in physiology from the University of Michigan. After completing a Postdoctoral Research Fellowship at Harvard Medical School he joined the faculty of West Virginia University, where he remained for most of his career.

From 2001 to 2006 Dr. Johnson resided in the Sultanate of Oman, where he served as Founding Dean of a new medical school being built in academic partnership with West Virginia University. Following a brief period back home at West Virginia University, in 2008 he moved to Qatar to take the position of Associate Dean for Premedical Education at Weill Cornell Medical College in Qatar. He returned to the United States in 2011 to concentrate on writing and on researching topics of interest in Human Biology.

Dr. Johnson received several teaching awards during his career, including the West Virginia University Foundation Outstanding Teacher award and the Distinguished Teacher Award of the School of Medicine. He is a member of the American Physiological Society, the Human Anatomy and Physiology Society, the National Association of Biology Teachers, and the American Association for the Advancement of Science.
About the Book
With over 22,000 entries, Henderson’s Dictionary of Biology continues to be an essential reference for students, teachers and researchers within any of the biological sciences. This fifteenth edition has updated and revised many existing definitions, and has included new terms from exciting areas such as bioinformatics, proteomics, and genomics.

Features
• Over 22,000 entries
• Clear definitions and additional explanations
• Covers a wide range of topics
• Includes simplified, up-to-date classification tables for the kingdoms of living organisms

Contents
1. An Outline of the Plant Kingdom (Domain Eukarya)
2. An Outline of the Kindgom Fungi (Domain Eukarya)
3. An Outline of the Animal Kingdom (Domain Eukarya)
4. An Outline of the Kingdoms Protoctista and Stramenopila (Domain Eukarya)
5. An Outline of the Domain Bacteria
6. An Outline of the Domain Archaea
7. Virus Families
8. Geological Timescale

About the Author
Eleanor Lawrence, Freelance science writer
Biochemistry

Introduction to Biochemistry and Metabolism

D Anandhi
ISBN: 9788131774854
© 2014
Pages: 416

About the Book
Designed as per the UGC curriculum, Introduction to Biochemistry and Metabolism meets the syllabus requirements of all universities offering a course on biochemistry and metabolism. The subject, a core paper for the students of botany, zoology, biotechnology and bioinformatics, is dealt with in detail across 13 chapters with emphasis on the metabolism of amino acids, carbohydrates, lipids and high energy compounds. Replete with illustrations and schematic representations, the book reinforces theoretical concepts with its concise, easy-to-follow approach making it an ideal textbook on the subject.

Features
• Comprehensive coverage of free radicals, antioxidation and proteins.
• Focus on enzymes, fatty acids and their metabolic activities.
• Elucidation of the detoxification mechanism.
• Disseminates information on diseases caused due to enzyme deficiencies.
• 150 illustrations and schematics to help readers understand how biochemical reactions and metabolic pathways work
• Includes laboratory techniques for qualitative and quantitative lipid analysis and estimation of proteins in food samples.

Contents
1. Cell
2. Carbohydrates
3. Amino acids
4. Lipids
5. Nucleic acid
6. Enzymes
7. High energy compounds
8. Introduction to metabolism
9. Amino acid metabolism
10 Lipid metabolism
11 Nucleotide metabolism
12 Detoxication mechanism
13 Antibiotics

About the Author
D Anandhi is from the department of biochemistry, D G Vaishnav College, Chennai.

Modern Experimental Biochemistry, 3/e

Rodney Boyer
ISBN: 9788177588842
© 2000
Pages: 475

About the Book
Modern Experimental Biochemistry, Third Edition offers a unique two-part organization. This provides you with in-depth theoretical discussion organized around important techniques and 15 tested experiments that represent all of the core biochemistry topics.

Features
• State-of-the-art theory and procedures are included for each experiment.
• The latest safety and environmental precautions in each experiment inform you of potential hazards and proper disposal of materials.

Contents
Part I: Theory and Experimental Techniques
1. Introduction to the Biochemistry Laboratory
2. General Laboratory Procedures
3. Purification and Identification of Biomolecules by Chromatography
4. Characterization of proteins and Nucleic Acids by Electrophoresis
5. Spectroscopic Analysis of Biomolecules
6. Radioisotopes in Biochemical Research
7. Centrifugation in Biochemical Research

Part II: Experiments
8. Using the Computer in Biochemical Research
9. Structural Analysis of a Dipeptide
10. Using Gel Filtration to Study Ligand-Protein Interactions
11. Isolation and Characterization of Bovin Milk Aα-Lactalbumin
12. Kinetic Analysis of Tyrosinase
13. Purification and Characterization of Triacylglycerols in Natural Oils
14. Identification of Serum Glycoproteins by SDS-PAGE and Western Blotting
15. Isolation and Characterization of Plant Pigments
16. Photoinduced Proton Transport through Chloroplast Membranes
17. Isolation, Subfractionation, and Enzymatic Analysis of Beef Heart Mitochondria
18. Measurement of Cholesterol and Vitamin C in Biological Samples
19. Activity and Thermal Stability of Gel-immobilized Peroxidase
20. Extraction and Characterization of Bacterial DNA
21. Plasmid DNA Isolation and Characterization by Electrophoresis
22. The Action of Restriction Endonucleases on Plasmid or Viral DNA

About the Author
Rodney F. Boyer is Professor of Chemistry at Hope College in Holland, Michigan. He received his B.A. in Chemistry and Mathematics from Westmar College, his M.S. in Organic Chemistry and his Ph.D. in Organic Chemistry with a minor in Biochemistry from Colorado State University. Boyer was a Postdoctoral Research Fellow at the University of Michigan Medical School in the Department of Biological Chemistry. He has served as an American Cancer Society Scholar and Visiting Professor in the Department of Chemistry and Biochemistry at the University of Colorado at Boulder.
**About the Book**

For one- or two-term courses in Biophysical Chemistry. Usually taught at the senior/graduate level. Prerequisite: Introductory Biochemistry, some physical chemistry helpful.

The Second Edition of *Principles of Physical Biochemistry* provides the most current look at the theory and techniques used in the study of the physical chemistry of biological and biochemical molecules including discussion of mass spectrometry and single-molecule methods. Leading experts in biophysical chemistry these well-known authors offer unique insights and coverage not available elsewhere.

**Features**
- A true teaching text, this book includes exercises at the end of every chapter along with more expanded solutions to half of the exercises.
- Clear writing by experts in the field makes the subject matter understandable.

**Contents**
- Chapter 1. Biological Macromolecules
- Chapter 2. Thermodynamics and Biochemistry
- Chapter 3. Molecular Thermodynamics
- Chapter 4. Statistical Thermodynamics
- Chapter 5. Methods for the Separation and Characterization of Macromolecules
- Chapter 6. X-Ray Diffraction
- Chapter 7. Scattering From Solutions of Macromolecules
- Chapter 8. Quantum Mechanics and Spectroscopy
- Chapter 9. Absorption Spectroscopy
- Chapter 10. Linear and Circular Dichroism
- Chapter 11. Emission Spectroscopy
- Chapter 12. Nuclear Magnetic Resonance Spectroscopy
- Chapter 13. Macromolecules in Solution: Thermodynamics and Equilibria
- Chapter 14. Chemical Equilibria Involving Macromolecules
- Chapter 15. Mass Spectrometry of Macromolecules
- Chapter 16. Single-Molecule Methods
- Solutions to Odd-Numbered Problems

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**About the Book**

Biochemistry for Life Sciences presents a concise introduction to the subject without compromising on complete coverage as per the Indian curricula.

This book highlights the relationship between molecular construction and the functional properties of biomolecules. Numerous illustrations, figures and tables are used to explain fundamental and advanced topics in an engaging manner.

**Features**
- Tailor-made for undergraduate life sciences courses offered by Indian universities
- Exclusive chapters on biomolecules and their metabolism, bioenergetics and biological oxidation
- Covers the major biotechniques such as lipid separation and protein separation
- Detailed description of the interpretation and investigation of biomolecules and metabolic disorders
- Colour diagrams at the end of the book for better illustration of concepts.

**Contents**
- Unit-1 Important properties and chemistry of water, pH and Buffers
- Unit-2 Bioenergetics and Biological Oxidation
- Unit-3 Structure and Composition of Cell and Structure and Function of Cell Membrane
- Unit-4 Composition of Carbohydrates
- Unit-5 Composition of Lipids
- Unit-6 Composition of Amino Acids:
  - Unit-7 Proteins and Peptides:
  - Unit-8 Composition of Nucleic Acids
- Unit-9 Carbohydrate Metabolism:
- Unit-10 Metabolism of fatty acids
- Unit-11 Metabolism of Amino acids and Proteins
- Unit-12 Metabolism of Nucleic Acids:
- Unit-13 Enzymes and Co-Enzymes
- Unit-14 Immunochemistry
- Unit-15 Composition of Vitamins and Minerals
- Unit-16 Photosynthesis
- Unit-17 Hormones
Biostatistics

Biostatistics: An Introduction
P Mariappan
ISBN: 9788131775141
© 2013
Pages: 480

About the Book
This textbook is exclusively designed for the undergraduate students of Botany, Biotechnology and Zoology for gaining fundamental knowledge on biostatistics and its applications. Adequate coverage has been provided to the concepts of biostatistics making this book useful in biological data management.

Features
- In-depth coverage of measures of central tendency, hypothesis testing and parametric tests.
- Detailed explanation on probability, random variables and expectation.
- Extensive coverage on correlation and regression analysis.
- Over 200 graphs and schematic illustrations.
- Over 250 solved examples and 150 end-of-chapter exercises.

Contents
Chapter 1 Introduction to statistics and its business applications
Chapter 2 Data Structures, data sources and data collection
Chapter 3 Data Presentation
Chapter 4 Measures of central tendency
Chapter 5 Dispersion
Chapter 6 Skewness, moments and kurtosis
Chapter 7 Correlation and regression analysis
Chapter 8 Probability
Chapter 9 Random variables and expectations
Chapter 10 Discrete probability distribution
Chapter 11 Continuous probability distribution
Chapter 12 Theory of sampling
Chapter 13 Hypothesis testing/Parametric tests/ Distribution tests/ tests of significance

About the Author
P Mariappan is from the department of mathematics, Bishop Heber College, Tiruchchirapalli, Tamilnadu.

Biostatistical Analysis, 5/e
Jerrod H. Zar
ISBN: 9789332536678
© 2014
Pages: 760

About the Book
Zar’s Biostatistical Analysis, Fifth Edition, is the ideal textbook for graduate and undergraduate students seeking practical coverage of statistical analysis methods used by researchers to collect, summarize, analyze and draw conclusions from biological research. The latest edition of this bestselling textbook is both comprehensive and easy to read. It is suitable as an introduction for beginning students and as a comprehensive reference book for biological researchers and for advanced students. This book is appropriate for a one- or two-semester, junior or graduate-level course in biostatistics, biometry, quantitative biology, or statistics, and assumes a prerequisite of algebra.

Features
- A broad collection of data-analysis procedures and techniques are presented, covering a wide variety of biological research, such as physiology, genetics, ecology, behavior, morphology.
- The most comprehensive treatment available includes coverage of the basics of statistical analysis, and also the following topics rarely or never found in statistics books for biologists:
  - Diversity
  - Polynomial regression
  - Multidimensional contingency tables
  - Stepwise regression
  - Nonparametric multiple comparisons
  - Higher order factorial analyses of variance
  - Circular distributions
  - Power and sample size determinations.
- An orderly organization and presentation of topics, with cross-referencing as appropriate.
- The readable and accessible approach allows students with no previous statistical background or mathematical expertise beyond simple algebra to understand the material presented.
- The thoughtful presentation encourages students to think about the value of each statistical technique, as opposed to merely plugging numbers into formulae.
- The exposition considers complex procedures such as factorial analysis of variance and multiple regression in terms of the interpretation of typical computer output.
- A wealth of graphs and other figures are integrated to visually support concepts under discussion.
- A uniquely comprehensive set of statistical tables—more than 40 in all—facilitates statistical analyses without having to consult a separate book. This includes tables that are unique to this book.
- Worked examples for all major procedures guide readers step-by-step through the techniques, demonstrating each of the important concepts.
- An extensive bibliography directs readers to further relevant literature.

Contents
1. Data: Types and Presentations
2. Populations and Samples
3. Measures of Central Tendency
4. Measures of Variability and Dispersion
5. Probabilities
6. The Normal Distribution
7. One-Sample Hypotheses
8. Two-Sample Hypotheses
9. Paired-Sample Hypotheses
10. Multisample Hypotheses and the Analysis of Variance
11. Multiple Comparisons
12. Two-Factor Analysis of Variance
13. Data Transformations
14. Multiway Factorial Analysis of Variance
15. Nested (Hierarchical) Analysis of Variance
16. Multivariate Analysis of Variance
17. Simple Linear Regression
18. Comparing Simple Linear Regression Equations
19. Simple Linear Correlation
20. Multiple Regression and Correlation
21. Polynomial Regression
About the Author

Jerrold H. Zar received his undergraduate degree in Biological Sciences from Northern Illinois University in 1962. He later earned his M.S. and Ph.D. degrees in biology and zoology from the University of Illinois at Urbana-Champaign. Zar then returned to Northern Illinois University for 34 years to serve in a variety of capacities. He joined the faculty at NIU as an Assistant Professor in 1968 and quickly rose through the ranks of associate and full professor to become Chair of the Department of Biological Sciences in 1978. He served two terms as Chair of the Department and then, became the Vice Provost for Graduate Studies and Research and Dean of the Graduate School. He was a founder of the Illinois Minority Graduate Incentive Program and the Illinois Consortium for Educational Opportunities Program, where he helped create and protect fellowship opportunities for minority graduate students at universities across the state. Zar is a member of 17 professional scientific societies, including being an elected fellow of the American Association for the Advancement of Science. His many research publications cover a range of topics, from statistical analysis to physiological adaptations of animals to their environment.

Contents

1. The Biotechnology Century and Its Workforce
2. An Introduction to Genes and Genomes
3. Recombinant DNA Technology and Genomics
4. Proteins as Products
5. Microbial Biotechnology
6. Plant Biotechnology
7. Animal Biotechnology
8. DNA Fingerprinting and Forensic Analysis
9. Bioremediation
10. Aquatic Biotechnology
11. Medical Biotechnology
12. Ethics and Biotechnology

Appendix I: Answers to Questions
Appendix II: The 20 Amino Acids of Proteins

About the Author

William Thieman, formerly of Ventura College, chaired one of the leading biotech programs in California. Co-author Michael A. Palladino is a molecular biologist with considerable experience in directing undergraduate student research in recombinant DNA technology; he is co-author of Concepts of Genetics, Tenth Edition, Essentials of Genetics, Seventh Edition, as well as Understanding the Human Genome Project, Second Edition.

Introductory Biotechnology

Introduction to Biotechnology, 3/e

William J. Thieman
Michael A. Palladino
ISBN: 9789332535060
© 2014
Pages: 400

About the Book

Thoroughly updated for currency and with exciting new practical examples throughout, this popular text provides the tools, practice, and basic knowledge for success in the biotech workforce.

With its balanced coverage of basic cell and molecular biology, fundamental techniques, historical accounts, new advances, and hands-on applications, the Third Edition emphasizes the future of biotechnology and the biotechnology student’s role in that future. Two new features—Forecasting the Future, and Making a Difference—along with several returning hallmark features, support the new focus.

Features

• Concise overviews examine cutting-edge techniques and concepts including Bioinformatics, Proteomics, and Genomics, as well as detailed information on agricultural, medical, forensic, and regulatory issues that impact the biotechnology industry.

• Career Profile Boxes in each chapter introduce students to different career paths in the biotechnology industry and provide detailed information on job functions, salaries, and guidance for preparing to enter the workforce.

• You Decide Boxes in each chapter stimulate ethical discussion by giving students questions and information relating to the social and ethical implications of biotechnology and regulations.

• Tools of the Trade Boxes provide details on modern techniques and methods related to each chapter’s content and the biotech industry.

• End-of-Chapter Questions & Activities encourage students to apply what they’ve learned and include internet assignments that explore cutting edge topics. Suggested answers are provided in the Appendix.

• Abundant illustrations, instructional diagrams, and flow charts present modern images, step-by-step explanations of complex processes, and include new figures on the use of gene microarrays, PCR, and nanobiotechnology.

• Companion Website offers study aids, such as flashcards, a glossary, chapter reviews, and additional web resources.

• Instructor’s Test Bank includes multiple choice questions for each chapter.

A section on “Business of Biotechnology” in Chapter 1 describes biotech company organization and structure, top biotechnology and pharmaceutical companies, and features updated data on the biotechnology industry worldwide.

Genetics

Discovering Genomics, Proteomics and Bioinformatics, 2/e

A. Malcolm Campbell
Laurie J. Heyer
ISBN: 9788131715598
© 2007
Pages: 464

About the Book

Discovering Genomics is the first genomics text that combines web activities and case studies with a problem-solving approach to teach upper-level undergraduates and first-year graduate students the fundamentals of genomic analysis. More of a workbook than a traditional text, Discovering Genomics, Second Edition allows students to work with real genomic data in solving problems and provides the user with an active learning experience.
Introduction to Quantitative Genetics, 4/e
Douglas S. Falconer
Trudy F. C. Mackay
ISBN: 9788131727409
© 1996
Pages: 480

About the Book
This classic text continues to provide the basis for understanding genetic principles behind quantitative differences, and extends these concepts to the segregation of genes that cause genetic variation in quantitative traits.

Features
• First genomics textbook written for students that focuses on the process of doing genomic analysis and thinking from a genomics perspective.
• Inquiry approach gives students hands-on practice and builds problem-solving skills.

Contents
1. Genetics Constitution of a Population
2. Changes of Gene Frequency
4. Small Populations: II Less Simplified Conditions
5. Small Populations: III Pedigreed Populations and Close Inbreeding
6. Continuous Variation
7. Values and Means
8. Variance
9. Resemblance Between Relatives
10. Heritability
11. Selection: I The Results of Experiments
12. Selection: III Information from Relatives
13. Inbreeding and Crossbreeding: I Changes of Mean Value

About the Author
A. Malcolm Campbell, Davidson College
Laurie J. Heyer, Davidson College

Concepts of Genetics, 10e
William S. Klug
Michael R. Cummings
Charlotte A. Spencer
Michael A. Palladino
ISBN: 9789332577466
© 2016
Pages: 896

About the Book
Concepts of Genetics is known for its focus on teaching core concepts and problem solving. This best-selling text has been extensively updated, with coverage on emerging topics in genetics, and problem-solving support has been enhanced.

Features
• Focus on the key concepts to help build a foundation for further study.
• Scientifically based. The text teaches students how to read and critically evaluate the current research.
• Every chapter is subdivided into a series of conceptual sections, each introduced by a Sentence Heading that summarizes the Principle being described in that section. In addition, the importance of scientific evidence is highlighted by including more than 50 graphs, histograms, and pie charts containing data from the scientific literature, each accompanied by a citation to the original source of the data.
• Art that teaches. Each piece of art in the text has been carefully accompanied by a citation to the original source of the data.
• A bulleted Summary of Main Concepts is found at the end of each chapter helping students review the major principles covered in that chapter.
• A Glossary containing a brief definition of every boldfaced term is included as a reference tool at the end of the book. Each definition is followed by one or more page references indicating where in the book the meaning of the term is described.

Contents
1. Introduction to Genetics
2. Mitosis and Meiosis
3. Mendelian Genetics
4. Extensions of Mendelian Ratios
5. Chromosome Mapping in Eukaryotes
6. Genetic Analysis and Mapping in Bacteria and Bacteriophages
7. Sex Determination and Sex Chromosomes
8. Chromosome Mutations: Variation in Number and Arrangement
9. Extranuclear Inheritance
10. DNA Structure and Analysis
11. DNA Replication and Recombination
12. DNA Organization in Chromosomes
13. The Genetic Code and Transcription
14. Translation and Proteins
15. Gene Mutation and DNA Repair, and Transposition
16. Regulation of Gene Expression in Prokaryotes
17. Regulation of Gene Expression in Eukaryotes
18. Developmental Genetics
19. Cancer and Regulation of the Cell Cycle
Special Topics in Modern Genetics, DNA Forensics
Special Topics in Modern Genetics, Genomics and Personalized Medicine
Special Topics in Modern Genetics, Epigenetics
Special Topics in Modern Genetics, Stem Cells
20. Recombinant DNA Technology and Gene Cloning
21. Genomics, Bioinformatics, and Proteomics
22. Quantitative Genetics and Multifactorial Traits
23. Applications and Ethics of Genetic Engineering and Biotechnology
24. Genetics and Behavior
25. Population and Evolutionary Genetics
26. Conservation Genetics

About the Author
William S. Klug is an Emeritus Professor of Biology at The College of New Jersey (formerly Trenton State College) in Ewing, New Jersey, where he served as Chair of the Biology Department for 17 years.

Michael R. Cummings is Research Professor in the Department of Biological, Chemical, and Physical Sciences at Illinois Institute of Technology, Chicago, Illinois. For more than 25 years, he was a faculty member in the Department of Biological Sciences and in the Department of Molecular Genetics at the University of Illinois at Chicago.

Charlotte A. Spencer is a retired Associate Professor from the Department of Oncology at the University of Alberta in Edmonton, Alberta, Canada. She has also served as a faculty member in the Department of Biochemistry at the University of Alberta.

Michael A. Palladino is Dean of the School of Science and Professor of Biology at Monmouth University in West Long Branch, New Jersey. He received his B.S. degree in Biology from Trenton State College (now known as The College of New Jersey) and his Ph.D. in Anatomy and Cell Biology from the University of Virginia.

About the Book
With its modern chapter organization and new "Focus on Genomics" boxes, iGenetics: A Molecular Approach reflects the increasing molecular emphasis in today's experimental study of genes while helping students develop problem-solving skills and an appreciation for classic experiments. Although molecular topics are presented first, instructors can assign the chapters in any sequence.

Pedagogical features such as chapter-opening "Key Questions" and strategically placed "Keynotes" help students to efficiently master genetic concepts. The Genetics Place Companion Website contains interactive iActivities and narrated animations that help students visualize and understand processes and concepts that are illustrated in the text.

Features
- Modern chapter organization covers all major areas of genetics, balancing molecular and classical aspects to give students an integrated view of genetic principles.
- The text’s inquiry-based approach engages students in the process of science.
- Step-by-step examples of problem solving throughout the book represent a wide range of topics and difficulty levels.
- Key Questions, appear at the beginning of each chapter, focus student attention in advance on the major concepts within their reading.
- Keynotes, strategically placed throughout the chapter, summarize important ideas and allow students to check their progress.

Contents
1. Genetics: An Introduction
2. DNA: The Genetic Material
3. DNA Replication
4. Gene Control of Proteins
5. Gene Expression: Transcription
6. Gene Expression: Translation
7. DNA Mutation, DNA Repair, and Transposable Elements
8. Genomics
9. Functional and Comparative Genomics
10. Recombinant DNA Technology
11. Mendelian Genetics
12. Chromosomal Basis of Inheritance
13. Extensions of and Deviations from Mendelian Genetic Principles
14. Genetic Mapping in Eukaryotes
15. Genetics of Bacteria and Bacteriophages
16. Variations in Chromosome Structure and Number
17. Regulation of Gene Expression in Bacteria and Bacteriophages
18. Regulation of Gene Expression in Eukaryotes
19. Genetic Analysis of Development
20. Genetics of Cancer
21. Quantitative Genetics
22. Population Genetics
23. Molecular Evolution

Genetic Analysis: An Integrated Approach, 1e
Mark F. Sanders
John L. Bowman
ISBN: 9789332578555
© 2016
Pages: 872

About the Book
Informed by many years of genetics teaching and research experience, authors Mark Sanders and John Bowman use an integrative approach that helps contextualize three core challenges of learning genetics: solving problems, understanding evolution, and understanding the connection between traditional genetics models and more modern approaches.

Features
- An integrative problem-solving approach presents a consistent and effective strategy for students to work through genetics problems.
- Genetic Analysis sections guide students with a unique, three step approach that trains them to Evaluate, Deduce, and then Solve problems. Each Genetic Analysis is presented in a clear, two-column format
- Case Studies are short, real-world examples that appear at the end of every chapter and highlight central ideas or concepts of the chapter with interesting examples that remind students of some practical applications of genetics.
- Carefully crafted summaries and figures help students distill the most important “take home” lessons in each chapter.
- Genetic Insights appear several times within each chapter and help students recognize and understand key concepts at-a-glance.
- Foundation Figures integrate text and art to illustrate pivotal genetics concepts in a concise, easy-to-follow format.
About the Author
Mark F. Sanders has been a faculty member in the Department of Molecular and Cellular Biology at the University of California, Davis for 27 years. In that time, he has taught more than 120 genetics courses to more than 30,000 undergraduate students. Specializing in teaching the genetics course for which this book is written, Dr. Sanders also teaches a genetics laboratory course, an advanced human genetics course for biology majors, and a human heredity course for non-science majors. His teaching experience also includes introductory biology, and courses in population genetics and evolution.

John L. Bowman is a Professor in the School of Biological Sciences at Monash University in Melbourne, Australia and an Adjunct Professor in the Department of Plant Biology at the University of California, Davis in the US. He received a B.S. in Biochemistry at the University of Illinois at Urbana-Champaign, Illinois in 1986 and a Ph.D. in Biology from the California Institute of Technology in Pasadena, California. His Ph.D. research focused on how the identities floral organs are specified in Arabidopsis (described in Chapter 20).

X

About the Book
Genetics occupies a unique central position among the various biological sciences because of its diverse specializations. This acclaimed book provides the basic theoretical information on genetics, the study of heredity and details some of the experiments and reasoning which yield this information. The book is organized into six parts and deals with the identification, transmission and distribution, arrangement, structure, and function of genetic material. The last part of the book deliberates on the course of genetic material in populations. The comprehensive material is supported by a multitude of illustrations and references and problems in every chapter.

Contents
1. The Molecular Basis of Heredity, Variation, and Evolution
2. Transmission Genetics
3. Cell Division and Chromosome Heredity
4. Gene Interaction
5. Genetic Linkage and Mapping in Eukaryotes
6. Genetic Analysis and Mapping in Bacteria and Bacteriophage
7. DNA Structure and Replication
8. Molecular Biology of Transcription and RNA Processing
9. The Molecular Biology of Translation
10. The Integration of Genetic Approaches: Understanding Sickle Cell Disease
11. Chromosome Structure
12. Gene Mutation, DNA Repair, and Homologous Recombination
13. Chromosome Aberrations and Transposition
14. Regulation of Gene Expression in Bacteria and Bacteriophage
15. Regulation of Gene Expression in Eukaryotes
16. Forward Genetics and Recombinant DNA Technology
17. Applications of Recombinant DNA Technology and Reverse Genetics
18. Genomics: Genetics from a Whole-Genome Perspective
19. Cytoplasmic Inheritance and the Evolution of Organellar Genomes
20. Developmental Genetics
21. Genetic Analysis of Quantitative Traits
22. Population Genetics and Evolution

Genetics and Genomics
Dr. Waseem Ahmad Faridi
ISBN: 9788131771099
© 2013
Pages: 572

About the Book
Genetics and Genomics provides an incredible blend of basic as well as applied knowledge and deals with the identification, transmission, structure and function of genetic material, recombinant DNA technology, and areas related to the expression and regulation of genome.

The book exhibits a thorough and enhanced approach to the conceptual understanding of the subject with latest examples and experiments. Being a multidisciplinary subject, the book would be a great asset for students studying zoology, botany, biochemistry, genetics and genomics, cytology, cytogenetics, cell and molecular biology. Students of toxicology, genotoxicity and environmental biology, human genetics, medical and clinical genetics, paramedical and allied sciences would also find the book useful. Special efforts have been taken to address the curricula of a wide range of universities, institutes and colleges.

Features
- Over 450 colour illustrations/diagrams, photographs and micrographs
- Succinct concept outlines and chapter-end summaries for effortless recapitulation
- Key terms at the end of each chapter for quick reference
- Over 230 review questions for practice

Contents
1. Mendelian Genetics
2. Extension and Modification of Mendel Laws and Gene Interaction
3. Multiple Alleles and Polygenic Inheritance
4. Sex Determination and Differentiation
V. Biotechnological Aspects of Microbial Ecology.

4. Microbial Interactions with Xenobiotic and Inorganic Pollutants.
8. Effects of Abiotic Factors and Environmental Extremes on Microorganisms.
13. Microbial Interactions with Xenobiotic and Inorganic Pollutants.
16. Ecological Control of Pests and Disease-Causing Populations.
17. Regulation of Genome Expression.
18. Cloning and Recombinant DNA Technology.

About the Author
Dr. Waseem Ahmad (Faridi) is a Professor in the Department of Zoology, Aligarh Muslim University, Aligarh, Uttar Pradesh.
research base, presenting theory and data in parallel so students can evaluate how well the theory fits reality. A set of problems and questions after each chapter further motivates thinking.

Contents
1. Introduction to the Science of Ecology
2. Evolution and Ecology
3. Behavioral Ecology
4. Analyzing Geographic Distributions
5. Factors That Limit Distributions I: Biotic
6. Factors That Limit Distributions II: Abiotic
7. Distribution and Abundance
8. Population Parameters and Demographic Techniques
9. Population Growth
10. Species Interactions I: Competition
11. Species Interactions II: Predation
12. Species Interactions III: Herbivory and Mutualism
13. Species Interactions IV: Disease and Parasitism
14. Regulation of Population Size
15. Applied Problems I: Harvesting Populations
16. Applied Problems II: Pest Control
17. Applied Problems III: Conservation Biology
18. Community Structure in Space: Biodiversity
19. Community Structure in Time: Succession
20. Community Dynamics I: Predation and Competition in Equilibrium Communities
21. Community Dynamics II: Disturbance and Nonequilibrium Communities
22. Ecosystem Metabolism I: Primary Production
23. Ecosystem Metabolism II: Secondary Production
24. Ecosystem Metabolism III: Nutrient Cycles
25. Ecosystem Dynamics under Changing Climates
26. Ecosystem Health and Human Impacts

About the Book

Known for its evolution theme and strong coverage of the relevance of ecology to everyday life and the human impact on ecosystems, the thoroughly revised *Eighth Edition* features refined quantitative exercises, a restructured chapter on life history, a thoroughly revised species interactions unit including a chapter introducing the subject, and a new chapter on species interactions. To emphasize the dynamic and experimental nature of ecology, each chapter draws upon current research in the various fields of ecology while providing accessible examples that help students understand species natural history, specific ecosystems, the process of science, and ecological patterns at both an evolutionary and demographic scale.

To engage students in using and interpreting data, a wide variety of Quantifying Ecology boxes walk through step-by-step examples of equations and statistical techniques. The enhanced companion website (www.ecologyplace.com) features new MapMaster™ interactive map activities for exploring ecosystems, physical environments, and populations at regional and global scales, along with popular GRAPHHit! and QUANTIFYit! exercises that help students further master and apply math skills, and a new Pearson eText.

Features
- **Interpreting Ecological Data** exercises help students test their understanding of graphs and data and to consider different outcomes.
- **The Ecology Place companion website** is referenced in the text and features new MapMaster interactive map activities for exploring ecosystems, physical environments, and populations at regional and global scales, along with popular GRAPHHit! and QUANTIFYit! exercises that help students further master and apply math skills, and a new Pearson eText. A subscription to the Ecology Place is included with each new copy of the text for no additional charge (www.ecologyplace.com).
- **Quantifying Ecology** boxes help students develop the quantitative skills they need to interpret ecological data, research, and models. Skills are reinforced by a set of follow-up questions and links to GRAPHHit! and QUANTIFYit! on the companion website (www.ecologyplace.com).
- **Field Studies** discuss ecological research performed by young up-and-coming scientists, and challenge students to interpret the results of the featured research.
- **Ecological Issues** essays describe how humans influence the study of ecology. For example, the short essay “The Ecology of Antibiotic Resistance” discusses how antibiotic resistance is a result of natural selection. Each essay is followed by a set of critical thinking questions.
- **Engaging introductions** give students a “big picture” overview of the coming chapters in each of the eight parts of the book, so they can understand how various topics interrelate.
- **Landscape Ecology chapter** explores the role of disturbance in ecosystems.
- **Further Readings** at the end of each chapter emphasize how the text is based on real scientific studies. These Further Readings are annotated to explain their relevance to the student/instructor.

Contents
1. THE PHYSICAL ENVIRONMENT
   2. Climate
   3. The Aquatic Environment
   4. The Terrestrial Environment
II. THE ORGANISM AND ITS ENVIRONMENT
5. Ecological Genetics: Adaptation and Natural Selection
6. Plant Adaptations to the Environment
7. Animal Adaptations to the Environment

III. POPULATIONS
8. Properties of Populations
9. Population Growth
10. Life History
11. Intraspecific Population Regulation
12. Metapopulations

IV. SPECIES INTERACTIONS
13. Species Interactions, Population Dynamics and Natural Selection
14. Interspecific Competition
15. Predation
16. Parasitism and Mutualism

V. COMMUNITY ECOLOGY
17. Community Structure
18. Factors Influencing the Structure of Communities
19. Community Dynamics
20. Landscape Ecology

VI. ECOSYSTEM ECOLOGY
21. Ecosystem Energetics
22. Decomposition and Nutrient Cycling
23. Biogeochemical Cycles

VII. BIOGEOGRAPHICAL ECOLOGY
24. Terrestrial Ecosystems
25. Coastal and Wetland Ecosystems
26. Land-Water Margins
27. Large-scale Patterns of Biological Diversity

VIII. HUMAN ECOLOGY
28. Population Growth, Resource Use, and Sustainability
29. Global Climate Change

Immunology

The Elements of Immunology
Fahim Halim Khan
ISBN: 9788131711583
© 2009
Pages: 508

About the Book
The Elements of Immunology is designed to introduce readers to the exciting world of immunology, the people who populate it and foster a curiosity to question and know more. The book is supported by a consistent, colourful art programme. The detailed explanation of concepts and terms, and the deconstruction of complex molecular mechanisms into simple, easy-to-remember steps help students focus on the fundamentals without any distractions. Packed with extensive Web-based supplements, the book enables students to visualize concepts, thereby enriching the learning process. The book, comprising twenty chapters, has numerous pedagogical elements built into it. Margin snippets present interesting and relevant information without breaking the flow of the text. Margin definitions highlight the key terms for easy identification and recollection. Each chapter talks about a relevant molecular biology technique, thus providing an insight into the practical aspect of immunology as well. A glossary at the end of the book lists out the important terms used.

Features
• Simple and lucid language explaining core concepts
• Rich pedagogy that facilitates learning
• Colourful and consistent art programme comprising over 300 four-colour illustrations that helps to visualize and comprehend concepts better
• 400 end-of-chapter questions help revise the key concepts
• Discussion of the latest developments in the area of immunology such as MHC haplotype matching for cell transplantation, latest antiretroviral drugs developed against HIV, etc.
• Description of key contributors, researchers and their landmark experiments
• Packed with supplements and media resources

Over 30 animations that depict key concepts in three dimensions
A question bank containing over 400 questions and clinical case studies along with lecture slides including artwork from the book, as supplements to the text, specifically for the instructors

Contents
1. Introduction to the Immune System
2. Cells and Organs of the Immune System
3. Antigens
4. Antibodies
5. Generation of Antibody Diversity
6. Major Histocompatibility Complex
7. T-cell Receptor
8. T-cell Development and Activation
9. B-cell Development and Activation
10. Complement System
11. Antigen Processing and Presentation
12. Cell-mediated Immunity
13. Hypersensitivity
14. Cell Migration and Inflammatory Response
15. Immune Response to Infectious Agents
16. Vaccines
17. Transplantation Immunology
18. Cancer and the Immune System
19. Primary and Secondary Immunodeficiencies
20. Autoimmunity and Autoimmune Diseases

About the Author
Fahim Halim Khan is an assistant professor of biochemistry at the Aligarh Muslim University.

Intellectual Property Rights (Biotech)

IPR, Biosafety and Bioethics
Dr Deepa Goel
Dr Shomini Parashar
ISBN: 9788131774700
© 2013
Pages: 248

About the Book
This book provides a broad coverage of three areas of patenting intellectual property rights (IPR), biosafety and bioethics. It creates awareness about the value of IPR in our lives. The book also fosters a better understanding of the rights associated with IPR such as copyright, patent, trademarks, industrial designs, geographical indications and so on. Biosafety and bioethical issues prevalent in modern society are discussed. The text covers the complete
Ample introductory material and laboratory safety instructions are provided. Procedures, and lab reports with review and critical thinking questions. and minimal equipment requirements. A broad range of experiments helps to convey basic principles and techniques. Each experiment includes an overview, an in-depth discussion of the principle involved, easy-to-follow procedures, and lab reports with review and critical thinking questions. Ample introductory material and laboratory safety instructions are provided.

About the Book

Syllabi of all major Indian universities and caters to the needs of Indian students.

Features

- Discusses all aspects of the subject in a simple and lucid manner
- Contains review question and multiple-choice questions for practice
- Provides unmatched pedagogy:
  - 100 review questions
  - 120 multiple-choice questions

Contents

1. Meaning and Justification of Patenting an Invention
2. History and Evolution of Patent Law
3. Classification of Patents
4. Grant of Patent and Patenting Authorities
5. Patent Owner: Rights and Duties
6. Protection of Plant varieties and Farmers’ Right Act, 2001
7. Patent law: Present Scenario
8. Introduction to Biosafety
9. GMOs: Concerns and Challenges
10. National and International Regulatory Mechanism for GMO
11. Biosafety of Genetically Engineered Products
12. Allergenicity: Assessment of Genetically Modified food
13. Introduction to Bioethics
14. NGOs for Biosafety and Bioethics
15. Web-based Information of Biosafety on GMO
16. Good Laboratory Biosafety Practises
17. Case Studies in IPR and Biosafety

About the Author

Dr Deepa Goel is Assistant Professor at the Department of Biotechnology, IMS Engineering College, Ghaziabad. Her core area of interest is the development of transgenic plants with elite traits.

Ms Shomini Parashar is Assistant Professor at the Department of Biotechnology, IMS Engineering College, Ghaziabad. Her core area of interest is screening of microbes with novel traits that are useful to mankind.

Microbiology: A Laboratory Manual, 10/e

James Cappuccino
Natalie Sherman

ISBN: 9789332535190
© 2014
Pages: 576

About the Book

Versatile, comprehensive, and clearly written, this competitively priced laboratory manual can be used with any undergraduate microbiology text—and now features brief clinical applications for each experiment, MasteringMicrobiology® quizzes that correspond to each experiment, and a new experiment on hand washing. Microbiology: A Laboratory Manual is known for its thorough coverage, descriptive and straightforward procedures, and minimal equipment requirements. A broad range of experiments helps to convey basic principles and techniques. Each experiment includes an overview, an in-depth discussion of the principle involved, easy-to-follow procedures, and lab reports with review and critical thinking questions. Ample introductory material and laboratory safety instructions are provided.

Features

- Comprehensive coverage of the core microbiology topics includes experiments in the areas of genetics, immunology, and biotechnology.
- A wide range of experiments progressing from simple to complex enable instructors to tailor their laboratory classes to the topics they wish to cover.
- Experiments use the most common and affordable laboratory materials, designed to accommodate any lab.
- Over 90 photographs in full color and numerous illustrations appear directly alongside the experiments, helping students visualize techniques and expected results.
- Spiral binding makes student-use easier and minimizes space on a lab bench.
- A detailed introductory section on basic lab techniques and safety thoroughly prepares students for lab work during the semester.
- “Caution” icons alert users to experiments that pose a potential risk.
- Six appendices cover the topics of Scientific Notification, Methods for Preparation of Dilutions, Microbiological Media, Biochemical Test Reagents, Staining Reagents, and Experimental Microorganisms.
- A Guide to Serial Dilutions is printed on the inside back cover for students’ quick reference in completing exercises.
- Art demonstrating lab procedures appears consistently in a special box design that distinguishes it from other art, and catches the student’s eye.
- A bold and modern four-color design adds distinction to each individual element, and allows for easier navigation within each experiment.

Contents

Part 1: Basic Laboratory Techniques for Isolation, Cultivation, and Cultural Characterization of Microorganisms
1. Effectiveness of Hand Washing
2. Culture Transfer Techniques
3. Techniques for Isolation of Pure Cultures
4. Cultural Characteristics of Microorganisms

Part 2: Microscopy
5. Microscopic Examination of Stained Cell Preparations
6. Microscopic Examination of Living Microorganisms Using a Hanging Drop Preparation or a Wet Mount
7. The Microscopic Measurement of Microorganisms

Part 3: Bacterial Staining
8. Preparation of Bacterial Smears
9. Simple Staining
10. Negative Staining
11. Gram Stain
12. Acid-Fast Stain
13. Differential Staining for Visualization of Bacterial Cell Structures

Part 4: Cultivation of Microorganisms: Nutritional and Physical Requirements, and Enumeration of Microbial Populations
14. Nutritional Requirements: Media for the Routine Cultivation of Bacteria
15. Use of Differential, Selective, and Enriched Media
16. Physical Factors: Temperature
17. Physical Factors: pH of the Extracellular Environment
18. Physical Factors: Atmospheric Oxygen Requirements
19. Techniques for the Cultivation of Anaerobic Microorganisms
20. Serial Dilution - Agar Plate Procedure to Quantitate Viable Cells
21. The Bacterial Growth Curve

Part 5: Biochemical Activities of Microorganisms
22. Extracellular Enzymatic Activities of Microorganisms
23. Carbohydrate Fermentation
24. Triple Sugar-Iron Agar Test
25. IMViC Test
26. Hydrogen Sulfide Test
27. Urease Test
28. Litmus Milk Reactions
### Part 6: The Protozoa
- Free-Living Protozoa
- Parasitic Protozoa

### Part 7: The Fungi
- Cultivation and Morphology of Molds
- Yeast Morphology, Cultural Characteristics, and Reproduction
- Identification of Unknown Fungi

### Part 8: The Viruses
- Cultivation and Enumeration of Bacteriophages
- Isolation of Coliphages from Raw Sewage

### Part 9: Physical and Chemical Agents for the Control of Microbial Growth
- Physical Agents of Control: Moist Heat
- Physical Agents of Control: Environmental Osmotic Pressure
- Physical Agents of Control: Electromagnetic Radiations
- Chemical Agents of Control: Chemotherapeutic Agents
- Determination of Penicillin Activity in the Presence and Absence of Penicillinase
- Chemical Agents of Control: Disinfectants and Antiseptics

### Part 10: Microbiology of Food
- Microbiological Analysis of Food Products: Bacterial Count
- Wine Production

### Part 11: Microbiology of Water
- Standard Qualitative Analysis of Water
- Quantitative Analysis of Water: Membrane Filter Method

### Part 12: Microbiology of Soil
- Microbial Populations in Soil: Enumeration
- Isolation of Antibiotic-Producing Microorganisms and Determination of Antimicrobial Spectrum of Isolates
- Isolation of Pseudomonas Species by Means of the Enrichment Culture Technique

### Part 13: Bacterial Genetics
- Enzyme Induction
- Bacterial Conjugation
- Isolation of a Streptomycin-Resistant Mutant
- The Ames Test: A Bacterial Test System for Chemical Carcinogenicity

### Part 14: Biotechnology
- Bacterial Transformation
- Isolation of Bacterial Plasmids
- Restriction Analysis and Electrophoretic Separation of Bacteriophage Lambda DNA

### Part 15: Medical Microbiology
- Microbial Flora of the Mouth: Determination of Susceptibility to Dental Caries
- Normal Microbial Flora of the Throat and Skin
- Identification of Human Staphylococcal Pathogens
- Identification of Human Streptococcal Pathogens
- Identification of Streptococcus pneumoniae
- Identification of Enteric Microorganisms Using Computer-Assisted Multitest Microsystems
- Isolation and Presumptive Identification of Campylobacter
- Microbiological Analysis of Urine Specimens
- Microbiological Analysis of Blood Specimens
- Species Identification of Unknown Bacterial Cultures

### Part 16: Immunology
- Precipitin Reaction: The Ring Test
- Agglutination Reaction: The Febrile Antibody
- Immunofluorescence
- Enzyme-Linked Immunoabsorbent Assay
- Agglutination Reaction: Mono-Test for Infectious Mononucleosis
- Sexually Transmitted Diseases: Rapid Immunodiagnostic Procedures

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### About the Book
This #1 selling non-majors microbiology textbook is praised for its straightforward presentation of complex topics, careful balance of concepts and applications, and proven art that teaches. In its Eleventh Edition, Tortora, Funke, and Case's Microbiology: An Introduction helps students make the connection between microbiology and human health. This edition continues to incorporate the latest in microbiology research and includes more features designed to engage students and promote critical thinking.

With the complex and extensive information presented in introductory microbiology courses, demonstrating the connections between processes students can’t see with their naked eye and diseases they will encounter in future careers can be challenging. Microbiology: An Introduction guides students through the process of disease diagnosis, aided by the practical application of the new Clinical Cases that are integrated through every textbook chapter.

### Features
The text’s proven illustration methods include Foundation figures that help students see the big picture and step-by-step diagrams that place explanatory text immediately next to the relevant art so students don’t have to refer to lengthy legends to understand complex processes.

Active learning pedagogy engages students through the use of figure legend questions with every figure. Check Your Understanding questions appear at key points throughout the chapters, encouraging students to engage interactively with the text and self-assess their understanding of the corresponding Learning Objectives.

Diseases are organized by body system in the disease chapters (Chapters 21—26), which facilitates learning for students who are pursuing careers in health care fields and have taken an anatomy & physiology course that also organizes topics by body system.

### Contents

#### I. FUNDAMENTALS OF MICROBIOLOGY
1. The Microbial World and You
2. Chemical Principles
3. Observing Microorganisms Through a Microscope
4. Functional Anatomy of Prokaryotic and Eukaryotic Cells
5. Microbial Metabolism
6. Microbial Growth
7. The Control of Microbial Growth
8. Microbial Genetics
9. Biotechnology and Recombinant DNA

#### II. A SURVEY OF THE MICROBIAL WORLD
10. Classification of Microorganisms
11. The Prokaryotes: Domains Bacteria and Archaea
12. The Eukaryotes: Fungi, Algae, Protozoa, and Helminths
13. Viruses, Viroids, and Prions

#### III. INTERACTION BETWEEN MICROBE AND HOST
14. Principles of Disease and Epidemiology
15. Microbial Mechanisms of Pathogenicity
16. Innate Immunity: Non-specific Defenses of the Host
17. Adaptive Immunity: Specific Defenses of the Host
About the Author
Gerard J. Tortora is a professor of biology and teaches microbiology, human anatomy, and physiology at Bergen Community College in Paramus, New Jersey. He received his M.A. in Biology from Montclair State College in 1965. He belongs to numerous biology/microbiology organizations, such as the American Society of Microbiology (ASM), Human Anatomy and Physiology Society (HAPS), American Association for the Advancement of Science (AAAS), National Education Association (NEA), New Jersey Educational Association (NJEA), and the Metropolitan Association of College and University Biologists (MACUB). Jerry is the author of a number of biological science textbooks. In 1995, he was selected as one of the finest faculty scholars at Bergen Community College and was named Distinguished Faculty Scholar. In 1996, Jerry received a National Institute for Staff and Organizational Development (NISOD) excellence award from the University of Texas and was selected to represent Bergen Community College in a campaign to increase awareness of the contributions of community colleges to higher education.

Berdell R. Funke received his Ph.D., M.S., and B.S. in microbiology from Kansas State University. He has spent his professional years as a professor of microbiology at North Dakota State University. He taught introductory microbiology, including laboratory sections, general microbiology, food microbiology, soil microbiology, clinical parasitology, and pathogenic microbiology. As a research scientist in the Experiment Station at North Dakota State, he has published numerous papers on soil microbiology and food microbiology.

Christine L. Case is a registered microbiologist and a professor of microbiology at Skyline College in San Bruno, California, where she has taught for the past 38 years. She received her Ed.D. in curriculum and instruction from Nova Southeastern University and her M.A. in microbiology from San Francisco State University. She was Director for the Society for Industrial Microbiology (SIM). She received the ASM and California Hayward outstanding educator awards. In addition to teaching, Chris contributes regularly to professional literature, develops innovative educational methodologies, and maintains a personal and professional commitment to conservation and the importance of science in society. Chris is also an avid photographer, and many of her photographs appear in this book.

About the Author
Dr Shakir Ali, PhD, is Professor and former Head of the department of biochemistry at Jamia Hamdard, New Delhi. He has been teaching cell biology and clinical biochemistry at the postgraduate level for over 20 years and guiding several research students to their M.Phil. and PhD degrees.
A recipient of the Commonwealth fellowship award (UK) in 2002 and UGC research award in 2013, Dr. Ali has over 100 publications and two volumes of a book on liver diseases to his credit.

Molecular Modelling: Principles and Applications, 2/e
Andrew Leach
ISBN: 9788131728604
© 2009
Pages: 768

About the Book
This important new edition is for graduate students studying Molecular Modelling, Computational Chemistry within Chemistry, Medicinal Chemistry and Biochemistry. Postgraduates and researchers in academia and in the chemical and pharmaceutical industries. This new edition introduces background theory and techniques of molecular modeling, also illustrates applications in studying physical, chemical and biological phenomena. It includes simple numerical examples and numerous explanatory figures and a colour plate section.

Features
• New chapter on protein structure including more bioinformatics.
• Extended chapter on drug design including more on chemoinformatics.
• Expanded coverage of materials chemistry giving more examples.
• Updated chapter on DFT.
• Problems and answers specifically for graduate teaching

Contents
1. Useful Concepts in Molecular Modelling.
2. An Introduction to Computational Quantum Mechanics.
7. Molecular Dynamics Simulation Methods.
12. The Use of Molecular Modelling and Chemoinformatics to Discover and Design New Molecules.

About the Author
Dr. Andrew Leach is a Group Leader in Computational Chemistry and Informatics at Glaxo Wellcome Research and Development.

Essentials of Molecular Biology
Malathi V
ISBN: 9788131773215
© 2012
Pages: 468

About the Book
This book provides an introduction to the concepts of molecular biology in strict adherence to the UGC curriculum for undergraduate students of biochemistry, microbiology, biotechnology, bioinformatics, botany and zoology offered by all Indian universities. Replete with vivid illustrations, the book probes the recent developments in epigenetics, drug discovery, genomics proteomics, prions and oncology. Exhaustive coverage of the fundamentals of molecular biology as well as comprehensive review questions and multiple-choice questions make this book a perfect text for classroom.

Features
• In-depth examination of the principles of transcription, translation and post translational modifications
• Detailed explanation of gene organization in prokaryotes and eukaryotes, gene regulation concepts and recombinant DNA technology
• Extended case studies on cancer-causing genes and real-time applications of rDNA technology
• Illustrative experiments on DNA sequencing, gene mutation and other molecular biology techniques

Contents
1. Nucleic acids
2. Gene organization
3. DNA replication
4. Transcription
5. Translation
6. Protein Sorting
7. Gene regulation
8. Gene mutation and DNA repair
9. Recombinant DNA technology
10. Epigenetics
11. Genomics and Proteomics
12. Molecular Biology Lab Techniques

About the Author
Malathi V. is Professor, Department of Biochemistry, Ethiraj College for Women, Chennai. She has over 13 years of experience in research and academics in the fields of biochemistry and molecular biology.
Tissue Engineering, 1/e
Bernhard O. Palsson
Sangeeta N. Bhatia
ISBN: 9789332571792
© 2016
Pages: 432

About the Book
For senior-level and first-year graduate courses in Tissue Engineering, in departments of bioengineering; and for students researching tissue replacement and restorations; as well as students of biology medicine and life science working with primary and complex cell biology.
This text—the first in its field—lays the foundation for students studying tissue engineering. It provides a conceptual framework that includes exposure to all the necessary background material in all areas.

Features
• Coverage of basic, important fundamental concepts—Rather than review articles.
• Makes this book a practical guide in the field as tissue engineering changes, and helps students establish a conceptual framework within which to place further advances in the field.
• A four-part presentation—Part I quantitative cell and tissue biology; Part II cell and tissue characterization; Part III engineering methods and design; and Part IV clinical implementation.
• Supplies students with the broad coverage that eliminates their need to supplement class notes with medical and methods literature.
• Emphasis on relevant time and length scales of physical-chemical processes in cell biology and medicine.
• Establishes a conceptual framework within which to place further advances in the field.
• Broad range of quantitative homework sets with solutions.
• Gives students extensive opportunity to apply learned concepts throughout the text.

Contents
1. Introduction.
I. QUANTITATIVE CELL AND TISSUE BIOLOGY.
2. Tissue Organization.
3. Tissue Dynamics.
4. Morphogenesis.
5. Stem Cells.
6. The Cellular Fate Processes.
7. Coordination.
II. CELL AND TISSUE CHARACTERIZATION.
8. High-Throughput Biological Data.
III. ENGINEERING METHODS AND DESIGN.
12. Time Constants.
13. Scaling-up.
15. Biomaterial Scaffolds.
16. Tailoring Biomaterials.
IV. CLINICAL IMPLEMENTATION.
17. Conventional Approaches to Tissue Repair.
18. Host Integration.
19. Producing TE Therapies.
Tissue Engineering Study Problems.
Bibliography.
Index.

About the Author
Bernhard O. Palsson
Sangeeta N. Bhatia

Practical Skills in Biomolecular Sciences, 4/e
Jonathan Weyers
ISBN: 9789332517387
© 2014
Pages: 576

About the Book
If you are a studying within the biomolecular sciences (including biochemistry, biomedical sciences, biotechnology, genetics, microbiology and molecular biology) then this book will be an indispensable companion throughout the whole of your degree programme. It provides effective support for the development of the laboratory and data analysis skills that you will draw on and again for the practical aspects of your studies, and also gives you a solid grounding in the broader transferable skills which are

Features
• Provides a 'one-stop' guide to the key practical and broader skills needed in biomolecular sciences, including comprehensive coverage of study and examination skills; fundamental laboratory and analytical skills; investigative techniques and evaluation skills; analysis and presentation of data.
• Contains numerous margin tips and hints, ‘how to’ boxes, checklists and examples.
• Key points highlight the most important features of methodology.
• Includes numerous study exercises, references and sources for further study.

Contents
STUDY AND EXAMINATION SKILLS
1. The importance of transferable skills
2. Managing your time
3. Working with others
4. Taking notes from lectures and texts
5. Learning effectively
6. Revision strategies
7. Assignments and exams
8. Preparing your curriculum vitae
INFORMATION TECHNOLOGY AND LEARNING RESOURCES
9. Finding and citing published information
10. Evaluating information
11. Using online resources
12. Bioinformatics - Internet resources
13. Using Spreadsheets
14. Using word processors, databases and other packages
COMMUNICATING INFORMATION
15. Organising a poster display
16. Giving a spoken presentation
17. General aspects of scientific writing
18. Writing essays
19. Reporting practical and project work
20. Writing literature surveys and reviews
FUNDAMENTAL LABORATORY TECHNIQUES
21. Essentials of practical work
22. Bioethics
23. Health and safety
24. Working with liquids
Basic laboratory procedures
Principles of solution chemistry
pH and buffer solutions
Introduction to microscopy
Setting up and using a light microscope

THE INVESTIGATIVE APPROACH
Making measurements
SI units and their use
Scientific method and design of experiments
Making notes of practical work
Project work

WORKING WITH CELLS AND TISSUES
Sterile technique
Culture systems and growth measurement
Collecting and isolating microbes
Identifying microbes
Naming microbes and other organisms
Working with animal and plant tissues and cells
Homogenisation and fractionation of cells and tissues

ANALYTICAL TECHNIQUES
Calibration and its application to quantitative analysis
Immunological methods
Using stable isotopes
Using radioisotopes
Light measurement
Basic spectroscopy
Advanced spectroscopy and spectrometry
Centrifugation
Chromatography - separation methods
Chromatography - detection and analysis
Principles and practice of electrophoresis
Advanced electrophoretic techniques
Electroanalytical techniques

ASSAYING BIOMOLECULES AND STUDYING METABOLISM
Analysis of biomolecules: fundamental principles
Assaying amino acids, peptides and proteins
Assaying lipids
Assaying carbohydrates
Assaying nucleic acids and nucleotides
Protein purification
Enzyme studies
Membrane transport processes
Photosynthesis and respiration

GENETICS
Mendelian genetics
Bacterial and phage genetics
Molecular genetics I - fundamental principles
Molecular genetics II - PCR and related applications
Molecular genetics III - genetic engineering techniques

ANALYSIS AND PRESENTATION OF DATA
Manipulating and transforming raw data
Using graphs
Presenting data in tables
Hints for solving numerical problems
Descriptive statistics
Choosing and using statistical tests
GEOLOGY & OCEANOGRAPHY
About the Book
The primary objective of this book is to present the basic concepts of structural geology to undergraduate students. A comprehensive coverage of important topics, such as folding, joints, faults, diapirism, unconformities, impact structures, igneous rocks and geophysical methods essential for both the geologist and geophysicist is incorporated.

Features
• Emphasis is laid on mathematical methods especially while dealing with mechanical principles, mechanics of folding, jointing, plastic deformations, and geophysical methods.
• Laboratory exercises encourage students to analyze geological problems in a wider perspective.
• References at the end of each chapter render the book useful to advanced reader also.

Contents
1. Structural Geology.
3. Description of Folds.
4. Field Study of Folds.
5. Office Techniques Used in Studying Folds.
7. Joints.
8. Description and Classification of Faults.
10. Reserve Faults, Thrust Faults, and Overthrusts.
13. Dating of Structural Events.
15. Extrusive Igneous Rocks.
17. Emplacement of Large Plutons.
18. Cleavage and Schistosity.
20. Plastic Deformation.
24. Laboratory Exercises.
Index.

About the Author
Marland Pratt Billings was an American geologist and professor. He specialised in Structural Geology. He earned his PhD from Harvard University and was Professor of Geology at that university. He was a Fellow of the American Academy of Arts and Sciences and was awarded the Penrose Medal. His other books include Origin of the Appalachian Highlands and the Geology of the Mt. Washington Quadrangle.
About the Author
John R. Jensen received a BA in geography from California State University at Fullerton, an MS from Brigham Young University (BYU), and a PhD from the University of California at Los Angeles (UCLA). He is a Carolina Distinguished Professor Emeritus in the Department of Geography at the University of South Carolina. He is a certified photogramme""
chapters without losing continuity.

- GEODe icons are found throughout the book wherever a text discussion has a corresponding GEODe:Atmosphere activity. This dynamic program reinforces key concepts by using animations, tutorials, interactive exercises and review quizzes.

Contents
1. Introduction to the Atmosphere
2. Heating Earth's Surface and Atmosphere
3. Temperature
4. Moisture and Atmospheric Stability
5. Forms of Condensation and Precipitation
6. Air Pressure and Winds
7. Circulation of the Atmosphere
8. Air Masses
9. Weather Patterns
10. Thunderstorms and Tornadoes
11. Hurricanes
12. Weather Analysis and Forecasting
13. Air Pollution
14. The Changing Climate
15. World Climates
16. Optical Phen

About the Author
Fred Lutgens received his B.S. and M.S. from Illinois State University. Ed Tarbuck received his B.S. from the University of Minnesota Duluth, and his M.A. from Indiana University. Both are professors emeriti from Illinois Central College. They have been good friends and colleagues since 1970.

About the Book
For courses in Earth Systems Science offered in departments of Geology, Earth Science, Geography and Environmental Science.

The Earth System, 3/e
Lee R. Kump
James F. Kasting
Robert G. Crane
ISBN: 9789332575738
© 2016
Pages: 472

Features
- A Closer Look, Useful Concepts, and Thinking Quantitatively boxes address topical issues related to the material presented. They give students appealing visual and highlighted aids and isolates advanced, quantitative treatments for higher-level courses.
- The systems theory approach looks holistically at all that happens on Earth and the interactions of all that is here—such as the effect of weather on land, the effect of erosion on the ocean, the chemical changes that occur—and emphasizes that these processes do not happen in a vacuum.
- An emphasis on global change addresses modern issues as global warming, ozone depletion, and biodiversity loss.
- A thorough treatment of Earth history provides a framework for developing a deep understanding of global problems while it explores analogous situations in Earth history.

- Extensive pedagogy in each chapter includes thought questions, a summary of important points, a list of important terms, and recommended general and advanced readings.
- Instructor's Resource Guide and Instructor's Resource CD-ROM are now standard instructor supplements with the text.

Contents
1. Global Change
2. Daisyworld: An Introduction to Systems
4. The Atmospheric Circulation System
5. The Circulation of the Oceans
6. The Cryosphere
7. Circulation of the Solid Earth: Plate Tectonics
8. Recycling of the Elements
9. Focus on the Biota: Metabolism, Ecosystems and Biodiversity
10. Origin of the Earth and of Life
11. Effect of Life on the Atmosphere: The Rise of Oxygen and Ozone
12. Long-Term Climate Regulation
13. Biodiversity Through Earth History
14. Pleistocene Glaciations
17. Ozone Depletion
18. Human Threats to Biodiversity

About the Author
Lee R. Kump is a Professor in the Department of Geosciences, and an associate of the Earth System Science Center and Astrobiology Research Center at the Pennsylvania State University. A native of Minnesota, he received his bachelor's degree in geophysical sciences from the University of Chicago in 1981, and his Ph.D. in marine sciences from the University of South Florida in 1986. While in Florida he spent two summers as a geologist with the United States Geological Survey's Fisher Island Station. In August of 1986 he joined the faculty at Penn State.

James Kasting is a Distinguished Professor of Geosciences at Penn State University. He received his undergraduate degree from Harvard University in Chemistry and Physics and did his Ph.D. at the University of Michigan in Atmospheric Sciences. Prior to coming to Penn State in 1988, he spent 7 years in the Space Science Division at NASA Ames Research Center. His research focuses on the evolution of planetary atmospheres, particularly the question of why the atmospheres of Mars and Venus are so different from that of Earth. He is also interested in the question of whether habitable planets exist around other stars and is involved with NASA's proposed Terrestrial Planet Finder Mission(s), which will try to answer that question over the next 15-20 years.

Earth: An Introduction to Physical Geology, 11/e
Edward J. Tarbuck
ISBN: 9789332571662
© 2016
Pages: 888

About the Book
With its strong focus on readability and engaging, instructive illustrations, this trusted bestseller returns in a new edition with a bold new look, new contributor Callan Bentley, interactive “SmartFigures,” and a highly anticipated learning path that facilitates active learning. Earth: An Introduction to Physical Geology, 11/e maintains its highly visual, non-technical survey and up-to-date
coverage of foundational physical geology principles. The authors’ emphasis on currency and relevance includes the latest thinking in the field, particularly in the dynamic area of plate tectonics.

Features
- Art that teaches and motivates includes high-quality photographs and line art that were carefully selected to aid understanding, add realism, and heighten student interest. The art program is the work of Dennis Tasa, a gifted artist and respected geological illustrator.
- Strong Readability is achieved through the book’s straightforward language, written to be understood. Clear, readable discussions with a minimum of technical language are the rule.
- Focus on Basic Principles is stronger than ever with the Eleventh Edition, fostering student understanding of basic principles while also addressing topical issues.
- Flexibility is achieved through the text’s adaptable organization meeting the needs and desires of the instructor. Realizing the broad diversity of introductory courses in both content and approach, we have designed each chapter to be as self-contained as possible so that material may be taught in a different sequence according the preference of the instructor.

Contents
1. An Introduction to Geology
2. Plate Tectonics: A Scientific Revolution Unfolds
3. Magma and Metamorphism
4. Igneous Rocks and Intrusive Activity
5. Volcanoes and Volcanic Hazards
6. Weathering and Soil
7. Sedimentary Rocks
8. Metamorphism and Metamorphic Rocks
9. Geologic Time
10. Crustal Deformation
11. Earthquakes and Earthquake Hazards
12. Earth’s Interior
14. Convergent Boundaries: Origin of Mountains
16. Running Water
17. Groundwater
18. Deserts and Winds
19. Glaciers and Glaciation
20. Shorelines
21. Global Climate Change
22. Earth’s Evolution through Geologic Time
23. Energy and Mineral Resources

About the Author
Fred Lutgens and Ed Tarbuck have been good friends and colleagues since 1970. Between them, they have more than 57 years of experience teaching geology to undergraduates, and both have been recognized with awards as excellent and inspiring professors. They share a special interest in introducing geology to beginning students and a belief in the value of field experiences for students of all levels. Lutgens and Tarbuck published their first college text, Earth Science, in 1976. That book, winner of the McGuffy Award from the Text and Academic Authors Association, is now in its thirteenth edition. In 1983, as the first edition of Earth was being prepared, gifted geology illustrator Dennis Tasa joined the author team. Since then the three have collaborated on more than twenty projects. Not only do Tarbuck, Lutgens, and Tasa work well together creatively; they also enjoy spending time in the Sangre de Cristo Mountains near Tasa’s New Mexico studio.

Mineralogy

About the Book
Considered a classic by many, A First Course in Abstract Algebra is an in-depth introduction to abstract algebra. Focused on groups, rings and fields, this text gives students a firm foundation for more specialized work by emphasizing an understanding of the nature of algebraic structures.

Features
- Emphasis is placed on problems encountered in everyday life, including environmental problems.
- Sciences outside of mineralogy, such as petrology and chemistry, are emphasized to place the material in context for students.
- The history and human aspects of mineralogy are discussed by profiling individuals and their contributions.
- Topical boxes relate mineralogy to everyday life, as well as other branches of science.
- Examples are illustrated with photos and color plates.
- Descriptions of minerals are brief and concise.
- Clearly described objectives begin each chapter.
- A Glossary of nearly 1,000 mineralogical terms is provided, and References appear at the end of each chapter.
- “Questions for Thought” appear at the end of each chapter and encourage students to explore further.
- In-depth treatment of Optical Mineralogy is adapted from the very successful “Minerals in Thin Section.”

Contents
Part I
Chapter 1: Elements and Minerals
Chapter 2: Crystallization and Classification of Minerals
Chapter 3: Mineral Properties: Hand Specimen Mineralogy
Chapter 4: Optical Mineralogy
Chapter 5: Igneous Rocks and Silicate Minerals
Chapter 6: Sedimentary Minerals and Sedimentary Rocks
Chapter 7: Metamorphic Minerals and Metamorphic Rocks
Chapter 8: Ore Deposits and Economic Minerals

Part II: Symmetry, Crystallography, and Atomic Structure
Chapter 9: Crystal Morphology and Symmetry
Chapter 10: Crystallography
Chapter 11: Unit Cells, Points, Lines, and Planes
Chapter 12: X-Ray Diffraction and Mineral Analysis
Chapter 13: Atomic Structure

Part III: Mineral Descriptions
Chapter 14: Descriptions of Minerals

About the Author
Dexter Perkins received his B.S. from the University of Rochester in 1973, and an M.S. and Ph.D. from the University of Michigan in 1979. After graduate school, his first faculty position was at the University of Chicago. He came to the University of North Dakota in 1981 where he is currently a Professor of Geology. During the past 25 years Perkins has had several 1-year appointments at European universities. Perkins is a past editor of American Mineralogist and the Journal of Geoscience Education (since 2000).
Earth's systems as they relate to the oceans: geological, chemical, physical, and biological. Trujillo and Thurman balance rigor and accessibility, combining in-depth discussions of oceanographic concepts with highly visual and interactive study aids to demystify the science for the non-science student. This unique combination has made Essentials of Oceanography the best-selling brief book—and one of the best-sellers overall—in oceanography.

About the Book

How do the oceans work? Essentials of Oceanography, Eleventh Edition, takes an interdisciplinary approach to help students answer this question. The latest edition brings together the interrelated spheres that compose Earth’s systems as they relate to the oceans: geological, chemical, physical, and biological. Trujillo and Thurman balance rigor and accessibility, combining in-depth discussions of oceanographic concepts with highly visual and interactive study aids to demystify the science for the non-science student. This unique combination has made Essentials of Oceanography the best-selling brief book—and one of the best-sellers overall—in oceanography.

Features

- Accessible language demystifies scientific terms by introducing each new term with its etymon (the true sense of a word) and helps maintain accessible rigor and depth of material, particularly in the coverage of tides and biological processes.
- Discussion of The Oceans and Climate Change (Ch. 16) includes detailed coverage of greenhouse gases and the unintended and severe changes in the ocean, such as ocean warming, more intense hurricanes, increasing ocean acidity, changes in deep-water circulation, melting of polar ice, and rising sea level, and how action must be taken to reduce human-caused greenhouse gases.
- Popular “Students Sometimes Ask” feature answers common, and often entertaining, questions asked by real students (e.g., “Why do my fingers get all wrinkly when I stay in the water for a long time?”; “Can internal waves break?”)
- End-of-chapter questions and exercises help students self-check their understanding.
- Geoscience Animations icons throughout the text are provided to:
  - Link the narrative to state-of-the-art computer animations created by Al Trujillo and a panel of geoscience educators.
  - Help students visualize some of the most challenging oceanographic concepts.
  - Demonstrate animations of topics including Formation of Seamounts/Tablemounts and Stages of Coral Reef Development;
- Key terms, noted in bold print, are defined when introduced and are included in the glossary.
- The authors use the international metric system (Système International or SI units) with comparable English system units in parentheses

Contents

Chapter 1. Introduction to Planet “Earth”
Chapter 2. Plate Tectonics and the Ocean Floor
Chapter 3. Marine Provinces
Chapter 4. Marine Sediments
Chapter 5. Water and Seawater
Chapter 6. Air–Sea Interaction
Chapter 7. Ocean Circulation
Chapter 8. Waves and Water Dynamics
Chapter 9. Tides
Chapter 10. The Coast: Beaches and Shoreline Processes
Chapter 11. The Coastal Ocean
Chapter 12. Marine Life and the Marine Environment
Chapter 13. Biological Productivity and Energy Transfer
Chapter 14. Animals of the Benthic Environment
Chapter 15. Animals of the Pelagic Environment
Chapter 16. The Oceans and Climate Change

About the Author

Alan P. Trujillo teaches at Palomar Community College in San Marcos, CA, where he is co-Director of the Oceanography Program and Chair of the Earth Sciences Department. He received his bachelor’s degree in geology from the University of California at Davis and his master’s degree in geology from Northern Arizona University, afterwards working for several years in industry as a development geologist, hydrogeologist, and computer specialist. Al began teaching in the Earth Sciences Department at Palomar in 1990 and in 1997 was awarded Palomar’s Distinguished Faculty Award for Excellence in Teaching. He has co-authored Introductory Oceanography with Hal Thurman and is a contributing author for the textbooks Earth and Earth Science. In addition to writing and teaching, Al works as a naturalist and lecturer aboard natural history expedition vessels in Alaska and the Sea of Cortez/Baja California. His research interests include beach processes, sea cliff erosion, and computer applications in oceanography.

Harold V. Thurman retired in May 1994, after 24 years of teaching in the Earth Sciences Department of Mt. San Antonio College in Walnut, California. Interest in geology led to a bachelor’s degree from Oklahoma A&M University, followed by seven years working as a petroleum geologist, mainly in the Gulf of Mexico, where his interest in oceans developed. He earned a master’s degree from California State University at Los Angeles and then joined the Earth sciences faculty at Mt. San Antonio College. Other books that Hal has co-authored include Introduction to Oceanography (with Alan Trujillo) and a marine biology textbook. He has also written articles on the Pacific, Atlantic, Indian, and Arctic Oceans for the 1994 edition of World Book Encyclopedia and served as a consultant on the National Geographic publication Realms of the Sea.
About the Book
Typical texts on igneous and metamorphic petrology are geared to either advanced or novice petrology students. This unique text offers comprehensive, up-to-date coverage of both igneous and metamorphic petrology in a single volume—and provides the quantitative and technical background required to critically evaluate igneous and metamorphic phenomena in a way that students at all levels can understand. The goal throughout is for students to be able to apply the techniques—and enjoy the insights of the results—rather than tinker with theory and develop everything from first principles.

Features
• A balanced presentation limits the theory to the extent that students can practice it on real occurrences—without such excessive detail that the course becomes more like chemistry than geology.
• A survey of actual occurrences of igneous and metamorphic rocks, and processes that produce them, is provided. This section is often greatly condensed in most other texts, but it is the most interesting and dynamic aspect of petrology.
• A techniques/occurrences approach for both igneous and metamorphic rocks that first presents the techniques, then applies them to assess a field area, and then expands the techniques as necessary if the field examples call for it.
• A comprehensive section on petrogenesis, particularly igneous petrogenesis, covers important igneous petrogenetic associations
• An accessible approach to mathematics, chemistry, and physics requires only a working knowledge of algebra; calculus is occasionally discussed, but is not required. Chemical and physical principles are presented early on, and at a level that is comprehensible and accessible.
• Worked examples, problems, and computer-related problems, found at the end of many chapters, carefully integrate a number of problems and computer programs
• Spreadsheets are used extensively in worked examples and problems. Spreadsheets, data files, and other programs
• Approximately 350 figures and tables are provided.

Contents
Part I  Igneous Petrology
Chapter 1  Some Fundamental Concepts
Chapter 2  Classification and Nomenclature of Igneous Rocks
Chapter 3  Textures of Igneous Rocks
Chapter 4  Igneous Structures and Field Relationships
Chapter 5  An Introduction to Thermodynamics
Chapter 6  The Phase Rule and One- and Two-Component Systems
Chapter 7  Systems with More than Two Components
Chapter 8  Chemical Petrology I: Major and Minor Elements
Chapter 9  Chemical Petrology II: Trace Elements and Isotopes
Chapter 10  Generation of Basaltic Magmas
Chapter 11  Magma Diversity
Chapter 12  Layered Mafic Intrusions
Chapter 13  Mid-Ocean Ridge Volcanism
Chapter 14  Oceanic Intraplate Volcanism
Chapter 15  Continental Flood Basalts
Chapter 16  Subduction-Related Igneous Activity Part I: Island Arcs
Chapter 17  Subduction-Related Igneous Activity Part II: Continental Arcs
Chapter 18  Granitoid Rocks
Chapter 19  Continental Alkaline Magmatism
Chapter 20  Anorthosites
Part II  Metamorphic Petrology
Chapter 21  An Introduction to Metamorphism
Chapter 22  A Classification of Metamorphic Rocks
Chapter 23  Structures and Textures of Metamorphic Rocks
Chapter 24  Stable Mineral Assemblages in Metamorphic Rocks
Chapter 25  Metamorphic Facies and Metamorphosed Mafic Rocks
Chapter 26  Metamorphic Reactions
Chapter 27  Thermodynamics of Metamorphic Reactions
Chapter 28  Metamorphism of Pelitic Sediments
Chapter 29  Metamorphism of Calcareous and Ultramafic Rocks
Chapter 30  Metamorphic Fluids, Mass Transport and Metasomatism

Appendix A: Units and Constants
Appendix B: Abbreviations and Acronyms
Appendix C: The CIPW Norm

About the Author
John D. Winter did his undergraduate work in geology at the University of Illinois at Urbana, and earned his M.S. and Ph.D. at the University of Washington in Seattle. Now Professor of Geology at Whitman College in Walla Walla, Washington, his principal fields of interest are in metamorphic petrology, mineralogy and crystallography, and geochemistry. He has spent several summers in Greenland, a summer in Labrador, and another in Norway, where he studied processes that take place during the formation and subsequent development of the ancient deep continental crust. He is also working on contact metamorphism in the Wallowa Mountains of NE Oregon. Briefly, he also worked as an exploration geologist in New Guinea.

Professor Winter teaches Mineralogy, Igneous and Metamorphic Petrology, Introductory Geology, Environmental Geology, and Geochemistry. Outside the classroom, his interests include travel, mountaineering, hiking, mountain biking, and telemark skiing.
NURSING
Biochemistry for Nurses
Dr Uma Bhardwaj
Dr R Bhardwaj
ISBN: 9788131768563
© 2012
Pages: 296

About the Book
Biochemistry for Nurses has been designed considering the syllabi requirements laid down by The Indian Nursing Council and other premier institutes/universities. Book covers the most up-to-date developments in the area of Biochemistry and presents all the essential course information required for all UG course in an easy-to-follow and step-by-step format.

Features
• Detailed Interpretation and Investigation of metabolic disorders of bimolecules
• Simple and self-explanatory diagrams
• Multiple choice and review questions to test one’s skills

Contents
1. Introduction
2. Structure and functions of Cell membrane
3. Composition and metabolism of Carbohydrates
4. Composition and metabolism of Lipids
5. Composition and metabolism of Amino acids and Proteins
6. Composition of Vitamins and Minerals
7. Immunochemistry
8. Composition and Metabolism of Nucleic Acids

About the Author
Dr. Uma Bhardwaj is an experienced Prof. of Biochemistry. Presently she is working as Sr. Director with Arni University. She is M.Sc gold medalist in Biochemistry, M.Tech and Ph.D. The author has published a number of research papers in national and international journals also published books. She is the chief editor of Arni University International journals of Science, Technology and Management. She has developed many formulations for commercial products. Dr. R. Bhardwaj is currently Vice-chancellor and has been a professor of Biochemistry from the young age of 34 years, teaching MSc and Ph.D. students. Prof. R. Bhardwaj is a world renowned distinguished scientist and a professor of biochemistry have published research papers in worlds top scientific journals like Nature and BBRC. He had developed biological solar cells with greater power conversion efficiency. Prof Bhardwaj has guided 11 PhD’s and has a large number of research publications.

Emergency & Medical Care
International Trauma Life Support for Emergency Care Providers, 8/e
ITLS
ISBN: 97889332573857
© 2016
Pages: 432

About the Book
For basic trauma life support courses
For more than 30 years, International Trauma Life Support has been at the forefront of trauma education at all levels of emergency care worldwide. This complete reference is filled with practical, hands-on training that guides readers through the hows and whys behind all of the skills necessary for rapid assessment, resuscitation, stabilization, and transportation of the trauma patient. Updated with the latest approaches to the care of the trauma patient, this Eighth Edition conforms to the most recent AHA/ILCOR guidelines for artificial ventilation and CPR. This new edition continues ITLS’s tradition of excellence to ensure learners get the most out of the few minutes they have to save their patients’ lives.

Features
• This proven training book has been at the forefront of trauma education at all levels of pre-hospital emergency care worldwide for more than 30 years.
• UPDATED: BRADY provides book-specific online resources for both learners and instructors including review questions, games, animations, case studies, additional trauma photos and much more! BRADY resources offers instructors a full complement of online supplemental teaching materials such as test banks and PowerPoint lectures to aid in the classroom. www.bradybooks.com Updates to student online resources include:
  • NEW: In “Additional Skills,” the use of the new FastResponder™ sternal IO has been added.
  • UPDATED: In “Multicasualty Incidents and Triage,” the discussion of various triage schemes has been expanded and now includes SALT Triage.
  • UPDATED: In “Role of the Medical Helicopter,” the data has been updated.
  • NEW: In “Trauma Scoring in the Prehospital Care Setting,” the CDC Trauma Triage Scheme is included.
  • UPDATED: The “Tactical EMS” bibliography reflects current thinking within the Hartford Consensus.
  • UPDATED: Coverage of the latest and most effective approaches to the care of the trauma patient prepares readers to become effective emergency care providers.
  • NEW: Dr. Roy Alson has joined Dr. John Campbell as co-editor in chief for this edition. Dr. Alson is a board certified EM and EMS physician with extensive experience in EMS care and education and has been a contributor to the ITLS text and course for over 25 years.
  • UPDATED: Conforms to the latest AHA/ILCOR guidelines for artificial ventilation and CPR.
  • Hands-on exercises throughout the text help readers practice their knowledge and skills on simulated patients. By the end of the course, learners should feel confident in their ability to provide rapid lifesaving trauma care.
  • Management skills chapters follow the topic chapters to help reinforce learning.
  • UPDATED: Key terms, photos, drawings, and case presentations accompany each chapter to promote retention of key concepts. Many
of the case presentations draw upon a single scenario so they reflect a realistic situation.

- Each chapter opens with a Chapter Overview and Objectives to focus students’ study time.
- Pearls feature quick references and reminders in the side margins, providing learners with reinforcement of difficult chapter concepts.
- Chapter Summaries wrap up each chapter, reviewing important concepts and revisiting the overview that opens up the chapter, forming a bridge between areas of focus and objectives.

Contents
Scene Size-up
Trauma Assessment and Management
Assessment Skills
Airway Management
Airway Skills
Thoracic Trauma
Thoracic Trauma Skills
Shock
Vascular Access Skills
Head Trauma and Traumatic Brain Injury
Spinal Trauma and Patient-Centered Spinal Motion Restriction
Spine Management Skills
Abdominal Trauma
Extremity Trauma
Extremity Trauma Skills
Burns
Pediatric Trauma
Geriatric Trauma
Trauma in Pregnancy
The Impaired Patient
Trauma Arrest
Standard Precautions and Transmission-Based Precautions

About the Author
John E. Campbell, MD, FACEP
Dr. Campbell received his BS degree in pharmacy from Auburn University in 1966 and his medical degree from the University of Alabama at Birmingham in 1970. He has been in the practice of Emergency Medicine for 40 years, practicing in Alabama, Georgia, New Mexico, and Texas. He became interested in prehospital care in 1972 when he was asked to teach a basic EMT course to members of the Clay County Rescue Squad. He is still an honorary member of that outstanding group. Since then, he has served as medical director of many EMT and paramedic training programs. He recently retired as the Medical Director for EMS and Trauma for the State of Alabama.

Kozier & Erb’s Fundamentals of Nursing, 9/e
Audrey Berman
Shirlee Snyder
ISBN: 9789332519060
© 2014
Pages: 1666

About the Book
Kozier & Erb’s Fundamentals of Nursing, 9/e thoroughly addresses the key concepts of contemporary professional nursing, helping nurses grow and evolve to meet the demands of a dramatically changing health care system. The Ninth Edition’s content has been systematically revised to reflect new evidence, and a stronger emphasis on aging, wellness, safety, and home- and community-based care. Coverage includes: health promotion, disease prevention, holistic care, multiculturalism, nursing theories, informatics, research, ethics, advocacy, and many other topics. Designed for use with any nursing theory or conceptual framework, this edition contains several new pedagogical features, including new Safety and Self-Care alerts.

Features
- Nursing Care Plans-presenting sample written guides organizing information about a client’s care
- Critical Thinking Checkpoints-presenting brief case studies followed by questions designed to stimulate deeper consideration
- Identifying Nursing Diagnoses, Outcomes, and Interventions Tables-providing guidelines, with data clusters and current NIC and NOC language for each specific disorder
- Drug Capsule Boxes-providing brief overviews of drug information, nursing responsibilities, and related client teaching
- Anatomy & Physiology Review Boxes-in selected clinical chapters, with additional critical thinking questions
- Developmental Assessment Guidelines-supporting coverage of caring for babies, children, adolescents, young and middle-aged adults, and older adults
- Nursing Process in Action-presented in a two page visual depiction of the components of the nursing process

Contents
Unit 1. The Nature of Nursing
1. Historical and Contemporary Nursing Practice
2. Evidence-Based Practice and Research in Nursing
3. Nursing Theories and Conceptual Frameworks
4. Legal Aspects of Nursing
5. Values, Ethics and Advocacy
Unit 2. Contemporary Health Care
6. Health Care Delivery Systems
7. Community Nursing and Care Continuity
8. Home Care
9. Electronic Health Records and Information Technology
Unit 3. The Nursing Process
10. Critical Thinking and Nursing Practice
11. Assessing
12. Diagnosing
13. Planning
14. Implementing and Evaluating
15. Documenting and Reporting
Unit 4. Health Beliefs and Practices
16. Health Promotion
17. Health, Wellness, and Illness
18. Culture and Heritage
19. Complementary and Alternative Healing Modalities

**Unit 5. Life Span Development**
20. Concepts of Growth and Development
21. Promoting Health from Conception through Adolescence
22. Promoting Health in Young and Middle-Aged Adults
23. Promoting Health in Older Adults
24. Promoting Family Health

**Unit 6. Integrated Aspects of Nursing**
25. Caring
26. Communicating
27. Teaching
28. Leading, Managing, and Delegating

**Unit 7. Assessing Health**
29. Vital Signs
30. Health Assessment

**Unit 8. Integral Components of Client Care**
31. Asepsis
32. Safety
33. Hygiene
34. Diagnostic Testing
35. Medications
36. Skin Integrity and Wound Care
37. Perioperative Nursing

**Unit 9. Promoting Psychosocial Health**
38. Sensory Perception
39. Self-Concept
40. Sexuality
41. Spirituality
42. Stress and Coping
43. Loss, Grieving, and Death

**Unit 10. Promoting Physiological Health**
44. Activity and Exercise
45. Sleep
46. Pain Management
47. Nutrition
48. Urinary Elimination
49. Fecal Elimination
50. Oxygenation
51. Circulation
52. Fluid, Electrolyte, and Acid-Base Balance

Appendix A. Answers to Anatomy and Physiology, Critical thinking Possibilities, and Answers to Test Your Knowledge
Appendix B. 20XX-20XX NANDA-Approved Nursing Diagnoses
Appendix C. Measurement Scales Used in Nursing Outcomes Classification (NOC)

**About the Author**
Audrey J. Berman, Ph.D., RN, AOCN
Shirlee Snyder, EdD, RN

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**Sociology for Nurses**
I. Clement
ISBN: 9789332525269
© 2014
Pages: 584

**About the Book**
In its pursuit to bring about an awakening among students of nursing about human social behavior, this second edition of Sociology for Nurses continues to build on sociological theories that are of relevance to the nursing community. Conforming to the syllabus prescribed by the Indian Nursing Council and catering to the needs of second year B.Sc Nursing students, this book provides jargon-free explanation of even the most difficult concepts to the student’s benefit.

**Features**
- Core concepts exemplified with vivid illustrations and reinforced by rich pedagogy
- Emphasis on sociological concepts and their applications from the standpoint of the practicing nurse
- Pertinent definitions, insightful concept boxes and deft comparison tables

**Contents**
1. Introduction to sociology
2. Sociology and nursing
3. Man, Society and environment
4. Primary concepts in sociology
5. Social process
6. Culture
7. Population
8. Social groups
9. Marriage and family
10. Rural communities in India
11. Urban communities in India
12. Social stratification
13. Social mobility
14. Race
15. Social system
16. Social organization
17. Social disorganization
18. Social problems
19. Social control
20. Social change

**About the Author**
I. Clement is Principal of VSS college of Nursing, Bangalore. He has been involved in teaching and research for 22 years. He has various peer-reviewed research publications to his credit.
Nursing Ethics: Concepts, Trends and Practices

Nisha Clement

ISBN: 9788131773345
© 2013
Pages: 424

About the Book
Nursing Ethics presents detailed explanations of the roles and responsibilities of nurses and the code of ethics they must follow at each level of the nursing pyramid. The comprehensive coverage includes a scrupulous study of the scope of ethics in specialized areas such as paediatric nursing, community health nursing and obstetrics and gynaecology. The text is replete with supportive diagrams that enable readers to comprehend the underlying concepts. Written in a lucid style that is easily accessible, this book is an invaluable guide for the entire nursing community students, teachers, researchers, practising nurses and managing nurses.

Features
This book on Nursing Ethics is meant for the entire nursing community and provides the ethical guidelines for students, teachers, practicing nurses in clinics, managing nurses and those doing research. The book helps them to understand the concepts in a very simple and lucid manner irrespective of their specialized areas like emergency department, intensive care unit, operation theater, etc.

Contents
1. Introduction to Ethics
2. Principles Of Nursing Ethics
3. Professional Regulations In Ethics
4. Ethics Issues In Nursing
5. Special Ethical Issues In Nursing

About the Author
Nisha Clement is Vice Principal, VSS College of Nursing, Bangalore.

Midwifery and Obstetrical Nursing - Practical, 1/e

Dr. Sunita Lawrence

ISBN: 9788131773451
© 2013
Pages: 224

About the Book
The Midwifery and Obstetrical Nursing Practical, based on the latest syllabus of the Indian Nursing Council, is designed to facilitate and complement the training of a nurse. Although many textbooks have addressed the theory portion of nursing, the practical aspect of this course has often been ignored. This book aims to cover all the relevant topics with the latest procedures and technologies used in midwifery and obstetrics. It includes a set of 41 experiments and 150 diagrams to provide students with the necessary skills and knowledge to enhance their professional abilities. Written in an easy-to-understand language, this text is primarily targeted at students pursuing B.Sc. in nursing.

Features
• 40 practicals
• 150 diagrams illustrating each and every procedure

Contents
1. Preconception Counselling: An Introduction
2. Prenatal Assessment and Care
3. Intranatal Assessment and Care
4. Postpartum Assessment
5. Assessment of the Newborn
6. Assisting in Operative Procedures
At the end of each chapter to test the students’ grasp of the concepts learned. Recapitulation. Review questions and multiple-choice questions are included and key terms have been provided in the chapters to aid understanding and role of a nurse have also been included. Several illustrations, figures, tables, and chapters on attitude, group psychology, psychological assessment, and the conflicts and their resolution, personality, and life-span development. Separate to facilitate and complement the training of a nurse by creating awareness communication, intelligence, and aptitude. This book is written in an easy-to-understand and a lucid style, and deals with concepts of motivation, conflicts and their resolution, personality, and life-span development. Separate chapters on attitude, group psychology, psychological assessment, and the role of a nurse have also been included. Several illustrations, figures, tables, and key terms have been provided in the chapters to aid understanding and recapitulation. Review questions and multiple-choice questions are included at the end of each chapter to test the students’ grasp of the concepts learned.

Features
• The characteristics nurses need to develop to better care for their patients. Some of these are: care, responsibility, sensitivity, collegial interdependence, emotional intelligence, and effective communication and decision making
• The fact that health behavior is moderated by beliefs about health and illness
• The need to form some sort of relationship with patients while remaining objective
• The future of the nursing profession in India

Contents
1. Introduction
2. The Genetic and Biological Bases of Behavior
3. Sensory and Perceptual Processes
4. Learning
5. Memory
6. Thinking, Language, and Communication
7. Intelligence and Aptitude
8. Motivation and Emotion
9. Stress and Coping
10. Personality
11. Life-span Development
12. Mental Hygiene, Mental Health, and Positive Psychology
13. Psychological Disorders and Therapies
14. Attitudes
15. Group Psychology

About the Author
Charles G. Morris, a Ph.D. in psychology from the University of Illinois, is Professor Emeritus at the University of Michigan. He served as Associate Chair of the Department of Psychology. He is a Fellow of the American Psychological Association and the American Psychological Society. Dr. Morris is also the author of more than two dozen books, more than a dozen articles, and more than thirty papers and presentations. Albert A. Maisto earned a Ph.D. in psychology from the University of Alabama. Throughout his career, Dr. Maisto distinguished himself as an exemplary instructor of general psychology, winning the prestigious Bank of America Award for Teaching Excellence. His portfolio includes dozens of published articles in refereed journals, professional papers, and a successful series of Introductory Psychology textbooks by Pearson Education. Girishwar Misra, currently professor of psychology at the University of Delhi, has served as President of the National Academy of Psychology (NAOP) India, Chairman of the department of psychology, and as Dean of the faculty of arts at Delhi University. Dr. Misra has undertaken major research projects and written extensively in the areas such as poverty, stress, environment, creativity, and well-being. During the course of his career, he has won some prestigious awards and has supervised research work of many doctoral students.

About the Book
Based on the latest syllabus by the Indian Nursing Council, Psychology for Nurses is a text primarily targeted at the students pursuing B.Sc. in nursing. Designed to facilitate and complement the training of a nurse by creating awareness of and interest in psychology, this textbook provides an introduction to key topics such as the biological basis of behavior, perception, learning, memory, communication, intelligence, and aptitude. This book is written in an easy-to-understand and a lucid style, and deals with concepts of motivation, conflicts and their resolution, personality, and life-span development. Separate chapters on attitude, group psychology, psychological assessment, and the role of a nurse have also been included. Several illustrations, figures, tables, and key terms have been provided in the chapters to aid understanding and recapitulation. Review questions and multiple-choice questions are included at the end of each chapter to test the students’ grasp of the concepts learned.

Features
• Exhaustive coverage of maternal and prenatal genetic influences on development of defects/ diseases, and genetic testing in neonates/ children
• Numerous self-explanatory figures
• Case studies pertaining to genetic disorders to help students diagnose the clinical condition

Contents
1. Introduction
2. Maternal, prenatal and genetic influences on development of defects and diseases
3. Genetic testing in the neonates and children
4. Genetic conditions of adolescents and adults
5. Services related to genetics

About the Author
V. Deepa Parvathi is a serial merit scholar in Microbiology and Genetics through her undergraduate and postgraduate career. She majored in Microbiology and was the topper in her university, graduating from the Chennai-based SRM Arts and Science College. Her post-graduation major was Human Genetics in which she was at the top of the rolls at Sri Ramachandra University, Chennai securing for herself the gold medal for her discipline in 2006. She has several anthologies, technical and symposia papers to her credit, presented both solo and in collaboration. Presently, she is a Lecturer with Sri Ramachandra University.
**Microbiology for Nurses**

V. Deepa Parvathi  
R. Sumitha  
Smitha. S

ISBN: 9789332525276  
© 2014  
Pages: 408

**About the Book**

Microbiology for Nurses approaches, in a systematic way, the pathogenic activities of a wide range of microorganisms and their indications on the human body. Designed to fully address the needs of nursing students taking up a curriculum on microbiology, the book conforms to the syllabus prescribed by the Indian Nursing Council. With ample review questions and multiple choice questions to enable easy recapitulation and vibrant color illustrations to appeal to the visual learner, this book presents the theoretical concepts of the subject from a professional nursing perspective.

**Features**

- Exhaustive coverage of asepsis, sterilization and disinfection
- Focus on hospital safety measures and biomedical waste management
- In-depth analysis of the scope of chemotherapy and the action of antibiotics
- Concise and easy-to-follow presentation of techniques for collection and handling of specimens, immunization and vaccination

**Contents**

Unit 1: Introduction  
Unit 2: General characteristics of microbes  
Unit 3: Infection Control  
Unit 4: Pathogenic organisms  
Unit 5: Immunology

**About the Author**

Mrs. V. Deepa Parvathi is faculty, Department of Human Genetics, Sri Ramachandra University, Tamilnadu  
Mrs. R. Sumitha is faculty, Department of Biomedical Sciences, Sri Ramachandra University, Tamilnadu  
Mrs. Smitha. S is visiting Faculty, C. M. Managuli Arts & Science College, Karnataka

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**English for Nursing**

Nitin Bhatnagar

ISBN: 9788131788394  
© 2012  
Pages: 128

**About the Book**

This book addresses the need for nurses to communicate effectively in English. Combining the essentials of communication with language learning, it provides all the necessary skills for professionals in healthcare. English for Nurses puts equal emphasis on all the four aspects of learning the language: listening, speaking, reading and writing through a variety of exercises and assessment modules. It provides plenty of practice in functional grammar and also for pronunciation and fluency in speaking.

**Features**

1. Reading Comprehension: Objective and Subjective Questions  
2. Vocabulary and glossary  
3. Grammar exercises that are graded  
4. Functional grammar based on practical situations that a nurse faces.  
5. Common problems of pronunciation and speaking skills have been addressed  
6. Writing skills based on the needs of the nurses have been addressed
Contents
1. Edith Cavell: And Bravely Fought the Nurse
2. The Story of a British Nurse in India (Margaret Ledger)
3. A doctor for all seasons: The story of Noshir H Antia (Kavita Nambisan)
4. Arohi: Ascent in Healthcare
5. Communication in healthcare: The perspective of a Nurse
6. Private and Public Partnership in Healthcare (Bharathi Ghanshyam)
7. Managing Pain
8. The story of a British Nurse (Stress in Nursing, Pratibha P. Kane; from a journal)
9. The Quiet Soldiers of Compassion: Prakash and Mandakini Amte
10. The Story of a Caribbean Nurse

About the Author
Nitin Bhatnagar is Professor and Head, Institute of Applied Sciences and Humanities, GLA University, Mathura.
PHARMACY
About the Book
The second edition of Medicinal Chemistry is based on the core module of Pharmacy syllabi of various technical universities, and targets undergraduate B.Pharma students across India. The current edition has been designed by authors based on the opinion of the experts to include the latest developments in the field of medicinal chemistry, detailed synthesis mechanism of the drugs and their mode of action inside the body.

Features
- Complex reactions broken down into intermediary steps
- A variety of exercises to test the cognitive level of students
- New pedagogical features:
  - Learning objectives
  - Further Reading guidelines
  - Coloured illustrations
  - Data tables
- New chapters on drug design and development, principles of drug action, CADD and a chapter on miscellaneous drugs

Contents
1. Drug Discovery and Development
2. Principles of Drug Action
3. Drug Metabolism and Prodrugs
4. Computer-aided Drug Design
5. General Anaesthetics
6. Local Anaesthetics
7. Sedatives, Hypnotics, and Anxiolytic Agents
8. Anti-Epileptic Drugs
9. Antipsychotic Agents
10. Antidepressants
11. Narcotic Analgesics
12. Antipyretics and Non-Steroidal Anti-Inflammatory Drugs
13. Miscellaneous CNS Agents
14. Antihistamines and Anti-Ulcer Agents
15. Diuretics
16. Antihypertensive Agents
17. Antiarrhythmic Drugs
18. Antihyperlipidemic Agents
19. Antitubanl Drugs
20. Insulin and Oral Hypoglycaemic Agents
21. Oral Anticoagulants
22. Adrenergic Drugs
23. Cholinergic Drugs
24. Sulphonamides, Sulphones, and Dihydrofolate
25. Inhibitors
26. Quinolone Antibacterials
27. Antibiotics
28. Antitubercular Agents
29. Antifungal Agents
30. Antiviral Agents
31. Antiprotozoal Agents
32. Anticancer Agents
33. Prostaglandins
34. Steroids
35. Miscellaneous Agents
36. Nomenclature of Medicinal Compounds

About the Author
Dr. D. Sriram is presently Assistant Professor at Pharmacy Group, Birla Institute of Technology and Science-Pilani, Hyderabad Campus. He received his Ph.D. in 2000 from Banaras Hindu University, Varanasi. He has been involved in teaching for last eight years and in research for nine years. Dr. Sriram has 108 peer-reviewed research publications to his credit. Dr. P. Yogeesswari is presently Assistant Professor at Pharmacy Group, Birla Institute of Technology and Science-Pilani, Hyderabad Campus. She received her Ph.D. degree in 2001 from Banaras Hindu University, Varanasi. She has been involved in research for the last nine years and in teaching for eight years.

Pharmaceutical Inorganic Chemistry

About the Book
Pharmaceutical Inorganic chemistry is a compulsory subject offered to all the graduate students of Pharmacy. This book on Pharmaceutical Inorganic chemistry has been designed considering the syllabi requirements laid down by AICTE and other premier institutes/universities. The book has two separate sections, one for the theory and the other for practical. Review questions, and viva voce questions have been included to make this book a unique offering to the students of Pharmacy.

Features
- The monographs of all the compounds are explained along with their preparation and formulations
- Detailed coverage on Radio pharmaceuticals
- Separate chapters on water, silicates, cement and fillers in dental products and pharmaceutical reagents and Pharmaceutically acceptable glass

Contents
1. Introduction
2. Importance of Inorganic Chemistry in day to day life
3. Periodic classification of elements
4. Pharmacopoeia
5. Impurities in pharmaceuticals
6. Water
7. Acids and Bases
8. Buffer Solutions
9. Electrolytes
10. Official compounds of Calcium
11. Official compounds of Iron
12. Official compounds of Iodine
13. Gastrointestinal Agents
14. Dental products
15. Pharmaceutical acids
16. Topical agents
17. Respiratory agents
18. Radio pharmaceuticals
19. Miscellaneous
20. Complexing agents
21. Qualitative tests for anions and cations
22. Reagents

About the Author
N V Chenchu Lakshmi is faculty, Department of Pharmaceutical chemistry at KVSR Siddhartha College of Pharmaceutical sciences, Vijayawada.

Pharmaceutical Physical Chemistry

Pharmaceutical Physical Chemistry: Theory and Practices
Dr S K Bhasin
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Pages: 575

About the Book
Physical Chemistry is a compulsory paper offered to all the students of Pharmacy. There is a dearth of good books that exclusively cover the syllabi of physical chemistry offered to pharmacy courses. Pharmaceutical Physical Chemistry has been designed considering their requirements laid down by AICTE and other premier institutes/universities. Apart from the theory, 20 most common laboratory experiments have been included to make this book a unique offering to the students of pharmacy.

Features
• 20 Most common laboratory experiments
• 350 Review questions
• 125 Solved problems, 280 MCQs, 152 Line Diagrams, 35 Tables

Contents
Part A
1. Behaviour of Gases
2. The Liquid state
3. Solution
4. Thermodynamic
5. Adsorption and Catalysis
6. Photochemistry
7. Chemical Kinetics
8. Quantum Mechanics
9. Ionic Equilibria
10. Distribution Law
11. Electrochemistry
12. Electromotive Force and Oxidation-Reduction System
13. Solid State (Crystalline State)
14. Chemical Bonding
15. Phase Equilibria
Part B
16. Experiments

About the Author
Dr S K Bhasin is the Director and Professor of Chemistry at Himalayan Group of Professional Institute, Kala Amb, Ambala, Haryana. He has been teaching undergraduate and postgraduate students for more than 40 years.

Pharmaceutical Analysis / Chemical Analysis

Pharmaceutical Analysis
P D Chaithanya Sudha
ISBN: 9788131773697
© 2012
Pages: 668

About the Book
Pharmaceutical Analysis is a compulsory subject offered to all the undergraduate students of Pharmacy. This book on Pharmaceutical Analysis has been designed considering the syllabi requirements laid down by AICTE and other premier institutes/universities. The book covers both the Titrimetric and Instrumental aspects of Pharmaceutical analysis which is helpful for use in multiple semesters.

Features
• Spectroscopy and chromatography along with the latest techniques like affinity chromatography, super critical fluid chromatography and nano-flow liquid chromatography are explained in a student friendly manner
• Unique compilation of analysis of reagents, analysis of pharmaceutical agents, analysis of biological compounds, quality assurance and regulatory affairs and concept of validation in a single book.
• Detailed coverage of non-aqueous titrations, complexometric titrations and water analysis.

Contents
1. Introduction to Analysis
2. Physical Analytical Methods
3. Titrimetric Methods
4. Electro analytical Methods
5. Spectroanalytical Methods
6. Chromatographic Techniques
7. Reagents
8. Radiometric Analysis
9. Analysis of Functional groups
10. Analysis of pharmaceutical agents
11. Analysis of packing materials
12. Analysis of Biological compounds (ELISA and other Bioassays)
13. Thermal analysis
14. Analysis of water
15. Analysis of food components
16. Quality Assurance and Regulatory Affairs
17. Concept of Validation
18. Statistical Analysis

About the Author
P.D.Chaithanya Sudha is faculty, Department of Pharmaceutical analysis, St. Mary’s college of pharmacy, Andhra Pradesh.
Pharmaceutics/Pharmaceutical Technology

Pharmaceutics: Formulations and dispensing pharmacy
S. Bharath
ISBN: 9788131795453
© 2013
Pages: 304

About the Book
Pharmacy is a diverse field, of which pharmaceutics constitutes an integral part. This book has been designed to sensitize the students of pharmacy to the core concepts of pharmaceutics and to disseminate information on converting a drug into suitable dosage forms. It spells out fundamental theoretical aspects of the various dosage forms in a lucid language that enable students to grasp the basics effectively.

Features
• Solid, liquid and semisolid dosage forms delineated with examples cited for each dosage form
• Emphasis on sterile dosage forms, aerosol technology and surgical aids to give students an insight into their role in therapy
• Exclusive chapter on herbal formulations
• Well-defined diagrams and flowcharts for unambiguous understanding of the concepts and principles.
• Numerous frequently asked questions and multiple choice questions

Contents
1: Introduction To Pharmacy
2: Prescription
3: Posology
4: Introduction To Dosage Forms
5: Solid Dosage Forms
6: Liquid Dosage Forms
Part I - Monophasic Liquid Dosage Forms
Part II - Biphasic Liquid Dosage Forms
7: Semi - Solid Dosage Forms
8: Sterile Dosage Forms
9: Incompatibilities
10: Surgical Ligatures and Sutures
11: Herbal Formulations
12: Pharmaceutical Aerosols

About the Author
S. Bharath is Professor of pharmaceutics at M. S. Ramaiah College of Pharmacy, Bengaluru. An established academician with 16 years of teaching and research experience enhanced by a strong industrial background, he has guided numerous postgraduate students in their project work. He is currently guiding doctoral students in research leading to their PhD degrees. He has to his credit more than 60 research articles and over 70 papers presented in national and international journals and conferences.

Pharmaceutical Technology: Concepts and Applications
S. Bharath
ISBN: 9788131795460
© 2013
Pages: 344

About the Book
Pharmaceutical Technology - Concepts and Applications articulates on the various pharmaco-technological concepts associated with industrial pharmacy. The book is as much focused on providing comprehensive information on formulation development and affiliated areas, as it is to emphasize on their industrial applications. With a plethora of examples that dwell upon pertinent topics, the book equips students of pharmacy to rise to the requirements of the industry.

Features
• Unravels pilot plant scale-up techniques to bridge the gap that exists among the laboratory, the pilot plant and the manufacturing unit.
• Elaborates on novel drug delivery systems with emphasis on rate-controlled administration of therapeutic agents.
• Includes a chapter on stability studies that spells out the diverse aspects and test methods conforming to ICH guidelines.
• Probes intellectual property rights and regulatory affairs with accent on international regulations, new drug approval processes, quality system compliance and related documentation requirements.
• Devotes an exclusive chapter to nutraceuticals and cosmeceuticals to highlight the importance of alternative medicine and its fast-growing value in the treatment of today’s ailments.

Contents
1. Preformulation
2. Polymer Science
3. Packaging Technology
4. Production Management
5. Pilot Plant Scale-up Techniques
6. Novel Drug Delivery Systems
7. Stability Testing of Active Substances and Pharmaceutical Products
8. Intellectual Property Rights in Pharmaceuticals
9. Regulatory Affairs
10. Validation
11. Nutraceuticals and Cosmeceuticals

About the Author
S. Bharath is Professor of pharmaceutics at M. S. Ramaiah College of Pharmacy, Bengaluru. An established academician with 16 years of teaching and research experience enhanced by a strong industrial background, he has guided numerous postgraduate students in their project work. He is currently guiding doctoral students in research leading to their PhD degrees. He has to his credit more than 60 research articles and over 70 papers presented in national and international journals and conferences.
Pharmacognosy

Pharmacognosy: An Indian Perspective
K. Mangathayaru
ISBN: 9788131797266
© 2013
Pages: 472

About the Book
Designed to cover the core subject of pharmacognosy offered to undergraduate students of pharmacy, this book presents the theoretical concepts in a lucid style. Its in-depth coverage of topics quintessential to the Indian plant drug sector makes the book unique, as does its exposition on herbal cosmetics and quality control of herbal drugs. Conforming to the latest syllabus prescribed by the AICTE, the book abounds with a rich pedagogy that enables effortless recapitulation of the subject.

Features
• Current scenario in the Indian herbal drug industry effectively juxtaposed against the worldwide demand for our herbal dosage forms
• Exhaustive coverage of herbal drug regulatory affairs
• Delineation of ayurvedic therapeutics in a scientifically comprehensible way
• Useful compilation of the facts and figures on modern Indian herbal drug industry
• Exclusive chapters on patents and zoo pharmacognosy

Contents
1. Pharmacognosy An Introduction
2. Age-Old Indian Medical Wisdom Ayurveda
3. Worldwide Trade in Herbal Products
4. Herbal Drug Regulatory Affairs
5. Herbal Institutes and Industries Working on Medicinal Plants in India
6. Quality Control and Standardization of Herbal Drugs
7. Phytochemical Analysis An Introduction
8. Plant-Derived Pure Drugs
9. Traditional Herbal Drugs
10. Herbal Cosmetics
11. Plant Biotechnology
12. Intellectual Property Rights “Traditional Knowledge and Plant Drugs
13. Zoo Pharmacognosy

About the Author
K. Mangathayaru is Professor, Faculty of Pharmacy, Sri Ramachandra University, Chennai, from where she received her PhD in 2010. An accomplished teacher for 19 years, she is an alumnus of University College of Pharmaceutical Sciences, Kakatiya University. She has a number of peer-reviewed research publications in national and international journals to her credit.

Pharmacology

Introducing Pharmacology: For Nursing and Healthcare, 2/e
Roger McFadden
ISBN: 9789332517295
© 204
Pages: 368

About the Book
This new edition of Introducing Pharmacology remains an accessible and relevant introduction for nursing and healthcare students who are new to pharmacology, as well anyone looking to refresh their knowledge of the subject. Focused and engaging, the text balances accessibility with depth. Coverage of anatomy and physiology as well as pathophysiology helps to relate the subject to practical realities and makes this text stand out.

Features
• Extend coverage of the pharmacopoeia with a completely new chapter on anti-cancer drugs.
• New sections, including general anaesthetics, hay-fever and prescribing for special groups such as children, pregnant women and the elderly.
• Fully updated with the Recommended International Non-proprietary Names (rINN) for drugs as used in the British National Formulary.
• Inclusion of a new glossary of key terms and definitions.

Contents
Part 1 Principles of pharmacology
1. Let’s start at basics: cells and how they work
2. Protein targets for drugs
3. Side-effects, interactions and pharmacokinetics
Part 2 The major drug groups
4. The cardiovascular system I: drugs used in the management of coronary artery disease
5. The cardiovascular system II: hypertension and antihypertensive drugs
6. Inflammation and the management of pain
7. Disorders and drugs of the digestive system
8. Infection and anti-microbial drugs
9. Disorders and drugs of the respiratory system
10. Disorders and drugs of the endocrine system
11. Drugs used in the treatment of mental health and neurological disorders
12. Drugs used in the treatment of Cancers and Chemotherapy

About the Author
Roger McFadden is Senior Lecturer in Applied Physiology at Birmingham City University
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