

<<生物学导论=Essential Bio>>

图书基本信息

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## 前言

随着克隆羊的问世和人类基因组计划的完成，生命科学成为21世纪名副其实的领头学科，生物高新技术产业逐步成为高科技产业的核心。

生物技术和生物产业的发展对世界科技、经济、政治和社会发展等方面产生着深刻的影响，这也是我国赶超世界发达国家生产力水平最有前途和希望的领域。

生命科学与技术全方位的发展呼唤高等教育培养更多高水平的复合型科技人才。

为此，教育部在《关于加强高等学校本科教学工作提高教学质量的若干意见》[教高(2001)4号文件]中提出，高等学校要大力提倡编写、引进和使用先进教材，其中信息科学、生命科学等发展迅速、国际通用性强、可比性强的学科和专业可以直接引进先进的、能反映学科发展前沿的原版教材。教育部高等教育司还于2001年11月向全国主要大学和出版社下发了“关于开展‘国外生命科学类优秀教学用书’推荐工作的通知”，有力推动了生命科学类教材的引进工作。

高等教育出版社对国外生命科学教材进行了充分的调研，并委托教育部高等学校生物学与工程教学指导委员会的专家教授开展了“引进国外优秀生命科学教材及其教学辅助材料专项研究”，并就国内外同类教材进行了比较，提出了具体的引进教材书目。

经过版权谈判，目前我社已经购买了Pearson Education, McGraw-Hill, John Wiley.

& Sons, Blackwell Science, Thomson Learning, Cambridge University Press, Lippincott Williams & Wilkins等出版的13种教材的影印权，学科领域涉及生物化学、细胞生物学、遗传学、微生物学、生态学、免疫学、神经科学、发育生物学、解剖学与生理学、分子生物学、普通生物学等。

这些教材具有以下特点：(1)所选教材基本是近2年出版的，及时反映了学科发展的最新进展，在国际上使用广泛，具有权威性和时代感；(2)内容简明，篇幅适中，结构合理，兼具一定的深度和广度，适用范围广；(3)插图精美、丰富，既有很强的艺术性，又不失严谨的科学性，图文并茂，与正文相辅相成；(4)语言简练、流畅，十分适合非英语国家的学生阅读。

其中9种已入选教育部高等教育司推荐“国外优秀生命科学教学用书”。

引进国外优秀生命科学教学用书是我社一项长期的重点工作，因此，我们衷心希望广大专家教授和同学提出宝贵的意见和建议，如有更好的教材值得引进，请与高等教育出版社生命科学分社联系。

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### 内容概要

随着克隆羊的问世和人类基因组计划的完成，生命科学成为21世纪名副其实的领头学科，生物高新技术产业逐步成为高科技产业的核心。生物科技和生物产业的发展对世界科技、经济、政治和社会发展等方面产生着深刻的影响，这也是我国赶超世界发达国家生产力水平最有前途和希望的领域。生命科学与技术全方位的发展呼唤高等教育培养更多高水平的复合型科技人才。

## 作者简介

Neil A. Campbell has taught general biology for 30 years and is a coauthor, with Jane Reece and Larry Mitchell, of *Biology, Fifth Edition*, and *Biology: Concepts and Connections, Third Edition*. His enthusiasm for sharing the fun of science with students stems from his own undergraduate experience. He began at Long Beach State College as a history major, but switched to zoology after general education requirements "forced" him to take a science course. Following a B.S. from Long Beach, he earned an M.A. in Zoology from UCLA and a Ph.D. in Plant Biology from the University of California, Riverside. He has published numerous articles on how certain desert plants survive in salty soil and how the sensitive plant ( *Mimosa* ) and other legumes move their leaves. His diverse teaching experiences include courses for non-biology majors at Cornell University, Pomona College, and San Bernardino Valley College, where he received the colleges first Outstanding Professor Award in 1986. Dr. Campbell is currently a visiting scholar in the Department of Botany and Plant Sciences at UC Riverside. Jane B. Reece has worked in biology publishing since 1978, when she joined the editorial staff of Benjamin Cummings. She is a coauthor, with Neil Campbell and Larry Mitchell, of *Biology, Fifth Edition*, and *Biology: Concepts and Connections, Third Edition*. Her education includes an A.B. in Biology from Harvard University, an M.S. in Microbiology from Rutgers University, and a Ph.D. in Bacteriology from the University of California at Berkeley. At UC Berkeley, and later as a postdoctoral fellow in genetics at Stanford University, her research focused on genetic recombination in bacteria. She taught biology at Middlesex County College ( New Jersey ) and Queensborough Community College ( New York ) . During her 12 years as an editor at Benjamin Cummings, Dr. Reece played major roles in a number of successful textbooks including *Microbiology: An Introduction*, by G. J. Tortora, B. R. Funke, and C. L. Case, and *Molecular Biology of the Gene, Fourth Edition*, by J. D. Watson et al. She was also a coauthor of *The World of the Cell, Third Edition*, with W. M. Becker and M. E Poenie.

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编辑推荐

Essential Biology is a brief, non-majors biology textbook that brings the authors extraordinary reputation for biological accuracy and teaching innovation to bear upon four core biological topics : cells, genetics, evolution, and ecology. The authors use evolution as the thematic thread to tie all twenty chapters into a cohesive exploration of life. In Essential Biology, the clarity of writing complements an exciting new art program. The art works hand-in-hand with text discussions to help students visualize difficult concepts. Features An "Evolution Link" at the end of each chapter reinforces evolution as the overarching theme of biology. "Checkpoint" questions throughout each chapter help students assess what theyve learned as they read. Essential Biology emphasizes the process of science and active learning, engaging students in science with "Process of Science" questions at the ends of chapters and with media activities that enable students to explore and experiment.

Each chapter begins with an "Overview" section that provides students with a context that motivates them to learn more about the chapter topic. Chapter outlines preview the material to be covered, defining the hierarchy among topics and helping students understand the relationships between them. Essential Biology is the perfect fit for instructors who opt for substantive coverage of fewer major topics than longer textbooks contain. By focusing on cells, genetics, evolution, and ecology, Essential Biology provides a fresh alternative to encyclopedic textbooks.

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