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Beginning checking out the world of PDF Physical Chemistry A Molecular Approach Pdf today and unlock the potential for a richer, extra satisfying finding out experience.

Physical Chemistry: A Molecular Approach *Sterling Publishing Company*

Emphasizes a molecular approach to physical chemistry, discussing principles of quantum mechanics first and then using those ideas in development of thermodynamics and kinetics. Chapters on quantum subjects are interspersed with ten math chapters reviewing mathematical topics used in subsequent chapters. Includes material on current physical chemical research, with chapters on computational quantum chemistry, group theory, NMR spectroscopy, and lasers. Units and symbols used in the text follow IUPAC recommendations. Includes exercises. Annotation copyrighted by Book News, Inc., Portland, OR

Physical Chemistry

A Molecular Approach

Physical Chemistry: a Molecular Approach

Physical Chemistry: a Molecular Approach

Modern Physical Chemistry

A Molecular Approach *Springer Science & Business Media*

In this new textbook on physical chemistry, fundamentals are introduced simply yet in more depth than is common. Topics are arranged in a progressive pattern, with simpler theory early and more complicated theory later. General principles are induced from key experimental results. Some mathematical background is supplied where it would be helpful. Each chapter includes worked-out examples and numerous references. Extensive problems, review, and discussion questions are included for each chapter. More detail than is common is devoted to the nature of work and heat and how they differ. Introductory Caratheodory theory and the standard integrating factor for dG_{rev} are carefully developed. The fundamental role played by uncertainty and symmetry in quantum mechanics is emphasized. In chemical kinetics, various methods for determined rate laws are presented. The key mechanisms are detailed. Considerable statistical mechanics and reaction rate theory are then surveyed. Professor Duffey has given us a most readable, easily followed text in physical chemistry.

Mathematics for Physical Chemistry: Opening Doors *University Science Books*

This text provides students with concise reviews of mathematical topics that are used throughout physical chemistry. By reading these reviews before the mathematics is applied to physical chemical problems, a student will be able to spend less time worrying about the math and more time learning the physical chemistry.

Problems and Solutions to Accompany McQuarrie and Simon, Physical Chemistry: a Molecular Approach *Univ Science Books***Physical Chemistry****A Molecular Approach****Synthesis and Technique in Inorganic Chemistry** *Univ Science Books***Quanta, Matter, and Change****A Molecular Approach to Physical Chemistry** *Oxford University Press*

aspects of the learning process are fully supported, including the understanding of terminology, notation, mathematical concepts, and the application of physical chemistry to other branches of science." "Building on the heritage of the world-renowned Atkins' Physical Chemistry, Quanta, Matter, and Change gives a refreshing new insight into the familiar by illuminating physical chemistry from a new direction." --Book Jacket.

Molecular Thermodynamics *Sterling Publishing Company*

Covers the principles of quantum mechanics and engages those principles in the development of thermodynamics. Coverage includes the properties of gases, the First Law of Thermodynamics, a

molecular interpretation of the principal thermodynamic state functions, solutions, non equilibrium thermodynamics, and electrochemistry. Features 10-12 worked examples and some 60 problems for each chapter. A separate Solutions Manual is forthcoming in April 1999. Annotation copyrighted by Book News, Inc., Portland, OR

Molecular Physical Chemistry**A Computer-based Approach using Mathematica® and Gaussian** *Springer*

This is the physical chemistry textbook for students with an affinity for computers! It offers basic and advanced knowledge for students in the second year of chemistry masters studies and beyond. In seven chapters, the book presents thermodynamics, chemical kinetics, quantum mechanics and molecular structure (including an introduction to quantum chemical calculations), molecular symmetry and crystals. The application of physical-chemical knowledge and problem solving is demonstrated in a chapter on water, treating both the water molecule as well as water in condensed phases. Instead of a traditional textbook top-down approach, this book presents the subjects on the basis of examples, exploring and running computer programs (Mathematica®), discussing the results of molecular orbital calculations (performed using Gaussian) on small molecules and turning to suitable reference works to obtain thermodynamic data. Selected Mathematica® codes are explained at the end of each chapter and cross-referenced with the text, enabling students to plot functions, solve equations, fit data, normalize probability functions, manipulate matrices and test physical models. In addition, the book presents clear and step-by-step explanations and provides detailed and complete answers to all exercises. In this way, it creates an active learning environment that can prepare students for pursuing their own research projects further down the road. Students who are not yet familiar with Mathematica® or Gaussian will find a valuable introduction to computer-based problem solving in the molecular sciences. Other computer applications can alternatively be used. For every chapter learning goals are clearly listed in the beginning, so that readers can easily spot the highlights, and a glossary in the end of the chapter offers a quick look-up of important terms.

Bioscience Methodologies in Physical Chemistry**An Engineering and Molecular Approach** *CRC Press*

The field of bioscience methodologies in physical chemistry stands at the intersection of the power and generality of classical and quantum physics with the minute molecular complexity of chemistry and biology. This book provides an application of physical principles in explaining and rationalizing chemical and biological phenomena. It does not stick to the classical topics that are conventionally considered as part of physical chemistry; instead it presents principles deciphered from a modern point of view, which is the strength of this book.

Quantum Chemistry

Chemistry

Structure and Properties

"Bestselling author Nivaldo Tro's premise is that matter is particulate—it is composed of molecules; the structure of those particles determines the properties of matter. This core idea is the inspiration for his seminal text—Chemistry: Structure and Properties. Dr. Tro emphasizes the relationship between structure and properties, establishes a unique approach to teaching chemistry by presenting atomic and bonding theories early in the course, and stresses key concepts and themes in text, images, and interactive media. The book is organized to present chemistry as a logical, cohesive story from the microscopic to the macroscopic, so students can fully grasp the theories and framework behind the chemical facts. Each topic is carefully crafted to convey to students that the relationship between structure and properties is the thread that weaves all of chemistry together."--

Chemistry

A Molecular Approach Pearson

For courses in chemistry. Actively engage students to become expert problem solvers and critical thinkers Nivaldo Tro's Chemistry: A Molecular Approach presents chemistry visually through multi-level images-macroscopic, molecular, and symbolic representations-to help students see the connections between the world they see around them, the atoms and molecules that compose the world, and the formulas they write down on paper. Interactive, digital versions of select worked examples instruct students how to break down problems using Tro's unique "Sort, Strategize, Solve, and Check" technique and then complete a step in the example. To build conceptual understanding, Dr. Tro employs an active learning approach through interactive media that requires students to pause during videos to ensure they understand before continuing. The 5th Edition pairs digital, pedagogical innovation with insights from learning design and educational research to create an active, integrated, and easy-to-use framework. The new edition introduces a fully integrated book and media package that streamlines course set up, actively engages students in becoming expert problem solvers, and makes it possible for professors to teach the general chemistry course easily and effectively. Also available with Mastering Chemistry By combining trusted author content with digital tools and a flexible platform, Mastering personalizes the learning experience and improves results for each student. The fully integrated and complete media package allows instructors to engage students before they come to class, hold them accountable for learning during class, and then confirm that learning after class. Note: You are purchasing a standalone product; Mastering Chemistry does not come packaged with this content. Students, if interested in purchasing this title with Mastering Chemistry, ask your instructor for the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information. If you would like to purchase both the physical text and Mastering Chemistry, search for: 0134988809 / 9780134988801 Chemistry: A Molecular Approach Plus Mastering Chemistry with Pearson eText -- Access Card Package Package consists of: 0134874374 / 9780134874371 Chemistry: A Molecular Approach 013498854X / 9780134988542 Mastering Chemistry with Pearson eText -- ValuePack Access Card --

for Chemistry: A Molecular Approach

Chemistry

A Molecular Approach Prentice Hall

This innovative text explains difficult concepts in a relevant, student-oriented manner. Chemistry is presented visually through multi-level images—macroscopic, molecular and symbolic representations—helping you see the connections among the formulas (symbolic), the world around you (macroscopic), and the atoms and molecules that make up the world (molecular). Among other revisions, the Second Edition offers a crisp new design, adds more challenging problems, and significantly revises coverage of electrochemistry. This is just the standalone book if you want the book/access kit order: 0321706153 / 9780321706157 Chemistry: A Molecular Approach with MasteringChemistry® Package consists of: 0321651782 / 9780321651785 Chemistry: A Molecular Approach 0321695348 / 9780321695345 MasteringChemistry® with Pearson eText Student Access Kit for Chemistry: A Molecular Approach

Modern Physical Chemistry: A Molecular Approach

Chemistry

A Molecular Approach

This innovative, pedagogically driven text explains difficult concepts in a student-oriented manner. The book offers a rigorous and accessible treatment of general chemistry in the context of relevance. Chemistry is presented visually through multi-level images--macroscopic, molecular and symbolic representations--helping students see the connections among the formulas (symbolic), the world around them (macroscopic), and the atoms and molecules that make up the world (molecular). KEY TOPICS: Units of Measurement for Physical and Chemical Change;Atoms and Elements; Molecules, Compounds, and Nomenclature;Chemical Reactions and Stoichiometry;Gases;Thermochemistry;The Quantum-Mechanical Model of the Atom;Periodic Properties of the Elements;Chemical Bonding I: Lewis Theory;Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory;Liquids, Solids, and Intermolecular Forces;Solutions;Chemical Kinetics;Chemical Equilibrium;Acids and Bases;Aqueous Ionic Equilibrium;Gibbs Energy and Thermodynamics;Electrochemistry;Radioactivity and Nuclear Chemistry;Organic Chemistry I: Structures;Organic Chemistry II: Reactions;Biochemistry;Chemistry of the Nonmetals;Metals and Metallurgy;Transition Metals and Coordination Compounds MARKET: Appropriate for General Chemistry (2 - Semester) courses.

Introduction to Computational Physical Chemistry University Science Books

This book will revolutionize the way physical chemistry is taught by bridging the gap between the traditional "solve a bunch of equations for a very simple model" approach and the computational methods that are used to solve research problems. While some recent textbooks include exercises

using pre-packaged Hartree-Fock/DFT calculations, this is largely limited to giving students a proverbial black box. The DIY (do-it-yourself) approach taken in this book helps student gain understanding by building their own simulations from scratch. The reader of this book should come away with the ability to apply and adapt these techniques in computational chemistry to his or her own research problems, and have an enhanced ability to critically evaluate other computational results. This book is mainly intended to be used in conjunction with an existing physical chemistry text, but it is also well suited as a stand-alone text for upper level undergraduate or intro graduate computational chemistry courses.

Applied Biophysics

A Molecular Approach for Physical Scientists *John Wiley & Sons*

This book presents the fundamentals of molecular biophysics, and highlights the connection between molecules and biological phenomena, making it an important text across a variety of science disciplines. The topics covered in the book include: Phase transitions that occur in biosystems (protein crystallisation, globule-coil transition etc) Liquid crystallinity as an example of the delicate range of partially ordered phases found with biological molecules How molecules move and propel themselves at the cellular level The general features of self-assembly with examples from proteins The phase behaviour of DNA The physical toolbox presented within this text will form a basis for students to enter into a wide range of pure and applied bioengineering fields in medical, food and pharmaceutical areas.

Principles of Chemistry

A Molecular Approach *Pearson Educacion*

Adapted from Nivaldo J. Tro's best-selling general chemistry book, Principles of Chemistry: A Molecular Approach focuses exclusively on the core concepts of general chemistry without sacrificing depth or relevance. Tro's unprecedented two- and three-column problem-solving approach is used throughout to give students sufficient practice in this fundamental skill. A unique integration of macroscopic, molecular, and symbolic illustrations helps students to visualize the various dimensions of chemistry; Tro's engaging writing style captures student's attention with relevant applications. The Second Edition offers a wealth of new and revised problems, approximately 50 new conceptual connections, an updated art program throughout, and is available with MasteringChemistry®, the most advanced online tutorial and assessment program available. This package contains: Principles of Chemistry: A Molecular Approach, Second Edition

Molecular Physical Chemistry

A Concise Introduction *Royal Society of Chemistry*

Molecular Physical Chemistry: A Concise Introduction focuses on two main aspects of physical chemistry: thermodynamics and reaction dynamics. By looking at the properties of the atoms and

molecules that constitute matter, it makes use of results from modern experiments conducted on small numbers of molecules. These molecular properties allow the behaviour of larger groups of molecules to be predicted. This is in contrast to conventional approaches which are based upon how the subjects have developed historically. It attempts to show how some basic concepts can be easily applied to give verifiable results in simple systems before extending them to more complicated scenarios. The text is intended as an aid to understanding these central topics of physical chemistry, rather than an introduction to them, and some familiarity with them is assumed throughout. Worked examples and problems are given at the end of each chapter. Molecular Physical Chemistry: A Concise Introduction will be welcomed by graduate and advanced undergraduate students, as well as lecturers. Upon completion of this book the reader will see its subject matter as an integral part of their whole approach to chemistry. "Professor McLauchlin is certainly owed a debt of gratitude by the chemical community for this effort to bring enjoyment and understanding to the future generation. It will be interesting to see if this experiment helps students replace the fear of physical chemistry by an appreciation of its power and beauty." Professor William Klemperer, University of Harvard

Outlines and Highlights for Physical Chemistry

A Molecular Approach by Mcquarrie *ISBN Academic Internet Pub Incorporated*

Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 Just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanys: 9780935702996 .

Chemistry

A Molecular Approach

Thermodynamics Kept Simple - A Molecular Approach

What is the Driving Force in the World of Molecules? *CRC Press*

Thermodynamics Kept Simple - A Molecular Approach: What is the Driving Force in the World of Molecules? offers a truly unique way of teaching and thinking about basic thermodynamics that helps students overcome common conceptual problems. For example, the book explains the concept of entropy from the perspective of probabilities of various molecula

General Principles of Quantum Mechanics *Springer Science & Business Media*

I am very happy to accept the translators' invitation to write a few lines of introduction to this book. Of course, there is little need to explain the author. Pauli's first famous work, his article on the theory of relativity in the Encyklopädie der Mathematischen Wissenschaften was written at the age of twenty. He afterwards took part in the development of atomic physics from the still essentially

classical picture of Bohr's early work to the true quantum mechanics. Thereafter, some of his work concerned the treatment of problems in the framework of the new theory, especially his paper on the hydrogen atom following the matrix method without recourse to Schrodinger's analytic form of the theory. His greatest achievement, the exclusion principle, generally known today under his own name as the Pauli principle, that governs the quantum theory of all problems including more than one electron, preceded the basic work of Heisenberg and Schrodinger, and brought him the Nobel prize. It includes the mathematical treatment of the spin by means of the now so well known Pauli matrices. In 1929, in a paper with Heisenberg, he laid the foundation of quantum electrodynamics and, in doing so, to the whole theory of quantized wave fields which was to become the via regia of access to elementary particle physics, since here for the first time processes of generation and annihilation of particles could be described for the case of the photons.

Statistical Mechanics

Molecular Driving Forces

Statistical Thermodynamics in Biology, Chemistry, Physics, and Nanoscience *Garland Science*

Molecular Driving Forces, Second Edition E-book is an introductory statistical thermodynamics text that describes the principles and forces that drive chemical and biological processes. It demonstrates how the complex behaviors of molecules can result from a few simple physical processes, and how simple models provide surprisingly accurate insights into the workings of the molecular world. Widely adopted in its First Edition, Molecular Driving Forces is regarded by teachers and students as an accessible textbook that illuminates underlying principles and concepts. The Second Edition includes two brand new chapters: (1) "Microscopic Dynamics" introduces single molecule experiments; and (2) "Molecular Machines" considers how nanoscale machines and engines work. "The Logic of Thermodynamics" has been expanded to its own chapter and now covers heat, work, processes, pathways, and cycles. New practical applications, examples, and end-of-chapter questions are integrated throughout the revised and updated text, exploring topics in biology, environmental and energy science, and nanotechnology. Written in a clear and reader-friendly style, the book provides an excellent introduction to the subject for novices while remaining a valuable resource for experts.

Molecular Spectroscopy

A Quantum Chemistry Approach *John Wiley & Sons*

Uniquely creates a strong bridge between molecular spectroscopy and quantum chemistry This two-volume book consists of many reviews reporting new applications of quantum chemistry to molecular spectroscopy (Raman, infrared, near-infrared, terahertz, far-ultraviolet, etc.). It contains brief introductions to quantum chemistry for spectroscopists, and to the recent progress on molecular spectroscopy for quantum chemists. Molecular Spectroscopy: A Quantum Chemistry

Approach examines the recent progress made in the field of molecular spectroscopy; the state of the art of quantum chemistry for molecular spectroscopy; and more. It offers multiple chapters covering the application of quantum chemistry to: visible absorption and fluorescence, Raman spectroscopy, infrared spectroscopy, near-infrared spectroscopy, terahertz spectroscopy, and far-ultraviolet spectroscopy. It presents readers with hydrogen bonding studies by vibrational spectroscopy and quantum chemistry, as well as vibrational spectroscopy and quantum chemistry studies on both biological systems and nano science. The book also looks at vibrational anharmonicity and overtones, and nonlinear and time-resolved spectroscopy. -Comprehensively covers existing and recent applications of quantum chemistry to molecular spectroscopy -Introduces the quantum chemistry for the field of spectroscopy and the advancements being made on molecular spectroscopy for quantum chemistry -Edited by world leading experts who have long standing, extensive experience and international standing in the field Molecular Spectroscopy: A Quantum Chemistry Approach is an ideal book for analytical chemists, theoretical chemists, chemists, biochemists, materials scientists, biologists, and physicists interested in the subject.

Molecular Physical Chemistry for Engineering Applications *Springer Nature*

This textbook introduces the molecular side of physical chemistry. It offers students and practitioners a new approach to the subject by presenting numerous applications and solved problems that illustrate the concepts introduced for varied and complex technical situations. The book offers a balance between theory, tools, and practical applications. The text aims to be a practical manual for solving engineering problems in industries where processes depend on the chemical composition and physical properties of matter. The book is organized into three main topics: (I) the molecular structure of matter, (II) molecular models in thermodynamics, and (III) transport phenomena and mechanisms. Part I presents methods of analysis of the molecular behavior in a given system, while the following parts use these methods to study the equilibrium states of a material system and to analyze the processes that can take place when the system is in a state of non-equilibrium, in particular the transport phenomena. Molecular Physical Chemistry for Engineering Applications is designed for upper-level undergraduate and graduate courses in physical chemistry for engineers, applied physical chemistry, transport phenomena, colloidal chemistry, and transport/transfer processes. The book will also be a valuable reference guide for engineers, technicians, and scientists working in industry. Offers modeling techniques and tools for solving exercises and practical cases; Provides solutions and conclusions so students can follow results more closely; Step-by-step problem solving enables students to understand how to approach complex issues.

Molecular Chemistry and Biomolecular Engineering

Integrating Theory and Research with Practice *CRC Press*

This new volume is devoted to molecular chemistry and its applications to the fields of biology. It looks at the integration of molecular chemistry with biomolecular engineering, with the goal of creating new biological or physical properties to address scientific or societal challenges. It takes a

both multidisciplinary and interdisciplinary perspective on the interface between molecular biology, biophysical chemistry, and chemical engineering. *Molecular Chemistry and Biomolecular Engineering: Integrating Theory and Research with Practice* provides effective support for the development of the laboratory and data analysis skills that researchers will draw on time and again for the practical aspects and also gives a solid grounding in the broader transferable skills.

Symmetry and Spectroscopy

An Introduction to Vibrational and Electronic Spectroscopy *Courier Corporation*

Informal, effective undergraduate-level text introduces vibrational and electronic spectroscopy, presenting applications of group theory to the interpretation of UV, visible, and infrared spectra without assuming a high level of background knowledge. 200 problems with solutions. Numerous illustrations. "A uniform and consistent treatment of the subject matter." — *Journal of Chemical Education*.

Water at Interfaces

A Molecular Approach *CRC Press*

Water, with its simple molecular structure, reveals a complex nature upon interaction with other molecules and surfaces. *Water at Interfaces: A Molecular Approach* provides a broad, multidisciplinary introduction to water at interfaces, focusing on its molecular characteristics. The book considers interfaces at different length scales from single water molecules to involvement of large numbers of water molecules, and from one-dimensional to three-dimensional interfaces. It begins with individual water molecules, describing their basic properties and the fundamental concepts that form the basis of this book. The text explores the main interfaces involving pure and ion-free condensed (liquid and solid) water, including water vapor/liquid water, liquid/oil, and liquid/solid interfaces. It examines water molecules on ideal surfaces—well-ordered (crystalline) and defect-free—covering topics such as electronic structure using frontier orbitals and substrate-induced structuring. The book discusses the affinity of water to surfaces, hydrophobicity and hydrophilicity, emphasizing two extreme cases of affinity. It then addresses real solid surfaces where water/solid interfaces play a key role in actual working conditions, examining water purification, photocatalytic activity, corrosion and degradation, and atmospheric agents. The final chapter deals with the interaction of water with the heterogeneous and complex surfaces of biomolecules, which can both influence the structure of the surrounding water and be modulated by the surrounding liquid. The author discusses simple to more complex biomolecules from peptides to proteins, nucleic acids, and membranes.

Quanta, Matter and Change

A Molecular Approach to Physical Chemistry *W H Freeman & Company*

Principles of Chemistry

A Molecular Approach *Pearson*

For two-semester courses in General Chemistry Actively engage students to become expert problem solvers and critical thinkers, using a streamlined approach *Principles of Chemistry: A Molecular Approach* presents core concepts without sacrificing rigor, enabling students to make connections between chemistry and their lives or future careers. Drawing upon his classroom experience as an award-winning educator, Professor Tro extends chemistry to the student's world by capturing student attention with examples of everyday processes and a captivating writing style. Throughout this student-friendly text, chemistry is presented visually through multi-level images that help students see the connections between the world around them (macroscopic), the atoms and molecules that compose the world (molecular), and the formulas they write down on paper (symbolic). The 4th Edition pairs digital, pedagogical innovation with insights from learning design and educational research to create an active, integrated, and easy-to-use framework. The new edition introduces a fully integrated book and media package that streamlines course set up, actively engages students in becoming expert problem solvers, and makes it possible for professors to teach the general chemistry course easily and effectively. The fully integrated book and media package streamlines course set up, actively engages students in becoming expert problem solvers, and makes it possible for professors to teach the general chemistry course easily and effectively. Also available with Mastering Chemistry By combining trusted author content with digital tools and a flexible platform, Mastering personalizes the learning experience and improves results for each student. The fully integrated and complete media package allows instructors to engage students before they come to class, hold them accountable for learning during class, and then confirm that learning after class. Note: You are purchasing a standalone product; Mastering does not come packaged with this content. Students, if interested in purchasing this title with Mastering, ask your instructor for the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information. If you would like to purchase both the physical text and Mastering, search for: 0134988531 / 9780134988535 *Principles of Chemistry: A Molecular Approach Plus Mastering Chemistry with Pearson eText -- Access Card Package* Package consists of: 0134895746 / 9780134895741 *Principles of Chemistry: A Molecular Approach* 013498837X / 9780134988375 *Mastering Chemistry with Pearson eText -- ValuePack Access Card -- for Principles of Chemistry: A Molecular Approach*

Experiments in Physical Chemistry *McGraw-Hill Science, Engineering & Mathematics*

This best-selling comprehensive lab textbook includes experiments with background theoretical information, safety recommendations, and computer applications. Updated chapters are provided regarding the use of spreadsheets and other scientific software as well as regarding electronics and computer interfacing of experiments using Visual Basic and LabVIEW. Supplementary instructor information regarding necessary supplies, equipment, and procedures is provided in an integrated manner in the text.

Molecular Physical Chemistry for Engineers *University Science Books*

This text emphasizes the behaviour of material from the molecular point of view. It is for engineering students who have a background in chemistry and physics and in thermodynamics. A background in calculus and differential equations is assumed. Each chapter includes a vast array of exercises, for which a Student Solutions Manual is also available.

Change 2e

The Students Solutions Manual to Accompany Physical Chemistry: Quanta, Matter, and Change 2e provides full worked solutions to the 'a' exercises, and the odd-numbered discussion questions and problems presented in the parent book. The manual is intended for students and instructors alike, and provides helpful comments and friendly advice to aid understanding.

Students Solutions Manual to Accompany Physical Chemistry: Quanta, Matter, and Physical Chemistry (Sie) *Tata McGraw-Hill Education*