fondamenti di chimica michelin munari

#chemistry fundamentals #Michelin Munari #basic chemistry concepts #introduction to chemistry #Munari chemistry guide

Delve into the essential building blocks of the scientific world with 'Fundamentals of Chemistry' by Michelin Munari. This comprehensive guide offers a clear introduction to basic chemical concepts, ideal for students and enthusiasts seeking a strong foundation in the discipline.

Fondamenti di chimica

Come ben noto a chi si occupa di qualunque tipo di progettazione (ad es. di una struttura, di una “macchina”, di un dispositivo, ecc.), questa non può assolutamente prescindere dalle proprietà dei materiali a disposizione. Inoltre, la conoscenza delle correlazioni proprietà-struttura consente di scegliere, ed anche ideare, materiali adatti a specifiche applicazioni. E’ proprio l’utilizzo di materiali avanzati (citiamo un esempio noto a tutti, quello dei materiali nanostrutturati, che oggi sono oggetto di approfondite ricerche) che sta consentendo grandi balzi in avanti in quasi tutti i campi dell’Ingegneria. Ciò è particolarmente vero nel campo dell’elettronica, dove la necessità di una sempre maggiore miniaturizzazione dei circuiti e dei dispositivi si sta tuttavia scontrando con la difficoltà di reperire materiali adatti, tenendo conto che passando dalla microelettronica alla nanoelettronica si manifestano sempre più rilevanti gli effetti quantistici. E’ quindi necessario che agli studenti delle Facoltà di Ingegneria siano fornite le basi di Chimica e di Fisica che consentano loro innanzitutto di comprendere la struttura di un materiale; a queste devono essere poi aggiunte nozioni più approfondite e specifiche, per collegare le diverse proprietà alla struttura stessa. In quest’ottica, il presente testo, rivolto agli studenti dei Corsi di Laurea in Ingegneria Elettronica (che nelle diverse Sedi hanno oggi assunto varie denominazioni), si propone di fornire, in modo semplice ed utilizzando strumenti matematici relativamente poco complessi, le nozioni indispensabili per lo studio e l’interpretazione delle proprietà elettriche ed ottiche dei materiali di largo impiego nel campo dell’ elettronica, con particolare riguardo ai semiconduttori. Esso nasce dall’esperienza didattica maturata dagli Autori nello svolgimento di un corso sulle proprietà chimico-fisiche dei materiali rivolto agli allievi ingegneri elettronici, che ha avuto come titolari prima A. Desalvo, ora a riposo, e poi, sino ad oggi, A. Munari. Il testo si articola nel modo seguente. Dopo aver richiamato le caratteristiche fondamentali delle onde elettromagnetiche e delle onde di materia, con particolare riferimento a quelle relative agli elettroni (Cap. I), viene presentata la risoluzione dell’ equazione di Schrödinger in alcuni casi particolari (Cap. II): il gradino e la barriera di potenziale, con particolare riferimento all’effetto tunnel, la buca di potenziale a pareti infinite e l’oscillatore armonico monodimensionale. Successivamente (Cap. III) viene analizzato il legame covalente puro e quello polarizzato nelle molecole biatomiche mediante il metodo degli Orbitali Molecolari, ottenendo risultati

che saranno successivamente utilizzati per la descrizione del legame nei solidi tramite la teoria del tight-binding. Nel Capitolo IV vengono introdotte le nozioni fondamentali di cristallografia, la nozione di reticolo reciproco e sono quindi analizzati i fenomeni di diffrazione dei raggi X e degli elettroni da parte dei reticoli cristallini, con le relative applicazioni allo studio della struttura dei cristalli e alla microscopia elettronica. Nel Capitolo V vengono studiate le vibrazioni nelle molecole e nei cristalli, con accenni alle tecniche spettroscopiche infrarosse e Raman per l'analisi di queste proprietà nei materiali, mentre nel Capitolo VI viene analizzato il legame nei cristalli mediante il modello dell'elettrone quasi libero e quello del tight-binding. Entrambi i metodi vengono estesi al caso dei semiconduttori ed in particolare è analizzata la dipendenza del gap di energia proibita dalla composizione per i semiconduttori composti. Osserviamo che la trattazione dei semiconduttori mediante il metodo del tight-binding, che mette in evidenza la relazione tra il gap di energia proibita e la forza del legame covalente, non si trova comunemente nei testi più diffusi. Tale trattazione è comunque indispensabile per comprendere la struttura a bande dei semiconduttori amorfi, sui quali ha lavorato uno di noi (A. D.), che altrimenti risulta inspiegabile utilizzando gli usuali metodi validi per un reticolo periodico. Sono poi studiate le proprietà elettriche dei metalli e dei semiconduttori (Cap. VII), con particolare attenzione alla dipendenza dalla temperatura del numero dei portatori e della mobilità in questi ultimi, ed infine, nel Capitolo VIII, vengono esaminate le proprietà ottiche dei metalli, dei semiconduttori e degli isolanti nell' infrarosso, nel visibile e nell'ultravioletto. Vogliamo sottolineare che nei casi semplici la trattazione matematica è stata sviluppata per intero, mentre in quelli più complessi ci si è limitati a riportare e commentare il risultato finale. Il lettore potrà a limitarsi a ciò anche nei casi più semplici, mentre lo studente più portato alla matematica potrà seguire senza difficoltà le dimostrazioni. Nel testo si è usato il sistema di unità SI, salvo che nel capitolo VIII, relativo alle proprietà ottiche, dove si è preferito l'uso del sistema CGS, perché in questo caso è quello più diffuso, dato che molte espressioni matematiche risultano in tal modo più semplici.

Fondamenti di chimica per ingegneria

Analyses by author, title and key word of books published in Italy.

Fondamenti di chimica per le tecnologie

Sfruttando la capacità della mente di creare immagini e associazioni, grazie a molte illustrazioni che rendono immediata la spiegazione, gli autori insegnano a memorizzare e apprendere in modo facile, veloce e divertente: giurisprudenza, ingegneria, matematica, lettere, storia, chimica... qualsiasi siano le nozioni da apprendere, questo manuale permetterà di raggiungere i propri obiettivi senza sforzo. Dalla teoria alla pratica: per diverse materie sono forniti esempi di esami e prove per mettere in pratica le tecniche di apprendimento, esercitarsi con le mappe mentali, migliorare la propria metodologia di studio e acquisire le strategie per un'esposizione chiara e una comunicazione più efficace dei concetti studiati.

Elementi di Chimica Fisica

Best-selling author, Walter Savitch, uses a conversational style to teach professionals key programming techniques with Java; which is why the previous edition of this book was one of the most widely used professional/reference Java books. Savitch not only shows how to use object-oriented programming to write great Java code he also includes testing and debugging techniques, as well as practical suggestions on program style, and how to use inheritance, and exception handling features. This edition has been redesigned in a gorgeous, usable, full four-color presentation and also includes thorough coverage of the latest Java 2 Swing libraries and event driven programming. The Java coverage is a concise, accessible introduction that covers all key language features. Thorough early coverage of objects is included, with an emphasis on applications over applets. The author includes a highly flexible format that allows professionals to use the book as a reference and read topics in their preferred order. Although the book does cover such more advanced topics as inheritance, exception handling, and the Swing libraries, it starts from the beginning. The volume provides thorough coverage of Java objects, primitive types, strings, and interactive I/O, flow of control, defining classes and methods, arrays, inheritance, exception handling, streams and file I/O, recursion, window interfaces using swing objects, and applets and HTML. For Programmers or any professional who wants to learn Java from one of the field's most readable and accessible authors.

Test ed esercizi di chimica

Written for the full year or three term Calculus-based University Physics course for science and engineering majors, the publication of the first edition of Physics in 1960 launched the modern era of Physics textbooks. It was a new paradigm at the time and continues to be the dominant model for all texts. Physics is the most realistic option for schools looking to teach a more demanding course. The entirety of Volume 2 of the 5th edition has been edited to clarify conceptual development in light of recent findings of physics education research. End-of-chapter problem sets are thoroughly over-hauled, new problems are added, outdated references are deleted, and new short-answer conceptual questions are added.

Fundamentals of Chemistry

The purpose of the volume is to provide a support for a first course in Mathematics. The contents are organised to appeal especially to Engineering, Physics and Computer Science students, all areas in which mathematical tools play a crucial role. Basic notions and methods of differential and integral calculus for functions of one real variable are presented in a manner that elicits critical reading and prompts a hands-on approach to concrete applications. The layout has a specifically-designed modular nature, allowing the instructor to make flexible didactical choices when planning an introductory lecture course. The book may in fact be employed at three levels of depth. At the elementary level the student is supposed to grasp the very essential ideas and familiarise with the corresponding key techniques. Proofs to the main results befit the intermediate level, together with several remarks and complementary notes enhancing the treatise. The last, and farthest-reaching, level requires the additional study of the material contained in the appendices, which enable the strongly motivated reader to explore further into the subject. Definitions and properties are furnished with substantial examples to stimulate the learning process. Over 350 solved exercises complete the text, at least half of which guide the reader to the solution. This new edition features additional material with the aim of matching the widest range of educational choices for a first course of Mathematics.

Chimica. Test ed esercizi

A brief version of the best-selling physical chemistry book. Its ideal for the one-semester physical chemistry course, providing an introduction to the essentials of the subject without too much math.

Complementi di chimica inorganica

From the brilliant mind of Japanese artist Bunpei Yorifuji comes Wonderful Life with the Elements, an illustrated guide to the periodic table that gives chemistry a friendly face. In this super periodic table, every element is a unique character whose properties are represented visually: heavy elements are fat, man-made elements are robots, and noble gases sport impressive afros. Every detail is significant, from the length of an element's beard to the clothes on its back. You'll also learn about each element's discovery, its common uses, and other vital stats like whether it floats—or explodes—in water. Why bother trudging through a traditional periodic table? In this periodic paradise, the elements are people too. And once you've met them, you'll never forget them.

Bibliografia nazionale italiana

Chemical reaction engineering is concerned with the exploitation of chemical reactions on a commercial scale. It's goal is the successful design and operation of chemical reactors. This text emphasizes qualitative arguments, simple design methods, graphical procedures, and frequent comparison of capabilities of the major reactor types. Simple ideas are treated first, and are then extended to the more complex.

Fondamenti di chimica

Renowned for his student-friendly writing style, John McMurry introduces a new way to teach organic chemistry: ORGANIC CHEMISTRY: A BIOLOGICAL APPROACH. Traditional foundations of organic chemistry are enhanced by a consistent integration of biological examples and discussion of the organic chemistry of biological pathways. This innovative text is coupled with media integration through Organic ChemistryNow and Organic OWL, providing instructors and students the tools they need to succeed.

L'Informazione bibliografica

0321609204 / 9780321609205 Chemistry: A Molecular Approach Value Pack (includes Selected Solutions Manual for Chemistry: A Molecular Approach & MasteringChemistry, with myeBook Student Access Kit) Package consists of: 0131000659 / 9780131000650 Chemistry: A Molecular Approach 0136151167 / 9780136151166 Selected Solutions Manual for Chemistry: A Molecular Approach 0321570138 / 9780321570130 MasteringChemistry™ with Pearson eText Student Access Kit

Professione studente 30 e lode

Computer Fundamentals and Programming in C is designed to serve as a textbook for the undergraduate students of engineering, computer science, computer applications, and information technology. The book seeks to provide a thorough overview of all the fundamental concepts related to computer science and programming. It lays down the foundation for all the advanced courses that a student is expected to learn in the following semesters.

Catalogo dei libri in commercio

Beginning with the basics of computers, the book provides an in-depth analysis of various constructs of C. The key topics include iterative and decision-control statements, functions, recursion, arrays, strings, pointers, structures and unions, and file management. It deals separately with thefundamental concepts of linked lists - the preferred data structure for dynamic allocation of memory. The book also includes a chapter on different searching and sorting algorithms and analysis of time and space complexity of algorithms.

Giornale della libreria

Covering research at the frontier of this field, Privacy-Aware Knowledge Discovery: Novel Applications and New Techniques presents state-of-the-art privacy-preserving data mining techniques for application domains, such as medicine and social networks, that face the increasing heterogeneity and complexity of new forms of data. Renowned authorities from prominent organizations not only cover well-established results—they also explore complex domains where privacy issues are generally clear and well defined, but the solutions are still preliminary and in continuous development. Divided into seven parts, the book provides in-depth coverage of the most novel reference scenarios for privacy-preserving techniques. The first part gives general techniques that can be applied to various applications discussed in the rest of the book. The second section focuses on the sanitization of network traces and privacy in data stream mining. After the third part on privacy in spatio-temporal data mining and mobility data analysis, the book examines time series analysis in the fourth section, explaining how a perturbation method and a segment-based method can tackle privacy issues of time series data. The fifth section on biomedical data addresses genomic data as well as the problem of privacy-aware information sharing of health data. In the sixth section on web applications, the book deals with query log mining and web recommender systems. The final part on social networks analyzes privacy issues related to the management of social network data under different perspectives. While several new results have recently occurred in the privacy, database, and data mining research communities, a uniform presentation of up-to-date techniques and applications is lacking. Filling this void, Privacy-Aware Knowledge Discovery presents novel algorithms, patterns, and models, along with a significant collection of open problems for future investigation.

Rivisteria

This book enables readers to see the connections in organic chemistry and understand the logic. Reaction mechanisms are grouped together to reflect logical relationships. Discusses organic chemistry as it is applied to real-world compounds and problems. Electrostatic potential plots are added throughout the text to enhance the recognition and importance of molecular polarity. Presents problems in a new "Looking-Ahead" section at the end of each chapter that show how concepts constantly build upon each other. Converts many of the structural formulas to a line-angle format in order to make structural formulas both easier to recognize and easier to draw.

Bollettino del Servizio per il diritto d'autore e diritti connessi

'Introduction to C Programming' is designed to serve as a textbook for the undergraduate students of engineering, computer applications and computer science for a basic course on C programming. The book focuses on the fundamentals to enable students to write effective C programs.

Java

Revised edition of: World of the cell / Wayne M. Becker [and others]. 7th ed.

Physics, Volume 2

This text emphasizes a modern approach to microeconomics by integrating new topics in microeconomic theory and making them accessible to students. These topics include risk and uncertainty, assymetric information and game theory. Traditional topics are also treated in a clear way with solid applications. Modifications have been made to the text in this edition, these include new information on the theory of the firm, specifically the coverage of cost, and examples are included throughout the text to reinforce the material presented.

Mathematical Analysis I

This new edition of CHEMISTRY: PRINCIPLES AND REACTIONS continues to provide students with the "core" material essential to understanding the principles of general chemistry. Masterton and Hurley cover the basics without sacrificing the essentials, appealing to several markets. Appropriate for either a one- or two-semester course, CHEMISTRY: PRINCIPLES AND REACTIONS, Fifth Edition is three hundred pages shorter than most general chemistry texts and lives up to its long-standing reputation as THE student-oriented text. Though this text is shorter in length than most other General Chemistry books, it is not lower in level and with the addition of the large volume of content provided by the revolutionary GENERAL CHEMISTRY INTERACTIVE 3.0 CD-ROM that is included with every copy, it has a depth and breadth rivaling much longer books.

The Elements of Physical Chemistry

In Mordin On Time, Nick Mordin sets out his method for answering the most fundamental question facing punters in any race, namely: which is the fastest horse? He was timing the sections of races with a stop watch, estimating wind strength and direction, adjusting for movements of running rails, using projected times and calculating average times years before the best-selling American books on speed rating were published. This new edition incorporates much new material, including standard times for all Irish racecourses (plus the major French ones). Mordin On Time enables the reader to construct their own speed ratings wherever they live.

Wonderful Life with the Elements

The aim of the book and its associated computer disk is to explain the physical nature of electric and magnetic fields encountered in electrical engineering. Field problems are inherently difficult because fields are distributed in space and can exist in what is usually regarded as empty space devoid of matter. The customary approach to fields problems is through algebraic methods and the solution of equations. The book emphasizes instead a method based on geometry which enables the student to visualize the fields. Backed by a computer program (available to download at the bottom of this page) giving visual displays, the method enables the student to attempt real problems and to use design methods. A comprehensive survey of numerical and analytical methods is provided and examples of engineering applications are discussed.

Chemical Reaction Engineering

Organic Chemistry