

General Chemistry

From boyhood in the coal-mining village of Coello, Illinois, to winning the Priestly Medal and becoming the president of the American Chemical Society, Professor Emeritus Fred Basolo of Northwestern University traces the intertwined development of his life, career, and the field of inorganic chemistry. With over a hundred photographs and dozens of structures and equations, *From Coello to Inorganic Chemistry* details the major innovations, travels, family life, and guests hosted while helping to build one of the world's leading inorganic chemistry departments from its humble beginnings at Northwestern University. Students and chemists with interests in bioinorganic chemistry, catalysis, nanoscience, new materials research, and organometallics can follow the emergence of inorganic chemistry as a rival to organic chemistry through the accomplishments of one of its most influential pioneers.

Known for its carefully developed, thoroughly integrated approach to problem solving, this market-leading text emphasizes the conceptual understanding and visualization skills essential for first-year chemistry and science majors. The new technology program reinforces the approach of the text and provides a complete solution for teaching and learning. The Eighth Edition retains the hallmark pedagogical features of the text and builds upon the conceptual focus and art program. Students also benefit from online homework in the technology program, which features an extensive database of questions drawn from the text.

Get a better grade in General Chemistry! Even though General Chemistry may be challenging at times; with hard work and the right study tools, you can still get the grade you want. With David Klein's *General Chemistry as a Second Language*, you'll be able to better understand fundamental principles of chemistry, solve problems, and focus on what you need to know to succeed. Here's how you can get a better grade in General Chemistry: Understand the basic concepts: *General Chemistry as a Second Language* focuses on selected topics in General Chemistry to give you a solid foundation. By understanding these principles, you'll have a coherent framework that will help you better understand your course. Study more efficiently and effectively: *General Chemistry as a Second Language* provides time-saving study tips and problem-solving strategies that will help you succeed in the course. Improve your problem-solving skills: *General Chemistry as a Second Language* will help you develop the skills you need to solve a variety of problem types - even unfamiliar ones!

"An excellent text, highly recommended." - Choice When it was first published, this first-year chemistry text revolutionized the teaching of chemistry by presenting it in terms of unifying principles instead of as a body of unrelated facts. Those principles included modern theories of atomic and molecular structure, quantum mechanics, statistical mechanics, and thermodynamics. In addition, Dr. Pauling attempted to correlate the theories with descriptive chemistry, the observed properties of substances, to introduce the student to the multitude of chemical substances and their properties. In this extensively revised and updated third edition, the Nobel Prize-winning author maintains an excellent balance between theoretical and descriptive material, although the amount of descriptive chemistry has been decreased somewhat, and the presentation of the subject, especially in relation to the nonmetals, has been revised in such a way as to permit greater correlation with the electronic structure of atoms, especially electronegativity. The principles of quantum mechanics are discussed on the basis of the de Broglie wavelength of the electron. The quantized energy levels of a particle in a box are derived by means of a simple assumption about the relation of the de Broglie waves to the walls of the box. No attempt is made to solve the Schrödinger wave equation for other systems, but the wave functions of hydrogen-like electrons are presented and discussed in some detail, and the quantum states for other systems are also covered. Statistical mechanics is introduced before thermodynamics, and the discussion of thermodynamics is based on it. This arrangement reflects the author's belief that beginning students can understand statistical mechanics better than chemical thermodynamics. Aimed at first-year college students who plan to major in chemistry or closely related fields, the book is written in a logical, clear, and understandable style. In addition, many excellent figures are included, along with numerous problems and 75 pages of appendices covering such topics as symmetry of molecules and crystals, hybrid bond orbitals, and magnetic properties of substances.

[General chemistry](#)

[Fundamentals of General Chemistry Calculations](#)

[The Essential Concepts](#)

[Principles, Patterns, and Applications](#)

[Chemistry](#)

[Including Semimicro Qualitative Analysis](#)

[Laboratory Experiments in General Chemistry](#)

[And Related Carbonyl Halides](#)

Phosgene, COCl₂ is a C1 chemical of major industrial importance. The annual production, worldwide, is more than 1 million tons; 90% of which is used in the manufacture of isocyanates and of polyurethane and polycarbonate resins. Phosgene is also extensively used as a synthetic reagent in organic chemistry, in particular in the preparation of acyl chlorides, chloroformate esters, organic carbonates and carbamoyl chlorides. Although more than 7000 papers have appeared on phosgene and some 1000 papers on its analogues, this is the first book on these interesting chemicals. It presents a critical treatise of phosgene, ranging from its discovery and subsequent use as a war gas to some potential applications of the material into the 21st century. It includes chapters on biological effects and industrial hygiene; on synthesis, formation and manufacture; analysis, uses, environmental effects, and physical and thermodynamic properties. Reactions with organic and inorganic materials are described. Four of the seventeen chapters are devoted to a description of the carbonyl halides (especially carbonyl difluoride) related to phosgene, and a special section deals collectively with the electronic structures of carbonyl halide molecules. Featuring the first-ever comprehensive discussion of the medical effects of phosgene poisoning and the most modern methods of treating exposure victims, the book will be of interest to historians and militarists and those working in the chemical industries (heavy chemicals, agricultural and pharmaceutical), university libraries, hospitals, medical research centres, museums, environmental research centres, poison units and health and safety institutions world-wide.

In this book, The Art of Explanation: General Chemistry, the author shares with you the key concepts of general chemistry with problems sets that allow you to not only work out problems but rather define and discuss the principles of chemistry. When you master understanding the definition, a light bulb in your head will turn on and thus you will know "it" and will be able to explain "it"! You will have mastered the art of explanation!

The eleventh edition was carefully reviewed with an eye toward strengthening the content available in OWLv2, end-of-chapter questions, and updating the presentation. Nomenclature changes and the adoption of IUPAC periodic table conventions are highlights of the narrative revisions, along with changes to the discussion of d orbitals. In-text examples have been reformatted to facilitate learning, and the accompanying Interactive Examples in OWLv2 have been redesigned to better parallel the problem-solving approach in the narrative. New Capstone Problems have been added to a number of chapters. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This work evolved over thirty combined years of teaching general chemistry to a variety of student demographics. The focus is not to recap or review the theoretical concepts well described in the available texts. Instead, the topics and descriptions in this book make available specific, detailed step-by-step methods and procedures for solving the major types of problems in general chemistry. Explanations, instructional process sequences, solved examples and completely solved practice problems are greatly expanded, containing significantly more detail than can usually be devoted to in a comprehensive text. Many chapters also provide alternative viewpoints as an aid to understanding. Key Features: The authors have included every major topic in the first semester of general chemistry and most major topics from the second semester. Each is written in a specific and detailed step-by-step process for problem solving, whether mathematical or conceptual. Each topic has greatly expanded examples and solved practice problems containing significantly more detail than found in comprehensive texts. Includes a chapter designed to eliminate confusion concerning acid/base reactions which often persists through working with acid/base equilibrium. Many chapters provide alternative viewpoints as an aid to understanding. This book addresses a very real need for a large number of incoming freshman in STEM fields.

[General Chemistry: The Essential Concepts](#)

[General Chemistry for Engineers](#)

[General Chemistry with Qualitative Analysis](#)

[Survival Guide to General Chemistry](#)

[General Chemistry in the Laboratory](#)

[Quantitative Laboratory Experiments for General Chemistry](#)

[From Coello to Inorganic Chemistry](#)

[The Art of Explanation: General Chemistry](#)

Emphasises on contemporary applications and an intuitive problem-solving approach that helps students discover the exciting potential of chemical science. This book incorporates fresh applications from the three major areas of modern research: materials, environmental chemistry, and biological science.

Full solutions to all of the red-numbered exercises in the text are provided.

The seventh edition of General Chemistry continues the tradition of presenting only the material that is essential for a one-year general chemistry course. It strikes a balance between theory and

application by incorporating real-world examples; helping students visualize the three-dimensional atomic and molecular structures that are the basis of chemical activity; and developing problem-solving and critical thinking skills. Although the seventh edition incorporates many impressive features, such as conceptual idea review, animations correlated to the text, and hand-sketched worked examples, General Chemistry is still 200 to 300 pages shorter and much less expensive than other two-semester textbooks. Dr. Chang and Dr. Goldsby ' concise-but-thorough approach will appeal to efficiency-minded instructors and value-conscious students.

General ChemistryDover Publications

[Green Chemistry Laboratory Manual for General Chemistry](#)

[A Lifetime of Reactions](#)

[Journal of General Chemistry of the Union of Soviet Socialist Republics](#)

[General Chemistry I as a Second Language](#)

[General Chemistry](#)

[Russian Journal of General Chemistry](#)

[An Integrated Approach](#)

[Chemistry in Quantitative Language](#)

The Eighth Edition of CHEMISTRY incorporates a strong molecular reasoning focus, amplified problem-solving exercises, and innovative technological resources. This kind of reasoning helps students think at the molecular level and make connections between molecular structure and macroscopic properties. Molecular reasoning and visualization are emphasized via Molecular-Reasoning icons, chapter objectives, end-of-chapter problems, and new artwork, and are integrated into the accompanying technology, including OWL (online homework management system) and General ChemistryNow (student assessment program). As in previous editions, thermochemistry is covered mainly in one chapter (Chapter 15) and begins the second half of the course. However, to address the need for more material on thermochemistry earlier in the course, the text now includes information on bond energies in Chapter 7 on Chemical Bonding. The discussion of entropy in Chapter 15 has been expanded to include not only molecular disorder but also the concept of energy dispersal. - Publisher.

Green chemistry involves designing novel ways to create and synthesize products and implement processes that will eliminate or greatly reduce negative environmental impacts. The Green Chemistry Laboratory Manual for General Chemistry provides educational laboratory materials that challenge students with the customary topics found in a general chemistry laboratory manual, while encouraging them to investigate the practice of green chemistry. Following a consistent format, each lab experiment begins with objectives and prelab questions highlighting important issues that must be understood prior to getting started. This is followed by detailed step-by-step procedures for performing the experiments. Students report specific results in sections designated for data, observations, and calculations. Once each experiment is completed, analysis questions test students' comprehension of the results. Additional questions encourage inquiry-based investigations and further research about how green chemistry principles compare with traditional, more hazardous experimental methods. By placing the learned concepts within the larger context of green chemistry principles, the lab manual enables students to see how these principles can be applied to real-world issues. Performing laboratory exercises through green experiments results in a safer learning environment, limits the quantity of hazardous waste generated, and reduces the cost for chemicals and waste disposal. Students using this manual will gain a greater appreciation for green chemistry principles and the possibilities for future use in their chosen careers.

The most trusted general chemistry text in Canada is back in a thoroughly revised 11th edition. General Chemistry: Principles and Modern Applications, is the most trusted book on the market recognized for its superior problems, lucid writing, and precision of argument and precise and detailed treatment of the subject. The 11th edition offers enhanced hallmark features, new innovations and revised discussions that respond to key market needs for detailed and modern treatment of organic chemistry, embracing the power of visual learning and conquering the challenges of effective problem solving and assessment. Note: You are purchasing a standalone product; MasteringChemistry does not come packaged with this content. Students, if interested in purchasing this title with MasteringChemistry, 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 MasteringChemistry, search for: 0134097327 / 9780134097329 General Chemistry: Principles and Modern Applications Plus MasteringChemistry with Pearson eText -- Access Card Package, 11/e Package consists of: 0132931281 / 9780132931281 General Chemistry: Principles and Modern Applications 0133387917 / 9780133387919 Study Card for General Chemistry: Principles and Modern Applications 0133387801 / 9780133387803 MasteringChemistry with Pearson eText -- Valuepack Access Card -- for General Chemistry: Principles and Modern Applications

Chemistry in Quantitative Language, second edition is an invaluable guide to solving chemical equations and calculations. It provides readers with intuitive and systematic strategies to carry out the many kinds of calculations they will meet in general chemistry.

[The Central Science](#)

[Principles and Modern Applications](#)

[How to Solve General Chemistry Problems](#)

[an introduction to descriptive chemistry and modern chemical theory](#)

[College General Chemistry](#)

[Student Solutions Manual to Red Exercises for Chemistry](#)

[Journal of General Chemistry of the U.S.S.R. in English Translation](#)

Publisher Description

Contains chapter objectives, overview, summary, examples and exercises as well as quizzes and practice tests. Answers to all quizzes and practice tests are found in separate section at end of manual.

General Chemistry for Engineers explores the key areas of chemistry needed for engineers. This book develops material from the basics to more advanced areas in a systematic fashion. As the material is presented, case studies relevant to engineering are included that demonstrate the strong link between chemistry and the various areas of engineering. Serves as a unique chemistry reference source for professional engineers Provides the chemistry principles required by various engineering disciplines Begins with an 'atoms first' approach, building from the simple to the more complex chemical concepts Includes engineering case studies connecting chemical principles to solving actual engineering problems Links chemistry to contemporary issues related to the interface between chemistry and engineering practices

Previous ed published: 1989 Periodic table and text on lining papers Includes index and appendices.

[Laboratory Exercises in General Chemistry](#)

[A Cultural Course Based Upon the Texts of the Late Alexander Smith](#)

[Phosgene](#)

[Mastering the Fundamental Skills](#)