

Discussion Group -- Use of Paperbacks in Teaching Chemistry

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Several questions were asked at the start:

Are paperbacks supplementary? Or do they replace the regular text?
 What about programmed texts?
 How many should a student be required to buy?
 In what areas are they needed?

SMITH-- Valparaiso. Paperbacks usually cover in depth, but not breadth--
 may miss important areas

SISLER-- Florida. Advantages -- custom design your course. Quality can be
 good or bad, in either paperback or regular textbook. A collection of
 paperbacks will lack unity.

HAENISCH -- Wabash. Tufts uses paperbacks for general chemistry.

OELKE -- Grinnell. Cultural chemistry (contemporary) , non-science major.
 Used King as background. Readings in Scientific American, Fortune.
 Books on reserve. King too sketchy. Next year will use regular short
 text plus readings. Better.

SISLER-- Florida. The paperback gives the opportunity for experts in a field
 to write.

HAENISCH -- Wabash. Treat at least one topic in depth. The paperback makes
 this possible.

Which paperbacks for a general chemistry course?

COOK -- Valparaiso, Sisler, King, Mahan (Elementary Chem. Thermodynamics)

One Schedule *in Reinhold Series for descriptive chemistry:*

Ritter: CHEMISTRY OF THE ELEMENTS OF THE FIRST FOUR GROUPS
~~Scanlon~~ & Sisler, THE NON-METALS
Ryschkewitsch , THE TRANSITION ELEMENTS

How about questions and problems?

Spotty. Good problem books are available. Programmed materials can
 help fill gaps. (~~non High School students.~~) Also to gain proficiency
 in certain areas.

ZUEHLKE -- Lawrence. Chemistry- Physics course. For majors and non-majors. Open to students taking calculus concurrently who had high school chemistry and physics, with a good mathematics background. Used:

C. Sherwin: BASIC CONCEPTS IN PHYSICS. Holt
 Hildebrand: KINETIC THEORY
 Mahan: THERMODYNAMICS (Covered almost all of this)
 Pullman: (French Translation) STRUCTURE OF MOLECULES. Dover
 King: KINETICS.

Made specific reading and problem assignments.

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High School teachers are buying paperbacks. So are able high school students.

Cost: The cost of textbooks is a very small percentage of a student's cost of attending college. (Figure it for your own school. Count tuition, board, room -- the fraction for the chemistry course -- and even the wages the student could earn if not in school).

Some suggested Titles:

Prentiss-Hall is working on an Organic Series
 Butler- Addison- Wesley: pH AND SOLUBILITY PRODUCT (exact title?)
 Butterworth: THERMODYNAMICS
 Dover: THERMODYNAMICS, FERMI.
 Prentice-Hall: FOUNDATIONS OF MODERN CHEMISTRY. General Chemistry Series
 Seaborg: MAN-MADE TRANSURANIUM ELEMENTS
 Addison-Wesley, Leonard Nash: ELEMENTS OF CHEMICAL THERMODYNAMICS
 Houghton-Mifflin. Benfey: FROM VITAL FORCE TO STRUCTURAL FORMULAS
 Reinhold.
 Cheldelin & Newburgh: THE CHEMISTRY OF SOME LIFE PROCESSES
 Eyring & Eyring: MODERN CHEMICAL KINETICS
 Hildebrand: AN INTRODUCTION TO MOLECULAR KINETIC THEORY
 Kieffer: THE MOLE CONCEPT IN CHEMISTRY
 Moeller: THE CHEMISTRY OF THE LANTHANIDES
 Overman: BASIC CONCEPTS OF NUCLEAR CHEMISTRY
 Rochow: ORGANO METALLIC CHEMISTRY
 Ryschkewitsch: CHEMICAL BONDING AND THE GEOMETRY OF MOLECULES
 Sisler: CHEMISTRY IN NON-AQUEOUS SOLVENTS
 Sisler: ELECTRONIC STRUCTURE, PROPERTIES, and the PERIODIC LAW
 VanderWerf: ACIDS, BASES, AND THE CHEMISTRY OF THE COVALENT BOND
~~In Preparation~~ Driscoll: THE NATURE AND CHEMISTRY OF HIGH POLYMERS

Benjamin.

Gray: ELECTRONS AND CHEMICAL BONDING
 Hill: TRACKING DOWN PARTICLES
 Choppin: NUCLEI AND RADIOACTIVITY
 Basolo: COORDINATION CHEMISTRY
 Hochstrasser: BEHAVIOR OF ELECTRONS IN ATOMS
 King: HOW CHEMICAL REACTIONS OCCUR
 Herz: THE SHAPE OF CARBON COMPOUNDS
 Mahan: ELEMENTARY CHEMICAL THERMODYNAMICS

Some Suggested Titles(Continued)

Benjamin.

Barrow: THE STRUCTURE OF MOLECULES

Barrow: PROGRAMMED SUPPLEMENTS FOR GENERAL CHEMISTRY, Vol. II

Adamson: UNDERSTANDING PHYSICAL CHEMISTRY, Parts I & II

Sienko: Freshman Chemistry Problems and How to Solve Them:

Part I: STOICHIOMETRY AND STRUCTURE

Part II: EQUILIBRIUM