Transmission Lines, Antennas, and Wave Guides
By the Members of the War Training Staff, Crift Laboratory, Graduate School of Engineering, Harvard University. 345 pages, 5½ x 8¼. $3.50

By Ronald W. P. King, Harvard University. Radio Communication Series. 575 pages, 5½ x 8¼. $5.00

The first of a series of three volumes, this book gives a systematic introduction to those basic concepts of electromagnetism that are fundamental in the study of electromagnetic waves, antennas, electromagnetic horns, waveguides, and ultra-high frequency and microwave circuits. The physical and mathematical essentials of electrodynamics are logically developed and critically discussed for the purpose of application to engineering problems.

Introduction to Industrial Chemistry

In this forthcoming book two industrial chemists provide an exceptionally clear and interesting elementary text, especially suitable for use in training classes within industry, and, in general, with students of limited scientific background. The first third of the book covers fundamental chemical principles, and the other two thirds deal with representative industrial applications. Constant reference is made to familiar everyday phenomena.

Plastics in Practice
By John Sasso, Product Engineering, and Michael A. Brown, Jr., Monsanto Chemical Company. 191 pages, 7½ x 10¾. $4.00

Here is a general treatment of plastic material organized around 103 actual uses of plastics, the majority of which are in successful commercial production. The book represents an entirely new approach to the subject, planned especially for the reader concerned with the choice of materials, design, or merchandising of products. All materials, methods of fabrication, properties, design, and cost factors are covered.

Workbook in Elementary Meteorology
By Frederic L. Caudle, United States Naval Academy. 175 pages, 8 x 10½. $1.24

This workbook provides beginning students with carefully planned material covering all important topics of the meteorology course. It reviews principles and tests the student’s ability to apply them to new situations, developing the skills needed to use meteorology successfully in aviation and in many other fields of occupational life. Covers stability, air masses, fog, local weather signs, the radiosonde, thunderstorms, etc.

Textbook of Healthful Living. New third edition
By Harold S. Diehl, M.D., University of Wisconsin. 708 pages, 5½ x 8¼. $2.50

The author of this well known practical guide to healthful living has again revised the text to include recent developments in the fields of nutrition, vitamins, physical fitness, immunity, the military control of insect-borne diseases, etc. All statistics have been brought up to date. New material has been added on mental health, heredity, narcotics, drug addiction, care of the skin, and medical services.

Send for copies on approval

McGRAW-HILL BOOK COMPANY, INC.
Now Ready

Basic Theoretical Meteorology

DYNAMIC METEOROLOGY

By J. HOLMBOE, W. GUSTIN, and G. FORSYTHE;
all of the Department of Meteorology, University of California at Los Angeles

The theoretical background for the understanding of the physical behavior of the atmosphere and its motion is provided in this practical textbook that grew out of a series of lectures by the senior author. It is probably the only book that starts with the fundamental principles of physics and develops the tools of thermodynamics and hydrodynamics needed for a thorough understanding of atmospheric processes.

Notations and subject matter are adapted exclusively to the needs of meteorology, and only material which is considered indispensable for the practical meteorologist and weather forecaster is included.

DYNAMIC METEOROLOGY is self-contained, and presupposes only some general knowledge of physics and calculus. Since the concepts of atmospheric motion are most naturally expressed in vector notations, the methods of vector algebra and a few simple operations of vector calculus are used consistently in this book. These methods are introduced and explained gradually as the need arises, as part of the general development of the subject. No previous knowledge of vector methods is assumed.

Stressing fundamental principles, DYNAMIC METEOROLOGY may be found helpful to students of such applied sciences as geophysics, aerodynamics, and hydrology, as well as to students of various branches of pure science.

CONTENTS
Dimensions and Units • Thermodynamics of a Perfect Gas • Thermal Properties of Water Substance and Moist Air • Hydrostatic Equilibrium • Stability of Hydrostatic Equilibrium • The Equation of Motion • Horizontal Flow • Wind Variation along the Vertical • Wind Variation along the Vertical in the Surface Layer • Mechanism of Pressure Changes • Circulation and Vorticity • Theory of Wave in a Zonal Current • Index.

May 1945
378 pages
Illustrated
5¼ by 8½
$4.50

JOHN WILEY & SONS, Inc., 440-4th Ave., New York 16, N. Y.
"It will serve as an integral part of any course in histology"

STILES

Handbook of Microscopic Characteristics of Tissues and Organs—2nd Edition

By KARL A. STILES, M.S., Ph.D.
Professor of Biology and Chairman, Division of Natural Science, Coe College

The work of any well planned course in histology may be built around this text as a convenient outline, clearly setting forth the principal characteristics of the various tissues and organs to be studied. First consideration is given to what the student needs most—help in identification studies. The material is arranged in systems and following each system is a useful tabular summary. Its use will save considerable time for both the student and the instructor. As an admirable basis for lecture notes, a ready reference source in the study of tissues or organs in a system, this book is highly recommended.

The first few chapters deal with the various types of tissue cells. Following this the histology of the various organ systems of the body are studied. Blank pages are provided for lecture notes or drawings. A glossary is included.

Teachers say:

"It is being used with excellent results proving a valuable supplement to text and lectures and a convenient guide to ready recognition of tissues in the laboratory"

"It fills a long felt need in Histology"

"Our students buy the text to supplement their work in pathology and even review their work after the pre-clinical years"

"I am impressed by the completeness of the treatment of the subject"

"I like the tissue diagrams and the classifications of tissues and organs"

"The illustrations and summaries are especially appealing"

204 Pages. $1.50

THE BLAKISTON COMPANY

PHILADELPHIA

5, PA.
An immediate hit
Fundamentals of PHYSICS
593 pp., $4.00
by HENRY SEMAT

ASSOCIATE PROFESSOR OF PHYSICS, THE COLLEGE OF THE CITY OF NEW YORK

These comments are typical —

"It covers all the essentials of a first course in college physics without being loaded with details of other materials. I am enthusiastically for it."

"Professor Semat has made a very wise choice of material to be treated, and his treatments are clear, accurate, and easy to understand."

"I like the clear, concise way in which the author presents the fundamentals of the field."

"This eclectic text succeeds admirably in presenting the basic ideas of physics with thoroughness in a scope restricted to that actually needed and attainable in a first year college course. The format of the book is pleasing and the illustrations are consistently clear. Illustrative examples are solved in a way to encourage the student to understand the method rather than merely to imitate it."

"The illustrative examples are a distinct innovation, as well as a help to the instructor. He can discuss the example as well as bring out the fundamental laws that enable one to solve problems. I congratulate Professor Semat in having the courage to omit topics of minor importance and not clutter up his text with them. In fact, the 'streamlining' is perfect."

"To me the outstanding merit of the text is that while it is definitely on the college level, with no attempt at popularization, its lucidity and forthrightness of style make it suitable for students of widely varied preparation and interests."

"The finest text for the first course in college physics I've ever seen."

If you teach first year college physics, write us for an examination copy.

FARRAR & RINEHART, INC. 232 MADISON AVE. NEW YORK 16
GENERAL BIOLOGY
By James W. Mavor

The revised edition of this widely popular text contains material for a full year's course, divided into five sections. The first approaches the subject from the points of view of ecology and cellular physiology; the second is devoted to a systematic account of the plant kingdom; and the third to a similar consideration of the animal kingdom. The fourth section deals with the anatomy and physiology of the frog and man. The fifth and last part deals with the principles of development, heredity and evolution. $4.00

Mavor's Laboratory Exercises in General Biology, also in its revised edition, contains work for an entire year, with alternative exercises. $2.50

MAN AND THE LIVING WORLD
By E. E. Stanford

A popular text for survey courses which covers the chief facts and principles of all the life sciences and brings out in a clear and interesting way their interrelationships and their particular significance to man and the development of civilization. Contains thoroughly scientific studies of the plant and animal kingdoms, of physiology, microorganisms, and the other chief divisions of the biological sciences. $3.75

LABORATORY EXPLORATIONS IN GENERAL ZOOLOGY
By K. A. Stiles

"Laboratory Explorations in General Zoology is new, dynamic, adaptable, and thorough. It is good scientifically and pedagogically. . . . The author does not merely talk about the scientific method he really teaches it. It is not to be supposed nothing else is taught but the scientific method. The subject matter of the exercises includes well-chosen material from animal morphology, physiology, taxonomy, ecology, embryology, heredity, and evolution—all arranged to relate to man."—Bios. $2.50
An Important New Mosby Text

HOSKINS & BEVELANDER

ESSENTIALS OF HISTOLOGY

by MARGARET M. HOSKINS, Ph.D.
and GERRIT BEVELANDER, Ph.D.

Departments of Anatomy, The Graduate School of Arts and Sciences, and College of Dentistry, New York University.

240 pages,
135 illustrations,
2 color plates.
About $3.50 to $5.00

This new book, designed for use in Liberal Arts schools, presents in simple and systematic form the most important morphological characteristics of the tissues and organs discussed. The authors have endeavored to make clear what features are to be seen in ordinary preparations, what points require special techniques for demonstration, and what is to be accepted as a result of investigation outside the scope of an elementary course.

Text and illustrations are intended to serve as a foundation for histological study on which the individual teacher may build such superstructure of detail or theoretical material as the conditions of his own course permit.

After years of teaching, the authors submit the material here as that which a beginner should have readily available before he undertakes the study of each tissue or organ.

The C. V. Mosby Company
3207 Washington Blvd.
St. Louis 3, Missouri

Gentlemen: Reserve a copy of Hoskins-Bevelander's ESSENTIALS OF HISTOLOGY, about $3.50 to $5.00 and send it to me as soon as it comes from the press.

☐ Attached is my check. ☐ Charge my account.

Name ........................................................................................................................................................................................................
Address ....................................................................................................................................................................................................
Microscopists!

New leaflet gives interesting data on Immersion Oil for microscope objectives and outlines eight advantages of Shillaber's Immersion Oil over Cedar Oil; also available: New Data on Certified Index of Refraction Liquids and Shillaber's Examination Liquids for Microscopy.

Just ask for Leaflets 458

Reagents for Chemical Microscopy

Shillaber's Photomicrography, published 1944, by John Wiley & Sons, Inc., presents over 700 pages of useful optical and microscopical data for advanced workers in microscopy and photomicrography. Will be furnished at publishers price, $10.00; or, leaflet on request.

R. P. CARGILLE
118 Liberty Street • New York 8, N. Y.

IN THE MARKET PLACE

Rates to be paid in advance: 10 cents a word, minimum $2.00; no discounts or agency commissions. Count eight words if a box address is to be used. Copy should be sent to the Advertising Department, American Association for the Advancement of Science, Smithsonian Institution Building, Washington 25, D. C.

PERIODICALS


POSITIONS OPEN


Excellent opening with company located in New York City. Research man to develop new techniques for the Electron Microscope. An individual with imagination can make a name for himself in a new field. A Ph.D. in Physics, Physical Chemistry or Biophysics, or equivalent by experience, with a background which will enable him to anticipate important future applications of this new research tool. Box 162, "SCIENCE," Smithsonian Institution Building, Washington 25, D. C.

Assistant Material Engineer: Metallurgical, engineering, or similar experience, to assist in preparation of specifications and technical bulletins. Good post-war prospects for the right man. Box 160, "SCIENCE," Smithsonian Institution Building, Washington 25, D. C.

Spectrographer, or Chemist, or Physicist, who would be interested in training in spectrography, for position of responsibility in a Light Metals Plant with a sound future. Good starting salary commensurate with applicant's training and work record. Box 159, "SCIENCE," Smithsonian Institution Building, Washington 25, D. C.


SUPPLIES

Write for New Cat. No. 67 on Analytical Filter Papers

Schleicher & Schuell Co.
Plant and Lab: South Lee, Mass.
Head Office: 116-118 West 14th St.
New York 11, N. Y.
New Knowledge Challenges Metallurgists

The RCA Electron Microscope discloses significant aspects of metal structures previously unknown.

The accompanying illustrations with their captions are exciting examples of the greater insight into metal structures now made available by the RCA Electron Microscope.

These illustrations are reproductions from electron micrographs made with an RCA Electron Microscope in the Aluminum Research Laboratories of Aluminum Company of America, and are published here by courtesy of that company.

Aluminum Company of America is but one of many leaders in American industry and science that have purchased RCA Electron Microscopes for use in uncovering new knowledge. This knowledge is directly and profitably applied to improve processing procedures and control.

The RCA Electron Microscope is capable of direct magnifications up to 20,000 diameters. Sharp, clear micrographs can be easily and quickly produced. These micrographs are suitable for useful enlargement up to 100,000 diameters. RCA engineers, equipped to help you appraise the possibilities of this remarkable instrument, are at your service for consultation. Please address inquiries to Electron Microscope Section, Dept. 131CC, Radio Corporation of America, Camden, N. J.

OXIDE FILM X 9,000
Cubic block structure within a single grain, in a deep-etched sample of an annealed aluminum alloy sheet.

OXIDE FILM X 3,900
Cubic etch pits in a deep-etched sample of an annealed aluminum alloy sheet.

OXIDE FILM X 9,000
Cubic block structure adjacent to a grain boundary, in a deep-etched sample of an annealed aluminum alloy sheet.
Photography of Cathode Ray Tube Traces

The choice of a film for photographing cathode ray traces depends on the color of the light from the screen, the persistence time, and whether the trace is transient or stationary.

The Kodak Research Laboratories have recently completed tests of all Kodak materials under typical conditions of use of cathode ray tubes. Materials for a specific use can be selected on the basis of the data in the table shown below. Further details are given in a revised pamphlet on this subject. Copies are obtainable on request.

<table>
<thead>
<tr>
<th>RELATIVE SPEEDS OF KODAK MATERIALS FOR CATHODE RAY PHOTOGRAPHY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Sheet Films</td>
</tr>
<tr>
<td>Tri-X Panchromatic</td>
</tr>
<tr>
<td>Super Panchro-Press, Sports Type</td>
</tr>
<tr>
<td>Roll Films and Packs</td>
</tr>
<tr>
<td>Super-X Panchromatic</td>
</tr>
<tr>
<td>35-mm. Film</td>
</tr>
<tr>
<td>Super-XX Panchromatic</td>
</tr>
</tbody>
</table>

EASTMAN KODAK COMPANY

Research Laboratories
Rochester 4, N. Y.

HAVE YOU TRIED THE NEW PURINA LABORATORY CHOW?

It has a Constant Nutritional Value!

The composition of Purina Laboratory Chow will, as near as is practical, be maintained constant for experimental work requiring a uniform dietary history through several generations. This is of special importance to investigators planning research extending over long periods of time. For information, write direct to Laboratory Chow Department,

PURINA MILLS, St. Louis 2, Mo.

Purina Mills, 1704 Checkerboard Square, St. Louis 2, Mo.
Please send me your new, revised 28-page handbook on the care and feeding of laboratory animals (SP4629A), along with a generous sample.

Name:
Address:
Out to SEE

A metal monster rises to the surface of the sea. From deep within its stream-lined body men scramble to the bridge . . . to search the horizon for enemy ships . . . to watch the skies for hostile planes.

Spencer binoculars, selected specifically for submarine service, meet the toughest requirements in the Navy. Water tight and shock proof, the men have learned to depend on them for a clear view of distant objects.

Fighting men everywhere appreciate the accuracy of periscopes, telescopes, aircraft gunsights, azimuth instruments, tank sights, telescopic alidades and other optical instruments made by Spencer.

Behind the perfection of these products lies almost a century of experience in producing the finest of scientific optical instruments.

Spencer LENS COMPANY
BUFFALO, NEW YORK
SCIENTIFIC INSTRUMENT DIVISION OF AMERICAN OPTICAL COMPANY