

vous and endocrine systems), *Maintenance* (cardiovascular, lymphatic, respiratory, digestive and urinary systems), and *Continuity* (reproduction, development and genetics). While the original format of the book has been retained, this edition contains a number of substantial revisions, the most important of which is greater coverage of physiology and developmental anatomy.

As with many of its competitors, the book is replete with pedagogical aids to learning. These include instructional objectives, study outlines, review questions, tables, phonetic pronunciations, glossaries (of pre/suffixes, medical terminology, and anatomical/physiological concepts) and boxed essays on clinical applications.

In comparison to its competition, this book excels in several respects. Especially significant is the emphasis on clinical applications and pathological conditions. For students in health-oriented fields these topics are often highly motivating. The photomicrographs, PET scans and 5-color illustrations add immensely to the visual impact and attractiveness of the book.

Instructors who teach basic courses in human anatomy and physiology would do well to examine this textbook before finalizing their selection. Several supplementary materials are available, including a student learning guide, a test bank, an instructor's manual and full-color transparencies.

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## PRINCIPLES OF HUMAN ANATOMY

by Gerard J. Tortora. 3rd ed. 1983. Harper and Row. 778 p. hardback. Price not given.

The third edition of this excellent and well-known textbook retains the objectives of previous editions designed for use in introductory college level functional human anatomy courses. The textbook is written with a broad spectrum of students in mind including majors in biological sciences, premedicine, other preprofessional health programs and nursing. The book can be utilized in moderation for less rigorous courses and to its full potential for more rigorous courses, though students in the former courses may find it somewhat intimidating because of its comprehensive coverage.

There are many good features of this accurate and attractively illus-

trated textbook. Explanations are clearly written and concepts, where applicable, are developed in a logical manner. Where appropriate, such as in chapters on bones and muscles, there is a minimum of narrative with the bulk of the text being devoted to well-labeled diagrams and well-organized exhibits (an improvement in organization). The current edition has been updated in all areas with added emphasis on disorders of the systems. There is a separate chapter on surface anatomy, but surface anatomy is incorporated into other chapters as well. The surface anatomy utilizes some good pictures and some of my "not so favorite" ones, though the latter have been made less abrasive. Individual instructors will have different preferences for particular features in models for surface anatomy.

There are improvements over previous editions. New sections have been added in many chapters and a new chapter on developmental anatomy now includes coverage of spermatogenesis and oogenesis. Phonetic pronunciation for terms has been added and clinical applications appear in nondistracting boxes. There are more full-color diagrams, and the tone-rendering technique for bones has been added. Scanning electron micrographs and photographs of actual anatomical specimens are new.

The current edition emphasizes physiology, histology, and applications to a greater extent than other comparable books. This lengthens the book and it is somewhat doubtful that all the material presented could be covered or mastered by a student in a one semester course. However, the added depth of coverage makes it an excellent reference for the interested student and an asset for the instructor.

There are only two places I could offer suggestions for improvement. The chapter on neural tissue is essentially a coverage of neural cells. This chapter would be a good place to include tissue terms such as ganglion, nucleus, nerve, nerve tract, white matter and gray matter. These presently are included as an introduction to the chapter on the spinal cord. Also, the section on cranial nerves could be made clearer by an introductory section listing the possible components, that is, somatic motor, autonomic motor, true sensory, and proprioceptive.

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## ESSENTIALS OF HUMAN ANATOMY AND PHYSIOLOGY

by John W. Hole, Jr. 1982. Wm. C. Brown Company Publishers (Dubuque, IA 52001). 540 p. Price not given, hardback.

This textbook is designed for a one-semester course in anatomy and physiology and is intended for students pursuing careers in allied health fields who may have minimal preparation in the physical and biological sciences. The book is an abbreviated version of Hole's successful *Human Anatomy and Physiology*.

The author adopts a traditional "systems" approach dividing the material into five units, each composed of several chapters. Beginning with a unit on Levels of Organization (chemistry, cells, tissues, and integument), the book progresses through units on Support and Movement (skeletal and muscular systems), Integration and Coordination (nervous and endocrine systems), Processing and Transport (digestive, respiratory, cardiovascular, lymphatic, and urinary systems), and The Human Life Cycle (reproduction, growth, and development).

An unusually large number of learning aids form an integral part of each chapter. They include: a chapter introduction, a topical outline, a set of instructional objectives, a list of key terms, aids to understanding the derivation of biological words, review questions within the narrative, boxes, clinical terms, application questions, review activities, and suggestions for additional reading.

The book is easy to read. An informal writing style combined with the sparing use of technical vocabulary helps the reader cope with traditionally difficult topics. Line drawings and photographs are well-done though sometimes inadequately labeled.

In general the book compares well with its competition, including such "bestsellers" as Anthony and Tortora. Instructors who are seeking an alternative to their present textbook might well consider this one before making their decision.

Supplementary materials include an instructor's guide and test file, a student study guide, a set of 50 acetate transparencies, and a laboratory manual.

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