A Study Guide for Radiologic Technologists

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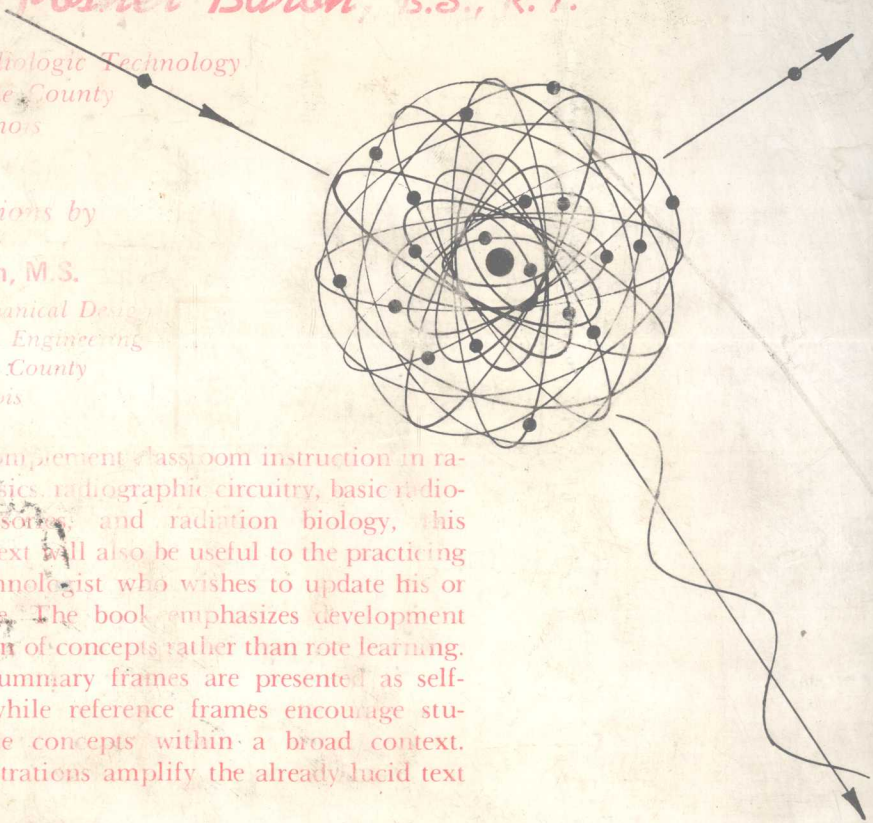

Designed to complement classroom instruction in radiological physics, radiographic circuitry, basic radiographic accessories, and radiation biology, this programmed text will also be useful to the practicing radiologic technologist who wishes to update his or her knowledge. The book emphasizes development and application of concepts rather than rote learning. Review and summary frames are presented as self-evaluations, while reference frames encourage students to place concepts within a broad context. Excellent illustrations amplify the already lucid text at every step.

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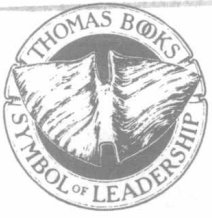

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FOREWORD

THE Purpose of *A Study Guide for Radiologic Technologists* is to sequentially explain some physical and biological concepts and their applications for the student radiologic technologist, as well as to provide a means of self-study for the professional.

The art of learning is difficult. All too often we read isolated bits of information and cannot integrate this knowledge into concepts that are practically useful. A programmed approach greatly facilitates learning by placing small bits of information within a broad context. The program is flexible, which allows the reader to proceed at her/his own pace.

In developing *A Study Guide for Radiologic Technologists,* the author first defines what is to be learned, the terminology and physical principles. Then concepts are drawn from which applications can be made. The content is arranged in a hierarchy of steps so that positive reinforcement is immediate and frequent.

The profession of radiologic technology is exciting. A linear program of this nature can assist the reader to feel sure that concepts will work, and thus feel the excitement of a professional.

Dr. Joan Kerr
Psychology Department
College of Lake County
Grayslake, Illinois

FOREWORD

RADIOLOGIC technology has, as its empirical background, a strong correlation with physics and radiobiology. The healthcare practitioner entering the profession of radiologic technology needs to understand the concepts behind this unique imaging and diagnostic modality. Master of the art and science of physics and radiobiology has always been a formidable task for those who seek to obtain expertise in this field. This unique programmed text, *A Study Guide for Radiologic Technologists,* has been developed so that the student entering the field of radiologic technology can, with ease and clarity, synthesize the material involved in developing specific skills in the physical sciences.

This text attempts to place in a logical systematic order the information and tools necessary for the radiologic technologist to develop sound, viable skills related to the physical sciences. The ease with which each of the program frames is presented and the clarity of language makes this an outstanding text for anyone seeking to learn physics and radiobiology.

Radiologic technology is a physical and biological science. Through the use of *A Study Guide for Radiologic Technologists,* the healthcare practitioner entering this dynamic field will be able to appreciate the ideas and concepts necessary in producing a well-qualified, practicing radiologic technologist.

Steven J. Cooper, R.T., M.Ed.
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University of Health Sciences/The Chicago Medical School
North Chicago, Illinois

PREFACE

Dear Fellow Technologist:

The purpose of this study guide is threefold, based on the theory that professionalism is the end result of acquiring knowledge and an ability to use this knowledge in many situations.

Complete familiarity with the terminology of radiologic technology is the first step toward professionalism. Acquisition of a technical vocabulary is not difficult since many of the words in our field come from language roots we use everyday.

Logically, the next step is the use of this vocabulary to form concepts. These concepts or ideas explain "how it works." For example, after alternating current is defined, the concept of producing current through the x-ray tube is not difficult to grasp.

At this point, you will be able to use a concept to the best advantage in patient care. In our profession, good patient care is the product of an adequate diagnostic examination with the least discomfort and radiation dose to the patient. Once you have achieved that level of knowledge, you are indeed a professional radiologic technologist.

Judith Baron

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Judith Baron

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A Study Guide for Radiologic Technologists

HOW TO USE THIS BOOK

Information Panel

The art of learning is difficult. A part of the difficulty with the learning process appears to be that we read too fast. We also tend to absorb information in bits without placing these bits in a framework from which we can draw concepts and applications.

Programmed instruction is a method that can decrease the reading pace and increase comprehension.

Information Gathering

A-1. Information is gathered in bits through the presentation of _____ of information.

bits

A-2. Each bit of information is presented in a construction called a _____ .

frame

A-3. The frames are presented in a sequence through which technical _____ are defined.

terms

A-4. After the terms are defined, _____ are developed so that the bits of information may be placed in a framework.

concepts

A-5. The concepts developed are needed to _____ your knowledge and skill as radiologic technologists.

apply (use)

A-6. The application of knowledge developed from concepts can make further _____ gathering less difficult.

information

A-7. Information is gathered slowly. Read each frame _____ . Refer to the reference frames when this is suggested.

slowly
