

Mdcb Exam Guide

Cytogenomics demonstrates that chromosomes are crucial in understanding the human genome and that new high-throughput approaches are central to advancing cytogenetics in the 21st century. After an introduction to (molecular) cytogenetics, being the basic of all cytogenomic research, this book highlights the strengths and newfound advantages of cytogenomic research methods and technologies, enabling researchers to jump-start their own projects and more effectively gather and interpret chromosomal data. Methods discussed include banding and molecular cytogenetics, molecular combing, molecular karyotyping, next-generation sequencing, epigenetic study approaches, optical mapping/karyomapping, and CRISPR-cas9 applications for cytogenomics. The book's second half demonstrates recent applications of cytogenomic techniques, such as characterizing 3D chromosome structure across different tissue types and insights into multilayer organization of chromosomes, role of repetitive elements and noncoding RNAs in human genome, studies in topologically associated domains, interchromosomal interactions, and chromoanagenesis. This book is an important reference source for researchers, students, basic and translational scientists, and clinicians in the areas of human genetics, genomics, reproductive medicine, gynecology, obstetrics, internal medicine, oncology, bioinformatics, medical genetics, and prenatal testing, as well as genetic counselors, clinical laboratory geneticists, bioethicists, and fertility specialists. Offers applied approaches empowering a new generation of cytogenomic research using a balanced combination of classical and advanced technologies Provides a framework for interpreting chromosome structure and how this affects the functioning of the genome in health and disease Features chapter contributions from international leaders in the field

Enhance your understanding of radiation physics and radiation protection! Corresponding to the chapters in Radiation Protection in Medical Radiography, 7th Edition, by Mary Alice Statkiewicz Sherer, this workbook provides a clear, comprehensive review of all the material included in the text. Practical exercises help you apply your knowledge to the practice setting. It is well written and easy to comprehend".

Reviewed by: Kirsten Farrell, University of Portsmouth Date: Nov 2014 A comprehensive review includes coverage of all the material included in the text, including x-radiation interaction, radiation quantities, cell biology, radiation biology, radiation effects, dose limits, patient and personnel protection, and radiation monitoring. Chapter highlights call out the most important information with an introductory paragraph and a bulleted summary. A variety of question formats includes multiple choice, matching, short answer, fill-in-the-blank, true-false, labeling, and crossword puzzles. Calculation exercises offer practice in applying the formulas and equations introduced in the text. Answers are provided in the back of the book so you can easily check your work.

This study guide will be a reliable support and easy-to-use source of information for students in the fields of dosimetry, physics, radiation oncology, and therapy as they progress through the educational levels in preparation for board examinations. The theoretical and practical knowledge gained by students on previous courses or in clinical settings is reinforced by means of almost 1200 questions and accompanying detailed analytical answers. In order to cater for the needs of all students, the questions are arranged according to three levels of difficulty. The level 1 questions are mainly intended for those hoping to pass the Medical Dosimetrist Certification Board (MDCB) exam but will also be beneficial for Medical Physics candidates taking written exams and for Radiation Oncology residents. The level II questions are in general clinically related and will be relevant for any student, while the level III questions are advanced and are especially suitable for American Board of Radiology candidates or those taking equivalent exams elsewhere in the world. The study guide is broken down into different subject areas, with provision of multiple questions and answers on each subject. In addition, the mathematical and physics questions include brief explanations of how the student can solve each problem. At the end of the guide, three practice tests are included with the same number of questions as are found in the MDCB exam. These tests will help students to test their knowledge and improve their test-taking speed.

While radiation dosimetry is no longer the hot topic of research that it once was, new treatment modalities still have challenges to be solved and detector systems are constantly being developed. But as a relatively mature subject, there is no widely used current book devoted to clinical dosimetry. A primary purpose of producing this Summer School was to create such a text to help in the education of clinical physicists who had not had access to the forefront research into understanding radiation dosimetry. Making sure the dose delivered to the patient is what it should be is one of the most important jobs medical physicists have. There are many aspects to doing this, but at the core, the radiation must be accurately measured. One of the original major tasks of the AAPM was to establish methods which its members could use to reliably carry out this task, and it has been highly successful. There have been clinical dosimetry protocols and formalisms for brachytherapy dosimetry developed, calibration laboratories accredited, and a myriad of task group reports produced on different dosimetry techniques and delivery modalities

An Introduction to Ontology Engineering

Principles, Practices, and Treatment Planning

A Study Guide

Towards Safer Radiotherapy

Khan's Lectures: Handbook of the Physics of Radiation Therapy

Review of Medical Dosimetry

Digital Radiography: An Introduction for Technologists, presents the physical principles and technical description of digital radiography imaging systems and associated technologies. This book functions as both a primary source for introductory digital imaging courses and as a reference for radiologic technologists and other imaging personnel. The book begins by exploring the many digital image acquisition imaging modalities such as computed radiography (CR), flat-panel digital radiography, digital fluoroscopy, and digital mammography systems in detail, followed by an outline of the essential elements of digital image processing. Associated technologies such as picture archiving and communication systems (PACS) and medical imaging informatics (MII) are also outlined. Finally, the book concludes with a description of quality control procedures for digital radiography.

In the 2007 Match, over 40% of U.S. senior applicants failed to match with the residency program of their choice. In competitive fields such as dermatology, ophthalmology, plastic surgery, and urology, over 30% of U.S. senior applicants failed to match at all. The numbers are significantly worse for osteopathic and international medical graduates. In fact, in the 2008 Match, over 5,000 international medical graduates failed to match. Regardless of your chosen specialty, the key to a successful match hinges on the development of a well thought out strategy. This book will show you how to develop the optimal strategy for success. Learn how you can upgrade your credentials, write high-impact personal statements, solicit strong letters of recommendation, shine during interviews, and much more. This book is an invaluable resource to help you gain that extra edge.

Featuring discussion of these issues and more, this book will provide you with specific, concrete recommendations that will maximize your chances of achieving the ultimate goal: that of a successful match.

This book serves as a practical guide for the use of carbon ions in cancer radiotherapy. On the basis of clinical experience with more than 7,000 patients with various types of tumors treated over a period of nearly 20 years at the National Institute of Radiological Sciences, step-by-step procedures and technological development of this modality are highlighted. The book is divided into two sections, the first covering the underlying principles of physics and biology, and the second section is a systematic review by tumor site, concentrating on the role of therapeutic techniques and the pitfalls in treatment planning. Readers will learn of the superior outcomes obtained with carbon-ion therapy for various types of tumors in terms of local control and toxicities. It is essential to understand that the carbon-ion beam is like a two-edged sword: unless it is used properly, it can increase the risk of severe injury to critical organs. In early series of dose-escalation studies, some patients experienced serious adverse effects such as skin ulcers, pneumonitis, intestinal ulcers, and bone necrosis, for which salvage surgery or hospitalization was required. To preclude such detrimental results, the adequacy of therapeutic techniques and dose fractionations was carefully examined in each case. In this way, significant improvements in treatment results have been achieved and major toxicities are no longer observed. With that knowledge, experts in relevant fields expand upon techniques for treatment delivery at each anatomical site, covering indications and optimal treatment planning. With its practical focus, this book will benefit radiation oncologists, medical physicists, medical dosimetrists, radiation therapists, and senior nurses whose work involves radiation therapy, as well as medical oncologists and others who are interested in radiation therapy.

Learn everything you need to know about radiation therapy with the only comprehensive text written for radiation therapy students by radiation therapists. This book is designed to help you understand cancer management, improve clinical techniques for delivering doses of radiation, and apply complex concepts to treatment planning and delivery. This edition features enhanced learning tools and thoroughly updated content, including three new chapters to inform you of increasingly important technologies and practices. The up-to-date and authoritative coverage of this text make it a resource you'll want to consult throughout your radiation therapy courses and beyond. Complete coverage of radiation therapy provides all introductory content plus the full scope of information on physics, simulation, and treatment planning. Contributions from a broad range of practitioners bring you the expertise of radiation therapists, physicians, nurses, administrators, and educators who are part of cancer management teams. Chapters on image guided radiation therapy, intensity modulated radiation therapy, and CT simulation keep you up-to-date with emerging technologies. Color inserts show significant procedures and imaging technologies clearly.

Medical Imaging Physics

Treatment Planning in Radiation Oncology

Physics and Technique

Surface Guided Radiation Therapy

Aamc the Official Guide to the McAt(r) Exam, Fifth Edition

Surface Guided Radiation Therapy provides a comprehensive overview of optical surface image guidance systems for radiation therapy. It serves as an introductory teaching resource for students and trainees, and a valuable reference for medical physicists, physicians, radiation therapists, and administrators who wish to incorporate surface guidance systems into their practice. This is the first book dedicated to the principles and practice of SGRT, featuring: Chapters authored by an internationally represented list of physicists, radiation oncologists and therapists, edited by pioneers and experts in SGRT Covering the evolution of localization systems and their role in quality and safety, current SGRT systems, practice applications by anatomic site, and emerging topics including skin mark-less setups. Several dedicated chapters on SGRT for intracranial radiosurgery and breast, covering technical aspects, risk assessment and outcomes. Jeremy Hoisak, PhD, DABR is an Assistant Professor in the Department of Radiation Medicine and Applied Sciences at the University of California, San Diego. Dr. Hoisak's expertise includes radiosurgery and respiratory motion management. Adam Paxton, PhD, DABR is an Assistant Professor in the Department of Radiation Oncology at the University of Utah. Dr. Paxton's clinical expertise includes patient safety, motion management, radiosurgery, and proton therapy. Benjamin Waghorn, PhD, DABR is the Director of Radiation Therapy at the University of California, San Diego. Dr. Waghorn's research interests include intensity modulated radiation therapy, motion management, and surface image guidance systems. Todd Pawlicki, PhD, DABR, FAAPM, FASTRO, is Professor and Vice-Chair for Medical Physics in the Department of Radiation Medicine and Applied Sciences at the University of California, San Diego. Dr. Pawlicki has published numerous articles on surface image guidance systems and has served on the Board of Directors for the American Society for Radiology Oncology (ASTRO) and the American Association of Physicists in Medicine (AAPM).

This comprehensive publication covers all aspects of image formation in modern medical imaging modalities, from radiography, fluoroscopy, and computed tomography, to magnetic resonance imaging and ultrasound. It addresses the techniques and instrumentation used in the rapidly changing field of medical imaging. Now in its fourth edition, this book provides a comprehensive overview of the field, from the basic principles of image formation to the latest advances in medical imaging. It is comfortable with the physical principles, equipment, and procedures used in diagnostic imaging, as well as appreciate the capabilities and limitations of the technologies.

Khan's Lectures: Handbook of the Physics of Radiation Therapy will provide a digest of the material contained in The Physics of Radiation Therapy. Lectures will be presented somewhat similar to a PowerPoint format, discussing key points of individual chapters. Selected diagrams from the textbook will be used to initiate the discussion. New content will be added to the lectures to provide a deeper understanding of important concepts. Discussion will be condensed and often bulleted. Theoretical details will be referred to the textbook and the cited literature. A problem set (practice questions) will be provided at the end of each chapter topic.

Presents a selection of the author's poems from throughout his life, from playful early poems to themes of mourning and loss.

The Physics and Technology of Radiation Therapy

Digital Radiography

EVALUATION OF FOUR WELL CASING MATERIALS FOR MONITORING SELECTED TRACE LEVEL ORGANICS IN GROUND WATER.

Board Preparation Tool

Mode-I Fracture of CFRP Concrete Specimens Subjected to Elevated Temperatures

An Example of Collaboration Between the Public and Private Sectors

In K-12 education's growing movement of competency-based education and personalized learning, both contradictory and overlapping definitions come up around these two terms. To clear up this confusion, A Handbook for Personalized Competency-Based Education delves into the components of a personalized competency-based education (PCBE) system. This handbook explores approaches, strategies, and techniques that schools and districts should consider as they rethink traditional instruction to fit a PCBE system and support student learning. The authors share examples of how to use proficiency scales, standard operating procedures, behavior rubrics, personal tracking matrices, and other tools to aid in instruction and assessment. Benefits Receive clear guidance on implementing a personalized competency-based education (PCBE) system. Determine what content to focus on and what standards to prioritize in personalized instruction. Read vignettes that illustrate the shifts that should occur to foster PCBE. Learn how a flexible PCBE learning environment of student agency can foster self-efficacy. Understand the variety of assessments available for measuring student proficiency in a PCBE system. Contents Chapter 1: Why Competency-Based Education and Personalized Learning? Chapter 2: What Content Will Be Addressed? Chapter 3: How Will the Learning Environment Promote Student Agency? Chapter 4: How Will Instruction Support Student Learning? Chapter 5: How Will Student Proficiency Be Measured? Chapter 6: How Will Scheduling Accommodate Student Learning? Chapter 7: How Will Reporting Facilitate Student Learning? Chapter 8: How Do Schools and Districts Transition to a PCBE System? Epilogue Appendix A: Tools to Support Student Agency Appendix B: A Model of Effective Instruction Appendix C: Sample Grading Sheet Appendix D: Resources for Creating a Shared Vision

This paper reviews the Annual Progress Report (APR) on Poverty Reduction Strategy Paper (PRSP) on Benin. The APR presents an overview of the implementation of the strategy addressing in turn the new vision of development in Benin, the major projects initiated for the creation of national wealth and the situation of poverty, and the achievement of the Millennium Development Goals in Benin. The APR also focuses on the level of implementation of the strategy, and deals with the monitoring of the macroeconomic and budgeting framework.

Completely updated for its Second Edition, this text is a comprehensive guide to state-of-the-art treatment planning techniques in radiation oncology. The book provides the treatment planning team—radiation oncologists, medical physicists, and medical dosimetrists—with detailed information on both the physics of radiation treatment planning and the clinical aspects of radiotherapy for specific cancers. More than 600 illustrations provide practical examples of the methodologies. Brand-new chapters in this edition cover image-guided radiation therapy, high dose rate brachytherapy, and brachytherapy treatment planning algorithms. The chapters have been completely updated, particularly in areas including intensity-modulated radiation therapy and brachytherapy.

This is the first all-encompassing textbook designed to support trainee clinical scientists in medical physics as they start work in a hospital setting whilst undertaking an academic master's course. Developed by practising physicists and experienced academics using their experience of teaching trainee medical physicists, this book provides an accessible introduction to the daily tasks that clinical scientists perform in the course of their work. It bridges the gap between theory and practice, making the book also suitable for advanced undergraduate and graduate students in other disciplines studying modules on medical physics, including those who are considering a career in medical physics through applying to the NHS Scientist Training Programme (STP). Features: Provides an accessible introduction to practical medical physics within a hospital environment Maps to the course content of the Scientist Training Programme in the NHS Acts as a complement to the academic books often recommended for medical physics courses

Raphex 2021 Therapy Exam and Answers

Practical Medical Physics

Ensure All Students Master Content by Designing and Implementing a Pcbе System

Khan's The Physics of Radiation Therapy

The Complete Guide to Cardiac CT

A Comprehensive Guide to Treatment

The Official Guide to the MCAT(R) Exam, the only comprehensive overview about the MCAT exam, includes 120 practice questions and solutions (30 questions in each of the four sections of the MCAT exam) written by the developers of the MCAT exam at the AAMC Everything you need to know about the exam sections Tips on how to prepare for the exam Details on how the exam is scored, information on holistic admissions, and more.

Published in cooperation with the Radiological and Medical Physics Society of New York (RAMPS), the Therapy Exam has 140 questions. General questions are incorporated into each version. A separate answer booklet for the exam is included which provides explanations for the correct answer. These booklets are a useful advance study guide or practice test for the 2020 ABR Core Exams.The Raphex 2021 Therapy Exam includes topics in IMRT, VMAT, IGRT, SBRT, plus other technologies. Traditional topics in previous exams are still covered. The exam matches ASTRO's current physics curriculum guidelines for resident instruction.

Expand your understanding of the physics and practical clinical applications of advanced radiation therapy technologies with Khan's The Physics of Radiation Therapy, 5th edition, the book that set the standard in the field. This classic full-color text helps the entire radiation therapy team—radiation oncologists, medical physicists, dosimetrists, and radiation therapists—develop a thorough understanding of 3D conformal radiotherapy (3D-CRT), stereotactic radiosurgery (SRS), high dose-rate remote afterloaders (HDR), intensity modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), Volumetric Modulated Arc Therapy (VMAT), and proton beam therapy, as well as the physical concepts underlying treatment planning, treatment delivery, and dosimetry. In preparing this new Fifth Edition, Dr. Kahn and new co-author Dr. John Gibbons made chapter-by-chapter revisions in the light of the latest developments in the field, adding new discussions, a new chapter, and new color illustrations throughout. Now even more precise and relevant, this edition is ideal as a reference book for practitioners, a textbook for students, and a constant companion for those preparing for their board exams. Features Stay on top of the latest advances in the field with new sections and/or discussions of Image Guided Radiation Therapy (IGRT), Volumetric Modulated Arc Therapy (VMAT), and the Failure Mode Event Analysis (FMEA) approach to quality assurance. Deepen your knowledge of Stereotactic Body Radiotherapy (SBRT) through a completely new chapter that covers SBRT in greater detail. Expand your visual understanding with new full color illustrations that reflect current practice and depict new procedures. Access the authoritative information you need fast through the new companion website which features fully searchable text and an image bank for greater convenience in studying and teaching. This is the tablet version which does not include access to the supplemental content mentioned in the text.

Modern physics, radiation, atomic and nuclear physics have revolutionized medical diagnosis and the treatment of cancer. The work of the scientists whose discoveries fuelled this revolution is an important part of our scientific and cultural heritage. Using basic physics and simple mathematics this book shows how the discoveries of fundamental physics lead to an understanding of the important design principles of diagnosis and radiation therapy. With its carefully chosen and realistic exercises and worked examples, it provides a brief introduction and broad foundation for students and practitioners in the life sciences. This book could be used as a text for an introductory course in medical physics or biophysics. For those who are starting their careers in medical sciences or are already practitioners, it offers some interesting and useful background and an aide-memoire of the basics. For members of the public it could provide a deeper understanding of the science that informs the medical procedures that too many will be subject to, at a deeper level than the often excellent but, of necessity very basic and purely practical information available from hospitals and Web sites. The former audience may be interested in the mathematical demonstrations; the latter certainly will not be. However, for both audiences, the details of the calculations are less important than the knowledge that they can be done.

The Veiled Suite

An Introduction

Nuclear and Radiation Physics in Medicine

A Conceptual Introduction

Clinical Dosimetry Measurements in Radiotherapy (2009 AAPM Summer School)

Stereotactic Body Radiation Therapy

Injuries to the nose and paranasal sinuses often result in a combination of aesthetic and functional problems that may alter a patient's lifestyle. Patients experiencing trauma can be devastated by the alteration to their appearance with its concomitant psychosocial implications. Functional disturbances can affect breathing, olfaction, eating and chewing, and vision. Because of the ramifications of these injuries, proper diagnosis and management of trauma is of paramount importance. This book provides a complete guide to managing trauma to the nose and paranasal sinuses, dealing with both soft tissue and bony injuries, management of nasal trauma as well as trauma to each of the sinuses. It describes management of complex injuries, complications from trauma, and long-term sequelae.

Introducing the 2nd edition of our highly respected radiation therapy textbook. It covers the field of radiation physics with a perfect mix of depth, insight, and humor.The 2nd edition has been guided by the 2018 ASTRO core curriculum for radiation oncology residents. Novice physicists will find the book useful when studying for board exams, with helpful chapter summaries, appendices, and extra end-of-chapter problems and questions. It features new material on digital x-ray imaging, neutron survey meters, flattening-filter free and x-band linacs, biological dose indices, electronic brachytherapy, OSLD, Cerenkov radiation, FMEA, total body irradiation, and more.Also included:-Updated graphics in full color for increased understanding.-Appendices on board certifications in radiation therapy for ·ABR, AART, and Medical Dosimetrist Certification Board.-Dosimetry Data-A full index

" This is a highly practical resource about the specific technical aspects of delivering radiation treatment. Pocket-sized and well organized for ease of use, the book is designed to lead radiation oncology trainees and residents step by step through the basics of radiotherapy planning and delivery for all major malignancies. This new, evidence-based edition retains the valued, practical features of the first edition while incorporating recent advances in the field. Chapters are the result of a joint collaboration between residents and staff radiation oncologists in the Department of Radiation Oncology at the Cleveland Clinic. Sections are organized by body site or systemówhichever is best suited to consistency in presenting planning principles. Also included are such specialized topics as palliative therapy and pediatrics. More than 200 images help to clarify the steps of radiotherapy planning and delivery. Written by and for residents on the ""front lines"" of their training, it is also a valuable resource for training other professionals in the field such as technologists, nurses, dosimetrists, and others as well as a quick reference for practicing physicians. Key Features of Handbook of Treatment Planning in Radiation Oncology, Second Edition: Provides a consistent, step-by-step approach to effective radiotherapy planning and delivery Presents content in consistent, concise, bulleted format for easy review Includes over 200 color images Explains specific technical aspects of delivering radiation treatment Addresses such specialized topics as palliative therapy and pediatrics New to the Second Edition: Sereotactic body radiation therapy (SBRT) for prostate and GI tumors Intraoperative therapy for GI tumors Volumetric modulated arc therapy (VMAT) for brain tumors New coverage of MRI based planning in simulation "

Acquire a thorough understanding of cardiac imaging! "I believe radiologists, cardiologists, and clinicians, as well as trainees, will find The Complete Guide to Cardiac CT to be an indispensable tool for learning the subject matter....It is practical in approach, but is solidly grounded in evidence-based medicine with a comprehensive review of the literature and timely references. The textbook provides an ideal resource for the cardiac imager and serves as an exceptional reference tool for understanding the anatomy and disease processes of the heart and coronary circulatory systems."--Theresa C. McLoud, MD, Dept. of Radiology, Massachusetts General Hospital, and Professor of Radiology, Harvard Medical School (from the foreword) Based on the popular review courses of educator and radiologist Dr. Simeon Abramson, The Complete Guide to Cardiac CT is a timely, hands-on learning tool—one that will help you master every important aspect of cardiac CT, from acquisition to interpretation. This unique guide translates complex concepts and topics into understandable, relevant subject matter and includes contributions from international leaders in cardiac CT. Designed for the practical, day-to-day application of cardiac CT, the text also serves as a comprehensive visual resource more than 1000 laser-precise images and illustrations, all of which reflect the latest clinical acumen and cardiac imaging technology. FEATURES Focuses on the recognition, identification, and comprehension of heart and coronary circulatory pathology Valuable to clinicians at any experience level Logical 4-part organization consists of: Technology section that encompasses coronary CT angiography technique, radiation concepts, and successful application of radiation dose reduction tools—plus a detailed review of strategies for overcoming suboptimal examinations, complete with case examples. Coronary Arteries section that thoroughly examines plaque detection and characterization, stenosis assessment, stents and bypass grafts, and assessment of coronary artery anomalies. Beyond the Coronary Arteries details cardiac CT anatomy; myocardial, pericardial and valvular pathology; electrophysiology applications; and congenital heart disease in both pediatric and adult populations. Controversial topics focuses on the utilization of cardiac CT in the acute setting, institution of the triple rule-out protocol, and anatomic versus physiologic imaging with Rubidium PET/CT/ Helpful pedagogy includes numerous tables, diagrams, figures, and illustrations

Cytogenomics

A Handbook for Teachers and Students

The Successful Match

A Handbook for Personalized Competency-based Education

Poverty Reduction Strategy Paper-Annual Progress Report

200 Rules to Succeed in the Residency Match

Two leading oncologists, along with experts spanning several medical disciplines, shed light on the global pandemic of cancer, particularly the difference in diagnosis, treatment, and care between global communities. • Includes a comprehensive and up-to-date review of the global epidemiology of the disease • Offers perspectives from contributors in fields of oncology, radiation, surgery, pharmacy, and public health • Reveals the 5 leading behavioral and dietary risks that contribute to 30 percent of all cancers worldwide • Examines how the HIV/AIDS and HPV epidemics have helped—and hurt—the fight against cancer globally

Presenting step-by-step procedures written by experts in the field, this comprehensive clinical guide discusses the diagnosis (electrodiagnostic and ultrasound) and management of compressive neuropathies of the upper extremity. Compressive (or compression) neuropathy, also known as entrapment neuropathy or trapped nerve, is a common condition of the upper extremity in which the nerves of the arm – median, ulnar and radial being the most common – are compressed, causing pain and discomfort as well as possible pathological and anatomical changes. Carpal and cubital tunnel syndrome are the most well-known and treated, with nerve release and decompression surgeries being the usual treatment, though the variety of neuropathies and management strategies goes beyond these conditions. Chapters included describe in detail the latest, cutting-edge management strategies for the various manifestations of compressive neuropathy of the hand and wrist – carpal tunnel syndrome, cubital tunnel syndrome, ulnar nerve syndrome, radial tunnel syndrome, pronator teres syndrome, Wartenberg's syndrome, thoracic outlet syndrome and suprascapular neuropathy – as well as revision carpal and cubital tunnel surgical treatment options. Plentiful intraoperative photos and detailed illustrations, along with clinical case material and pearls and pitfalls, make this the ideal resource for orthopedic, hand and plastic surgeons aiming for the most optimal outcomes.

The following thesis presents a methodology to evaluate Mode I fracture of Carbon Fiber Reinforced Polymer (CFRP) to concrete bonded interfaces subjected to both ambient and elevated temperatures. Current codes and standards such as ACI 440.2R-08 provide guidelines for the design of concrete strengthened or rehabilitated structures with CFRP. However, ACI considers the contribution of CFRP to be negligible in conditions above ambient temperatures. Previous methods of testing such as the Single Contoured Cantilever Beam (SCCB), Modified Double Cantilever Beam (MDCB), Peel test, and Three Point Bending Beam (3PBB) tests have been utilized in evaluating Mode I failure. However, due to size limitations the previously listed methodologies were unsuitable for testing under elevated temperatures. Therefore, a Modified Driven Wedge Test (MDWT) was developed based on the Boeing and Driven Wedge Test. This effort presents the development of the MDWT, the performance of the CFRP to concrete bonded interface subjected to ambient temperatures and elevated temperatures. It was discovered that with an introduction of elevated temperatures, Mixed-Mode Failure is induced at 100° F, but crack separation is supported by Mode-I failure at the subcritical level. An analysis of critical strain energy release rate and subcritical strain energy release rate revealed that as the temperature increases, energy release rate increase, but crack growth velocity decreases.

Bringing together more than over 120 expert contributors from otolaryngology, general surgery, endocrinology, and pathology, Surgery of the Thyroid and Parathyroid Glands, 3rd Edition, presents an interdisciplinary approach to surgical management and treatment of benign and malignant disease. This renowned text/atlas is an ideal resource at all levels of surgical experience: for residents and junior surgeons, it clearly provides all relevant anatomy, surgical procedures, and workup; for experienced surgeons, it details the management of difficult cases, including revision surgery. Highly illustrated and accompanied by dozens of videos, this edition brings you up to date with the full continuum of care in thyroid and parathyroid surgery. Easy-to-follow, templated chapters cover preoperative evaluation, surgical anatomy, intraoperative techniques, and postoperative management, for a full range of disorders of the thyroid and parathyroid glands. More than 30 procedural videos walk you step by step through minimally invasive thyroid surgery, surgical anatomy and monitoring of the recurrent laryngeal nerve, surgery for locally advanced thyroid cancer and nodal disease, and more; plus 23 chapter guide videos from the authors with Surgical Text Video Editor-in-Chief Gregory W. Randolph, Jr . Coverage of cutting-edge topics includes recurrent laryngeal nerve monitoring, minimally invasive surgery and the role of PET in staging and surgical planning. Expert guidance on thyroid cancer, including multiple chapters on PTC, MTC and HCC, ATC and NIFTP. New chapters cover medical oncology and TKI therapy. Extensive coverage of key topics such as FNA mutational analysis, transoral and minimally invasive surgery, recurrent laryngeal nerve monitoring, management of RLN paralysis, all aspects of parathyroid disease, ethics, malpractice, and more.

Radiation Therapy Essentials

National Water Summary

A Guide to the Work of Hospital Clinical Scientists

Radiation Oncology Physics

Surgery of the Thyroid and Parathyroid Glands E-Book

Principles and Practice of Radiation Therapy

Radiation Therapy Essentials is intended as a refresher for those preparing for board certification or recertification in the field of radiation oncology. Outline format brings key points to the forefront. Examples and diagrams are provided for easy recognition and clarification of the topic. Over 200 practice questions and answers are included.

An Introduction to Ontology Engineering introduces the student to a comprehensive overview of ontology engineering, and offers hands-on experience that illustrate the theory. The topics covered include: logic foundations for ontologies with languages and automated reasoning, developing good ontologies with methods and methodologies, the top-down approach with foundational ontologies, and the bottomup approach to extract content from legacy material, and a selection of advanced topics that includes Ontology-Based Data Access, the interaction between ontologies and natural languages, and advanced modelling with fuzzy and temporal ontologies. Each chapter contains review questions and exercises, and descriptions of two group assignments are provided as well. The textbook is aimed at advanced undergraduate/postgraduate level in computer science and could fi t a semester course in ontology engineering or a 2-week intensive course. Domain experts and philosophers may fi nd a subset of the chapters of interest, or work through the chapters in a different order. Maria Keet is an Associate Professor with the Department of Computer Science, University of Cape Town, South Africa. She received her PhD in Computer Science in 2008 at the KRDB Research Centre, Free University of Bozen-Bolzano, Italy. Her research focus is on knowledge engineering with ontologies and Ontology, and their interaction with natural language and conceptual data modelling, which has resulted in over 100 peer-reviewed publications. She has developed and taught multiple courses on ontology engineering and related courses at various universities since 2009.

Medical Dosimetry Certification Study Guide, Second EditionReview of Medical DosimetryA Study GuideSpringer

Now in its third edition, Anatomy in Diagnostic Imaging is an unrivalled atlas of anatomy applied to diagnostic imaging. The book covers the entire human body and employs all the imaging modalities used in clinical practice; x-ray, CT, MR, PET, ultrasound and scintigraphy. An introductory chapter explains succinctly the essentials of the imaging and examination techniques drawing on the latest technical developments. In view of the great strides that have been made in this area recently, all chapters have been thoroughly revised in this third edition. The book ' s original and didactically convincing presentation has been enhanced with over 250 new images. There are now more than 900 images, all carefully selected in order to be user-friendly and easy-to-read, due to their high quality and the comprehensive anatomical interpretation directly placed alongside every one. Both for medical students and practising doctors, Anatomy in Diagnostic Imaging will serve as the go-to all-round reference collection linking anatomy and modern diagnostic imaging. Winner of the Radiology category at the BMA Book Awards 2015

Compressive Neuropathies of the Upper Extremity

Medical Dosimetry Certification Study Guide, Second Edition

Incidence, Care, and Experience

The Collected Poems

Fundamentals of X-ray

Global Perspectives on Cancer: Incidence, Care, and Experience [2 volumes]

This publication is aimed at students and teachers involved in teaching programmes in field of medical radiation physics, and it covers the basic medical physics knowledge required in the form of a syllabus for modern radiation oncology. The information will be useful to those preparing for professional certification exams in radiation oncology, medical physics, dosimetry or radiotherapy technology.

Stereotactic body radiation therapy (SBRT) has emerged as an important innovative treatment for various primary and metastatic cancers. This book provides a comprehensive and up-to-date account of the physical/technological, biological, and clinical aspects of SBRT. It will serve as a detailed resource for this rapidly developing treatment modality. The organ sites covered include lung, liver, spine, pancreas, prostate, adrenal, head and neck, and female reproductive tract. Retrospective studies and prospective clinical trials on SBRT for various organ sites from around the world are examined, and toxicities and normal tissue constraints are discussed. This book features unique insights from world-renowned experts in SBRT from North America, Asia, and Europe. It will be necessary reading for radiation oncologists, radiation oncology residents and fellows, medical physicists, medical physics residents, medical oncologists, surgical oncologists, and cancer scientists.

A Reconnaissance for Sulfonylurea Herbicides in Waters of the Midwestern USA

Anatomy in Diagnostic Imaging

Benin

Carbon-Ion Radiotherapy

Workbook for Radiation Protection in Medical Radiography

Trauma of the Nose and Paranasal Sinuses