



DIAGNOSTIC RADIOLOGY ■ RADIATION ONCOLOGY ■ RADIOLOGIC PHYSICS

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RADIOLOGIC PHYSICS

CODING SHEETS

AMERICAN BOARD OF RADIOLOGY
RADIOLOGIC PHYSICS CONTENT OUTLINE

G—GENERAL CONTENT

AT&N.	Atomic & Nuclear
INF.	Informatics/Digital Technology/Computers
DOSE.	Dose
EQIP.	Equipment
FUND.	Fundamental
IMAG.	Imaging
IONR.	Ionizing Radiation
MATH.	Mathematics
NION.	Non-Ionizing Radiation
PROT.	Protection
RABI.	Radiation Biology
XX.	Other

C—CLINICAL CONTENT

AN.	Anatomy
BIO.	Radiation Biology
FUNC.	Organ Function Physiology
MTERM.	General Medical Terminology
RTERM.	Radiology/Radiation Therapy Terminology
XX.	Other

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RADIOLOGIC PHYSICS CONTENT OUTLINE

T—THERAPY CONTENT

C01—Photon Beam Calculation

- C01.A. Units and Definitions
- C01.B. MU Calculations for SSD & Extended SSD
- C01.C. MU Calculations for SAD
- C01.D. Calculation of Dose at d2 from Dose at d1 (SSD and SAD); Dose Variation Along Axis for Parallel Opposed Fields
- C01.E. Heterogeneity Corrections
- C01.F. Irregular Field Calculations
- C01.G. Other

C02—Wedges (Physical, Universal, Dynamic)

- C02.A. Wedges (Physical, Universal, Dynamic)
- C02.B. Features of Isodose Curves: Surface Dose, Depth Dose, Penumbra; Variation with Energy, Field Size, SSD
- C02.C. Bolus, Compensators, Beam Spoilers
- C02.D. Similar Triangle Geometry & Beam Divergence
- C02.E. Blocking; Partial Transmission Blocks; HVL, TVL, Attenuation Coef.
- C02.F. Dose Outside the Treatment Field
- C02.G. Total Body Irradiation (TBI)
- C02.H. Conformal & 3-D Planning; Use of CT
- C02.I. Junctions, Gaps, Field Matching
- C02.J. Simulation
- C02.K. Stereotactic Radiosurgery
- C02.L. Multileaf Collimators
- C02.M. Treatment Aids; Patient Immobilization
- C02.N. Treatment Planning Techniques
- C02.O. Other

C03—Electron Dosimetry

- C03.A. Properties of Electron Beams
- C03.B. MU Calculations
- C03.C. Treatment Planning
- C03.D. Factors Affecting Output & Depth Dose
- C03.E. Shielding; Bolus
- C03.F. Junctions
- C03.G. Total Skin Electron Beam (TSEB)
- C03.H. Other

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C04—Treatment Planning Systems

- C04.A. Machine Data Acquisition, Acceptance Testing, Beam Modelling
 C04.B. Other

C05—Brachytherapy

- C05.A. Units; Decay of Activity (including Co-60); Source Calibration
 C05.B. Dose Rates Around Line Sources & Seeds
 C05.C. Dose from Permanent Implants
 C05.D. 3-D Coordinate Reconstruction
 C05.E. Brachytherapy Safety; Patient & Room Surveys; Patient & Family Counseling
 C05.F. Shielding; Safes, Transport Containers
 C05.G. Properties & Clinical Uses of Radionuclides
 C05.H. Regulations, e.g. Leak Testing, Package Labeling
 C05.I. HDR: Treatment Planning; Radiation Safety; Q/A
 C05.J. Gynecological Applicators
 C05.K. Prostate Implants
 C05.L. Systems of Implant Dosimetry; Computer Models
 C05.M. Shipping Regulations: Containers, Package Wipe Tests
 C05.N. Production of Sources
 C05.O. Therapeutic Radiopharmaceuticals (Sr-89, P-32)
 C05.P. Other

C06—Treatment Machines

- C06.A. Linear Accelerators: Design & Fundamentals of Operation
 C06.B. Superficial X-ray Units
 C06.C. Neutron Production in Linacs
 C06.D. Simulators
 C06.E. Other

C07—Quality Issues

- C07.A. TG40
 C07.B. Other

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C08—Calibration

- C08.A. TG21, TG39, TG51
- C08.B. Other

C09—Radiation Dosimetry: Instrumentation, Principles, Methods

- C09.A. Electrometers
- C09.B. Cylindrical Ion Chambers
- C09.C. Parallel Plate Ion Chambers
- C09.D. Reentrant Chambers
- C09.E. Extrapolation Chambers
- C09.F. Diodes
- C09.G. TLD
- C09.H. Calorimetry
- C09.I. Chemical Dosimeters
- C09.J. Film; Scanners
- C09.K. Survey meters: X-rays, Alpha, Beta
- C09.L. Neutron Survey Meters & Detectors
- C09.M. Foils
- C09.N. GM Counters
- C09.O. Scintillation Detectors
- C09.P. Water Scanning Systems
- C09.Q. Acceptable Methods for Leak Testing
- C09.R. Other

C10—Radiation Protection/Shielding

- C10.A. Linac Room Layout & Shielding Design
- C10.B. Neutron Interactions & Shielding
- C10.C. Simulator Shielding Design
- C10.D. HDR Shielding Design
- C10.E. Room Surveys
- C10.F. Maximum Permissible Doses
- C10.G. Personnel Monitoring
- C10.H. Other

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C11—Miscellaneous

C11.A.	Therapy Imaging
C11.B.	Photon & Electron & Interactions Specific to Therapy
C11.C.	Regulations
C11.D.	Treatment Planning Anatomy
C11.E.	Organ Tolerance
C11.F.	Radiation Biology
C11.G.	Other

D—DIAGNOSTIC CONTENT

CLIN.	Clinical Radiology/Biology
CR.	CR/DR/CCD
CT.	Computed Tomography
DOSE.	Patient & Conceptus Dose
DOSI.	Dosimetry Fundamentals
FILM.	Film & Processing
FLU.	Fluoroscopy
IFUND.	Imaging Fundamentals
MAMMO.	Mammography
MR.	MRI & MRS
OBS.	Observer Performance & Statistics
PACS.	PACS/Teleradiology
PERS.	Rad Safety Personnel
RAD.	Radiography
RSRD.	Radiation Safety Room Design
SAF.	Radiation Safety, Regulations
US.	Ultrasound
XX.	Other

N—NUCLEAR CONTENT

CLIN.	Clinical
DOSE.	Dosimetry
INSTR.	Instrumentation
PET.	PET
QC.	Quality Control
RN.	Radionuclides
SAF.	Radiation Safety
SC.	Scintillation Cameras
SPECT.	SPECT
STATS.	Counting Statistics
XX.	Other