

Department of Imaging and Radiation Sciences
Division of Medical Dosimetry

Program Handbook

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COLLEGE OF HEALTH RELATED PROFESSIONS
THE UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

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THE UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES
College of Health Related Professions
Department of Imaging and Radiation Sciences
Division of Medical Dosimetry (<http://www.uams.edu/chrp/dosimetry/>)

Bachelor of Science in Medical Dosimetry

1 GENERAL INFORMATION

1.1 MISSION STATEMENT

The mission of the medical dosimetry program is to provide an academic and clinical environment that will educate medical dosimetrists to the highest standards of the profession. Inherent in this mission is the goal of educating competent medical dosimetrists who are able to contribute to the needs of the medical dosimetry profession and health care community.

1.2 THE PROFESSION

Medical dosimetry is a health care profession designed to support radiation oncology physicians. Medical dosimetrists are part of the medical physics group and together with the medical physicist and the radiation oncologist design a computer-based plan of treatment for cancer patients. Since all the calculations are derived from diagnostic scans (X-ray, CT, and MRI), the medical dosimetrist works primarily with computers to develop the treatment plans; once approved, the treatment is delivered to the patient over a period of several weeks. Medical dosimetrists work primarily in radiation treatment centers and comprehensive cancer centers. Opportunities for work in industry as application support specialists or in sales are also available. The clinical work week is typically a standard 40-hour week.

The increased use of computers in treatment planning, the sophistication and delivery capabilities of modern treatment machines and the developments in cross-sectional and three dimensional imaging (CT, MRI, and PET) have increased tremendously the need for qualified medical dosimetrists. Employment is available nationally and regionally.

1.3 THE PROGRAMS

This one-year, full-time, program can be taken to complete a bachelor's degree or, for those already holding a bachelor's degree, to obtain an advanced certificate. The educational program consists of classroom instruction, laboratory experience, and clinical rotations for 12 consecutive months beginning each August. There are four tracks in this program designed for those students who have a radiation therapy degree and those that have science degrees who seek either the bachelor's degree or an advanced certificate. The pre-professional curriculum for those seeking the bachelor's degree consists of 78-93 semester credits (SC) of course work with eight SC of physics and 12 SC of mathematics, including calculus I and II. The professional sequence is dependent on the entry-level credentials of the student. If the student is a registered radiation therapist, an additional 32 SC of course work is required over the 12 months. If the individual is a science major without the radiation therapy credential, 46 SC are required to complete the program (21 SC of radiation therapy course work and 25 SC of specific courses in medical dosimetry). The pre-professional curriculum required for the advanced certificate is 50 SC with the same science sequence (39 SC hours) required in the bachelor's degree program. Courses taken previously as part of a bachelor's degree program can be counted toward the prerequisite requirement. The professional sequence is identical to that of those seeking a bachelor's degree. Students who have no radiation therapy credential must complete 46 SC and students with that credential must complete 32 SC of professional course work.

1.4 GOALS OF THE PROGRAM AND DEPARTMENT

The Department of Imaging and Radiation Sciences in the College of Health Related Professions (CHRP) at The University of Arkansas for Medical Sciences (UAMS) is dedicated to clinical and academic excellence in teaching, research, service and patient care. The Medical Dosimetry Program is designed to provide students with an outstanding education in preparation for a satisfying professional career as medical dosimetrists, as well as to provide a foundation for leadership in the profession. Central Arkansas radiation Therapy Institute (CARTI) is a clinical partner to the program, providing access to their clinical facilities as well as faculty time to teach several of the professional courses.

The Medical Dosimetry Program involves motivation, curiosity, professional fulfillment and personal satisfaction. The work is both hard and rewarding.

Interaction with faculty, radiation therapists, physician oncologists and nurses is essential and is the key to the program. Students engage in seminars, intensive classes and laboratories, and clinical training in area health care facilities. The result is an outstanding education in Medical Dosimetry, but it is more than that. There is a sense of personal growth and a real commitment to serving people.

The overall purpose of the program is to provide a high-quality education that is relevant and professionally sound to meet the medical dosimetry needs in the health care community. Inherent in this purpose is the goal to prepare medical dosimetrists who can demonstrate the attitudes, skills and knowledge required to meet the changing needs in the community.

It will be necessary for the medical dosimetrist to cooperate with all members of the health care team in identifying and solving problems that relate to radiation oncology. The medical dosimetrist must be able to think critically, communicate effectively, demonstrate judgment and provide self-direction. It is a primary objective of the program to educate well-qualified, competent medical dosimetrists who demonstrate leadership ability.

The Division of Medical Dosimetry within the Department of Imaging and Radiation Sciences is dedicated to the philosophy and goals of the College and University. The Medical Dosimetry Program is designed to offer the student planned learning experiences to provide the knowledge, skills and values that will culminate in successful employment of the graduate as a medical dosimetrist. The specific program goals are as follows.

1.4.1 GOAL 1

Students will be prepared to function clinically as competent entry-level medical dosimetrists.

Outcomes:

- a. Students will demonstrate the mastery of fundamentals of medical dosimetry. Graduates will demonstrate technical proficiency in all skills necessary to fulfill the role of a medical dosimetrist.
- b. Students will produce deliverable patient treatment plans
- c. Students will be able to justify the logic used to choose plan parameters.
- d. Graduates were adequately prepared to perform as entry-level practitioners.

1.4.2 GOAL 2

Students will demonstrate problem-solving and critical thinking skills.

Outcome:

- a. Graduates will demonstrate problem-solving and critical thinking skills consistent with professional and employer expectations for the entry-level medical dosimetrist.

1.4.3 GOAL 3

Students will demonstrate communication skills necessary to fulfill the role of an entry-level medical dosimetrist.

Outcome:

- a. Students will demonstrate proficient oral communication skills.
- b. Students will demonstrate proficient written communications skills.

1.4.4 GOAL 4

Students will exhibit professional growth by practicing ethically and understanding the value of lifelong learning.

Outcome:

- a. Students will demonstrate the awareness of HIPAA regulations and professional conduct.
- b. Graduates demonstrate professional development and growth.

1.4.5 GOAL 5

Graduates will contribute to meeting the needs of the medical dosimetry profession and the health care community.

Outcome:

- a. Effectiveness of the program is well justified.
- b. Program graduates seeking employment will obtain employment as entry level medical dosimetrists.

As a university based program, the Department of Imaging and Radiation Sciences must also make an appropriate contribution in the areas of research, service and patient care. With respect to research and scholarship, the department may conduct and publish original research studies, participate in the publication of textbooks and chapters, and present abstracts and other invited presentations based on original research. Service activities may include participation on local, state and national professional boards and committees, community service, university service activities and continuing education. Patient care is integral to departmental teaching, research and service activities.

1.5 ACCREDITATION/DISCLAIMER

The baccalaureate degree medical dosimetrist program in the Department of Imaging and Radiation Sciences has been accredited by the Joint Review Committee on Education in Radio logic Technology (JRCERT). Students successfully completing all program and clinical experience (6 months clinical medical dosimetry experience* completed under the direction of a certified medical dosimetrist or medical physicist or radiation oncologist, see <http://www.mdc.org/examinfo/eligibility.htm>) requirements are eligible to make application for the examinations given by the Medical Dosimetrist Certification Board (MDCB) to become a Certified Medical Dosimetrist. Applicants are encouraged to review application requirements before program admission to assure compliance with other application criteria. The Medical Dosimetrist Certification Board can be contacted at 15000 Commerce Parkway, Suite C., Mt. Laurel, NJ 08054 866-813-6322, and www.mdc.org.

Should you have any questions or concerns regarding these changes, please contact Yulong Yan, PhD., the Medical Dosimetry Division Director or Betty Gann the program coordinator at 501-526-7458.

1.6 CLASS AND CLINICAL HOURS

The program provides classroom study, laboratory study and observation, clinical experience, independent study, and seminars. Classes generally meet on a daily basis from 7:30 a.m. to 5:00 p.m. Courses are arranged on a set schedule and sequence. Clinical classes in area health care facilities meet from 6:45 a.m. until about 3:15 p.m. or as specified for specific rotations. Students are expected to provide their own transportation to clinical training sites. When necessary, the Division reserves the right to adjust class schedules, times and program sequencing as well as adding clinical rotations outside of the Little Rock metropolitan area.

1.7 DIVISION FACULTY

Rebecca L. Ludwig³, Ph.D., R.T. (R.)(Q.M.)(A.R.R.T.); Chairman, Department of Imaging and Radiation Sciences

Y. Yan¹, PhD, DABR, Associate Professor and Program Director and Division Director of Medical Dosimetry

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2 ADMISSION REQUIREMENTS

Applicants who have or will have completed a bachelor's degree in a biological sciences, physical science (physics, chemistry, or mathematics), biomedical engineering, or radiation sciences (as a registered radiation therapist) prior to fall registration will be considered for admission to seek a **bachelor's degree** if they have successfully completed the course work listed below. Those applicants who have or will have completed a bachelor's degree in a biological science, physical sciences (physics, chemistry, or mathematics), biomedical engineering, or radiation sciences (as a registered radiation therapist) who seek admission to complete an **Advanced Certificate** need to complete 50 SC including the 29 SC of science and mathematics listed below, 6 SC of English Composition, 2 SC of Oral Communication/Speech, 3 SC of computer science and 10 SC electives.

Area/Typical Course Title	Minimum Semester Credit
SCIENCE AND MATH	
College Algebra	3
Calculus I	3
Biology with Laboratory	4
Anatomy and Physiology I & II*	8
Physics I & II (Algebra or Calculus based)	8
Medical Terminology	3
	—
	29
LIBERAL ARTS	
English Composition I & II	6
American History or National Government	3
World/Western Civilization I & II	6
Humanities	3
	—
	18
SOCIAL SCIENCES	
Sociology/Psychology**	6
COMMUNICATIONS	
Oral Communications/Speech	2
COMPUTER SCIENCE	
Computer Fundamentals/Applications	3
FINE ARTS	
Fine Arts**	3
ELECTIVES***	
	17
	—
TOTAL	78

Other applicants will be considered for admission to seek a **bachelor's degree** if they have successfully completed the course work listed below prior to fall registration. Those applicants seeking admission to complete an **Advanced Certificate** need to complete 50 SC including the 39 SC of science and mathematics listed below, 6 SC of English Composition, 2 SC of Oral Communication/Speech, 3 SC of computer science and 10 SC electives.

Area/Typical Course Title	Minimum Semester Credit
SCIENCE AND MATH	
College Algebra	3
Calculus I & II	6
Additional Mathematics Course Work****	3

Chemistry with Laboratory	4
Biology with Laboratory	4
Anatomy and Physiology I & II*	8
Physics I & II (Algebra or Calculus based)	8
Medical Terminology	3
	39
LIBERAL ARTS	
English Composition I & II	6
American History or National Government	3
World/Western Civilization I & II	6
Humanities	3
	18
SOCIAL SCIENCES	
Sociology/Psychology**	6
COMMUNICATIONS	
Oral Communications/Speech	2
COMPUTER SCIENCE	
Computer Fundamentals/Applications	3
FINE ARTS	
Fine Arts**	3
ELECTIVES***	7
	78
TOTAL	

* Anatomy and physiology courses must cover all body systems and include accompanying laboratory sections.

** These courses can be taken as co-requisites and must be completed within five years of the date of admission into the program. Remaining pre-professional hours must be completed before acceptance into the program.

*** Students who have completed radiation therapy course work from a regionally accredited college or university may apply 17 SC of electives to their prerequisite requirements from that course work. Students who have no radiation therapy background are required to complete 7 SC of electives from a regionally accredited college or university.

**** The additional mathematics course work can be one of these: Trigonometry, Linear Algebra, Calculus II, and differential Equations. If the applicant has successfully completed Calculus III or Differential Equations as the additional mathematics course work, the requirement for College Algebra may be waived.

Actual course titles may vary among institutions. Consult the division director for pre-professional counseling. Fulfillment of the radiation therapy pre-professional curriculum does not assure admittance into the professional program. Not more than one course in the following group will be accepted in transfer to meet degree requirements: band, studio, physical education, military science, English as a second language (ESL), manual skills.

2.1 PROFESSIONAL PHASE - PROFESSIONAL COURSES

Students accepted into the professional phase begin upper-division course work in the fall semester. Course work in this professional phase must be taken on a full-time basis and in sequence as specified.

2.2 APPLICATION DEADLINES AND PROCEDURES

Class size is limited, and all applicants may not be selected for participation in the program. Applications must be received by the first working day in May to be assured of consideration for admission. See CHRP catalog for further information on deadlines and procedures for admission. Applicants must provide:

1. Application for Admission: The College of Health Related Professions Application for Admission is required. Please contact the department office or the CHRP Office of Student Affairs for information.
2. Application Fee: A non-refundable application fee of \$20.00 is required and must accompany the UAMS application. If applying to multiple programs, a \$20.00 fee is required for the first program and \$10.00 for each additional program.
3. Official Transcripts: Arrange for each college or university you have attended to forward an official transcript of your course work.
4. References: Two letters of recommendation are required for consideration for admission. References should be mentors/professors that you have worked with and who are familiar with your ability and academic performance. Reference letters must be sent to the Director of Medical

- Dosimetry Program. Forms, fees, and transcripts must be received by the first working day of April to ensure consideration for the fall term.
5. Personal Interview: Qualified applicants will be requested to present for interviews at UAMS scheduled by the department. A telephone interview can also be scheduled.
 6. Professional Observation: Applicants are required to demonstrate an understanding of the responsibilities and duties of the profession through observation and discussion with a practicing professional in the field. Contact department for details.

Transcripts “issued to the student” will not substitute for official transcripts forwarded directly to the College of Health Related Professions by the institution issuing the transcripts.

Arkansas residency will be considered during selection for admission.

Applicants are considered without regard to race, color, creed, age, marital status, national origin, or sex. Qualified handicapped persons, capable of meeting academic standards essential to participation in the program, receive equal consideration.

2.3 APPLICATION SUBMISSION

Application for admission into the professional phase of the Program should be made through the Admission Office at UAMS before March 1 for admission into the class entering in August. Prospective applicants may submit transcripts and a request for an unofficial evaluation to the College of Health Related Profession, Office of Admissions, UAMS, 4301 West Markham, #619, Little Rock, Arkansas, 72205-7199. All documents should be submitted to: University of Arkansas for Medical Sciences, College of Health Related Professions, Office of Student Affairs, UAMS, and #619, 4301 West Markham Street, Little Rock, Arkansas 72205. Telephone: (501) 686-5730.

2.4 MEDICAL DOSIMETRY PROGRAM EXPENSES

Regular Admissions

Estimated Costs

Books	\$ 700.00
Technology Fee	44.10
Student Health Fee	76.10
Student Clinic Fee	180.00 (\$60.00 per semester)
AAMD Student Membership	50.00
Student Liability Insurance	13.00
Miscellaneous	50.00
Lab Fee (Dosimetry Training Tool)	20.00
Drop/Add Fee	10.00 per course
Graduation Fee	75.00
Tuition:*	
Arkansas Resident	6,608.00 – 9,520.00**
Non-Resident	16,080.00 – 23,136.00**
<hr/>	
ESTIMATED TOTALS:	
Arkansas resident	\$ 8,234.20
Non-resident	\$ 17,696.20

* 2010-2011 tuition was \$208.00 per SC for in-state residents and \$504.00 for non-residents.

** Tuition estimates are based on a total of 32 SC for those holding the radiation therapy credential and 46 SC for students who do not hold the radiation therapy credential.

The costs listed are unofficial estimates only; actual costs are subject to change and will be determined by the University at the time of registration.

3 MEDICAL DOSIMETRY CURRICULUM

(Bachelor of Science and Advanced Certificate)

Degree Offered: Bachelor of Science Degree in Medical Dosimetry

3.1 FOR THOSE HOLDING THE RADIATION THERAPY CREDENTIAL

For those holding the radiation therapy credential and seeking either the Bachelor's degree or the advanced certificate*, the following 32 SC of course work are required:

Course #	Title	Semester	Credit
Fall (1)			
MED 4302	Cross-Sectional Anatomy for Medical Dosimetry		3
MED 4303	Medical Dosimetry Physics		3
MED 4203	Practicum I		2
MED 4102	Clinical Orientation for Medical Dosimetry		1
**	Elective Course		3 or above
			—
			12
Spring (2)			
MED 4306	Research/Special Topics		3
MED 4304	Treatment Planning		3
MED 4204	Practicum II		2
MED 4305	Special Programs in Dosimetry		3
**	Elective Course		3 or above
			—
			14
Summer (3)			
MED 4605	Practicum III		6
			6
			—
			TOTAL 32

*Students who hold radiation therapy certification who did not receive their education at a regionally accredited institution of higher education must elect the bachelor's degree track.

**Other courses within the College of Health Related Professions or UAMS departments may be considered for elective course options, as appropriate and relevant for the individual student. Elective courses must be approved by the division director to be included in the student's degree plan.

A grade of "D" or "F" or a mark of "NC" in a professional course is not acceptable for progression to the next semester, nor is it acceptable for graduation if it occurs in the last semester of the program.

3.2 FOR THOSE NOT HOLDING RADIATION THERAPY CERTIFICATION

For those with appropriate science preparation who are seeking either the Bachelor's degree or the advanced certificate, the following 46 SC are required:

Course #	Title	Semester	Credit
Fall (1)			
RTH 4211	Principles & Practices I		2
MED 4302	Cross-Sectional Anatomy for Medical Dosimetry		3
MED 4303	Medical Dosimetry Physics		3
RTH 4202	Patient Care		2

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MED 4102	Clinical Orientation for Medical Dosimetry	1
RTH 4304	Radiation Oncology I	3
RTH 4413	Radiation Therapy Physics I	4
MED 4203	Practicum I	2
		—
		20
Spring (2)		
MED 4304	Treatment Planning	3
MED 4204	Practicum II	2
MED 4305	Special Programs in Dosimetry	3
RTH 4404	Radiation Oncology II	4
RTH 4423	Radiation Therapy Physics II	4
RTH 4231	Radiation Biology	2
		—
		18
Summer (3)		
MED 4605	Practicum III	6
RTH 4222	Radiation Physics III	2
		8
		—
		TOTAL 46

A minimum of 32 SC of professional course work must be completed in residence at the College (CHRP). A grade of “D” or “F” or a mark of “NC” in a professional course is not acceptable for progression to the next semester, nor is it acceptable for graduation if it occurs in the last semester of the program.

Students who need to take RTH courses would follow RTH course schedule if it should differ from that of CHRP.

3.3 COURSE DESCRIPTIONS

For official course descriptions, please refer to the current University Catalog.

3.3.1 RTH 4211—PRINCIPLES AND PRACTICES I

This course introduces the knowledge base for assessing, comparing and contrasting types of radiation therapy equipment, procedures and techniques for appropriate tumor localization and treatment delivery. It also introduces the roles and responsibilities of the radiation therapist including treatment documentation and delivery, emergency procedures and patient needs; ethical behaviors as providers within a defined scope of practice within the context of the health care delivery system; law and regulations affecting the radiation therapy in employment, employment contracts and liability; the relationship between the standards of care, law, ethics and competence.

3.3.2 MED 4102—CLINICAL ORIENTATION FOR MEDICAL DOSIMETRY

This course introduces all clinical aspects of radiation therapy including patient admission, consultation, case review, CT simulation, treatment planning, patient immobilization and setup verification, quality assurance, weekly chart checking and case follow-up. Principles of radiation and health safety and professional responsibilities of the medical dosimetrist will be discussed and practiced.

3.3.3 MED 4203—PRACTICUM I

Assigned exercises organized by treatment site and procedure type will be carried out under the direct supervision of an assigned advisor. These will be both simulated and real case assignments. The student will rotate to different facilities for the completion of the tasks.

3.3.4 MED 4204—PRACTICUM II

Assigned exercises organized by treatment site and procedure type will be carried out under the direct supervision of an assigned advisor. These will be both simulated and real case assignments. The student will rotate to different facilities for the completion of the tasks.

3.3.5 MED 4303—MEDICAL DOSIMETRY PHYSICS

The course will review and expand upon the physics that govern the use of radiation in medicine as were discussed in the pre-requisite courses, RTH-Radiation Therapy Physics I, II.

3.3.6 MED 4304—TREATMENT PLANNING

Application of physics and anatomical principles in developing and understanding a manual and computer-based treatment plan for patients with lesions at different anatomical treatment sites.

3.3.7 MED 4305—SPECIAL PROGRAMS IN DOSIMETRY

Discussion of special procedures in radiation therapy, such as intensity modulated radiation therapy, total skin irradiation, and tomotherapy as it pertains to treatment planning.

3.3.8 MED 4306—RESEARCH/SPECIAL TOPICS

Directed research and bibliography search on a current investigational topic in medical dosimetry.

3.3.9 MED 4302—CROSS-SECTIONAL ANATOMY FOR MEDICAL DOSIMETRY

Fundamentals of acquisition and interpretation of cross-sectional anatomy from CT and MRI for all anatomical systems.

3.3.10 MED 4605—PRACTICUM III

Assigned exercises organized by treatment site and procedure type will be carried out under the direct supervision of an assigned advisor. These will be both simulated and real case assignments. The student will rotate to different facilities for the completion of the tasks.

3.4 PROFESSIONAL PROGRAM COURSE SEQUENCING

All professional courses (MED prefix) in the Division are taught in a sequential manner. Each professional course in the program serves as the prerequisite for the subsequent course. Consequently, professional courses must be taken in sequence, unless otherwise specified. **Failure to successfully complete a professional course with a letter grade of "C" or better may result in the student being suspended or dismissed from the program.** Students who are readmitted to the program at times other than the fall semester will pick up the sequence from the point of exit.

3.5 GRADUATION REQUIREMENTS

1. Completion of all required course work with a grade point average of 2.0 or better.
2. Completion of each required professional course with a grade of "C" or better.
3. Successful completion of a comprehensive end-of-program competency assessment examination.

3.6 COMPREHENSIVE END-OF-PROGRAM COMPETENCY ASSESSMENT EXAMINATION

At the end of the senior year of the program, the student will be given a Comprehensive End-of-Program Competency Examination. The examination will be administered at the end of the summer semester of the senior year as part of MED 4605, Practicum III. A score of 75% or better on this examination is required to successfully complete MED 4605, as well as to meet graduation and program completion requirements (see Graduation Requirements). Students who score below 75% on the examination will be allowed to repeat the examination before the end of the summer session. Any student failing the examination twice will receive a grade of Incomplete ("I") for MED 4605, and must complete a prescribed remediation program provided by a program faculty member before attempting the examination a third time. The third attempt for the examination must occur before the end of the subsequent semester. Those failing the examination on the third administration will be subject to dismissal from the program. Those students may reapply to the program (see Procedures for Readmission).

3.7 STANDARDS OF PERFORMANCE

A= Excellent	93 or above
B= Very Good	85 - 92
C= Average	75 - 84
D= Poor	69 - 74
F= Failure	0 - 68

The minimum satisfactory grade for course credit is 75% (a letter grade of "C"), and all stipulated segments of a course must be passed by this standard. Students must demonstrate proficiency in all clinical skills presented in order to pass clinical courses.

During the program, if a student's performance is unsatisfactory (less than a letter grade of "C"), he/she may not be permitted to register for subsequent classes or semesters. The student will be subject to suspension or dismissal from the program. If the student wishes to reenter the program, he/she must reapply and will be considered on the same basis as any new applicant. Students who voluntarily withdraw from the program either passing or failing have no guarantee of reinstatement to the program. Students requesting readmission to the program should submit a letter to that effect to the Director of the Division of Medical Dosimetry.

3.8 JRCERT STANDARDS

The Joint Review Committee in Radiologic Technology (JRCERT) publishes and administers the Standards for an Accredited Education Program in Medical Dosimetry. The Division of Medical Dosimetry within the Department of Imaging and Radiation Sciences of the College of Health Related Professions at the University of Arkansas for Medical Sciences is committed to meeting the JRCERT STANDARDS-MD. Students will be made aware of the JRCERT STANDARDS, a copy of which may be viewed in the division office or at the JRCERT Web site (www.jrcert.org/acc_standards.html). Students may also review a copy of the UAMS Medical Dosimetry Program's self study for program accreditation (Guide for Program Analysis-MD). Students with concerns regarding UAMS program compliance with the JRCERT STANDARDS are strongly encouraged to bring these concerns to the attention of the division director or department chairman in order to permit a timely and appropriate resolution of any complaints. The JRCERT may be contacted directly at 20 N Wacker, Suite 900, Chicago, IL 60606-2901, (312) 704-5300.

3.9 CERTIFICATION AND LICENSURE

Graduation from the program in medical dosimetry satisfies academic eligibility to make application for the medical dosimetry certification examination. Applicants are encouraged to review application requirements before program admission to assure compliance with other application criteria. The Medical Dosimetrist Certification Board can be contacted at 15000 Commerce Parkway, Suite C., Mt. Laurel, NJ 08054 866-813-6322, and <http://www.mdcb.org/>.

4 RULES AND POLICIES

4.1 CONDUCT AND ETHICS

Along with the CHRP handbook the Medical Dosimetry program has its own code of conduct that students must follow for their time during the program. Each student is expected to conduct oneself at all times in a dignified manner--a manner which conforms to the ethics of the profession and which instills patient confidence in ones abilities as a health care practitioner. Each student is expected to conform to the professional code of ethics as outlined in this handbook.

Irresponsible, unprofessional, or unethical behavior as determined by the instructor or failure to follow the instructions of a clinical instructor during clinical practice may result in dismissal from the program. All hospital regulations are to be followed by students when undergoing clinical training in a facility.

4.2 CODE OF ETHICS

The Division of Medical Dosimetry at UAMS has adopted the code of ethics from the American Association of Medical Dosimetrist. The purpose of the American Association of Medical Dosimetrists (AAMD) Code of Ethics is to establish an ideal of professional conduct to which members of the Medical Dosimetry profession should aspire. The Code of Ethics expresses the moral values of the AAMD. While, by itself, the AAMD cannot create or reform moral character, it may at least inform a conscience. Such a code also signals the organization's moral commitment to those who depend upon its members for services. In any profession, the test of moral seriousness depends upon personal compliance with ethical standards.

As Medical Dosimetrists, the primary objective is to use our training, experience, skills, and talents for the benefit of society. To this end, we recognize our professional relationships with and obligations to the:

(1) Patient.

Although never directly responsible for prescribing medical procedures, the health and welfare (even life) of many patients may directly depend upon the skill and dedication with which Medical Dosimetrists carry out their work.

(2) Employer or Client.

As professionals, Medical Dosimetrists have the obligation to act as faithful agents for their employers or clients and to devote their skills and talents to further the legitimate aims of their employers. In turn, they have the right to expect rue professional consideration from their employers or clients.

(3) Fellow Medical Dosimetrists.

Medical Dosimetrists should contribute to the advancement of their profession and should avoid all practices which detract from the stature of Medical Dosimetry.

In furtherance of the principles stated in this preamble, the AAMD has adopted this Code of Ethics.

Principles of Ethics

The following principles represent goals to which all Medical Dosimetrists should aspire:

(1) Medical Dosimetrists are obliged to uphold the honor and dignity of their profession by exhibiting sound moral character and the highest degree of competence in their work.

(2) Medical Dosimetrists must be honest and forthright at all times in their dealings with employers, clients, and patients. Remuneration expected should be consistent with the type and quality of service provided.

(3) Patient privacy must be respected and confidentiality of patient information must be maintained.

(4) Medical Dosimetrists should strive continually to improve their knowledge and skills and participate in programs that lead to the improvement of the Medical Dosimetry profession and the health of the community.

(5) Collegiality, openness, and mutual respect shall characterize the relationships among Medical Dosimetrists.

(6) Medical Dosimetrists should conduct their affairs in a manner consistent with standards of excellence.

4.2.1 SCHOLASTIC DISHONESTY AND CHEATING

The Department and Division will not condone cheating in any form. Any allegations of cheating will be reviewed by the Committee on Imaging and Radiation Sciences Studies and if merited, dealt with in a strict manner, including immediate dismissal from the program.

Any student found to be cheating on an examination will automatically receive a "0" for the exam and, at the discretion of the Committee on Imaging and Radiation Sciences Studies, will be subject to dismissal from the program. Failure to report incidents involving scholastic dishonesty on the part of another student will be considered unprofessional conduct on the part of the student and may result in disciplinary action.

4.2.2 EXAMINATION ADMINISTRATION

All examinations given by the department will be monitored by faculty or staff at all times. Students will be seated in such a manner as to minimize the opportunity for observation of other students' examination papers. No breaks will be allowed once an examination period has begun and students may not leave the room during an exam unless they are finished taking the examination.

4.2.3 EXAMINATION REVIEW

At the discretion of the course instructor, during review of any examination given within the curriculum, no other papers or books will be allowed on the student's desk. No writing implements of any kind will be allowed. No note taking or recording of any kind will be permitted. This includes written note taking, and/or recording with audiotape, videotape, or any other form of electronic or mechanical recording. Violation of this policy will constitute academic dishonesty and will be referred to the Committee on Imaging and Radiation Sciences Studies for review and possible disciplinary action.

4.2.4 CONDUCT IN CLINICAL FACILITIES

In the event of a student disciplinary problem in a clinical facility, such as unprofessional conduct, the following procedure will be adhered to:

1. The student will be dismissed from the clinical facility by the instructor, and the time will be recorded as an unexcused absence.
2. The student will be scheduled for a formal counseling session conducted by the instructor and the clinical director, at which time his/her clinical status will be reviewed and appropriate action taken. The student must complete this counseling session in order to be readmitted to the clinical rotation.
3. The program attendance policy remains applicable.

4.3 GUIDE TO PROFESSIONAL CONDUCT

Professionalism relates to the intellectual, ethical, behavioral and attitudinal attributes necessary to perform as a health care provider. Examples of professional behavior are listed in the CHRP Student Handbook in the section entitled "Noncognitive Performance Standards." These examples should be reviewed by the student; however, professional behavior is not limited to these examples. In addition, the student will be expected to:

4.3.1 ATTENTION

1. Demonstrate awareness of the importance of learning by asking pertinent questions, identifying areas of importance in clinical practice and reporting and recording those areas.
2. Disruptive behavior in class, lab and clinical, such as talking or other activity, interferes with effective teaching and learning and should be avoided
3. Students will not be permitted to keep cell phones on their desks or in the clinic. Students will need to keep their cell phones in the bags, or purses. Students do not need to take calls during class or clinic time unless an emergency.

4.3.2 PARTICIPATION

1. Complete assigned work and prepare for class, laboratory, and clinical objectives prior to attending.
2. Participate in formal and informal discussions, answer questions, report on experiences, and volunteer for special tasks and research.
3. Initiate alteration in patient treatment planning techniques when appropriate via notification of instructors, staff and physician.

4.3.3 DEPENDABILITY AND APPEARANCE

1. Students are required to adhere to the schedule that is laid out for him or her. Failure to do so will require points off from their final grade in class or clinic.
2. Students need to be on time at all times, if students are going to be late they need to let Betty Gann, the program coordinator, know ASAP by emailing or calling and leaving a voicemail.
3. Promote a professional demeanor by appropriate hygiene, grooming and attire.

4.3.4 COMMUNICATION

1. Demonstrate a pleasant and positive attitude when dealing with patients and co-workers by greeting them by name, approaching them in a no threatening manner, and setting them at ease.
2. Explain procedures clearly to the patient when is put in that position.
3. Communicate clearly to staff and physicians regarding a patient's treatment plan.
4. Demonstrate a pleasant and positive attitude when dealing with co-workers, instructors, faculty, nurses and physicians.

4.3.5 ORGANIZATION

1. Display recognition of the importance of interpersonal relationships with students, faculty, and other members of the health care team by acting in a cordial and pleasant manner.
2. Work as a team with fellow students, instructors, nursing staff and the physician in providing patient care.
3. Organize work assignments effectively.
4. Collect information from appropriate resources.
5. Adapt Medical Dosimetry techniques to overcome difficulties.
6. Devise or suggest new techniques to improve the treatment plan and treatment outcome.

4.3.6 SAFETY

1. Verify identity of patients before initiating therapeutic action.
2. Interpret written information and verbal directions correctly.
3. Act to prevent accidents and injury to patients, personnel and self.
4. Transfer previously learned theory and skills to new/different patient situations.
5. Request help from faculty/staff when unsure.

6. Comply with hospital and university guidelines for performance.

Examples of critical errors in professional conduct and judgment include:

1. Failure to place the patient's welfare as first priority.
2. Failure to maintain physical, mental, and emotional composure in all situations.
3. Consistent ineffective, inefficient use of time in clinical setting.
4. Failure to be honest with patients, faculty, and colleagues.
5. Scholastic dishonesty in any form.

4.4 PROCEDURE FOR UNPROFESSIONAL CONDUCT

The procedure to be followed for unprofessional conduct is as follows:

Step 1. A student will have been identified as exhibiting a standard of professional conduct/judgment, moral, or ethical behavior that is inconsistent with their chosen profession and has been brought to the attention of a faculty member or the Division Director.

Step 2. The Division Director will meet with the individual(s) making the allegation(s) along with the student's faculty advisor to review the available information and verify as accurately as possible the facts surrounding the allegation.

Step 3. The Division Director, the student, and whenever possible, the student's faculty advisor will meet as promptly as possible after the incident has been identified. The Division Director will outline to the student the facts and information presently available and will seek to authenticate or clarify the allegation(s) where possible. If there is no basis for the allegation(s), then no further action will be taken.

Step 4. Should the meeting (Step 3) provide sufficient factual information to justify further investigation, the student will be informed in writing that the Committee on Imaging and Radiation Sciences Studies will be convened to review the allegation(s) and recommend a course of action to be followed. The Division Director will provide the student with the following written information:

- a. Date
- b. Name of student
- c. Nature of the problem
- d. Date of incident/occurrence
- e. Professional attributes: skills, behavior, judgment, ethical values, etc. which are in question.

For more information regarding the procedures for handling instances of unprofessional conduct, see current CHRP Student Handbook.

4.5 INCIDENTS IN THE CLINICAL PRACTICE

An incident occurring which affects patient or staff well being or the patient's prescribed care will be reported to the clinical instructor immediately. A hospital incident report will then be completed following the policy of that institution. A duplicate of the hospital incident report as well as a memorandum of explanation from the clinical instructor will be placed in the student's clinical file and the department chair or division director will be notified immediately. Incidents involving gross errors in judgment or practice on the part of the student will constitute grounds for dismissal from the program.

4.6 ATTENDANCE REGULATIONS

4.6.1 PROCEDURE FOR NOTIFICATION OF ILLNESS OR LATENESS

1. Call the facility by 7:00 a.m. if possible.
2. Identify yourself and tell the supervisor that will be late or absent.
3. Notify the UAMS Division of Medical Dosimetry by 7:30 a.m.

4.6.2 CLINICAL PRACTICE

Each clinical practice has a requisite number of mandatory clinical hours. Any student not completing the required clinical hours during a given session will not receive a passing grade for that clinical practice. Time for any excused absence must be made up at the discretion of the clinical instructor. If clinical absences are not made up, a letter grade of "F", "I" or "IP" may be given at the discretion of the faculty.

Clinical practice, unless otherwise announced, begins at 6:45 a.m. Students are expected to be prompt and prepared to begin clinics at 6:45 a.m. Tardiness delays and hampers all student assignments made for that clinical day. If assignments cannot be arranged because of tardiness the student may be required to make-up that day of tardiness as a full clinical day.

Any student exceeding four (4) tardies or four (4) clinical absences may be subject to dismissal from the program.

For those times when students may be in clinical affiliates outside of regular school or clinical times, a special request form needs to be submitted for approval to the Director of the Program.

4.6.3 CLASS

Class attendance regulations allow the student to be absent no more than 10% of the scheduled lectures. Students absent more than 10% of the scheduled classes may be dropped from the course.

For example, if a class meets 50 times during a semester, then a student will be allowed a maximum of five (5) classes missed. The student may be dropped on the sixth class missed.

4.6.4 ILLNESS / SICK

In the event of a "lengthy" illness, each case will be reviewed individually in regards to time lost, time available for completion and content of objectives to be covered. Any such absence may require documentation by a physician in writing.

4.6.5 TARDINESS (Class and/or Clinical)

The student should be in the appointed place at the appropriate time; disregard for this demonstrates irresponsibility and is unacceptable professional behavior. This cannot be tolerated and action may be taken at the discretion of the instructor. Excess tardiness may result in grade reduction. In certain instances, the student may be subject to administrative withdrawal from the course and/or program.

4.6.6 PREGNANCY POLICY**Reporting:**

If the student is pregnant or suspected pregnant, the student has one of three options:

1. Voluntarily inform in writing the Program Director/Student Clinical Coordinator and the Radiation Safety Officer about the pregnancy and expected date of delivery. This will provide information for additional monitoring and possible alteration in the student's clinical education.
2. Not to inform Program Director/Student Clinical Coordinator and Radiation Safety Officer about the pregnancy or suspected pregnancy. If the student chooses not to voluntarily inform the above individuals in writing, the student will not be considered pregnant.
3. Submit a request in writing to withdraw the declaration of pregnancy.

Leave of Absence:

If the student voluntarily informs the Program Director and Radiation Safety Officer in writing about the pregnancy, the Program Director will discuss the following options with the student:

1. Continue the program without any change, modification or interruption in the program sequence.
2. Modify or interrupt clinical education assignments, which would have to be completed before graduation from the program could occur.
3. Leave of absence from clinical assignments (attend non-clinical classes only). Clinical assignments would have to be completed before graduation could occur.
4. Leave of absence from the program to be eligible for the next year's class after the pregnancy.

Each case will be handled individually based on the student's needs and preferences. Options and length of time off or program modification will be determined on factors that include:

1. If the education can be made up during the program year,
2. If the student will extend his/her time in the program.
3. If the entire program will need to be repeated from the beginning.

4.7 INCOMPLETE ASSIGNMENTS AND MAKE-UP EXAMINATIONS

All assignments are to be turned in as specified on the course syllabus. Assignments not turned in to the instructor when due will result in a "0" for that assignment.

Students given an incomplete in a course must have the mechanism for resolving the incomplete agreed upon with the course instructor by the first week of classes in the subsequent semester. The agreement must be in writing and must include the signature of the student and the instructor.

As a general policy, make-up exams will not be given for missed exams. A request for a make-up exam should be directed to the individual course instructor. In cases of serious illness or accident, a make-up exam may be considered.

4.8 READMISSION PROCEDURE

A student who fails a Medical Dosimetry course, drops a Medical Dosimetry course during a session, or does not proceed to the next Medical Dosimetry course may be eligible for readmission at the first available opportunity and must petition the Committee on Imaging and Radiation Sciences Studies to reenter the program. The following procedure is required:

1. At the time the student fails drops or decides not to proceed in sequence, the division director will complete a special student counseling form giving the reasons for the failure or reasons for the student dropping the course. The form will be signed by the student. One copy will be given to the student and one copy will be placed in the student's record.
2. An exit interview with the division director and/or department chair is encouraged as part of the official procedure for exiting the program.
3. At least two months prior to the beginning of the semester in which the student wishes to reenter, he/she must submit a letter of intent to the Committee on Imaging and Radiation Sciences Studies. Requests for readmission should be submitted to the Registrar's Office.
4. If remedial work was requested in guided studies of general courses, results of such classes must be included in the request for readmission. If medical conditions were involved, written verification of good health and ability to function safely in a clinical crisis situation is required.
5. The decision regarding reentry will be subject to the policy on reinstatement to the Medical Dosimetry sequence and approval of the Committee on Imaging and Radiation Sciences Studies.
6. The student will be informed in writing of the decision.

4.9 STUDENT APPEALS - CHAIN OF COMMAND

Normal communication regarding course or program policy should be first directed to the instructor or professor assigned to the course or clinical section involved. In the event that the student is unable to satisfy his/her inquiry or request at that level, the matter should be referred to either the clinical director (in the case of clinical practice) or the department chair (in the case of academic course work or policy). In the event that the matter in question cannot be resolved at that level, it should be directed to the Committee on Imaging and Radiation Sciences Studies. This committee will either resolve the matter in question to the student's satisfaction or instruct the student on available mechanisms for appeal as described in the CHRP Catalog and Student Handbook.

4.10 CHANGE OF ADDRESS RESPONSIBILITY

It is the responsibility of any student enrolled in the Medical Dosimetry Program to inform both the Registrar's Office and the department of any change of address or phone number within one week. The

information should be given to the administrative assistant of the Medical Dosimetry Program in writing (form attached; additional forms are available in the department).

4.11 CORRESPONDENCE BETWEEN STUDENTS AND FACULTY

Students can schedule a meeting with faculty through the program coordinator.

1. Students will be assigned to a faculty advisor in the fall semester. Times for student conferences will be posted.
2. Each student must meet with his advisor formally at least once per semester during the academic year. One advisement session will be held during each summer session.

4.12 RELEASE OF STUDENT INFORMATION

Students must sign a release form (attached) requesting letters of reference for employment, enrollment verification, etc. Additional forms are available in the Department. Student grades cannot be given out over the telephone.

4.13 UNIFORM POLICY FOR CLINICAL PRACTICE

The following guidelines are used to assist the student in adjustments to various clinical sites and other health agencies. The policies vary, but in general the rules established by the program will cover the student's responsibility when entering such health agencies. The University of Arkansas for Medical Sciences wishes to have its students represent the University in a manner that reflects its goal of high standards of professionalism.

Uniform regulations are needed to assure standard, identifying attire and a well groomed personal appearance. The ultimate goal is to protect the patient and self from cross-contamination and to reflect confidence and assurance in patient contact and hospital staff personnel relationships.

Medical Dosimetry students are required to all wear scrub uniforms 5 days a week during school and clinical times. Students who do not come to class or clinic in appropriate clothing will be asked to clock out and go home to change clothes.

The uniform for the medical dosimetry student consists of the following:

- Ceil blue scrub tops, any top of your choice, if buying V neck tops you will be required to wear a white t shirt underneath the top.
- Ceil blue scrub pants
- White tennis shoes with minimal color in them
- During colder months students can wear a ceil blue scrub jacket or they can opt to wear an all white long sleeve shirt underneath their scrub tops.
- Name tags and University I.D. cards specified by the program must be visibly worn at all times.
- Males: Shirts will be worn. Dress pants are preferred, but neat dress casual pants or cords are acceptable. Females: Dresses, skirt and blouse, or slacks and blouse are acceptable.

Scrubs with prints or another color other than ceil blue are not permitted. Should you have trouble finding ceil blue scrubs please contact Betty Gann and she will direct you to a store in Little Rock.

NO blue jeans, sandals, or tennis shoes (unless you have scrubs).

Failure to comply with the above regulations regarding uniform policy will result in the student being dismissed from clinical labs until such time as the deficiencies are corrected.

4.14 PROFESSIONAL DEVELOPMENT AND SERVICE

As a part of each clinical practice course in the curriculum, students are required to participate in at least eight hours of approved professional development, educational and/or service activities per semester. This is in addition to other clinical course requirements. Attendance at professional seminars, lectures, and workshops may be submitted to meet this requirement. Participation in professional and community

service activities may also be submitted in order to meet this requirement. Approved activities will be announced by the department or division. Additional activities which the student would like to submit for this requirement should be approved in advance. In the case where a student enrolls in more than one clinical practice course in a semester, the requirement would not exceed eight hours for the semester.

4.15 ALTERNATIVE CLINICAL ACTIVITIES (CLINICAL PASS)

Students may apply for attendance to additional seminars, workshops and lectures to acquire clinical release time. Approval of application will be dependent upon clinical skills and in-curriculum grade point average (GPA). Each function will be evaluated independently as to its educational value in terms of how much time will be awarded.

The use of this pass is limited. It cannot be used unless appropriate approval is awarded prior to the projected day of use and does NOT include specialty rotations or case studies.

4.16 OUTSIDE EMPLOYMENT

The faculty realizes that it may be necessary for some students to work part-time while attending school. This should not be done at the expense of the Medical Dosimetry Program. It is the student's responsibility to fulfill all school obligations.

If a student appears too fatigued to perform safely in the clinical laboratory, the instructor may dismiss the student from the clinical agency.

It is not advisable for a student to work from 11:00 p.m. to 7:00 a.m. and then come to the university lab or clinical agency as fatigue frequently is a cause for accidents or poor clinical judgment.

4.17 IMMUNIZATIONS AND TUBERCULOSIS TESTING

Proof of immunization for tetanus and diphtheria within the last ten years as well as immunizations against measles, mumps and rubella is required of all entering students prior to registration. All students must provide proof of two immunizations against Hepatitis B before the end of the first semester of the program. All students are required to have a PPD test done within one year prior to initial registration as a student at UAMS. (Refer to current CHRP Catalog for more information).

4.18 PROFESSIONAL LIABILITY INSURANCE COVERAGE

All entering students are required to purchase and maintain professional liability insurance. Insurance coverage must be purchased through UAMS at fall semester registration at a cost of \$13.00 per academic year.

4.19 ILLNESS OR INJURY OF STUDENT WHILE ATTENDING CLASSES

Illness or injury while in the classroom or clinical area must be reported to the professor or instructor present. Students who are pregnant are encouraged to inform the division director, who will inform the clinical instructor or preceptor so that no assignment will be made involving exposure to radiation or other hazards. Disclosure of pregnancy is voluntary; see pregnancy policy, section 4.6.6, p17.

4.20 CHANGES IN POLICY

Additional policies and regulations may be established by the department, division or by the instructor for a course or any portion of a course. After due and proper notification, students will be expected to comply fully with all regulations.

5 STUDENT SERVICES

5.1 USE OF NON-UAMS HOSPITAL AND HEALTH CARE FACILITY LIBRARIES

Use of health care facility libraries varies according to agency policy. Check with current clinical instructor about the procedure needed.

5.2 FINANCIAL AID AND SCHOLARSHIPS

Specific Medical Dosimetry scholarships MAY be available to students enrolled in the program. For more information contact the division. Other financial aid information and requests should be handled through the Financial Aid Office located in the graduate school.

6 ACADEMIC INFORMATION

6.1 MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

One key attribute of a professional is participation in associations and societies which influence the direction, education and practice of the members of a profession. In order to develop this aspect of professionalism, the student will be expected to maintain active student membership in an appropriate professional association or society during the clinical phase of the curriculum. Membership in the American Association for Medical Dosimetry is strongly encouraged to meet this requirement.

6.2 STATE AND NATIONAL CREDENTIALING

Graduation from the program in medical dosimetry satisfies academic eligibility to make application for the medical dosimetry certification examination. Depending on an applicant's qualifications, a minimum of one year of full-time employment is required by the Medical Dosimetrist Certification Board (MDCB) prior to sitting in for the examination. Applicants are encouraged to review application requirements before program admission to assure compliance with other application criteria. The Medical Dosimetrist Certification Board can be contacted at 15000 Commerce Parkway, Suite C., Mt. Laurel, NJ 08054 866-813-6322, and www.mdc.org.

Certification as a Medical Dosimetrist by the Medical Dosimetrist Certification Board (MDCB) is required of all graduates in order to demonstrate achievement of program goals and standards. The MDCB examination is normally completed following one year of full time clinical practice as a medical dosimetrist. The examination fee is \$250.00 plus a \$75.00 new application fee.

6.3 PROGRAM OUTCOMES ASSESSMENT PLAN

The Medical Dosimetry Program utilizes an ongoing, systematic process to assess program goals and related outcomes. Measurement tools, benchmarks to determine standards for success, time frames for data collection and analysis and the person and/or group responsible for the analysis have been identified. The assessment plan for the Medical Dosimetry Program follows:

6.3.1 GOAL 1

Graduates of the program will be prepared to function as competent medical dosimetrists.

Outcome:

- 1. a. Graduates will demonstrate the ability to comprehend, apply and evaluate information relevant to the role of the medical dosimetrist.*

Measurement Tools:

1.a.1. Student performance on a comprehensive end-of-program written competency examination.

Bench Mark: All graduates will achieve a satisfactory or better score ($\geq 75\%$).

Timing: Examination given annually during the final semester.

Responsible Person: Division Director.

1.a.2. Graduate performance on the Medical Dosimetry Certification Board (MDCB) certification examination.

Bench Mark: At least 75% of graduates taking the MDCB certification examination will pass the examination on the first attempt.

Timing: Examination taken following graduation after program completion and completed by

the end of the second year following graduation.

Responsible Person: Division Director

1.a.3. Employers survey for evaluation of graduates' knowledge (cognitive) skills.

Bench Mark: At least 75% of returned employer surveys will indicate an adequate (or better) rating of graduates' ability to comprehend, apply and evaluate information relevant to the role of the medical dosimetrist.

Timing: Surveys administered approximately six months following graduation.

Responsible Person: Division Director

Outcome:

1.b. *Graduates will demonstrate technical proficiency in all skills necessary to fulfill the role of a medical dosimetrist.*

Measurement Tools:

1.b.1. Student performance on technical (psychomotor) skills evaluations as a part of clinical course completion (Clinical Practicum's I, II, III).

Bench Mark: All students will successfully complete the required psychomotor skills evaluations with a satisfactory score or better.

Timing: Evaluations performed during the summer semester of the program.

Responsible Person: Program faculty.

1.b.2. Employers survey for evaluation of graduates' technical (psychomotor) skills.

Bench Mark: At least 75% of returned employer surveys will indicate an adequate (or better) rating of graduates' technical proficiency in all skills necessary to fulfill the role of the medical dosimetrist.

Timing: Surveys administered approximately six months following graduation.

Responsible Person: Division Director

1.b.3. Graduate survey for evaluation of graduates' technical (psychomotor) skills.

Bench Mark: At least 75% of returned graduate surveys will indicate an adequate (or better) self-rating of technical proficiency in all skills necessary to fulfill the role of the medical dosimetrist.

Timing: Surveys administered approximately six months following graduation.

Responsible Person: Division Director.

Outcome:

1.c. *Graduates will demonstrate affective behaviors consistent with professional and employer expectations for the medical dosimetrist.*

Measurement Tools:

1.c.1. Student performance on an end-of-program professional characteristics (affective) evaluation completed prior to graduation.

Bench Mark: All students will successfully complete the required professional characteristics evaluations with a satisfactory score or better.

Timing: Evaluations performed annually during the last semester of the program.

Responsible Person: Program faculty.

1.c.2. Employers survey for evaluation of graduates' professional (affective) skills.

Bench Mark: At least 75% of returned employer surveys will indicate an adequate (or better) rating of graduates' professional (affective) skills needed to perform as a medical dosimetrist.

Timing : Surveys administered approximately six months following graduation.

Responsible Person: Division Director

1.c.3. Graduate's self-evaluation of their professional (affective) skills.

Bench Mark: At least 75% of returned graduate surveys will indicate an adequate (or better) self-rating of professional (affective) skills needed to perform as a medical dosimetrist.

Timing : Surveys administered approximately six months following graduation.

Responsible Person: Division Director.

6.3.2 GOAL 2

Graduates of the program will contribute to the needs of the medical dosimetry profession and the health care community.

Outcome:

2 *Upon completion of the program, all graduates will seek and obtain employment as medical dosimetrists.*

Measurement Tools:

Graduate job placement based on employer and graduate surveys.

Bench Mark: 75% of all students will successfully obtain employment as medical dosimetrists within six months following graduation.

Timing : Graduates will be surveyed for job placement upon graduation and approximately six months following graduation. Employer surveys will be completed approximately one year following the employment.

Responsible Person: Division Director.

6.4 RECOMMENDED MEDICAL DOSIMETRY TEXTS

This is an abbreviated list of texts and references recommended to Medical Dosimetry students. These references are available in the Briscoe Library or in the department.

A Treatment Planning in Radiation Oncology 2 nd edition,	Khan, Faiz M
Radiation Therapy Planning, 2 nd edition	Bentel, G. C.
Physics of Radiation Therapy 4 th Edition,	Khan, Faiz M

Principles and Practice of Radiation Therapy (2 nd Edition)	Washington & Leaver
Primer on Theory and Operation of Linear Accelerators	Karzmark & Morton
Sectional Anatomy for Imaging Professionals,	Kelley & Petersen
Sectional Anatomy Study Guide,	Kelley & Petersen
The Modern Technology of Radiation Oncology,	Van Dyk, J

6.5 REFERENCE BOOKS

A Practical Guide to CT Simulation	Coia, et al.
Basic Trigonometry	McHale, T.
Brachytherapy Physics: AAPM Summer School	Williamson, et al.
Cancer Manual, 7 th edition	American Cancer Society-Massachusetts Div.
Clinical Computed Tomography for the Technologist (1995)	Chiu, LC
Cross Sectional Human Anatomy, 1 st edition,	Dean, David K.
Computed Tomography: Physical Principles, Clinical	Seeram, E
Intermediate Algebra, 3 rd edition	Bello, I.
Introduction to the Professional Aspects of Medical Physics	Hogstrom, K.R.
PreCalculus, 3 rd edition	Cohen, D.
Principles and Practices of Oncology, 6 th edition	Devita, Hellman, Rosenberg
Principles and Practice of Radiation Oncology, 4 th edition	Perez, C.A. & Brady, L.W.
Portal Design in Radiation Therapy	Dasher, Bryon
Radiation Therapy Physics, 2 nd edition	Hendee, W.R.;
Radiobiology for the Radiologist, 2 nd edition	Hall, E.
Review of Radiation Oncology Physics: A Handbook for Teachers and Students	Podgorsak, E.
Technical Magnetic Resonance Imaging. (1996)	Markisz & Aquilla,
The MRI Manual, Second Edition (1998).	Lufkin, RB
The Physics of Radiology, 4 th edition	Johns, H.E., Cunningham, J.R.
Unix In a Nutshell, 3 rd Edition	Robbins, Arnold
Windows XP In a Nutshell	Karp, David

6.6 RECOMMENDED JOURNALS AND PERIODICALS

International journal of Radiation Oncology, Biology, and Physics

Journal of Medical Dosimetry

Journal of Medical Physics

6.7 RECOMMENDED SCIENTIFIC PAPERS

1. Almond, T.R.; Biggs P.J.; Coursey, B.M.; Hanson, W.F.; Hug, M.S.; Nath, R.; Rogers, D.W.O.; AAPM's TG-51 Protocol for Clinical Reference Dosimetry of High-Energy Photon and Electron Beams, *Med. Phys.* 26(9) 1847 – 1970; 1999.
2. Benedick, F.; Doppke, K.; Hunt, M.; Kutcher, G.; Starkschall, G.; Stern, R.; Dyke, J.V.; AAPM Radiation Therapy Committee Task Group 53: Quality Assurance for Clinical Radiotherapy Treatment Planning. *Med. Phys.* 25(10):1173 - 1829; 1998.
3. Bram, V.A.; Raaijmakers, C.P.J.; Hofman, P.; Lagendijk, J.J.W.; An Improved Breast Irradiation Technique Using Three-Dimensional Geometrical Information and Intensity Modulation. *Radiotherapy and Oncology*, 58: 341 – 347; 2001.
4. Dyk, J.V.; Glvin, J.M.; Glasgow, G.P.; Podgorsak, E.B.; The Physical Aspects of Total and Half Body Photon Irradiation. Report of AAPM Radiation Therapy Committee, Task Group 29. 1986.
5. Ezzell, G.A.; Galvin, J.M.; Low D.; Palta, J.R.; Sharpe, M.B.; Xia, P.; Xiao, Y.; Xing, L.; Yu, C.X.; Guidance Document on Delivery, Treatment Planning, and Clinical Implementation of IMRT: Report of the IMRT Subcommittee of the AAPM Radiation Therapy Committee. *Med. Phys.* 30(8):2089 - 2115; 2003.
6. Karzmark, C.J.; Anderson, J.; Fessenden, P.; Svensson, G.; Total Skin Electron Therapy: Technique and Dosimetry. Report of AAPM Radiation Therapy Committee, Task Group 30. 1988.
7. Khan, F.M.; Doppke, K.P.; Hogstrom, K.R.; Kuther, G.J.; Nath, R.; Prasad, S.C.; Purdy, J.A.; Rozenfeld, M.; Werner, B.L.; Clinical Electron-Beam Dosimetry : Report of AAPM Radiation Therapy Committee Task Group No. 25. *Med. Phys.* 18(1):73 – 109; 1991.
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10. Leavitt, D.D.; Martin. M.; Moeller, J.; Lee, W.L.; Dynamic Wedge Field Techniques Through Computer-Controlled Collimator Motion and Dose Delivery. *Med. Phys.* 17(1):87 - 91; 1990.
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12. Martin, L.; Baker, B.; Fairhall, D.; Forell, K.; foster, A.; Gilbert, K.; O'Donoghue, J. A Code of Ethics for the Medical Dosimetrist – the American Association of Medical Dosimetrists Experience. *Medical Dosimetry.* 23(3):257 – 258; 1998.
13. Meinhold, C.B.; Abrahamson, S.; Adelstein, S.J; NCRP Report No. 116. Limitation of Exposure to Ionizing Radiation. Supercedes NCRP Report No. 91. 1993.
14. Nag, S.; Beyer, D.; Friedland, J. Grimm, P.; Nath, R. American Brachytherapy Society Recommendations for Transperineal Permanent Brachytherapy of Prostate Cancer. *Int J Radiat Oncol Biol Phys.* 44(4):789- 799; 1999.

15. Nath, R.; Anderson, L.; Jones, D.; Ling, C.; Loevinger, R.; Williamson, J.F.; Hanson, W.; Specification of Brachtherapy Source Strength. Report of AAPM Radiation Therapy Committee, Task Group 32. 1987.
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18. Yu, Y.; Anderson, L.L.; Li Z.; Mellenberg, .D.E.; Nath, R.; Schell, M.C.; Waterman, F.M.; Wu, A.; Blasko, J.C. Permanent Prostate Seed Implant Brachytherapy: Report of the American Association of Physicists in Medicine Task Group No. 64. *Med. Phys.* 26(10): 2054-2076; 1999.

6.8 FORMS

THE UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Division of Medical Dosimetry

Release of Information

I hereby authorize the Division of Medical Dosimetry at The University of Arkansas for Medical Sciences to release information as follows:

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No requests will be processed until you have given us your permission.

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