

REQUEST FOR A NEW UNIT OF INSTRUCTION

BACKGROUND

1. **Name of Institution:** Southern Illinois University Carbondale
2. **Title of Proposed Program:** Master of Science in Medical Dosimetry
3. **Contact Person:** Paul Sarvela
 - 3.1 Telephone: 618-453-8840
 - 3.2 E-mail: psarvela@siu.edu
 - 3.3 Fax: 618-453-7286
4. **Level of Proposed Unit**

<input type="checkbox"/> Undergraduate Certificate (1-2 years)	<input type="checkbox"/> Post-Baccalaureate Certificate
<input type="checkbox"/> Undergraduate Certificate (2-4 years)	<input type="checkbox"/> Post-Master's Certificate
<input type="checkbox"/> Associate	<input type="checkbox"/> First Professional Certificate
<input type="checkbox"/> Baccalaureate	
<input checked="" type="checkbox"/> Masters	
<input type="checkbox"/> First Professional	
<input type="checkbox"/> Doctorate ¹	
5. **Requested CIP Code** (6-digits): 51.0907
6. **Proposed Date for Enrollment of First Class:** Fall 2008 – Fall 2009
7. **Location Offered²:** On-Campus
Off-Campus *: Region Number(s) 10, 8 or Statewide _____

This Masters Degree in Medical Dosimetry will replace the Post Baccalaureate Certificate Program in Medical Dosimetry currently offered by SIUC. After the Masters Degree is approved, a request will be sent to SIUC's Graduate School to discontinue offering the certificate program.

*The Dosimetry Program is to be initially offered at the Siteman Cancer Center in St. Louis, Missouri with potential growth in Chicago (Region 10) and Springfield (Region 8).

¹ To assist staff in specialized areas of instruction, IBHE will retain two outside consultants to review all new doctoral program proposals.

² Institutions may request approval to offer a program, simultaneously, on- and off-campus, including statewide. However, assessments of program objectives and outcomes should be developed that address all of the locations and modes of delivery for which the institution is seeking approval. Note that "on-campus" approval extends to the entire region in which the main campus is located. New off-campus programs to be offered outside the institution's region require approval.

Throughout this document all bold numbers and solid bullets (●) represent the original format of the New Unit of Instruction form. All hollow bullets (○) represent my responses to the requested information.

MISSION, OBJECTIVES AND PRIORITIES

8. Mission

- The Medical Dosimetrist is a member of the radiation oncology (cancer treatment) team who has knowledge of the overall characteristics and clinical relevance of radiation oncology treatment machines and equipment, is cognizant of procedures commonly used in brachytherapy (treatment with radioactive sources at a close distance) and has the education and expertise necessary to generate radiation dose distributions and dose calculations in collaboration with the Medical Physicist and Radiation Oncologist.
- The mission of the Medical Dosimetry Program through Southern Illinois University Carbondale (SIUC) is to provide a quality program integrating education, research and service in order to meet the needs of the profession and improve health care of the people and communities we serve.

Goals of the program include:

- Prepare the student to practice as an entry level professional medical dosimetrist by offering a balanced curriculum and quality didactic/clinical instruction.
- Provide didactic and clinical experiences that lead to research in educational, professional, or health care issues relating to medical dosimetry.
- Provide avenues to students for professional development and growth within the profession.
- Provide avenues for students to develop and apply skills in effective communication, analytical and critical thinking, and problem-solving necessary for successful medical dosimetry practice.
- Provide a clinical and didactic environment which leads to the development of clinical skills and competence appropriate for an entry level medical dosimetrist.

Priorities of the program will include:

- Provide the highest quality academic program and clinical teaching to produce competent medical dosimetrists.
- Graduate medical professionals interested in obtaining employment and practicing in the state of Illinois and the surrounding region.
- Provide service to the citizens and medical professions of the university, state, region, and country.

8.1 Describe specific objectives and measurable contributions the program will make to the university's mission, paying particular attention to the program's consistency with the university's focus statement and priorities. Such objectives and contributions may include:

The Masters in Medical Dosimetry closely relates to SIUC's mission and priorities in the following areas:

- "Providing excellence in educational opportunities to our students through the delivery of outstanding academic programs and by the generation and dissemination of innovative insight, ideas, and skills."

8.1 continued:

- “Fostering an intellectually challenging, yet supportive environment for students, faculty, and staff by insisting on quality in all that we undertake.”
- “Graduate students who are creative, productive, and responsible.”
- “Graduate students who are prepared to face the multitude of opportunities available in their pursuits and professions of life.”
- “Graduate students who meet the workforce and societal needs of Illinois and the nation.”
- The Medical Dosimetry Program will assist SIUC in “offering a progressive graduate education.” It will also assist with “achieving excellence in graduate and professional programs.”
- The Medical Dosimetry Program will assist SIUC in “supporting the enhancement of medical services for a significant growing population of retirees.”
- The Medical Dosimetry Program will assist SIUC in “shaping cooperative ventures” with state and regional healthcare leaders in training quality medical dosimetrists.

All the above are taken from “**Southern at 150: Building Excellence Through Commitment**” pages 8-9, 35, 64-65.

- **Serving a distinct student population;**
 - The Medical Dosimetry Program through SIUC will serve all student populations who wish to pursue careers in the field of medical dosimetry regardless of race, religion, sex, etc. If a student meets the SIUC Graduate School entrance criteria, they will be considered for admittance to the Medical Dosimetry Program.
- **Occupational and student demand for the program;**
 - Currently there are only two accredited Medical Dosimetry Programs in the country. SIUC was the third program to have a Joint Review Committee on Education in Radiologic Technology (JRCERT) site visit for accreditation and is currently awaiting their decision. This decision will occur spring 2007 and we expect to receive full accreditation. If a full accreditation is not awarded students will not be penalized regarding their ability to sit for the test.
 - The Medical Dosimetry Certification Board (MDCB) has implemented a new eligibility requirement for applicants to begin with the 2008 exam cycle. This requirement states that an applicant pursuing the formal education route must have graduated from a JRCERT accredited program to be eligible to sit for the exam within six months of graduation. There are currently two other routes of eligibility offered by the MDCB. They consist of routes two and three. Route two requires an individual to have a bachelor’s degree in the physical sciences or be a registered radiation therapist with two years of on-the-job training as a medical dosimetrist. Route three requires an individual to have an associate’s degree or a bachelor’s of arts degree plus three years of on-the-job training.
 - Over the past two years student applications for the program have greatly exceeded the number of positions available.
- **Collaborating with and/or supporting other programs at the institution;**
 - No other programs at SIUC are involved.

8.1 continued:

- **Meeting the needs of business, employers, and/or society;**
 - Referencing the “2002 Radiation Oncology Workforce Study: performed by the American Society for Therapeutic Radiology and Oncology” there is a total national need of 702 dosimetrists. This is 24.4% of the total number (2877) of currently practicing dosimetrists.
 - The Midwest needs 149 dosimetrists - Illinois (38), Indiana (12), Michigan (18), Ohio (21), Wisconsin (18), Iowa (6), Kansas (7), Minnesota (6), Missouri (17), Nebraska (3), North Dakota (3), and South Dakota (0). There are four students currently enrolled in the only Midwest based program, SIUC/Barnes-Jewish Hospital in St. Louis, Missouri.
 - The MDCB offers the “Certified Medical Dosimetrist” (CMD) exam once each year. Historically, on average, 55% of the exam candidates pass the exam on the first attempt. Last year approximately 400 individuals attempted the exam.
 - Currently about 1 of 10 applicants taking the MDCB exam are graduates of a formal program and 9 of 10 complete on-the-job training. If an individual graduates from a medical dosimetry training program he or she can sit for the exam in 18 months whereas individuals completing the on-the-job training can take the exam in 24 months. There is a six month benefit in eligibility.
 - The “CARE Bill” is currently being considered by congress which will limit who can practice medical dosimetry and this will increase the need for CMDs across the country.

- **Increasing the number of graduates in a high demand or emerging field of study.**
 - The program will continue to seek clinical education sites to expand in the St. Louis area.
 - Once the Medical Dosimetry Program is finalized in the St. Louis area, the program will investigate expanding into the Chicago and Springfield areas. There has been interest expressed related to this program expansion. The medical dosimetry advisory board is urging this expansion also.

8.2 Explain how the program will meet regional and state needs and priorities, making specific reference to *The Illinois Commitment*.

- The Masters in Medical Dosimetry Program will allow hospitals in Illinois and the region to have access to highly trained personnel to work as medical dosimetrists in their Radiation Oncology (Cancer Treatment) Centers. Offering cancer care as part of the comprehensive care program is crucial for hospital growth.
- The Masters in Medical Dosimetry Program will help the Illinois Education System stay on the “competitive edge.” This program will be one of three in the country offering the Masters degree for this profession.
- This Masters in Medical Dosimetry Program will be a cost recovery program which will increase the cost effectiveness of the university as no state funds will be used.
- The Masters in Medical Dosimetry Program will help the state and region by meeting the growing medical dosimetry profession.

The above comments show that the Medical Dosimetry Program through SIUC directly supports “The Illinois Commitment.”

8.3 Identify similar programs and sponsoring institutions in the state. Compare these programs with the proposed program. Discuss the possible impact of the proposed program on these programs.

- Currently there are no other Medical Dosimetry Programs in the state. Before accreditation became a requirement for Medical Dosimetry Programs, there were only eight professionally recognized programs across the country.

8.4 Discuss estimated future employment opportunities for graduates of this program. Compare the estimated need for graduates with the estimated number of graduates from this program and existing programs identified in 8.3 above. Where appropriate, provide documentation by citing data from such sources as employer surveys, current labor market analyses, and future workforce projections. Describe any special need for this program expressed by state agencies, industry, research centers, or other educational institutions.

- A medical dosimetry graduate typically works within a cancer treatment center either in a hospital or free-standing clinic. Some will gain employment in the corporate arena such as sales/treatment planning organizations. In the past 100% of the program's graduates have initially started in hospitals.
- Attached is a copy of the 2006 American Association of Medical Dosimetrists annual salary survey. This gives data on starting salaries for graduates. Referencing page 6, salaries for individuals without the CMD and 0-4 years experience indicate an average salary of \$71,900. In the past, our graduates average \$70,000 per year for an entry level position. See "Attachment A."
- The most recent workforce analysis was the "2002 Radiation Oncology Workforce Study: performed by the American Society for Therapeutic Radiology and Oncology." This indicated a total national need of 702 dosimetrists, which is 24.4% of the total number (2877) of currently practicing dosimetrists.
- One could also reference Barnes-Jewish Hospital in St. Louis. This past year this facility added two new dosimetry positions to keep up with the workload that is affecting the medical dosimetry profession. Technological advances have increased the duties of a medical dosimetrist drastically over the past 3-4 years.

9. Program Description

9.1 Provide a brief narrative description of the program, including a list of its central academic objectives. Explain how the curriculum is structured to meet the program's stated objectives. Provide a complete catalog description for the proposed program, including:

Program Description

The Masters in Medical Dosimetry is an off-campus program consisting of 30 semester hours. The main teaching center is located within the Siteman Cancer Center in St. Louis, Missouri and extra clinical education centers in the surrounding area.

9.1 continued:

The curriculum consists of both didactic and clinical courses. Course material and practicum covers radiation physics, radiation protection, dose calculations, tumor localization, external beam treatment planning, brachytherapy, quality assurance, medical imaging/anatomy, clinical radiation oncology, and radiobiology. Clinical practicum includes external beam treatment planning, brachytherapy treatment, preparation and planning, chart reviews and dose calculations, record and verify system data entry, simulation (conventional and computed tomography (CT) simulation), treatment aid fabrication, treatment machine quality assurance (QA), stereotactic treatment planning, gamma knife, intensity modulated radiation therapy (IMRT) planning and treatment. Special project assignments, conference attendance and presentation, journal article review, labs, and journal manuscript submission are also part of the curriculum.

It meets the education guidelines recommended by the American Association of Medical Dosimetrists and eligibility criteria for the national certification exam following graduation and six months of full-time employment, as required by the MDCB. Programmatic accreditation through the JRCERT has been applied for.

• Program admission and graduation requirements.

- Preferred candidates are individuals who have a baccalaureate degree and have been trained as a radiation therapist. Consideration is given to applicants with a bachelor's degree in the physical or biological sciences without radiation therapy experience. Overall cumulative grade point average (GPA) must be at least a 2.7 (A = 4.0)
- SIUC's Graduate School Admission requirements are at the following web address: http://www.siu.edu/gradschl/catalog/Degree_Requirements.pdf
- A Graduate Record Examination (GRE) will be required. A low GRE General Test score will not reduce an applicant's possibility of acceptance into the program however a high GRE General Test score will enhance their chances for acceptance.
- Graduation requirements are successful completion of all coursework with an overall GPA ≥ 3.0 .
- SIUC's Graduate School Graduation requirements are at the following web address: http://www.siu.edu/gradschl/catalog/Degree_Requirements.pdf

• Curriculum design, including course descriptions.

- Changes to the course numbers/names and descriptions are based on recommendations from the JRCERT, which is the accrediting body of Medical Dosimetry Programs. Input was also gathered from parties of interest such as graduates and other programs.

Fall Semester

- **RAD 510-2 Simulation and Cross Sectional Anatomy in Medical Dosimetry** - This course covers the conventional and CT simulation techniques used in initiating radiation therapy for cancer patients. Identification of cross-sectional anatomy at different anatomical locations within the human body is also reviewed. This course is twenty weeks in length. Prerequisite: Admission to the Medical Dosimetry Program.

9.1 continued:

Fall Semester

- **RAD 515-4 Medical Dosimetry Clinical I** - This is the first course of a three course sequence. During the three course sequence, students will complete eight clinical rotations including Brachytherapy, Simulation, Gamma Knife, Treatment Aids, IMRT, External Beam, Physics, Special Measurements and QA. The length of these rotations varies from one to ten weeks. During this course students will perform two to four of these rotations depending on the rotation schedule. While in the clinical setting students will observe and work directly with a medical dosimetrist. Emphasis is given on learning and understanding the role and responsibilities of a medical dosimetrist in the clinical setting. This course is twenty weeks in length. Prerequisite: Admission to the Medical Dosimetry Program.
- **RAD 520-3 The Physics of Medical Dosimetry I**- This course covers the following topics: Radiologic Physics, production of x-rays, radiation treatment and simulation machines, interactions of ionizing radiation, radiation measurements, dose calculations, computerized treatment planning, dose calculation algorithms, electron beam characteristics, and brachytherapy physics and procedures. This course is twenty weeks in length. Prerequisite: Admission to the Medical Dosimetry Program.
- **RAD 525-3 Seminars in Medical Dosimetry I** - This course consists of various seminars associated with radiation oncology. Topics include treatment techniques for various cancers, technological advances in cancer treatment, cancer treatment trends, and the role of a medical dosimetrist. This course is twenty weeks in length. Prerequisite: Admission to the Medical Dosimetry Program.

Spring Semester

- **RAD 530-2 The Essentials of Medical Dosimetry** - This course covers the various quality assurance procedures performed in a radiation oncology department. Also included are various statistics topics to educate the student in becoming a good consumer of medical dosimetry research literature. Professional development, billing/coding, HIPAA, and professional service are also addressed. This course is twenty weeks in length. Prerequisite: A grade of "C" or better in RAD 510, RAD 515, RAD 520, and RAD 525.
- **RAD 535-4 Medical Dosimetry Clinical II** - This is the second of a three course sequence. During the three course sequence, students will complete eight clinical rotations including Brachytherapy, Simulation, Gamma Knife, Treatment Aids, IMRT, External Beam, Physics, Special Measurements and QA. The length of these rotations varies from one to ten weeks. During this course students will perform two to four of these rotations depending on the rotation schedule. While in the clinical setting students will observe and work directly with a medical dosimetrist. Emphasis is given on learning and understanding the role and responsibilities of a medical dosimetrist in the clinical setting. This course is twenty weeks in length. Prerequisite: A grade of "C" or better in RAD 515.
- **RAD 540-3 The Physics of Medical Dosimetry II** – This course covers the following topics: imaging for radiation oncology, IMRT, stereotactic radiosurgery, special procedures, particle therapy, hyperthermia, and radiation safety. This course is twenty weeks in length. Prerequisite: A grade of "C" or better in RAD 520.

9.1 continued:

Spring Semester

- **RAD 545-3 Seminar in Medical Dosimetry II** - This course consists of various seminars associated with radiation oncology. Topics include treatment techniques for various cancers, technological advances in cancer treatment, cancer treatment trends, and the role of a medical dosimetrist. Prerequisite: This course is twenty weeks in length. Prerequisite: A grade of “C” or better in RAD 525.

Summer Semester

- **RAD 550-2 Medical Dosimetry Clinical III** - This is the third course of a three course sequence. During the three course sequence, students will complete eight clinical rotations including Brachytherapy, Simulation, Gamma Knife, Treatment Aids, IMRT, External Beam, Physics, Special Measurements and QA. The length of these rotations varies from one to ten weeks. During this course students will perform one to two of these rotations depending on the rotation schedule. While in the clinical setting students will observe and work directly with a medical dosimetrist. Emphasis is given on learning and understanding the role and responsibilities of a medical dosimetrist in the clinical setting. This course is twenty weeks in length. Prerequisite: Prerequisite: A grade of “C” or better in RAD 535.
- **RAD 555-2 The Physics of Medical Dosimetry III** – This course covers the following topics: Monitor Unit (MU) calculations, point dose calculations and radiation biology. This course is ten weeks in length. Prerequisite: A grade of “C” or better in RAD 540.
- **RAD 560-2 Seminar in Medical Dosimetry III** - This course consists of various seminars associated with radiation oncology. Topics include treatment techniques for various cancers, technological advances in cancer treatment, cancer treatment trends, and the role of a medical dosimetrist. This course is ten weeks in length. Prerequisite: A grade of “C” or better in RAD 545.

Independent Study

- **RAD 565-1 to 6 Independent Study** - Directed independent study in select areas of medical dosimetry. Prerequisite: Consent of Program Director.

9.2 Explain what students are expected to know and/or be able to do upon completing the program.

- After successful completion of the Medical Dosimetry Program, graduates will be able to perform competently as a medical dosimetrist in the health care setting. They should understand all aspects associated with medical dosimetry. The major duties of a graduate include but are not limited to:
 - Design a treatment plan by means of computer and/or manual computation that will deliver a prescribed radiation dose to a tumor volume.
 - Consider dose-limiting structures in the design of treatment plans.
 - Coordinate treatment simulations and tumor localization on dedicated devices, including Computerized Tomography (CT), Magnetic Resonance Imaging (MRI), and Positron Emission Tomography (PET).
 - Supervise, perform, or assist in the planning of treatment aids.

9.2 continued:

- Supervise, perform, or assist in the planning of the production of immobilization devices.
- Supervise therapy staff in the implementation of the treatment plan and all treatment variables.
- Perform calculations for the accurate delivery of the Radiation Oncologist's prescribed dose.
- Provide physics and technical support to the Medical Physicist.
- Supervise, perform, or assist in the application of specific measurements as directed by the Medical Physicist.
- Assist in intracavitary and interstitial brachytherapy procedures.
- Teach applied aspects of medical dosimetry to students and residents, as assigned.
- Participate in clinical research for the development and implementation of new techniques.

9.3 Describe the strategies to be incorporated into the proposed program to promote student learning.

- Strategies used include: Exposure to a variety of clinical sites, various treatment planning systems, many different clinical rotations, and experience with the latest technology used for cancer treatment. Didactic coursework and testing will also be incorporated. There are also many clinical competency requirements for successful completion of the program.

RESOURCES

10. Complete Table I to show student enrollment projections for the program.

Table I

STUDENT ENROLLMENT PROJECTIONS FOR THE NEW PROGRAM

	Budget Year	2nd Year	3rd Year	4th Year	5th Year
Number of Program Majors (Fall headcount)	5	5	5	5	5
Annual Full-Time-Equivalent Majors	5	5	5	5	5
Annual Credit Hours in EXISTING Courses ¹	0	0	0	0	0
Annual Credit Hours in NEW Courses ¹	30	30	30	30	30
Annual Number of degrees Awarded	5	5	5	5	5

¹Include credit hours generated by both majors and non-majors in courses offered by the academic unit directly responsible for the proposed program.

11. Complete Table II (even if no new state funding is requested in the budget year). Show all sources of funds, both state and non-state, and reallocations. Provide a narrative budget that includes the following:

Table II

TOTAL RESOURCE REQUIREMENTS FOR THE NEW UNIT

		Current	Budget	2 nd	3 rd	4th
		Year	Year	Year	Year	Year
1	Total Resource Requirements	0	60,000	60,000	60,000	60,000
2	Resources Available from Federal Sources ¹	0	0	0	0	0
3	Resources Available from Other Non-State Sources ¹	0	0	0	0	0
4	Existing State Resources ² 5 students X \$12,000 per student	0	60,000 Tuition Cost Recovery	60,000 Tuition Cost Recovery	60,000 Tuition Cost Recovery	60,000 Tuition Cost Recovery
5	Resources Available through Internal Reallocation ³	0	0	0	0	0
6	New State Resources Required ⁴	0	0	0	0	0
	Breakdown: New State Resources Required	0	0	0	0	0
7	FTE Staff ⁵	0	0	0	0	0
8	Personal Services	0	0	0	0	0
9	Equipment and Instructional Needs	0	0	0	0	0
10	Library	0	0	0	0	0
11	Other Support Services ⁶	0	0	0	0	0

¹These lines reflect funds available (not incremental funds) from non-state sources in any given year. **The \$60,000 is based on 5 students X \$12,000 tuition per student.**

²Existing state resources in each successive year are equal to the sum of the previous year's existing state resources (line 4); plus resources made available through internal reallocation (line 5); plus new state resources (line 6). If state resources allocated to a program in any given year (line 4) exceed state resource requirements needed to support the program in the following year, state resource requirements should be reduced with a negative dollar adjustment on line 5. The sum of lines 2 through 6 will always equal line 1.

³Numbers can be either positive (allocated to the program) or negative (allocated away from the program).

⁴Reflects the level of state funding requested in the referenced year. Dollars reported are incremental.

⁵Reflects the number of FTE staff to be supported with requested funds. Not a dollar entry.

⁶Other dollars directly assigned to the program. Do not include allocated support services.

11 continued:

- **Projected increments in total resource requirements (line 1) in terms of projected staff requirements, equipment and instructional materials, library requirements, and contractual services for internships, practica, or clinical placements.**
 - It is estimated that the program will enroll 4-7 students per year in the St. Louis area. This is a cost recovery program which has a current tuition of \$12,000 for the program year. This money is used to cover all expenses associated with the program such as salaries, travel, commodities, accreditation fees, instructional resources, research, and continuing education/professional development.
- **Explanation of required new state resources (line 6) in the budget year in terms of assumptions and factors used to construct line items 7 through 11. If resource requirements in the budget year include non-recurring costs (e.g., one-time equipment purchases), describe how these resources will be reallocated in subsequent years.**
 - No new state resources are requested. This is a cost recovery program.

12. Describe the institutional resources available to develop and maintain a quality program. Include the following elements in your discussion:

- **Faculty qualifications, evaluation, and reward structure;**
 - Each faculty member has the required degrees and/or certifications. All individuals have a Masters or Doctorate Degree.
 - Evaluations are performed each semester and the Director of the School of Allied Health uses these evaluations to help determine merit for SIUC faculty.
- **Adequacy of library and related resources;**
 - All students have access to Morris Library. The main access is via the Internet. Students also have access to all resources available through SIUC admissions and records office to include financial aid.
- **Adequacy of student support services, support staff, equipment, and other resources;**
 - Students have computer access at each clinic site and all library resources. Clinical instructors are at each facility and the program director is available by email/telephone at all times. The program director also teaches and makes site visits once every 1-2 weeks. These students are based in St. Louis, Missouri so they do not attend classes on the campus of SIUC.

12 continued:

- **Demonstration of teaching/scholarship effectiveness and course evaluation;**
 - Course/instructor evaluations are performed each semester for all courses and every instructor.
 - Program evaluations are completed at the end of the program to determine satisfaction with overall education received.
 - Graduate and Employer surveys are completed as part of the programs assessment plan to gather feedback on level of competence and satisfaction with the program.

QUALITY ASSURANCE³

13. Program/Student Learning Outcomes Assessment

13.1 Describe the program’s assessment plan, which should include the following elements:

- **Statement of program objectives and intended learning outcomes;**
- **End- or near-end-of-program assessment of student learning, in addition to course-by-course assessment such as: (1) evaluation of capstone experiences (senior projects, recitals, exhibits, portfolios, etc.); (2) pre- and post-testing (value-added assessment);**
- **Multiple performance measures, if necessary, that reflect the uniqueness of the academic program and discipline such as: (1) standardized or other comprehensive examinations; (2) certification examinations;**
- **Feedback from key stakeholders (current students, alumni, employers, graduate schools, etc.); and**
- **Evidence of a formal feedback/improvement mechanism, i.e., that the program/unit has a regular review process in place and that the results of this process are used to improve curriculum, instruction, and learning.**
 - A complete assessment plan for the Medical Dosimetry Program has been implemented; please see “Attachment B.”

13.2. Identify measures to be used to assess and improve student learning, curriculum, and instruction. Evidence of success should include, but not be limited to, such specific outcomes as the following:

- **Percent pass rate of graduates on end-of-program certification examinations;**
- **Enrollment of graduates in graduate and/or professional programs or other subsequent education;**
- **Percent of graduates employed in the field;**
- **Career advancement achieved by program graduates;**
- **Graduate/employer satisfaction with the program;**
- **Retention and graduation rates and time-to-degree completion.**
 - A complete assessment plan for the Medical Dosimetry Program has been implemented; please see “Attachment B.”

³ Quality assurance processes are those ongoing reviews that maintain program and instructional standards.

OFF-CAMPUS PROGRAMS ONLY

14. In addition to responding to the above questions, if all or part of the proposed program is to be delivered off-campus and/or via the Internet, provide the following:

14.1 Describe the program's mode(s) of delivery.

- The program consists of both didactic and clinical education. Lectures along with hands-on experience are used. Homework assignments are submitted electronically via email or WebCT (or current software license). Throughout the program there are many clinical competencies that have to be completed. Students are also expected to perform research projects associated with the field of medical dosimetry.

14.2 Describe the process for assuring the quality of the off-campus program in the following areas: (a) faculty qualifications and evaluation; (b) student access to necessary library resources; (c) where appropriate, student and faculty access to technical support, including computing.

- The program director assures that all faculty are credentialed with the appropriate degree or are considered subject matter experts in the field they are teaching.
- Course/instructor evaluations are performed each semester for all courses and every instructor.
- Students have computer access at each clinic site. Students also have internet access to all Morris library resources and there are also many radiation oncology resources available to the students at each clinical site. Clinical instructors are at each facility and the program director is available by email/telephone at all times. The program director also teaches and makes site visits once every 1-2 weeks. These students are based in St. Louis, Missouri so they do not attend classes on the campus of SIUC.
- Program evaluations are completed at the end of the program to determine satisfaction with overall education received.
- Graduate and employer surveys are also performed to evaluate the program.

14.3 Has this program been approved for on-campus delivery?

- No

Notice of Intent

Southern Illinois University Carbondale

M.S. in Medical Dosimetry

Southern Illinois University Carbondale has informed the Illinois Board of Higher Education of its intent to offer the M.S. in Medical Dosimetry.

The program is designed to provide students with an understanding of medical dosimetry so that upon graduation they are competent/employable members of the radiation oncology profession. It will provide opportunities to develop skills in treatment planning, dose calculations, and an all around comprehension of the role of a medical dosimetrist. The program requires 30-semester hours of coursework for successful completion.

The curriculum consists of both didactic and clinical courses. Course material and practicum covers radiation physics, radiation protection, dose calculations, tumor localization, external beam treatment planning, brachytherapy, quality assurance, medical imaging/anatomy, clinical radiation oncology, and radiobiology. Clinical practicum includes external beam treatment planning, brachytherapy treatment, preparation and planning, chart reviews and dose calculations, record and verify system data entry, simulation (conventional and CT-simulation), treatment aid fabrication, treatment machine quality assurance, stereotactic treatment planning, gamma knife, IMRT planning and treatment. Special project assignments, conference attendance and presentation, journal article review, labs, and journal manuscript submission are also part of the curriculum.

The University estimates that, annually, approximately 4-7 students will enroll in the program and expects 4-7 students to graduate each year.

Requests for additional information about the proposed program should be directed to Dr. Paul Sarvela, Dean of College of Applied Sciences and Arts, Southern Illinois University Carbondale, Carbondale, Illinois, USA. E-mail: psarvela@siu.edu.