

NORTHERN ESSEX COMMUNITY COLLEGE

Program Review Year 2012-2013

Name of Program:

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| Radiologic Technology |
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Program Review Team Members

| <u>Name</u> | <u>Title</u> |
|--------------------------|---|
| Lynne Davis | Program Coordinator – Radiologic Technology |
| Patricia Willett | Clinical Coordinator – Radiologic Technology Program |
| Jennifer Jackson-Stevens | Program Coordinator – Respiratory Care Program |
| Emily Gonzalez | Science Faculty |
| James Borek | Radiology Manager, Anna Jaques Hospital and Advisory Committee Member |

DATE: _____ **1/31/2013** _____

INTRODUCTION - BACKGROUND

REGIONAL ACCREDITATION CONTEXT FOR PROGRAM REVIEW

NEASC Standard 2.5: The institution has a system of periodic review of academic and other programs that includes the use of external perspectives.

NEASC Standard 4.8: The institution ... on a regular cycle reviews its degree programs under effective institutional policies that are implemented by designated bodies with established channels of communication and control. Faculty have a substantive voice in these matters.

SCHEDULING OF PROGRAM REVIEWS

The Associate Dean of Academic and Institutional Effectiveness shall maintain a copy of the current schedule for programs to be reviewed, including the names of the person(s) designated as program review team leader(s). The schedule shall be developed by the Deans/ Assistant Deans, and shall be posted on the College's website.

FORMATION OF PROGRAM REVIEW TEAM

The team leader will identify at least five program review team members as follows:

- A. Faculty
 - i. If there are full-time faculty members in the program in addition to the designated team leader, then at least one should be included on the team.
 - ii. If there are no full-time faculty members in the program in addition to the team leader, then the leader can consider including on the team:
 - a. At least one part-time faculty member in such cases where it is believed that the part-time faculty member has sufficient experience and investment in the program to make an informed and solid contribution to the program review, OR
 - b. If no such part-time member can be identified, at least one person who is not a faculty member but who can serve the intended purpose. This may include an outside professional, a faculty member from a related program (e.g., where there is overlap of courses), or some such other individual.
 - iii. At least one faculty member shall be from outside the department/program.
 - iv. At least one faculty member shall be from outside the division.
- B. External Representative
 - i. At least one Advisory Committee member, or a member of an effective approved alternative, should be included on the team. Alternative representatives include an individual from a four-year institution to which students from the program transfer. This individual would be knowledgeable concerning the program and its graduates. Another possible alternative is a representative of an area high school which is an important feeder source for the program.

SUGGESTED TIMELINE FOR PROGRAM REVIEW PREPARATION

The program review calls for insertion of the program's outcomes and assessment plan. This plan is very helpful in addressing many sections of the program review report. *The following timeline is based on the assumption that the outcomes and assessment plan has not been developed prior to the program review year.*

| Date | Activity |
|-----------------------|---|
| January/ February | Inform/ Orient: Associate Dean of Academic and Institutional Effectiveness informs Dean and/or Assistant Dean and individual(s) who have been designated as program review team leaders of their programs scheduled for program review, which is due by February 1 of the next year. Associate Dean schedules meeting with Dean and/or Assistant Dean, and the designated team leader to orient them to the review materials and process. Deans and/or Assistant Deans inform team leader concerning any specific requirements related to the process. |
| February | Assemble team/ Begin meeting: Team leader identifies members of the team that will be involved in the program review. Team begins meeting, and develops a schedule of and process for meetings. First task is to orient team members to the work ahead. |
| February/ March | Develop program mission statement and program outcomes: Team members begin developing the program mission statement, objectives and student learning outcomes. Begin to develop the outcomes and curriculum map. |
| March | Complete curriculum and outcomes assessment maps. |
| March/ April | Complete the outcomes and assessment plan. Complete SECTION IX of the program review. |
| September | Complete SECTIONS I, II, AND III of the program review. NOTE: IN LATE SEPTEMBER, THE ASSOCIATE DEAN WILL PROVIDE THE TABLE NEEDED TO ADDRESS "D" IN SECTION III. Distribute Chart 6 to each faculty member involved in the program: Ask for returns by mid-October. |
| October | Complete SECTION IV, V, AND VI of the program review. IN OCTOBER, THE ASSOCIATE DEAN WILL PROVIDE THE CHARTS NEEDED TO ADDRESS SECTION V. |
| November | Complete SECTIONS VII, VIII, X AND XI. NOTE: IN EARLY NOVEMBER, THE ASSOCIATE DEAN WILL PROVIDE THE CHARTS NEEDED TO ADDRESS SECTIONS VII AND "C" IN SECTION XI. |
| November/ December | Complete SECTIONS XII THROUGH XV. Review and edit as needed. Be finished by the end of January 2013. |
| By February 1 | Submit final draft: Dean and/or Assistant Dean receives final copy of program review document. |
| April | Annual program review summit meeting: Attended by the President, Vice President of Academic Affairs, Deans, Assistant Deans, Associate Dean of Academic and Institutional Effectiveness, faculty involved in program reviews, and any other interested faculty and staff. |

PROGRAM REVIEW

SECTION I: ACCREDITATION/ APPROVAL/ CERTIFICATION

A. Does the program have external (specialized) programmatic accreditation?

Yes X No

IF NO, skip to I (B).

IF YES, please complete items 1 through 8 below.

1. What is the name of the programmatic accreditation agency?

Joint Review Committee on Education in Radiologic Technology (JRCERT)

2. What is the current accreditation status of the program?

The Radiography Program is currently accredited. The result of its last site visit in November 2006 was accreditation for a period of 8 years which is the maximum a JRCERT Program can achieve.

3. What date was the last accreditation status awarded?

June 5, 2007

4. What is the anticipated date of the next accreditation action?

The 4th Quarter of 2014

5. How often does the program file an official report with the accrediting agency?

There are 2 responses to this question:

- 1. The Program files an Annual Report (PAR) to the JRCERT named the Program Annual Report. This Program filed its annual report July 2012.*
- 2. Also, when a Program achieves accreditation for 8 years it must submit an interim report in the 4th year. The Program submitted its interim report on 10/28/2010*

6. Where is the program currently in the review schedule (e.g., year 3 of a 7 year cycle)?

The Program is currently in year 6 of its 8 year review schedule.

7. What were the strengths and weaknesses of the program, as identified by the accreditation agency during the last accreditation activity?

(Base your response in this area to the citation of Standards.)

WEAKNESS & STRENGTH:

In the January 11, 2011 JRCERT response to the Interim Report submitted on October 28, 2010 no weaknesses were sited and maximum accreditation was achieved.

In the January 13, 2012 JRCERT response to the Annual Program Report the following was noted: Standard Five – Objective 5.2 – “It is noted that the program has documented a Job Placement Rate within six (6) months of graduation of 71% which is below the 75% minimum established by the JRCERT Standards; therefore, not in compliance with the Standards for an Accredited Educational Program in Radiologic Sciences (2002).”

8. How has the program been revised to address the citations or recommendations?
In the same letter indicated in question #7, the JRC defined Job Placement.

The JRCERT’s interpretation of Job Placement is: “the number of graduates employed in the radiologic sciences compared to the number of graduates actively seeking employment in the radiologic sciences. The JRCERT has defined not actively seeking employment as: 1) graduate fails to communicate with program officials regarding employment status after multiple attempts, 2) graduate is unwilling to seek employment that requires relocation, 3) graduate is unwilling to accept employment due to salary or hours, 4) graduate is on active military duty, and/or 5) graduate is continuing education. Based on this:

Based on previously submitted data from the program, the five-year average job placement rate within six (6) months of graduation is 88%. The program is in compliance with Standard Five – Objective 5.2 of the Standards for an Accredited Educational Program in Radiography (2011).”

The JRCERT reversed its decision and determined that the Program was in compliance with Job Placement based on the data submitted and the revised definition.

B. Does the program have external (specialized) programmatic approval or certification?

Yes _____ No X

IF NO, skip to I (C).

IF YES, please complete items 1 through 8 below.

1. What is the name of the programmatic approval or certification agency?

2. What is the current approval or certification status of the program?

3. What date was the last approval or certification status awarded?

4. What is the anticipated date of the next approval or certification action?

5. How often does the program file an official report with the approving or certifying agency?

6. Where is the program currently in the review schedule (e.g., year 3 of a 7 year cycle)?

7. What were the strengths and weaknesses of the program, as identified by the approval or certification agency during the last approval or certification activity?
(Base your response in this area to the citation of Standards.)

8. How has the program been revised to address the citations or recommendations?

C. Is there an external accrediting, certifying, or approval organization relevant to your program from which you are not currently receiving accreditation, approval or certification?

Yes _____ No X

IF NO, skip to question II.

IF YES, please complete items 1 through 3 below.

1. What is the name of this external organization?

2. What status can your program receive from this organization?

Accreditation _____ Certification _____ Approval _____

3. Are you intending to apply for accreditation, certification, or approval from this organization?

Yes _____ No _____

IF NO, please explain, then go to question II.

IF YES, please complete items 4 through 7 below, then go to question II

4. Why are you intending to apply for accreditation, certification, or approval?

5. When are you intending to apply and why?

6. Are there any specific resources you will need when you go through the accreditation, certification, or approval process that you do not currently have? If yes, please describe.

7. Please provide information about any additional questions, concerns, etc. you may have with respect to your intention to apply for accreditation, certification, or approval.

SECTION II: MISSION AND PURPOSES

NEASC Standard 1.4: The mission and purposes of the institution are accepted and widely understood by its governing board, administration, faculty, staff, and students. They provide direction to the curricula and other activities and form the basis on which expectations for student learning are developed. Specific objectives, reflective of the institution's overall mission and purposes are developed by the institution's individual units.

NEASC Standard 4.1: The institution's programs are consistent with and serve to fulfill its mission and purposes...

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

A. The program's mission statement is as follows:

The mission of the Radiologic Technology Program is to graduate competent entry level technologists who meet the employment needs of area healthcare facilities.

Goals of the program:

- 1. To ensure graduates are academically and clinically prepared to sit for their national credentialing exam.*
- 2. To educate and train entry level technologists to provide competent and compassionate healthcare to culturally diverse populations.*
- 3. To promote the development of those intellectual skills and professional attitudes and values necessary for lifelong learning.*
- 4. To ensure graduates have the computer skills, the written and oral communication skills; and the critical thinking and problem solving skills necessary to practice successfully within the radiology profession.*

B. Describe the process through which faculty developed the program mission.

A mission statement for the program has been in existence since the program began. It was developed with the input of faculty and advisory committee members. The program's mission statement and goals are reviewed annually with the Radiologic Technology Program's Advisory Committee and faculty members. The mission statement is revised as deemed necessary with the input of the faculty and Advisory Committee members. The mission statement and program goals were last revised in November 2011 and reviewed in November 2012.

C. Describe how the program's mission statement is consistent with, or aligns with, the mission of the College, which is as follows:

The mission of Northern Essex Community College is to serve the people of the Greater Merrimack Valley as a caring and comprehensive center of educational excellence that offers high quality, affordable adult and post-secondary education through the Associate Degree level, as well as a broad range of occupational programs and community services which enhance the social, cultural and economic life of the region.

The mission of the program mirrors the College's mission by graduating competent entry level technologists who meet the employment needs of area healthcare facilities. This is accomplished by providing students with a curriculum that meets the standards established by the American Society of Radiologic Technologists (ASRT) for Radiologic Technology Programs as well as the accreditation Standards of the Joint Review Committee on Education in Radiologic Technology Programs (JRCERT) and by providing students with practical experience in an energized x-ray lab on campus and through clinical experiences that support the theories and practices introduced in the classroom setting.

C. Describe how this program facilitates the accomplishment of the College's Core Values.

- **Student Engagement-** *Students are provided with active learning opportunities through classroom, laboratory and clinical experiences. Students also participate in the Student Governance of the Radiography Club. When Career Fairs and Open House opportunities arise, student volunteers are selected to participate as a way of connecting current students with potential future students. A senior to freshman mentoring event now occurs in which the seniors connect with the new students, via a luncheon or at clinic, to help provide guidance in the early semesters of the Program.*
- **Collaboration –** *Our area healthcare facilities collaborate with the NECC Radiologic Technology Program to provide students with the opportunities to train in the hospitals/clinics as part of their educational experience. These same facilities have the option of hiring these NECC students upon graduation and they have, when there are appropriate available positions within their institution.*
- **Personal and Professional Growth –** *Graduates of the program are eligible for a temporary Massachusetts radiography license upon graduation. The temporary Massachusetts' radiography license allows graduates to seek gainful employment within Massachusetts prior to taking and passing their national credentialing exam. Once a graduate passes their national credentialing exam, they are eligible to apply for the full Massachusetts radiography license and are also eligible to work in most other states within the United States. In order to ensure that the Radiologic Technology students have an understanding of the role of continuing education in professional development and life-long learning, students are required to earn continuing education credits during their clinical practicum courses. Students are encouraged to attend the professional societies' CEU conferences and to become involved on committees of the Massachusetts Society of Radiologic Technologists (MSRT). Clinical Instructors and faculty are supported in their quest for continuing education. With proper notification and when the budget supports it, faculty can apply for funds to attend area, state and national professional conferences.*
- **Respect –** *Program faculty ensure that all Radiologic Technology students are treated fairly and with respect and that open communication is maintained between faculty and students. Students have access to faculty electronically and through office hours and by appointment in an effort to meet the students' needs. Faculty also maintain open access to each other and work collaboratively, when needed, to make sure students are receiving information needed.*

Because the faculty is small, informal meetings are held to keep one another up to date on program issues.

- **Diversity** – *Based on the applicant pool, the Program enrolls students from diverse cultural and ethnic backgrounds who then become prepared to work in area healthcare facilities that serve a diverse patient population. Clinical instructors make a concerted effort to sensitize students to their diverse patient populations. This occurs through hospital seminars, diversity days at some of the facilities, through the use of the interpretation services at the healthcare facilities and one on one as technologists from one culture interface with patients from a different culture. Students' appreciation for diversity is also deepened by coursework in program classes.*
- **Access and Opportunity**–*The Radiologic Technology Program, in keeping with the mission and core values of the college, has made education accessible by providing a tuition that is among the lowest tuition in the area for community colleges. This accessibility provides students the opportunity to earn an Associate in Science Degree in Radiologic Technology and prepares them for the national certification exam, the ARRT (American Registry of Radiologic Technologists).*
- **Excellence** –*The Program adheres to a high standard of educational excellence in teaching, learning, and academic content by consistently comparing the course curriculum with the national ASRT curriculum, the national registry exam content (ARRT) and the JRCERT Standards making revisions when these entities revise their documents. Faculty takes advantage of NECC professional development workshops to constantly improve their teaching methodologies and practices and to remain current with the technology such as the Course Management System (Blackboard.)*

(For more information, go to: <http://www.necc.mass.edu/about/values/>)

E. Describe how this program satisfies or is consistent with one or more of the College's Strategic Goals:

Goal 1: Develop a comprehensive urban campus in downtown Lawrence.

The Radiography Program is housed 100% on the urban campus in downtown Lawrence – the Lawrence Campus. Lawrence residents along with other students accepted into the program, can take all of their radiologic technology courses at this campus.

Goal 2: Improve Student Learning, and Retention and Graduation Rates.

The Program has purchased Computed Radiography (CR) equipment and is actively used by the students and faculty to compare the older contrast film/screen technology with newer computed radiography when creating radiographic images. This has caused students to be better prepared and has improved student learning as they attend healthcare facilities that have CR equipment. To improve retention and graduation rates, the Program continues to utilize Clinical Observations as part of the Program Acceptance process. When students are accepted into the Radiologic Technology Program they are assigned to a Clinic for the purpose of observing in an imaging department. The purpose is to reinforce the job duties of radiographer and allow the student to further determine if this is something they wish to do for a career. An additional retention and graduation strategy has been to strengthen the mentoring program between the 2nd year and 1st year students. The Program encourages these gatherings each semester so the

1st years will be able to talk to the 2nd years about any issues they encounter. The mentoring opportunities also occur when the seniors and freshman share the same hospital site.

Goal 3: Improve Academic Support Services.

When a prospective student expresses interest in the Radiography Program a formal process begins which is designed to take them from simply being interested in the program through applying for the program. The student will go to the CPAC (Career Placement Academic Center) and meet with an Advisor. The Advisor creates an electronic file and categorizes the student as one whose interest is Radiography. From this point on, whenever the student comes to the CPAC office or whenever an official looks at the electronic record they can add advisement notes to this original record. At this meeting, the student is given a Program CHECKLIST and the pre-requisites for applying are explained. Once the student applies to and is accepted into the program, program students have an advisor assigned to them. This advisor is a program faculty member. Prior to the start of the Program, at New Student Orientation, students meet with their faculty advisor to insure both are on the same page as it relates to their progress in the program. If the student expresses interest in a bachelor's degree after the associates, discussions occur on how to make this seamless. Each semester thereafter or more frequently based on need, the student meets with the faculty advisor. If a student is struggling while in the Program, Academic Support Services (ASS) exists to provide study skills and time management tutorials. An enhancement to the ASS might be to offer program specific tutors for those who are expressing academic difficulty. The Learning Accommodations Center is available for qualified students with documented disabilities. The Care and Concern Outreach Team, a division of the office of the Dean of Student Life, is also available to address non-academic issues that occur with a student in the program. When a student needs assistance above the level of the Care and Concern Outreach Team, Counseling Services are also available through the Counseling Office. At the end of each semester, the students meet with the faculty member as she prepares them for enrolling in the upcoming semester.

Goal 4: Improve Student Career Preparation.

The best way that this Program connects students to pre-employment career preparation opportunities is through our healthcare facility partnerships. Each semester, our students have internships (clinical rotations at affiliate healthcare institutions) and with that the opportunity to demonstrate their skills and competencies to future employers.

Goal 5: Expand a “Culture of Learning” across the college.

Program faculty embraces the “Culture of Learning” at NECC by attending the many Professional Development seminars offered each semester. The Center for Instructional Technology (CIT) is available to work one on one with faculty members to enhance their teaching methodologies and to teach best practices in Blackboard use. CIT is a very faculty supportive service and the Radiography faculty utilizes their services regularly. Program faculty members are active in the state professional society and assure that development opportunities that are available through the society are made known to the faculty, clinical instructors and students. As a result, faculty, clinical instructors and students have attended conferences and classes outside of the college resulting in a better-rounded faculty member, clinical instructor and student. Clinical instructors have access to faculty to inquire about higher education opportunities and as a result career fair information is conveyed. The

program stays connected to graduates and as career fairs and job opportunities become known this is conveyed as well.

(For more information, go to: <http://facstaff.necc.mass.edu/vision-and-planning-initiatives/strategic-planning/strategic-goals-2012-2015/>)

SECTION II SUMMARY:

Strengths related to Mission and Purposes:

We have a foundational and solid mission statement that appropriately expresses what the program is about. We review it annually and update it as the profession shifts to maintain its currency.

Challenges or Areas for Improvement related to Mission and Purpose:

Associated with GOAL 3 – Improve Academic Support Services - Once students are in the Program and are struggling to keep up or retain information, we should have Radiography based tutors identified through Academic Support Services that can be provided to assist. These could be graduates of the program who are paid tutors. Right now, Academic Support can provide test taking skills and time management skills and these are useful but often our students are struggling with the specific content in a program specific course.

Recommendations for actions needed to be taken to address Challenges or Areas for Improvement:

Make recommendations to Academic Support Services to employ tutors who have expertise in program specific courses.

SECTION III: PROGRAM POLICIES AND PROCEDURES

NEASC Standard 4.3 Each educational program demonstrates coherence through its...policies and procedures for admission and retention...

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

A. List any specific program policies and procedures, and comment on the rationale for any differences from institutional policies and procedures.

(Programs may need to develop specific policies and procedures related to the day-to-day operation of the specific program [e.g., to meet accreditation standards, to establish the parameters for clinical education experiences]. When there are specific program policies and procedures, these policies and procedures should be consistent with those of the institution. Differences between program-specific policies and institutional policies should be described within the context of the program.)

Policies are designed to complement and broaden those of the College. They are reviewed during the process of completing the JRCERT self-study, the last of which occurred in the spring of 2005. They are also annually reviewed by the Program Director (last reviewed July 2012) and, as needed, by the Clinical Coordinator (last reviewed December 2012).

The program has specific policies related to clinical attendance and tardiness (policies 17, 18, 22) in order to discourage students from missing clinical days or arriving late to clinical. Students are required to make up any missed clinical days. All make-up days must be completed at the end of the semester and prior to the start of the next semester at a time that is agreed upon by the student and the Clinical Instructor. Students who are unable to complete the clinical practicum objectives and clinical make-up days in the available time period between semesters will receive a grade of incomplete (I) for their clinical practicum course and will be unable to continue in the program since each clinical practicum course is a pre-requisite to the next clinical practicum. The student will identify the procedures or area of practice that will be most beneficial to their learning prior to scheduling clinical make-up day(s)/time. The student uses a designated form to document the area of focus for his/her clinical make-up time and they review this form with their Clinical Instructor prior to the start of the make-up time. Students may petition the program to waive the required clinical make-up time. The Program Director, Clinical Coordinator and Clinical Instructor will review the student's petition for waiver of clinical make-up time and determine if a waiver will be granted. Students are expected to arrive on time to their respective clinical sites. Failure to arrive on time is considered failure to be punctual and points are deducted for lack of punctuality (see policy 18). Unexcused absences receive demerit points, consistent with the policy, and must be made up.

The program has a specific clinical grievance policy (policy 33) that outlines the time requirement for the completion of each step for compliance with the outside accrediting agency (JRCERT). If the clinical grievance policy does not satisfactorily resolve the issue for the student the student may then implement the NECC grievance procedure.

Due to the potential risks to the developing fetus from ionizing radiation, the program has specific policies (policy 5) that are followed in the event that a Radiologic Technology student becomes

pregnant and for the practice of radiation safety (policy 9). This is consistent with compliance with the outside accrediting agency (JRCERT).

There are program specific policies related to the direct and indirect supervision of students (policy 6) at the clinical site as well as a policy on repeating radiographic exposures (policy 8) in order to ensure compliance with the accreditation agency and state radiation safety regulations.

There is a clinical policy for professional appearance and a specific dress code (policy 22) that students must follow while at their clinical site.

All of these policies and more are located in the Radiologic Technology Program Student Handbook & Clinical Policy and Procedure Manual, which is updated with each incoming class and as needed throughout the semester. This handbook is purchased by the students prior to the start of the 1st semester. Students are tested on the contents of the handbook during the 1st week of the 1st semester in the clinical course associated with these policies. These policies and procedures can also be found on the Radiography Landing Page of the NECC website.

The Program is also governed by affiliation agreements with its healthcare facilities. These agreements state that at no time will a student take the place of a paid employee (technologist) and that students will always carry out procedures under the supervision of a technologist.

B. Describe the mechanism used to assure that all students in the program receive copies of current program-specific policies and procedures, relevant information about the program, and information about the institutional policies and procedures.

The handbook that is titled the 'Radiography Student Handbook AND Clinical Policies and Procedures Manual' is now online so that prospective and current students have access to it.

Once accepted to the program, all students must purchase the Radiologic Technology Program Student Handbook and Clinical Policy and Procedure Manual. They purchase this when they attend the New Student Orientation prior to the start of the fall semester. After reviewing this manual, students sign and return to the program director Form A, the signature page, which indicates that the students have read, understood and agreed to abide by the policies and procedures outlined in the manual. In addition, all students sign and return Form N, Review of Pregnancy Policy Form to the Program Director which further indicates students have been provided with the necessary information regarding pregnancy and that they have reviewed this information and understand the content of this policy. In the student's clinical course, they take an online exam over the content found in their Program Handbook. Additionally, the handbook is located online within the student's Blackboard Course Management System.

In the event that there is a modification to a policy while the students are enrolled in the program, updated/revised copies of the policy or policies are provided to the students electronically or via hard copy with a designated implementation date. When students receive updated policies and procedures, they sign a form indicating they have received and reviewed these revised policies and procedures, and this form is kept on file in the students' program files while the students are enrolled in the program.

C. Describe how the program defines “student success.” (For example, if the program facilitates student transfer, and students do indeed transfer, does this meet the program’s definition of success?)
Describe the program’s policies, procedures and practices related to student success.

A student’s success in the program is defined by passing all program specific courses with a grade of “C” or higher. Students are required to perform a certain number and specific category of competency evaluations while enrolled in each clinical practicum course. Students must pass these competency evaluations with a grade of 85% or higher. Students who fail a competency evaluation must review material related to that specific procedure, be provided with a remediation lab within their clinical setting, and continue practicing that procedure under the direct supervision of a qualified technologist until they feel they are ready to be re-evaluated on that particular exam. The failing score and the passing score for a particular competency evaluation are calculated into their grade.

As part of their clinical practicum grade, students are evaluated in the cognitive, affective and psychomotor domains through the Clinical Performance Assessment Form (Form F). This, along with their Professional Behavior assessment, written exams, and competency evaluation grades are used to determine a student’s final grade for their clinical practicum experience.

A final indicator of student success is determined by the graduate’s ability to pass the national credentialing exam issued by the American Registry of Radiologic Technologists (ARRT) and become a certified technologist with the ARRT. Successful completion of the ARRT certification exam allows graduates to apply for a full Massachusetts radiography license needed for employment in radiography within the Commonwealth of Massachusetts. In addition, student’s success is also determined by a graduate’s ability to obtain employment within the profession.

D. Describe how significant modification of this program would impact other programs at NECC. (Reference Table 1 in Appendix 1.)

Because of the Global Awareness Core Academic Skills initiative, in 2014 applicants to this program will be required to focus their Humanities Elective in the area of a Foreign Language, or a Literature Course, specifically -LIT 271, 272, 263 or 224). This will increase enrollment in these courses.

LIT 271-World Literature 1

LIT 272 – World Literature 2

LIT 263- The Short Story

LIT 224 – Modern European Literature

SECTION III SUMMARY:

Strengths related to Program Policies and Procedures:

The Program’s Policies and Procedures are clear and easily located by potential and current students. They are required reading and the students are tested over the policies and procedures early in the program. Students are responsible for knowing the policies and procedures by being tested over them and returning a signed form stating they have read the policies and procedures.

Challenges or Areas for Improvement related to Program Policies and Procedures:

While the Program's Policies and Procedures are clear and easily located, similar or related policies and procedures need to be grouped together so that all policies that have something to do with attendance or tardiness, for example, are within close proximity in the handbook. Also, the Program needs to confirm that recommendations for actions to be taken when a policy is violated are consistent across all related policies.

Recommendations for actions needed to be taken to deal with Challenges or Areas for Improvement:

Review the Program Policies and Procedures and group together related policies.

Review the Policies to assure that recommended actions, when policies are violated, are consistent across policies and are not confusing or contradictory.

SECTION IV: CURRICULUM

NEASC Standard 4.3 Each educational program demonstrates coherence through its goals, structure and content...

NEASC Standard 4.5: Degree programs have a coherent design and are characterized by appropriate breadth, depth, continuity, sequential progression, and synthesis of learning.

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

A. Describe the curriculum. *(You may use the same format used in the NECC Academic Catalog.)*

| COURSE | | Proficiency | Prerequisite |
|---------|--|--|---|
| Number | Name | | |
| *BIO121 | Anatomy & Physiology I | College Reading | CHM111 or higher or BIO115 Physiological CHEM and College Reading proficiency |
| *BIO122 | Anatomy & Physiology II | College Reading | BIO121 or permission |
| HES207 | Clinical Pathophysiology | Basic Writing, Basic Math | BIO 101 or BIO 122 |
| ENG101 | English Composition I | Basic Reading, Basic Writing | |
| ENG102 | English Composition II | Basic Reading, Basic Writing | ENG101 with a grade of C- or better |
| HES130 | Introduction to Patient Care | Basic Reading, Basic Writing | |
| PHS121 | Radiologic Science | College Reading | College Reading Proficiency |
| RTA110 | Radiologic Procedures I | College Reading, Basic Writing | Enrollment in the Program |
| RTA111 | Radiologic Exposure I | College Reading, Basic Writing, Basic Algebra II | Enrollment in the Program |
| RTA120 | Radiologic Procedures II | College Reading, Basic Writing | RTA110, RTA111, HES130, RTA191 |
| RTA121 | Radiologic Exposure II | College Reading, Basic Writing, Basic Algebra II | RTA110, RTA111, HES130, RTA191 |
| RTA191 | Clinical Practicum I | College Reading, Basic Writing, Basic Algebra II | Enrollment in the Program |
| RTA192 | Clinical Practicum II | College Reading, Basic Writing, Basic Algebra II | RTA191, RTA110, RTA111, HES130 |
| RTA201 | Radiologic Equipment & Quality Assurance | College Reading, Basic Writing, Basic Algebra II | RTA 220, RTA292 PHS 121 |
| *RTA202 | Advanced Radiographic Imaging | College Reading, Basic Writing | RTA 220, RTA292 |
| RTA203 | Radiobiology & Protection | College Reading, Basic Writing, Basic Algebra II | RTA 201, RTA202, RTA294 |

| | | | |
|---------|--|--|-------------------------|
| RTA204 | Special Radiologic & Angiographic Procedures | College Reading, Basic Writing | RTA 201, RTA202, RTA294 |
| *RTA205 | Computer Imaging & Cross Sectional Anatomy | College Reading, Basic Writing | RTA 201, RTA202, RTA294 |
| RTA220 | Radiologic Procedures III | College Reading, Basic Writing | RTA120, RTA121, RTA192 |
| RTA292 | Summer Clinical Practicum III | College Reading, Basic Writing, Basic Algebra II | RTA120, RTA121, RTA192 |
| RTA294 | Clinical Practicum IV | College Reading, Basic Writing, Basic Algebra II | RTA220, RTA292 |
| RTA295 | Clinical Practicum V | College Reading, Basic Writing, Basic Algebra II | RTA 201, RTA202, RTA294 |
| | Behavioral Science Elective | | |
| | Computer Science Elective (CIS 101 or higher) | | |
| * | Humanities Elective (Foreign Language or <i>LIT 271, 272, 263 or 224</i>) | | |
| | Liberal Arts Elective | | |

* *Meets Core Skill Intensives*

B. Discuss how the curriculum is an organized, sequential series of courses that progress from simple to complex learning.

The Radiologic Technology Program is a very structured program in which courses must be taken in sequence. Each subsequent semester builds on the material learned in the previous courses while introducing more complex material. For example, Radiographic Procedures II continues to introduce students to new radiographic procedures while applying the basic positioning and radiation safety principles and terminology they learned in Radiographic Procedures I. Radiologic Exposure II proceeds to the more complex issues in radiographic image production related to exposure problems and image evaluation and analyzing the relationship of factors that control and affect image density, contrast, detail and distortion. Clinical Practicum II continues to have students practice skills in learning new procedures while demonstrating the critical thinking and problem solving skills needed to perform non-routine imaging on previously performed competency evaluations.

Because of the highly structured nature of the program new Radiologic Technology students are only admitted in the fall. Students are required to complete the program specific courses in the specified sequence.

C. Describe the curriculum development, review and revision processes used by the program to assure that the curriculum meets the needs of students and graduates. Include discussion of the mechanisms that allow input into these processes from (1) employers of program graduates and (2) schools to which students transfer (if applicable).

The curriculum is continuously monitored to ensure that it meets the accrediting agency's standards as well as the standards of the professional society-the American Registry of Radiologic Technologists (ASRT)-and the national certification exams requirements as outlined by the American Registry of Radiologic Technologist (ARRT). Employer survey, senior exit survey and graduate survey results are reviewed annually with the Radiologic Technology Program Advisory Committee members in order to review issues related to curriculum. The Radiologic Technology Advisory Committee members include radiology managers of local healthcare facilities, faculty (one of whom is a program graduate) and a Radiologist, who is the program's medical advisor. Through these mechanisms, the program receives input regarding the professional needs of students, thereby ensuring that graduates are well-prepared to meet current professional demands.

D. How does the curriculum contribute to the student accomplishing the six institutional learning outcomes - Written and Oral Communication Skills, Information Literacy, Quantitative Reasoning, Global Awareness, and Science and Technology?

As of 12/2012 the Radiography Program satisfied all Core Intensives. Students are required to take BIO 121 Anatomy & Physiology I and BIO 122 Anatomy & Physiology II. These courses meet the Core Academic Skills (CAS) Science & Technology and Quantitative Reasoning. Students are required to take RTA 202 Advanced Radiographic Imaging. This course meets the Information Literacy and Writing CAS. Students are required to take RTA 204 Special Radiographic & Interventional Procedures and RTA 205 Computer Imaging & Cross Sectional Anatomy. These courses meet the Oral Communication CAS.

To meet the Global Awareness CAS, students will be required to take a Foreign Language or LIT 271, 272, 263 or 224 for the Humanities elective.

E. How does the curriculum contribute to the student accomplishing program specific learning outcomes, as detailed in the program's Curriculum Map in Appendix 5?

See The Radiologic Technology Program's Outcome and Curriculum Map and the Program Outcomes and Assessment Plan in Appendix 5. As can be seen, the program specific outcomes are well supported by the program curriculum.

SECTION IV SUMMARY:

Strengths related to Curriculum:

The Program has a solid curriculum that provides a well-planned sequence of courses.

The curriculum is comprehensive and adequately provides the new graduate with skills to enter the workforce with marketable skills in Radiologic Technology.

Clinical instructors receive course syllabi each semester and the content agenda/curriculum is discussed with the Clinical Instructors prior to the start of each semester at CI meetings. This insures that content taught in the classroom environment will be reinforced when the students attend clinical rotations.

When course instructors get out of sequence with the delivery of course content this is communicated with Clinical Instructors so they can adjust what they are teaching in the clinical environment.

Challenges or Areas for Improvement related to Curriculum:

The curriculum delivers 78 hours credit. There is the continual challenge of attempting to stay current with evolving technology while continuing to teach the current technology. Time is a limiting factor.

In the first semester of the clinical rotation (fall 1), students receive an "I" in clinic and continue attending clinic during the winter break for 80 clock hours. Other area Radiography programs have been cited for similar practices during their JRCERT Site Visits. Because of our College wide BANNER System, the Program cannot publish the RTA 191 course as ending in January, which is what actually occurs. This would be preferable as it would clearly demonstrate that the course starts in the fall but ends in the following year in the spring before the actual spring semester starts. The BANNER system requires that a grade be placed for each student at the end of the official semester. For this reason, the student receives an "I" and continues the clinical until the 80 hours have been completed.

Recommendations for actions needed to be taken to deal with Challenges or Areas for Improvement:
The Program will review the courses in the 78 credit hours against the ASRT Radiography Curriculum Content to determine if any courses or content can be altered to reduce the number of credit hours or modified to allow more time for teaching additional content.

While the current course description does state the student is required to complete 80 hours during Winter break, an additional system needs to be in place that allows RTA 191 to be listed in the

electronic records as a course that begins in the fall but completes in the following January before the official spring semester begins.

SECTION V: PROGRAM RESOURCES - FACULTY

NEASC Standard 5.2: The preparation and qualifications of all faculty are appropriate to the field and level of their assignments. Qualifications are measured by advanced degrees held, evidence of scholarship, advanced study, creative activities, teaching abilities, and relevant professional experience, training, and credentials.

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

A. Discuss the number of faculty assigned to the program with respect to its adequacy to complete all activities associated with maintaining a high-quality educational program. (See completed Chart 5(A), Chart 5(B), and Chart 5(C) in Appendix 3.)

Currently there are two full time faculty members. One is identified as the Program Coordinator and one as the Clinical Coordinator. There are two adjunct faculty members and they teach a total of 3 courses in the program. One course is taught by a faculty member from the Division of Science. Based on this distribution, this number of faculty is sufficient to handle classes, clinical coordination and labs for the 1st year and 2nd year classes. The Program Coordinator is new to this Program and her teaching and clinical roles have not yet been firmly established. When this occurs it will be better understood whether an additional full time faculty member is needed as opposed to 3 adjunct faculty members.

Each clinical affiliate employs one or more clinical instructors to oversee student clinical labs and competency evaluations. Faculty schedule regular site visits to monitor student progress and to ensure that clinical course outcomes are being met.

B. Indicate the percentage of faculty that are full-time, as well as the percentage of credit hours taught by full-time faculty. (See Chart 5 (D) in Appendix 3.)

In spring 2011, there was one full time faculty member. She taught 40.9% of the credit hours. In fall 2011 there was one full time faculty member. She taught 50% of the credit hours. In spring 2012 there was one full time faculty member. She taught 45.45% of the credit hours. In February of 2012 a Program Director was hired to replace the individual who was promoted from that role. The Program had 2 full time faculty starting in Feb 2012.

C. Discuss how the percentage of full-time faculty, both in terms of numbers and credit hours taught, impacts the program.

Full time faculty is the best practice to successfully teach the Radiologic Technology courses and facilitate X-ray laboratory activities. Clinical coordination for approximately 40 students (20 first year and 20 second year students) requires full-time faculty who have an in-depth knowledge of the program's curriculum goals and program outcomes. Having dedicated full-time faculty members is desirable because they provide a seamless thread in connecting didactic instruction to clinical instruction. Full time faculty members will have the strongest understanding regarding the policies and procedures and how all of these policies apply to the students in all situations.

Currently, a 1st and 2nd semester course is being taught by one of the adjunct faculty members. She is excellent because she is a practicing radiographer by profession. In addition to her teaching her course, she would like to spend some time in the clinical setting with the Clinical Instructors and the 1st year students to strengthen the relationships that need to exist when one person teaches content but someone else has to apply it in the clinical setting. She only has teaching and lab contract hours and no clinical contract hours. If this adjunct was full-time, it would strengthen the class to clinical retention and be beneficial when information needed to be communicated to Clinical Instructors about course content. An individual outside of the Radiography Program and outside of the profession teaches PHS 121 Radiologic Science is a required course for Radiography students but it is taught from the Department of Biology. If this course could be taught by an instructor with a background in radiology this would be optimal. This would potentially allow students to more readily connect physics concepts with Radiology and radiology equipment concepts.

D. For each faculty member, document their credentials and professional activities. (See the copies of Chart 6 in Appendix 3 completed for each faculty member (full, part-time, or DCE). (Note: Each individual faculty member should complete his/her own chart and submit it to the Program Coordinator or designee.) Describe and summarize the credentials and the activities of program faculty with respect to maintaining their status as content experts and remaining current in their field of expertise.

The Program Director has a doctorate in education. The clinical coordinator has a baccalaureate degree which is required by the accrediting agency (JRCERT). One adjunct faculty member has a Masters in Health Care Management and the other adjunct faculty member has Bachelor of Arts. Each faculty member is a registered technologist in Radiography with the ARRT and meets the required continuing education requirements for both the ARRT and the Commonwealth of Massachusetts Radiation Control Program.

SECTION V SUMMARY:

Strengths related to Program Resources - Faculty:

Program Faculty: a committed and caring faculty with a vast experience in their profession and in education. One faculty member is additionally credentialed in Computed Tomography. One adjunct is the former Program Director. One adjunct currently practices full-time radiography at a large hospital in the Boston area and is a team leader at that institution.

Challenges or Areas for Improvement related to Program Resources - Faculty:

PHS 121 Radiologic Science is a course in the Radiography curriculum classically taught by faculty from the Science Department. This course has had 3 or 4 different instructors over the years with backgrounds in physics. Even though it is a basic physics course, if the Biology Department would consider hiring a physicist with radiology background, the instructor could begin making early connections of the course content with its radiology implications. The students could begin connecting radiologic concepts early in their learning.

Recommendations for actions needed to be taken to deal with Challenges or Areas for Improvement:
A recommendation to the administration of the Science Department to have an adjunct teach this course that has some background in physics and radiology.-Dr. Lynne Davis and Dr. Noemi Custodia-Lora

Stabilize the course instructor for PHS 121-Dr. Noemi Custodia-Lora

SECTION VI: PROGRAM RESOURCES – CLASSROOMS AND LABORATORIES, INSTRUCTIONAL TECHNOLOGY, LIBRARY/ LEARNING, AND FINANCIAL

NEASC Standard 4.3...The institution provides sufficient resources to sustain and improve its academic programs.

NEASC Standard 4.6: The institution ensures that students use information resources and information technology as an integral part of their education. The institution provides appropriate orientation and training for use of these resources, as well as instruction and support in information literacy and information technology appropriate to the degree level and field of study.

NEASC Standard 7.7: Through ownership or guaranteed access, the institution makes available the library and information resources necessary for the fulfillment of its mission and purposes. These resources are sufficient in quality, level, diversity, quantity, and currency to support and enrich the institution's academic offerings...

NEASC Standard 8.2: Classrooms and other facilities are appropriately equipped and adequate in capacity. Classrooms and other teaching spaces support teaching methods appropriate to the discipline. Students and faculty have access to appropriate physical, technological, and educational resources to support teaching and learning.

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

A. Discuss whether the program has classrooms and laboratories of sufficient quality and quantity to provide an environment conducive to effective teaching and learning.

The Radiographic X-ray laboratory can accommodate approximately 12 to 13 students if both the X-ray room and the radiographic seminar room are utilized simultaneously. The seminar room can comfortably hold 9 students. Teaching in the seminar room is tight and it is difficult for students to spread out their learning materials in this environment.

Teaching classroom availability has been an on-going issue on the Lawrence Campus. In order to ensure that General Education Courses are filled to maximum capacity they are typically offered during the popular hours for student attendance of 9:00AM to 1:00PM. This results in program specific course times being relegated to the afternoon or early morning hours. Ultimately this results in the Radiologic Technology courses running later into the afternoon which can negatively impact on those students who work part-time afternoon and evening positions.

Another problem that has emerged is that the classrooms scheduled to be used by the Radiography Program are often inadequate for the nature of the teaching that must occur. For instance, RTA 202 is an Advanced Radiographic Imaging course. This means that a large part of the course is devoted to viewing and evaluating radiographic images. There are a lot of windows and broken blinds in room 251 where the course is scheduled. Requests have been made to do something to provide a darker room and maintenance tried to do that but it was not effective. It is difficult for students to see what they need to see on the screen and impossible to test in this room and rooms like this based on the kind of visual image critique methods that we use.

B. Describe the instructional technology required to support the program's curriculum plan. Discuss whether the current instructional technology is of sufficient quality and quantity to

provide an environment conducive to effective teaching and learning.

The program has an energized x-ray lab, two portable x-ray units, and a film processor.

The program utilizes resources available in the Health Education Support Center (HESC), the General Science Lab as well as program specific resources that have been purchased for the program including various videos, and DVDs maintained by Instructional Technology and software programs (See attached Appendix 7).

One issue of concern for instructional technology is that the X-ray laboratory room was originally designed to handle film/screen technology. The lab is provided with an accompanying darkroom and film processor for film development. In 2007, the X-ray laboratory was upgraded with a CR Reader and CR cassettes, the technology now in use at the majority of the clinical sites affiliated with the program. The next wave of technology is DR (Digital Radiography) and three out of the six sites currently use DR technology. Radiology departments across the country and in Massachusetts are moving to the lower dose DR equipment. It is important that NECC students have the opportunity to train on equipment at the college that is similar to what they will experience in their clinical practicum courses. When this does not occur, the students end up being taught on out-dated equipment and it makes the transfer of knowledge more cumbersome.

Having a Digital Radiography Room could either be an add-on to the existing equipment or would need to be the addition of a new room. It would require major structural changes to the existing X-ray lab. Like all new technology it is expensive and would require approximately \$70-90,000 to purchase a low-end digital radiography system to be placed in the existing room. If the x-ray laboratory room is expanded to become two rooms, a 'One panel DR system' – portable/wireless could be purchased for approximately \$160,000. This cost does not account for the cost to create the additional space. The national certification exam in radiography tests students on film/screen technology, computed/digital radiography and darkroom procedures.

C. Discuss whether the program has access to library and related learning resources adequate to support the curriculum plan and to provide an environment conducive to effective teaching and learning.

The program does have adequate access to the library and open computer labs available on the Lawrence campus. The existing computer lab classrooms on the Lawrence campus were recently reconfigured to accommodate 44 students and this adequately meets the number of students in a class. The computer labs dedicated to teaching still seat 20 students and the L020 computer lab seats 11 individuals. Currently, the teaching lab seating is adequate for any one class but being able to book the computer lab during peak hours can be challenging. We could explore using the iHealth Computer Lab which seats 25 students.

Resources specific to Radiologic Technology are available in the library, especially online offerings, and a variety of Radiologic Technology software programs have been loaded on the computers in the open computer labs for the convenient student access. Students are required to write informative research papers in the second year of the program in RTA202-Advanced Radiographic Imaging. In order to assist students with their research, program faculty schedule a class session with the library staff in order for the library staff to provide these students with an orientation to the various databases

that can be accessed through the NECC, library. In RTA204-Special Radiologic & Angiographic Procedures and RTA205-Computer Imaging and Cross-Sectional Anatomy courses, students are required to complete presentations that also involve researching information on their subject matter. Library resources are scheduled to be reviewed annually by the Program Director with the chief librarian on the Lawrence campus. The current Program Director needs to schedule this meeting because many of the hard cover books in the library are older than 5 years. The Program's JRCERT only allows books to be used in the program that are within 5 years of the current year. While the library can have older holdings the Program needs to assure the library has been provided with current requests for recent publications.

D. Discuss whether the program's financial resources are adequate for the program to achieve its stated mission.

The Program Director submits budget requests specific to meeting program needs to the Dean for Health Professions annually for consideration in the development of the annual budget. As a new Program Director I am using the budget for the first time and will determine if it is adequate when I come to the end of this budget cycle. Based on communication with the former Program Director, the budget seems adequate.

SUMMARY – SECTION VI

Strengths related to Program Resources – Classrooms and Laboratories, Instructional Technology, Library/ Learning, Financial

NECC Library's online offerings.

The HESC Support personnel is very helpful and dedicated to making sure labs have what they need, when they need it when it is requested in a timely manner.

Challenges or Areas for Improvement related to Program Resources - Classrooms and Laboratories, Instructional Technology, Library/ Learning, Financial

*Library needs Radiography books published within the last 5 years.
Need for new technology of Digital Radiography in the X-ray laboratory*

The program needs to be assigned windowless rooms or rooms with adequate window shading for teaching procedures-based courses (RTA 110, RTA 120, RTA 202, RTA 220, RTA 204.)

A question can be added on the student's Exit Survey about the usefulness and functionality of the campus library.

Recommendations for actions needed to be taken to deal with Challenges or Areas for Improvement:
Program Director will submit book requests to the librarian.

The Program will submit a proposal for acquiring DR Lab equipment during the upcoming fiscal year.

Discuss room scheduling needs for procedures-based courses with the Registrar/whoever schedules rooms at our institution.

Add a question on the future Exit Surveys about the functionality of the Campus Library for the students.

SECTION VII: STUDENTS

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

IF THE PROGRAM HAS DATA FROM A PREVIOUS REVIEW OR REPORT, COMPARE WITH CURRENT DATA, AND DISCUSS ANY CHANGES.

A. Analyze and discuss the data in Chart 1, included in Appendix 2, which relates to student demand for the program.

The landscape of the program has changed since 2005-6 when this Program was involved in its first Internal Programmatic review. According to the supplied data (2005 Program Review document) the number of applications to the program averaged 38 over a 3 year span. The class filled yearly with 25 students in each class. This information along with the information provided in Chart 1 helps to analyze trends in student demand. Previous program records for the classes entering in the fall of 2004 and 2005 show the number of reviewed applications to be around 50-60. These are higher numbers than those represented in Chart 1 (2005). This could possibly be attributed to differences in the point in time when the applicant pool is examined by the program versus the office of institutional research.

If 2012 Program Review data is accurate, the number of applicants is steadily decreasing which is consistent with the depressed market at this time. Fifty-eight (58) applicants (2009-10'), forty-three (2010-2011) and thirty-three (2011-2012) over the past 3 years have applied to the Program. The JRCERT Program capacity is a total of 66 between the 1st year and 2nd year students. It is not advisable to meet JRCERT Program capacity at this time. Ultimately, our program acceptance is set by the maximum number of students are clinical affiliates can accept.

This trend is consistent with what is happening across the United States in Radiography Program. As a result, the program has reduced its acceptance numbers yearly for the past 2 years.

B. Analyze and discuss student program completion and transfer, referring to Chart 2 in Appendix 2.

According to Program Review 2005, three (3) students transferred out of the program prior to completion. According to our own Program record from 2009-2012 12 students withdrew from the Program for academic and non-academic reasons. The Program does not know where they have transferred to but they are no longer in the program. It is a significant increase to go from 3 to 12 students transferring from or out of the Radiography Program. Eight (8) of these 12 withdrew for non-academic reasons.

C. Analyze and describe the demographic characteristics of students enrolled in program, referring to Chart 3 in Appendix 2.

Ethnicity data from 2005 Program Review reveals that 12% of the students enrolled in the program represented a minority. Of this percentage, the majority were of Hispanic background. Comparing data from the 2012 Program Review, 15% represent a minority. It would be advantageous to see the ethnicity of those who are applying compared to those who are accepted into the Program. When this data is compared to NECC as a whole, minorities are still underrepresented in this Program. NECC's minority student population for the last three years has averaged 34%. A demographic not clearly identified in this data is age. This program typically has 25% of the population representing those returning for a second career or as an older student. The Program has initiated the question, "Are minorities applying but not getting into the program or are they not even applying?". If they are applying perhaps a relook at HOBET Scores will shed light on whether greater diversity exists among those interested in the profession.

D. Analyze and discuss student retention and positive college outcomes by student demographics, referring to Chart 4 in Appendix 2. Note: Only address if number of students in each category represented in Chart 4 is at least 10.

N/A

E. Describe the program policies, procedures, and practices that are in place related to student retention. Discuss how are they implemented? Comment on their effectiveness.

Overall the program retention rate has been 73%.

The goal of the program is to maintain or exceed the benchmark of a 75% retention rate for each entering class.

In the past 3 years we have reached and exceeded the benchmark in two of those years. Twenty-four (24%) students were admitted for the class of 2008 and 21 completed (88% retention). Twenty-four students were admitted for the class of 2009 and 13 completed (54% retention). Twenty-two students were admitted for the class of 2010 and 17 completed (77% retention) for the graduating class of 2012). In the high year of 54% attrition seven of those individuals withdrew for non-academic reasons. When the outlier is analyzed and understood to be due, primarily, to non-academic reasons, the retention rate is approximately 83% which exceeds the benchmark.

Another way to support retention is to ensure that students entering the program are well prepared and have realistic expectations. Students must have earned a grade of "B" or higher in an Algebra II level course and in two science courses taken either in college or high school. Information sessions, mandatory for those applying to the program, are held almost monthly to assure applicants understand the requirements and structure of the program. These information sessions are designed to ensure that all applicants understand the time commitment required to successfully complete the program. Interested individuals must take the HOBET (Health Occupations Basic Entrance Test) which evaluates their readiness in the areas of: Reading, Math, Science and English. They must make passing scores in each of these areas (65%, 65%, 45%, and 55%, respectively) with an overall Cut Score of 60%. Finally, qualified applicants must complete a clinical observation at one of the NECC Radiologic Technology Program clinical affiliates as part of the admission process. The clinical observation provides applicants with an opportunity to observe technologists operating radiographic equipment and interacting with patients, their family members, and other healthcare professionals

during a typical day in a radiology department. This observation time allows applicants an opportunity to speak to certified and licensed technologists, as well as NECC Radiologic Technology students, about the field of radiology and the NECC Radiologic Technology Program. The applicant receives a Clinical Checklist that lists all they should see and do during the course of the day. They turn this in to the department at the end of their Observation. The application process has helped to ensure that applicants entering the program have met the requirements and that applicants understand the time commitment and constraints of the program, prior to entering. This admission process was developed to allow students to make an informed decision about their future career choice and to help ensure student retention in the program.

After entering the program students are encouraged to utilize the resources provided by NECC to ensure student success, such as peer tutoring, the writing center, the library, etc. Faculty also encourages students to establish informal study groups in order to support and help each other throughout the program. A student mentoring student concept was developed in 2011 which allows the seniors to provide general support to incoming freshman. The students get together once a semester formally and informally throughout the semester. This mentoring event still needs to be tweaked for maximum benefit for the freshman class. All faculty members are willing to work with students who appear to be having difficulties with material during their scheduled office hours or during scheduled appointments.

F. Referring to Chart 4, is there evidence that any segment of the student population has a higher attrition rate from this program? Note: Only address if number of students in each category represented in Chart 4 is at least 10. If so, what action has the program taken to address this phenomenon?

N/A for the RTA Program because there will not be at least 10 in each category.

SECTION VII SUMMARY:

Strengths related to Students:

Overwhelmingly, applicants who are accepted to the program persist academically. When they do exit the program early, it is generally for non-academic reasons.

Challenges or Areas for Improvement related to Students:

Recruitment of additional minorities into the Radiologic Technology Program

Identifying population areas where minorities can be reached and information shared about the Radiologic Technology Program.

Age is not accounted for in this report but this program draws individuals who are non-traditional and who are older than the average college-aged student.

Recommendations for actions needed to be taken to deal with Challenges or Areas for Improvement:

Open discussions with recruitment office on new ways to seek students that match the demographics of the schools location.

Determine if age can be accounted for on the report. It would be noted that this Program is reaching an additionally important demographic, i.e., non-traditional students.

SECTION VIII: CONTENT EXPERTS

NEASC Standard 4.9: ...The evaluation of existing programs includes an external perspective and assessment of their effectiveness...

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

A. Does the program have an Advisory Committee?

Yes X No

IF NO, skip to B.

IF YES, please complete items 1 through 5 below.

1. Insert the roster of Advisory Committee members.

| Advisory Committee | | |
|---|---|---|
| <u>Program Medical Director</u> | | |
| Arthur Zerbey, MD Radiology Department Lawrence General Hospital * 1 General Street * Lawrence, MA 01842-0389 | | |
| <u>NECC Faculty</u> | | |
| Lynne Davis, Ed.D, RT. (R) Radiologic Technology Program/ Director Northern Essex Community College 45 Franklin Street Lawrence, MA 01841-4911 (978) 738-7216 | Patricia Willett, B.S., R.T.(R) Radiologic Technology Program/Clinical Coordinator Northern Essex Community College 45 Franklin Street Lawrence, MA 01841-4911 (978) 738-7517 | Carol Wallace, B.A., R.T.(R) Radiologic Technology Program/Faculty Northern Essex Community College Lawrence, MA 01841-4911 (978) 738-7516 |
| Kim McHugh, MHCM, R.T.(R) Radiologic Technology Program/Faculty Northern Essex Community College Lawrence, MA 01841-4911 (978) 738-7516 | | |
| <u>Radiology Managers/Members</u> | | |
| Debra Ralls, R.T.(R) Radiology Manager Lawrence General Hospital 1 General Street Lawrence, MA 01842-0389 (978) 683-4000 | Candace Ahern, R.T. (R) Radiology Supervisor Caritas Holy Family Hospital & Medical Ctr. 70 East Street Methuen, MA 01844 (978) 687-0151 X2048 | James Borek R.T. (R) Radiology Manager Anna Jaques Hospital 25 Highland Avenue Newburyport, MA 01950 (978) 463-1000 |
| Migdalia Martinez, R.T.(R) Radiology Supervisor Lowell General Hospital 295 Varnum Avenue Lowell, MA 01854 (978) 937-6000 | Judy Canal, R.T. (R) Director of Imaging Services Lowell General Hospital 295 Varnum Avenue Lowell, MA 01854 | Lynne Randell, R.T. (R) Radiology Manager Merrimack Valley Hospital 140 Lincoln Avenue Haverhill, MA 01830 (978) 374-2000 |
| Sharon Dodge, R.T.(R) | Jeanne Broderick, R.T.(R) (M) | |

| | | |
|---|-------------------------------------|--|
| Diagnostic Imaging Manager Nashoba Valley Medical Center 200 Groton Road Ayer, MA 01432 | 27 Rowley Road Newbury, MA 01951 | |
| <u>Student Members Invited</u> | | |
| Program Graduate Member Lynette Hickey, R.T.(R) 87 Sterling Lane Bradford, MA 01835 | | |
| <u>Ex Officio and Faculty at NECC</u> | | |
| Mary Farrell, MS Dean of Health Professions Northern Essex Community College 45 Franklin Street Lawrence, MA 01841-4911 | | |
| | | |
| | | |
| MSRT State Officer - invited when appropriate | | |

2. Report the schedule of meetings for the past three years, or as many as available if the Advisory Committee has been meeting for less than three years.

2010 – Spring April 30, 2010
Fall November 5, 2010

2011 – Spring April 29, 2011
Fall November 30, 2011

2012 – Spring April 13, 2012
Fall December 12, 2012

3. Insert copies of the Advisory Committee minutes for the past three years.
(See Appendix 4.)

4. Describe the input of the Advisory Committee experts on program outcomes.

Program outcomes are reviewed at each advisory committee meeting. Members provide their expertise and experience in recommending possible suggestions for program changes to ensure that the program will meet its' educational goals and outcomes. In the April 13, 2012 minutes the Advisory Committee was asked what the Program needed to do to 'Align for the Future' and to produce the best graduates for the market. They discussed cross-modality training into CT and Bone Densitometry and the Pain Management Clinic. They discussed that hospitals are now sharing staff between major institutions and how this meant having a person who could operate in multiple imaging settings. They discussed having a Mammography Program or better yet, a Woman's Health Imaging Program that would encompass Bone Densitometry and Breast Imaging. A needs

assessment needs to be done. At the December 12, 2012 meeting the Advisory Committee recommended the Program move forward with the acquisition of Digital Radiography (DR Equipment).

5. Describe the usefulness of the Advisory Committee relative to anticipating changes and challenges that need to be met by the program.

Half of the advisory committee members are Radiology Managers from the local healthcare facilities that provide insight on trends in the field which can assist the program in curriculum design and implementation. The Advisory Committee is in a position to know which technologies are being purchased in the Radiology Departments and which vendors can provide us with competitive pricing. Digital Radiography equipment is the current technology. They have stated that half of their departments have gone digital and the other half will follow shortly as soon as money is allocated for this upgrade. The school needs to follow their lead by installing DR equipment in its lab and upgrading the labs so Digital Technology can be taught and students better prepared when they go out into the clinical areas. In this way, they are useful in anticipating the changes that need to be met by the Program.

NOW GO TO QUESTION C.

B. Does the program have any plans to develop an Advisory Committee?

Yes _____ No _____

IF NO, what is the program's rationale for this decision?

IF YES, please detail below.

NOW GO TO C.

C. Does the program use content experts other than those represented in an Advisory Committee?

Yes X No _____

IF NO, skip to Section IX.

IF YES, please discuss below and then go to Section IX.

As previously discussed, the curriculum is designed to meet the Professional Curriculum for Radiography as published by the American Society of Radiologic Technologists (ASRT) and the Content Specifications for the Examination in Radiography published by the American Registry of Radiologic Technologists (ARRT). These two entities serve as content experts and the program modifies its curriculum and practice based on policies, procedures and requirements set forth by them.

SECTION VIII SUMMARY:

Strengths related to Content Experts:

The Program receives regular input from internal and external audiences.

A committed advisory committee that is dedicated to the program's ongoing success.

Challenges or Areas for Improvement related to Content Experts:

No challenges are perceived.

Recommendations for actions needed to be taken to deal with Challenges or Areas for Improvement:

SECTION IX: PROGRAM LEARNING OUTCOMES AND ASSESSMENT

NEASC Standard 4.4: The institution publishes the learning goals and requirements for each program. Such goals include the knowledge, intellectual and academic skills, and methods of inquiry to be acquired. In addition, if relevant to the program, goals include creative abilities and values to be developed and specific career-preparation practices to be mastered.

NEASC Standard 4.44: The institution implements and supports a systematic and broad-based approach to the assessment of student learning focused on educational improvement through understanding what and how students are learning through their academic program... this approach is based on a clear statement of what students are expected to gain, achieve, demonstrate, or know by the time they complete their academic program.

NEASC Standard 4.48: The institution's system of periodic review of academic programs includes a focus on understanding what and how students learn as a result of the program.

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

A. Develop, or review if previously developed, the program's learning outcomes. Display in a Curriculum Map to be included in Appendix 5.

The Curriculum Map used in this Program is displayed in Appendix 5.

B. If the program outcomes are newly developed, discuss plan to assess these outcomes in the coming year in an Assessment Map, to be included in Appendix 5.

If program outcomes had previously been developed, discuss plans for assessment going forward. Include information in a new or revised Assessment Map, to be included in Appendix 5.

C. If assessment activities related to the learning outcomes have already taken place, summarize what was learned from these activities, what action plans were developed as a result of the assessment findings, what actions have been implemented, and what the results of these implementations have been.

The Outcomes Review and Assessment is typically conducted twice a year in spring and fall. In the areas of:

Retention: *the retention rate (goal $\geq 75\%$) has fluctuated over the past 3 years around 75% but has generally decreased from earlier assessments. The reasons for this fluctuation are generally non-academic.*

Competency Completion *(goal $\geq 75\text{--}85\%$): Students complete their competency requirements for clinical practicum.*

Successful ARRT Exam Pass Rates *(goal $\geq 75\%$): Graduates who take the national exam for the first time consistently pass it.*

Mean Scaled Score on ARRT Exam 80% or higher: *Graduates consistently score $>80\%$ on the national certifying exam.*

Graduates can perform as entry level technologists (goal ≥ 75 -80%): Based on Senior Exit Surveys, Graduate Surveys and Employer Surveys graduates perform at this level consistently.

Graduates who desire employment will find it in 6 months of graduation (goal ≥ 75 -90%): Over the last 2 years this benchmark has not been met due to the tightening of the job market. Most graduates who are employed in the field are working part-time or per diem because full time employment is not available.

Graduates have developed problem solving and critical thinking skills to be successful (goal ≥ 75 -90%): Based on Senior Exit Surveys, Graduate Surveys and Employer Surveys graduates have developed these skills consistently.

Students demonstrate they are developing professional attitudes and values necessary for life-long learning (LLL) Based on Senior Exit Surveys, Graduate Surveys and Employer Surveys graduates perform at this level consistently (goal ≥ 75 -80%): Students consistently demonstrate success in this area.

Students demonstrate (LLL) by continuing or making plans to continue their education and/or through membership in professional organizations (goal ≥ 75 %): Based on Senior Exit Surveys and Graduate Surveys graduates have demonstrated Life-long learning.

Students will be proficient in the use of computers in the clinical environment (goal ≥ 75 -85%): Graduates consistently meet this requirement.

Students demonstrate they have the necessary writing, computer, communication and critical thinking and problem solving skills to be successful (goal =complete all courses with a \geq 'C'): Students consistently complete courses where these skills are the focus. Exit Surveys, Graduate Surveys and Employer Surveys corroborate that 75% of students and employers agree students/graduates have these skills.

Students will have the necessary skills to be successful in the clinical environment upon graduation (goal ≥ 75 of responders). Exit Surveys, Graduate Surveys and Employer Surveys confirm that they do.

Overwhelmingly, graduates of the Program pass the National Registry on the first attempt. Exit Survey comments, however, indicated students wanted a more robust Registry Review Process. In the final semester of the program the students enroll in their final clinical course. In response to the student comments, the course instructor now incorporates a more robust Registry Review practice called RAD Review Easy. Students complete five scheduled modules that are categorized in the same way the national registry exam categorizes these modules and have the opportunity to take these more than once. Students also have the opportunity to take two simulated ARRT exams.

In an effort to capture a greater graduate return rate for the Graduate Survey, the program adopted an online survey tool for the Graduate Survey. The online process must be further tracked to determine whether it is actually resulting in an increase in the return rate for Graduate Survey. Return rate statistics: 2012 online (5 returns out of 17 graduates $5/17=29\%$); 2011 online ($8/13=62\%$); 2010 mailed ($6/21=29\%$); 2009 mailed ($5/21=24\%$). The Employer Survey has been sent electronically for at least the past 5 years. The Program will send out more reminders to encourage the completion of online surveys. The Program will consider following up with Phone Surveys.

SECTION IX SUMMARY:

Strengths related to Program Learning Outcomes and Assessment:

The Program undergoes a detailed thorough Program assessment twice a year such that changes in meeting benchmarks are immediately noted. The assessment is shared with the faculty and Advisory Committee annually and these entities discuss ways to improve, if needed.

Challenges or Areas for Improvement related to Program Learning Outcomes and Assessment:

Increasing the return rate for Graduate Surveys.

Recommendations for actions needed to be taken to deal with Challenges or Areas for Improvement:
Following up with Phone Calls to complete the Graduate Survey.

SECTION X: PROGRAM LINKAGES, EXTERNAL AGREEMENTS, AND AFFILIATIONS

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

A. Describe any linkages, activities or agreements with area high schools.

The Program reserves 2 spaces in each fall acceptance class for qualified high school graduates.

B. Describe any linkages, activities or agreements with four-year colleges.

NECC Radiography graduates accepted to the Division of Graduate and Professional Studies at Saint Joseph's College of Maine will receive academic credit for all college level courses that were successfully completed with a letter grade of C or better and are deemed comparable (based on current course description information, course requirements, and agreement by the representatives of the respective programs) to current GPS courses. Non-credit or remedial courses will not be accepted for transfer credit and/or graduation requirements.

While NECC's rad tech program includes 52 credits of RTA, HES, and PHS courses, only 50 of them are needed to transfer to SJC to earn enough credits to graduate with the BSRSA.

*The St. Joseph BS in Radiologic Science Administration Program is a **3 + 1 Articulation Degree Plan**. 50 RTA credits are accepted from NECC, the student then attends a 3rd year at NECC enrolled in statistics, History, Philosophy, Sociology and a Math elective. Upon successful completion of this 3rd year the student then transfers to St. Joseph's online Program to complete the remaining 33 credit hours resulting in a Bachelor of Science in Radiologic Science Administration*

NECC Associate in Radiologic Technology:

Based on 2010-2013 SJC/NECC Catalogs

| | |
|---|-----------|
| Anatomy & Physiology I BIO121 | 4 |
| Anatomy & Physiology II BIO 122 | 4 |
| English Composition I ENG 101 | 3 |
| English Composition II ENG 102 | 3 |
| Behavioral Science elective | 3 |
| Computer Science Elective | 3 |
| Humanities Elective | 3 |
| Liberal Arts Elective | 3 |
| Radiologic Technology courses | 50* |
| Total NECC Radiologic Technology | 76 |
| Degree Credits | |

Additional NECC Courses:

| | |
|-----------------------------|---|
| Statistics MATH 125 | 4 |
| US History to 1877 HIST 101 | 3 |

| | |
|--|-------------------|
| <i>US History after 1877 HIST 102</i> | <i>3</i> |
| <i>Philosophy PHIL 101</i> | <i>3</i> |
| <i>Sociology SOCL 101</i> | <i>3</i> |
| <i>Math Elective</i> | <i>3</i> |
| <i>Total Additional NECC Credits</i> | <i>19</i> |
| <i>Total NECC Credits</i> | <i>95</i> |
| <i>GPS/SJC Required General Education Courses</i> | |
| <i>Theology</i> | <i>3</i> |
| <i>Ethics PH 210</i> | <i>3</i> |
| <i>Total GPS/SJC Gen Ed Required Credits</i> | <i>6</i> |
| <i>GPS/SJC RSA Courses:</i> | |
| <i>American Healthcare Systems HA 205</i> | <i>3</i> |
| <i>Legal Aspects of Healthcare Administration HA 353</i> | <i>3</i> |
| <i>Ethics in Healthcare HA 355</i> | <i>3</i> |
| <i>Quality in Healthcare Administration HA 410</i> | <i>3</i> |
| <i>Healthcare Financial Management HA 343</i> | <i>3</i> |
| <i>Management Foundations HA 330</i> | <i>3</i> |
| <i>Human Resources Management HA 302</i> | <i>3</i> |
| <i>RSA Senior Seminar RS 412</i> | <i>6</i> |
| <i>Total GPS/SJC RSA Credits</i> | <i>27</i> |
| <i>Total GPS/SJC Required Credits</i> | <i>33</i> |
| <i>GPS/SJC BS Radiologic Science Administration Total Credits</i> | <i>128</i> |

C. Describe any linkages, activities or agreements with business and industry, including clinical sites, internships, practicums, service learning, and volunteer work.

| <i>Affiliation Agreements</i> | | |
|--|--|--|
| <i>Lawrence General Hospital 1 General Street Lawrence, MA 01842-0389 (978) 683-4000</i> | <i>Steward Holy Family Hospital & Medical Ctr. 70 East Street Methuen, MA 01844 (978) 687-0151 X2048</i> | <i>Anna Jaques Hospital 25 Highland Avenue Newburyport, MA 01950 (978) 463-1000</i> |
| <i>Lowell General Hospital 295 Varnum Avenue Lowell, MA 01854 (978) 937-6000</i> | <i>Nashoba Valley Medical Center 200 Groton Road Ayer, MA 01432</i> | <i>Merrimack Valley Hospital 140 Lincoln Avenue Haverhill, MA 01830 (978) 374-2000</i> |
| | | |

The Program has signed affiliation agreements with each of the healthcare facilities above. Based on the agreement, a specific number of students attend clinical rotations at the institution each semester.

The institutions provide one or two clinical instructors at each facility to work with and evaluate the students on a daily basis. Through these agreements the students have access to current technology and several practicing radiographers, radiologists and other health care professionals. These agreements are auto-renewed annually.

SECTION X SUMMARY:

Strengths related to Program Linkages, External Agreements, and Affiliations:

The Program has 6 affiliations with healthcare institutions in the area who are dedicated to NECC and the student's success. To that end, each institution assigns clinical instructors whose role it is to assure the students engage in meaningful learning while they are at the clinical site. Because of the agreement, these clinical instructors attend regular meetings at the school to discuss the ongoing success of the curriculum, the program and the students.

The Program has a strong alliance with St. Joseph's in Maine and students do use this program link to continue their education.

Challenges or Areas for Improvement related to Program Linkages, External Agreements, and Affiliations:

Maintain the statistics on how many students/graduates from our program enroll in the St. Joseph's BS in Radiologic Science in Administration Program. Increase the number of transfer agreements.

Recommendations for actions needed to be taken to deal with Challenges or Areas for Improvement:

The Program Director and Dean of Transfer will work together to increase the number of transfer agreements.

SECTION XI: GRADUATE EMPLOYMENT

NOTE: IF YOUR PROGRAM HAS EXTERNAL ACCREDITATION, APPROVAL, OR CERTIFICATION, please respond below only to those areas not addressed in the external report.

IF PRIMARILY A TRANSFER PROGRAM, SKIP TO SECTION XII. COMPLETE THIS SECTION ONLY IF THE PROGRAM IS A CERTIFICATE PROGRAM, OR AN ASSOCIATE'S DEGREE CAREER PROGRAM.

TO ADDRESS THIS SECTION, USE THE INFORMATION IN THE OCCUPATION PROFILE REPORT PROVIDED TO YOU, AS WELL AS FROM ANY OTHER EMPLOYMENT PROJECTION REPORTS OR SOURCES AVAILABLE TO YOU.

A. Provide information with respect to the job placements of recent program graduates. Indicate the source(s) of this information.

2009 – 6 out of 21 found employment 29% job placement
2010 – 9 out of 21 found employment 43% job placement
2011 – 9 out of 13 found employment 69% job placement
2012 – 11 out of 17 found employment 65% job placement

Source – Senior Exit Surveys, Advisory Committee Meeting Minutes and Clinical Instructor updates.

B. Provide information with respect to employer satisfaction with program graduates. Indicate the source(s) of this information.

Radiologic Technology Program Employer Survey 2011 – This survey rates the following skills/behaviors and asks the employer to determine if the graduate is BS-Below Standard (1), MS-Meets Standard (2) or ES-Exceeds Standard (3).

Interpersonal Skills – Meets or Exceeds Standards 2.4%
Patient Interaction – Meets or Exceeds Standards 2.3%
Interactions with Healthcare Team– Meets or Exceeds Standards 2.4%
Technical Skills – Meets or Exceeds Standards 2.3%
Knowledge of Equipment and its Operation – Meets or Exceeds Standards 2.4%
Radiation Safety – Meets or Exceeds Standards 2.4%
Quality of Work Performed – Meets or Exceeds Standards 2.3%
Writing and Computer Skills – Meets or Exceeds Standards 2.3%
Computer Skills – Hospital Systems – Meets or Exceeds Standards 2.3%
Critical Thinking/Problem solving Skills Independent Judgment – Meets or Exceeds Standards 2.0%
Film Critique – Meets or Exceeds Standards 2.1%
Selection of Technical Skills – Meets or Exceeds Standards 2.1%
Ability to Organize Assigned Work – Meets or Exceeds Standards 2.4%

Professionalism Initiative – Meets or Exceeds Standards 2.4%
Dependability and Reliability – Meets or Exceeds Standards 2.2%
Responsibility – Meets or Exceeds Standards 2.1%
Ethics – Meets or Exceeds Standards 2.4%
Overall Performance – Meets or Exceeds Standards 2.4%
Nothing was Below Standard

C. Referring to the *Occupation Profile Report* provided to you (see Appendix 6), and any other sources of employment projections which you may have, discuss future employment prospects for graduates of your program.

According to the Occupational Profile for Radiologic Technologist, which encompasses all of the modalities in radiologic technology, the national employment trends demonstrate a 28% growth/net replacement between 2010- 2020 with job openings increasing from 219,000 to 281,000 over this period of time. More modest growth is estimated for Massachusetts (10%) between 2008 – 2018.

SECTION XI SUMMARY:

Strengths related to Graduate Employment:

While the graduate employment rate is below the benchmark, the strength is that it is not due to a poor curriculum nor is it due to a low quality graduate. Employers are satisfied that we are producing quality graduates who have the skill sets for which they are looking. As part of the final semester course curricula students are prepared for job hunting by imparting resume writing skills and interviewing strategies.

Challenges or Areas for Improvement related to Graduate Employment:

The graduate employment rate is a function of the economy. The Program is sensitive to this in that it has reduced the admissions numbers over the past 2 years.

Recommendations for actions needed to be taken to deal with Challenges or Areas for Improvement:

Continue to monitor the economy and the hospital employment rate and do not take in more students than the area market can bear.

SECTION XII: PROGRAM DASHBOARD

TO COMPLETE THIS TABLE, USE THE INFORMATION CONTAINED IN THIS REVIEW OR THE PROGRAM'S EXTERNAL REPORT (ACCREDITATION, APPROVAL, OR CERTIFICATION).

| ITEM | TOPIC | | SOURCE | TIME PERIODS | | |
|------|--|--|----------|--------------------|--------------------|--------------------|
| A | Number of program majors | | Chart 1 | YR 1 (AY 09-10) | YR 2 (AY 10-11) | YR 3 (AY 11-12) |
| | | | | 30 | 29 | 26 |
| B | Number of program graduates | | Chart 2 | 21 | 13 | 17 |
| C | Percentage of females enrolled <i>(Only if at least 10 enrollees)</i> | | Chart 3 | 31 | 30 | 33 |
| D | Percentage of minority enrollees <i>(Only if at least 10 enrollees)</i> | | Chart 4 | <10 | <10 | <10 |
| E | Number of FTE faculty | | Chart 5a | Spring 2012 | Fall 2011 | Spring 2011 |
| | | | | 1 | 1 | 1 |
| F | Number of program-specific courses | | Table 1 | YR 1 (AY 11-12) | | |
| | | | | 15 | | |
| G | Enrollment in program-specific courses – Majors (M)/ Non-majors (N) | | Table 1 | YR 1 (AY 11-12) | | |
| | 1 | RTA 110 Radiologic Procedures I | | 22/0 | | |
| | 2 | RTA 111 Radiologic Exposures I | | 22/0 | | |
| | 3 | RTA 120 Radiologic Procedures II | | 22/0 | | |
| | 4 | RTA 121 Radiologic Exposures II | | 22/0 | | |
| | 5 | RTA 191 Clinical Practicum I | | 22/0 | | |
| | 6 | RTA 192 Clinical Practicum II | | 22/0 | | |
| | 7 | RTA 201 Radiologic Equipment & Quality Assurance | | 17/0 | | |
| | 8 | RTA 202 Advanced Radiographic Imaging | | 17/0 | | |
| | 9 | RTA 203 Radiobiology & Protection | | 17/0 | | |
| | 10 | RTA 204 Special Radiographic & Interventional Procedures | | 17/0 | | |
| | 11 | RTA 205 Computer Imaging & Cross Sectional Anatomy | | 17/0 | | |
| | 12 | RTA 294 Clinical Practicum IV | | 17/0 | | |
| | 13 | RTA 295 Clinical Practicum V | | 17/0 | | |
| | 14 | RTA 292 Summer Clinical Practicum III | | 17/0 | | |
| | 15 | RTA 220 Radiologic Procedures III | | 17/0 | | |

| | | |
|---|---|---|
| H | Linkages, activities or agreements with area high schools (Y or N). (Section X) | Y |
| I | Linkages, activities or agreements with four-year colleges? area high schools (Y or N). (Section X) | Y |
| J | Linkages, activities or agreements with business and industry (Y or N). (Section X) | Y |

SECTION XIII: SUMMARY – PROGRAM STRENGTHS

A. List and describe the program’s major strengths, as detailed at the end of each section of this review, or in the program’s external report (accreditation, approval, or certification).

| SECTION | AREA OF STRENGTH |
|---------|--|
| I | <p>The Radiography Program is externally reviewed by the Joint Review Committee on Education in Radiologic Technology (JRCERT). At its last review in November 2006 the Program received 8 year accreditation, the maximum a program can receive.</p> <p>The Program is internally reviewed by NECC every 5 to 6 years. This review occurred in 2005.</p> |
| II | <p><i>We have a foundational and solid mission statement that appropriately expresses what the program is about. We review it annually and update it as the profession shifts to maintain its currency.</i></p> |
| III | <p><i>The Program’s Policies and Procedures are clear and easily located by potential and current students. They are required reading and the students are tested over the policies and procedures early in the program. Students are responsible for knowing the policies and procedures by being tested over them and returning a signed form stating they have read the policies and procedures.</i></p> |
| IV | <p><i>Solid curriculum that provides a well-planned sequence of courses.</i></p> <p><i>The curriculum is comprehensive and adequately provides the new graduate with skills to enter the workforce with marketable skills in Radiologic Technology.</i></p> <p><i>Clinical instructors receive course syllabi each semester and the content agenda/curriculum is discussed with the Clinical Instructors prior to the start of each semester at CI meetings. This insures that content taught in the classroom environment will be reinforced when the students attend clinical rotations.</i></p> <p><i>When course instructors get out of sequence with the delivery of course content this is communicated with Clinical Instructors so they can adjust what they are teaching in the clinical environment.</i></p> |
| V | <p><i>Program Faculty: a committed and caring faculty with a vast experience in their profession and in education. One faculty member is additionally credentialed in Computed Tomography. One adjunct is the former Program Director. One adjunct currently practices full-time radiography at a large</i></p> |

| | |
|------|---|
| | <i>hospital in the Boston area and is a team leader at that institution.</i> |
| VI | <p><i>NECC Library's online offerings.</i></p> <p><i>The HESC Support personnel is very helpful and dedicated to making sure labs have what they need, when they need it when it is requested in a timely manner.</i></p> |
| VII | <i>Overwhelmingly, applicants who are accepted to the program persist academically. When they do exit the program early, it is generally for non-academic reasons.</i> |
| VIII | <p><i>The Program receives regular input from internal and external audiences.</i></p> <p><i>A committed advisory committee that is dedicated to the program's ongoing success.</i></p> |
| IX | <i>The Program undergoes a detailed thorough Program assessment twice a year such that changes in meeting benchmarks are immediately noted. The assessment is shared with the faculty and Advisory Committee annually and these entities discuss ways to improve, if needed.</i> |
| X | <p><i>The Program has 6 affiliations with healthcare institutions in the area who are dedicated to NECC and the student's success. To that end, each institution assigns clinical instructors whose role it is to assure the students engage in meaningful learning while they are at the clinical site. Because of the agreement, these clinical instructors attend regular meetings at the school to discuss the ongoing success of the curriculum, the program and the students.</i></p> <p><i>The Program has a strong alliance with St. Joseph's in Maine and students do use this program link to continue their education.</i></p> |
| XI | <i>While the graduate employment rate is below the benchmark, the strength is that it is not due to a poor curriculum nor is it due to a low quality graduate. Employers are satisfied that we are producing quality graduates who have the skill sets for which they are looking. As part of the final semester course curricula students are prepared for job hunting by imparting resume writing skills and interviewing strategies.</i> |
| XII | No data needed |

SECTION XIV: SUMMARY – PROGRAM CHALLENGES AND AREAS FOR IMPROVEMENT – ACTION PLANS

A. List and describe the program’s major challenges and areas for improvement detailed at the end of each section of this review, or. For each challenge, describe the action recommendation, as well as the individuals responsible for implementation.

| SECTION | CHALLENGE - AREA FOR IMPROVEMENT | ACTION RECOMMENDATION – INDIVIDUAL(S) RESPONSIBLE |
|---------|--|---|
| I | No challenges. | None |
| II | <i>Associated with GOAL 3 – Improve Academic Support Services - Once students are in the Program and are struggling to keep up or retain information, we should have Radiography based tutors identified through Academic Support Services that can be provided to assist. These could be graduates of the program who are paid tutors. Right now, Academic Support can provide test taking skills and time management skills and these are useful but often our students are struggling with the specific content in a program specific course.</i> | <i>Make recommendations to Academic Support Services to employ tutors who have expertise in program specific courses-Academic Support Services and Dr. Lynne Davis</i> |
| III | <i>While the Program’s Policies and Procedures are clear and easily located, similar or related policies and procedures need to be grouped together so that all policies that have something to do with attendance or tardiness, for example, are within close proximity in the handbook. Also, the Program needs to confirm that recommendations for actions to be taken when a policy is violated are consistent across policies.</i> | <i>Review the Program Policies and Procedures and group together related policies.-Dr. Lynne Davis Review the Policies to assure that recommended actions, when policies are violated, are consistent across policies and are not confusing or contradictory. –Dr. Lynne Davis & Pat Willett</i> |
| IV | <i>The curriculum delivers 78 hours credit. There is the continual challenge of attempting to stay current with evolving technology while continuing to teach the current technology-Time is a limiting factor.</i> <i>In the first semester of the clinical rotation (fall 1), students receive an “I” in clinic and continue attending clinic during the winter break for 80 clock hours. Other area Radiography programs have been cited for similar practices during their JRCERT Site Visits. Because of our College wide BANNER System,</i> | <i>The Program will review the courses in the 78 credit hours against the ASRT Radiography Curriculum Content to determine if any courses or content can be altered to reduce the number of credit hours or modified to allow more time for teaching additional content.</i> <i>While the current course description does state the student is required to</i> |

| | | |
|-----|---|--|
| | <p><i>the Program cannot publish the RTA 191 course as ending in January, which is what actually occurs. This would be preferable as it would clearly demonstrate that the course starts in the fall but ends in the following year in the spring before the actual spring semester starts. The BANNER system requires that a grade be placed for each student at the end of the official semester. For this reason, the student receives an “I” and continues the clinical until the 80 hours have been completed.</i></p> | <p><i>complete 80 hours during Winter break, an additional system needs to be in place that allows RTA 191 to be listed in the electronic records as a course that begins in the fall but completes in the following January before the official spring semester begins..-Dr. Lynne Davis & Registrar</i></p> |
| V | <p><i>PHS 121 Radiologic Science is a course in the Radiography curriculum classically taught by faculty from the Science Department. This course has had 3 or 4 different instructors over the years but none have had a background in Radiology. Even though it is a basic physics course, it would be enhanced if the instructor could begin making early connections of the course content with its radiology implications. The students could begin connecting radiologic concepts early in their learning.</i></p> | <p><i>A recommendation to the administration of the Science Department to have an adjunct teach this course that has some background in physics and radiology.-Dr. Lynne Davis and Dr. Noemi Custodia-Lora</i></p> <p><i>Stabilize the course instructor for PHS 121-Dr. Noemi Custodia-Lora</i></p> |
| VI | <p><i>Library needs Radiography books published within the last 5 years.</i></p> <p><i>Need for new technology of Digital Radiography in the X-ray laboratory</i></p> <p><i>The program needs to be assigned windowless rooms or rooms with adequate window shading for teaching procedures-based courses (RTA 110, RTA 120, RTA 202, RTA 220, RTA 204.</i></p> <p><i>A question can be added on the student’s Exit Survey about the usefulness and functionality of the campus library.</i></p> | <p><i>Program will make book recommendations to chief librarian.</i></p> <p><i>The Program will submit a proposal for acquiring DR Lab equipment during the upcoming fiscal year.-Dr. Lynne Davis</i></p> <p><i>Discuss room scheduling needs for procedures-based courses with the Registrar/whoever schedules rooms at our institution.-Dr. Lynne Davis and Registrar.</i></p> <p><i>Add a question on the Senior Exit Survey to address student view on the usefulness of the campus library.</i></p> |
| VII | <p><i>Recruitment of additional minorities into the Radiologic Technology Program</i></p> <p><i>Identifying population areas where minorities can be reached and information shared about the Radiologic</i></p> | <p><i>Open discussions with recruitment office on new ways to seek students that match the demographics of the schools location.</i></p> |

| | | |
|------|--|--|
| | <i>Technology Program. Age is not accounted for in this report but this program draws individuals who are non-traditional and who are older than the average college-aged student.</i> | <i>Determine if age can be accounted for on the report. It would be noted that this Program is reaching an additionally important demographic, i.e., non-traditional students.</i> |
| VIII | <i>No challenges perceived.</i> | <i>None</i> |
| IX | <i>Increasing the return rate for Graduate Surveys.</i> | <i>Conduct phone call surveys to follow up and increase the return rate.</i> |
| X | <i>Find out how many of our graduates have gone on to St. Joseph's BS in Radiologic Science Administration in Maine. Increase the number of Transfer Agreements.</i> | <i>Program Director working with the Dean of TRIO and Transfer.</i> |
| XI | <i>The graduate employment rate is a function of the economy. The Program is sensitive to this in that it has reduced the admissions numbers over the past 2 years.</i> | <i>Continue to monitor the economy and the hospital employment rate and do not take in more students than the area market can bear.</i> |
| XII | <i>No Data Needed</i> | <i>None</i> |

SECTION XV: RESOURCES REQUESTED

If any specific resource needs were identified in this program review, and included in SECTION XIV Action Plan(s), please list these resources below, indicating for each whether the type of resource needed is Equipment, Personnel, space, or Other. If applicable and known, provide vendor and estimated cost information.

| SECTION | RESOURCE NEED | TYPE OF RESOURCE | VENDOR/ ESTIMATED COST |
|---------|--|--|--|
| II | Tutors with expertise in Radiography courses | Personnel | ?? |
| VI | Equipment and Room Renovation Windowless Classrooms | <i>Equipment -Digital Radiography Lab equipment (to be housed in a newly refurbished xray lab)</i> <i>Room Renovation -</i> <i>Space –Windowless Classrooms or classrooms with shades that block outside light sufficiently.</i> | Equipment - One panel DR system – portable/wireless ~\$160,000. Room Renovation -Cost of renovating/creating a lab for this DR Equipment ???? Space – No Cost |
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REVIEW SUBMISSION

| | |
|-----------------|-----------------------|
| PROGRAM: | Radiologic Technology |
|-----------------|-----------------------|

Submits this Program Review document in fulfillment of the NECC requirements for a comprehensive and systemic review of each academic program.

| | |
|---|---|
| Individual Responsible for Completing the Program Review | |
| Name: Lynne Davis | Title: Director and Program Coordinator |
| Signature: <i>Lynne Davis</i> | Date: 2/1/13 |
| Program Coordinator | |
| Name: Lynne Davis | |
| Signature: <i>Lynne Davis</i> | Date: 2/1/13 |
| Department Chair (if appropriate) | |
| Name: <i>Lynne Davis</i> | Title: 2/1/13 |
| Signature: | Date: |
| Assistant Dean/Director | |
| Name: Nancy Garcia | Title: Assistant Dean |
| Signature: | Date: |
| Dean of Division | |
| Name: Mary Farrell | Title: Dean of Health Sciences |
| Signature: | Date: |

APPENDICES

APPENDIX 1

TABLE 1: ENROLLMENT IN PROGRAM-SPECIFIC COURSES – MAJORS (M) / NON-MAJORS (N)

January 28, 2013

RADIOLOGIC TECHNOLOGY**PROGRAM REVIEW TABLE 1 – ENROLLMENT IN PROGRAM-SPECIFIC COURSES**

MAJORS (M) / NON-MAJORS (N)

By Term

| | Term | Course | AY 11 – 12 (M / N) | Sections Offered |
|---|-------------|--|--------------------|------------------|
| 1 | Fall 2011 | RTA 110 Radiologic Procedures I | 22 (22 / 0) | 2 |
| 2 | Fall 2011 | RTA 111 Radiologic Exposures I | 22 (22 / 0) | 2 |
| 3 | Fall 2011 | RTA 191 Clinical Practicum I | 22 (22 / 0) | 1 |
| 4 | Fall 2011 | RTA201 Radiologic Equipment & Quality Assurance | 17 (17 / 0) | 1 |
| 5 | Fall 2011 | RTA 202 Advanced Radiographic Imaging | 17 (17 / 0) | 2 |
| 6 | Fall 2011 | RTA 294 Clinical Practicum IV | 17 (17 / 0) | 1 |
| | | | | |
| 1 | Spring 2012 | RTA 120 Radiologic Procedures II | 22 (22 / 0) | 2 |
| 2 | Spring 2012 | RTA 121 Radiologic Exposures II | 22 (22 / 0) | 2 |
| 3 | Spring 2012 | RTA 192 Clinical Practicum II | 22 (22 / 0) | 1 |
| 4 | Spring 2012 | RTA 203 Radiobiology & Protection | 17 (17 / 0) | 1 |
| 5 | Spring 2012 | RTA 204 Special Radiographic & Interventional Procedures | 17 (17 / 0) | 1 |
| 6 | Spring 2012 | RTA 205 Computer Imaging & Cross Sectional Anatomy | 17 (17 / 0) | 1 |
| 7 | Spring 2012 | RTA 295 Clinical Practicum V | 17 (17 / 0) | 1 |
| | | | | |
| 1 | Summer 2012 | RTA 220 Radiologic Procedures III | 22 (22 / 0) | 1 |
| 2 | Summer 2012 | RTA 292 Clinical Practicum III Summer | 22 (22 / 0) | 1 |

By Academic Year

| | Term | Course | AY 11 – 12 (M / N) | Sections Offered |
|---|---------------------------------------|---------------------------------|--------------------|------------------|
| 1 | Fall 2011, Spring 2012, & Summer 2012 | RTA 110 Radiologic Procedures I | 22 (22 / 0) | 2 |
| 2 | Fall 2011, Spring 2012, & Summer 2012 | RTA 111 Radiologic Exposures I | 22 (22 / 0) | 2 |

Spring 2013 – Radiologic Technology Table 1

January 28, 2013

| | Term | Course | AY 11 – 12 (M / N) | Sections Offered |
|----|---|---|--------------------|------------------|
| 3 | Fall 2011, Spring 2012, & Summer 2012 | RTA 120 Radiologic Procedures II | 22 (22 / 0) | 2 |
| 4 | Fall 2011, Spring 2012, & Summer 2012 | RTA 121 Radiologic Exposures II | 22 (22 / 0) | 2 |
| 5 | Fall 2011, Spring 2012, & Summer 2012 | RTA 191 Clinical Practicum I | 22 (22 / 0) | 1 |
| 6 | Fall 2011, Spring 2012, & Summer 2012 | RTA 192 Clinical Practicum II | 22 (22 / 0) | 1 |
| 7 | Fall 2011, Spring 2012, & Summer 2012 | RTA201 Radiologic Equipment & Quality Assurance | 17 (17 / 0) | 1 |
| 8 | Fall 2011 & Spring 2012 | RTA 202 Advanced Radiographic Imaging | 17 (17 / 0) | 2 |
| 9 | Fall 2011, Spring 2012, & Summer 2012 | RTA 203 Radiobiology & Protection | 17 (17 / 0) | 1 |
| 10 | Fall 2011, Spring 2012, & Summer 2012 | RTA 204 Special Radiographic & Interventional Procedures | 17 (17 / 0) | 1 |
| 11 | Fall 2011, Spring 2012, & Summer 2012 | RTA 205 Computer Imaging & Cross Sectional Anatomy | 17 (17 / 0) | 1 |
| 12 | Fall 2011, Spring 2012, & Summer 2012 | RTA 220 Radiologic Procedures III | 22 (22 / 0) | 1 |
| 13 | Fall 2011, Spring 2012, & Summer 2012 | RTA 292 Clinical Practicum III Summer | 22 (22 / 0) | 1 |
| 14 | Fall 2011, Spring 2012, & Summer 2012 | RTA 294 Clinical Practicum IV | 17 (17 / 0) | 1 |
| 15 | Fall 2011, Spring 2012, & Summer 2012 | RTA 295 Clinical Practicum V | 17 (17 / 0) | 1 |

APPENDIX 2

CHARTS 1 – 4

| | | | | | | | | | | | | | |
|---|---------------------|---------------------|---------------------|-------------------|----------------------------------|----------|---|-------|---------------------------|------------------|-----------------|-------|--|
| Radiologic Technology - 0212 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| <u>Chart 1. Student Demand</u> | | | | | | | | | | | | | |
| | AY 2009- 2010 | AY 2010- 2011 | AY 2011- 2012 | 3 Year Average | | | | | | | | | |
| Total Applications | 58 | 43 | 33 | 45 | | | | | | | | | |
| | | | | | | | | | | | | | |
| First Time Freshmen who registered | 2 | 2 | 1 | 2 | | | | | | | | | |
| External Transfers who registered | 7 | 6 | 5 | 6 | | | | | | | | | |
| Internal Transfers who registered | 0 | 0 | 0 | 0 | | | | | | | | | |
| Readmitted Students who registered | 21 | 21 | 20 | 21 | | | | | | | | | |
| Total Students new to program | 30 | 29 | 26 | 28 | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Unduplicated Enrollment | 44 | 39 | 39 | 41 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| <u>Chart 2. Program Completion/Student Transfer</u> | | | | | | | | | | | | | |
| | AY 2009- 2010 | AY 2010- 2011 | AY 2011- 2012 | 3 Year Average | | | | | | | | | |
| Program Graduates | 22 (21) | 12 (13) | 17 | 17 | | | | | | | | | |
| Students who transfer prior to graduation from program (multiple years out) | 7 | 9 | | 8 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| <u>Chart 3. Student Demographics</u> | | | | | | | | | | | | | |
| | | Asian | Black | Cape Verdean | Hawaiian/ Pacific Islander | Hispanic | Native American / Native Alaskan | White | Non- Resident Alien | Multi- Racial | Unk now n | Total | Minority Percentage (unprorated) |
| AY 2009-2010 | Male | 1 | 0 | 0 | 1 | 0 | 1 | 10 | 0 | 0 | 0 | 13 | 23% |

| | | | | | | | | | | | | | |
|--------------|--------|---|---|---|---|---|---|----|---|---|---|----|-----|
| | Female | 0 | 0 | 0 | 0 | 5 | 0 | 24 | 0 | 0 | 2 | 31 | 16% |
| | Total | 1 | 0 | 0 | 1 | 5 | 1 | 34 | 0 | 0 | 2 | 44 | 18% |
| | | | | | | | | | | | | | |
| AY 2010-2011 | Male | 0 | 1 | 0 | 1 | 0 | 1 | 6 | 0 | 0 | 0 | 9 | 33% |
| | Female | 0 | 0 | 0 | 0 | 5 | 0 | 25 | 0 | 0 | 0 | 30 | 17% |
| | Total | 0 | 1 | 0 | 1 | 5 | 1 | 31 | 0 | 0 | 0 | 39 | 21% |
| | | | | | | | | | | | | | |
| AY 2011-2012 | Male | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 6 | 0% |
| | Female | 0 | 0 | 0 | 0 | 2 | 0 | 31 | 0 | 0 | 0 | 33 | 6% |
| | Total | 0 | 0 | 0 | 0 | 2 | 0 | 37 | 0 | 0 | 0 | 39 | 5% |
| | | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|--|---------------------|---------------------|---------------------|-------------------|--|--|--|--|--|--|--|--|--|
| All NECC Programs | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| <u>Chart 1. Student Demand</u> | | | | | | | | | | | | | |
| | AY 2009- 2010 | AY 2010- 2011 | AY 2011- 2012 | 3 Year Average | | | | | | | | | |
| Total Applications | 4,999 | 4,504 | 4,150 | 4,551 | | | | | | | | | |
| | | | | | | | | | | | | | |
| First Time Freshmen who registered | 1,872 | 1,646 | 1,532 | 1,683 | | | | | | | | | |
| External Transfers who registered | 711 | 680 | 501 | 631 | | | | | | | | | |
| Internal Transfers who registered | 0 | 0 | 0 | 0 | | | | | | | | | |
| Readmitted Students who registered | 831 | 746 | 726 | 768 | | | | | | | | | |
| Total Students new to program | 3,414 | 3,072 | 2,759 | 3,082 | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Unduplicated Enrollment | 10,137 | 10,068 | 9,708 | 9,971 | | | | | | | | | |
| | | | | | | | | | | | | | |
| <u>Chart 2. Program Completion/Student Transfer</u> | | | | | | | | | | | | | |
| | AY 2009- 2010 | AY 2010- 2011 | AY 2011- 2012 | 3 Year Average | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---------|-------|-------|-----------------|----------------------------------|----------|---|-------|---------------------------|------------------|-----------------|--------|--|
| Graduates - duplicated count (includes all degrees & certificates awarded) | 993 | 1,048 | 1141 | 1061 | | | | | | | | | |
| Graduates - unduplicated count | 916 | 919 | 979 | 938 | | | | | | | | | |
| Students who transfer prior to graduation from program (multiple years out) | 2,942 | 2,055 | | 2,499 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| <u>Chart 3. Student Demographics</u> | | | | | | | | | | | | | |
| | | Asian | Black | Cape Verdean | Hawaiian/ Pacific Islander | Hispanic | Native American / Native Alaskan | White | Non- Resident Alien | Multi- Racial | Unk now n | Total | Minority Percentage (unprorated) |
| | | | | | | | | | | | | | |
| AY 2009-2010 | Male | 43 | 156 | 0 | 38 | 854 | 11 | 2,396 | 17 | 11 | 311 | 3,837 | 29% |
| | Female | 47 | 194 | 3 | 71 | 1,696 | 20 | 3,709 | 38 | 28 | 492 | 6,298 | 33% |
| | Unknown | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 50% |
| | Total | 90 | 350 | 3 | 109 | 2,551 | 31 | 6,106 | 55 | 39 | 803 | 10,137 | 31% |
| | | | | | | | | | | | | | |
| AY 2010-2011 | Male | 49 | 147 | 0 | 38 | 925 | 13 | 2,370 | 17 | 21 | 278 | 3,858 | 31% |
| | Female | 49 | 219 | 4 | 64 | 1,828 | 13 | 3,511 | 42 | 36 | 444 | 6,210 | 36% |
| | Total | 98 | 366 | 4 | 102 | 2,753 | 26 | 5,881 | 59 | 57 | 722 | 10,068 | 34% |
| | | | | | | | | | | | | | |
| AY 2011-2012 | Male | 50 | 162 | 0 | 37 | 958 | 16 | 2,284 | 0 | 38 | 170 | 3,715 | 34% |
| | Female | 75 | 216 | 4 | 42 | 1,930 | 8 | 3,413 | 0 | 50 | 254 | 5,992 | 39% |
| | Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0% |
| | Total | 125 | 378 | 4 | 79 | 2,888 | 24 | 5,698 | 0 | 88 | 424 | 9,708 | 37% |

APPENDIX 3
CHART 5 (A, B, C, & D)

FALL 2012 ACADEMIC PROGRAM REVIEW: RADIOLOGIC TECHNOLOGY DEGREE PROGRAM

CHART 5 (A), (B), (C), (D): FACULTY RESOURCES

5(A). FULL-TIME FACULTY

| FULL-TIME FACULTY | | CREDIT HOURS | | | | | |
|-------------------|------|--------------|------------|---------|------------|---------|------------|
| Name | Rank | S(2012) | | F(2011) | | S(2011) | |
| | | Taught | Adjustment | Taught | Adjustment | Taught | Adjustment |
| Patricia Willett | | 10 | 0 | 10 | 0 | 9 | 0 |

FALL 2012 ACADEMIC PROGRAM REVIEW: RADIOLOGIC TECHNOLOGY DEGREE PROGRAM

CHART 5 (A), (B), (C), (D) : FACULTY RESOURCES

5(B). PART-TIME FACULTY

PART-TIME FACULTY

CREDIT HOURS

Name

| S(2012) | | F(2011) | | S(2011) | |
|---------|------------|---------|------------|---------|------------|
| Taught | Adjustment | Taught | Adjustment | Taught | Adjustment |

CHART 5 (A), (B), (C), (D): FACULTY RESOURCES

[illegible]

FALL 2012 ACADEMIC PROGRAM REVIEW: RADIOLOGIC TECHNOLOGY DEGREE PROGRAM

CHART 5 (A), (B), (C), (D): FACULTY RESOURCES

**CHART 5 (D): COMPARISONS BETWEEN FULL-TIME AND NON-FULL-TIME FACULTY (PART-TIME AND DCE):
OVERALL NUMBERS AND CREDIT HOURS TAUGHT**

| TERM | # FULL-TIME FACULTY (FTF) | # CREDIT HOURS TAUGHT BY FULL- TIME FACULTY (FTCH) | # OF NON- FULL-TIME FACULTY (NFTF) | # CREDIT HOURS TAUGHT BY NON- FULL-TIME FACULTY (NFTCH) | TOTAL # OF FACULTY (FTF + NFTF) (TF) | TOTAL # CREDIT HOURS TAUGHT by FTF + NFTF (TCH) | | PERCENTAGE OF FACULTY THAT ARE FULL-TIME (FTF / TF) | PERCENTAGE OF CREDIT HOURS TAUGHT BY FULL-TIME FACULTY (FTCH / TCH) |
|------------------|---------------------------------|--|---|---|--|--|--|---|---|
| SPRING (2012) | 1 | 10 | 4 | 12 | 5 | 22 | | 20% | 45.45% |
| FALL (2011) | 1 | 10 | 4 | 10 | 5 | 20 | | 20% | 50% |
| SPRING (2011) | 1 | 9 | 3 | 13 | 4 | 22 | | 25% | 40.9% |
| | | | | | | | | | |
| | | | | | | | | | |

CHART 6

CHART 6: FACULTY CREDENTIALS

Complete one chart for each member of the faculty

(Note: Each individual faculty member should complete this form and return it to the Program Coordinator, or designee.)

| | | | | | | |
|---|-----------|---|--|-----------------|-------------|-------|
| NAME: Lynne Davis | | | | | | |
| | | | | | | |
| Current Academic Rank: | Professor | Tenure Status | Tenured [] | Not Tenured [X] | | |
| Academic Degrees: | | | | | | |
| Bachelor Degree BA [] BS [X] | | Concentration: | Radiologic Technology | | | |
| Institution Granting Degree: | | University of Oklahoma | | | | |
| Masters Degree: | MA [] | MS [] | MEd [X] | MBA [] | MPH [] | Other |
| Concentration: | | | | | | : |
| Institution Granting Degree | | Central State University (name has since changed) | | | | |
| Doctorate: | | PhD [] | EdD [X] | JD [] | Other: | |
| Concentration: | | | | | | |
| Institution Granting Degree | | University of Houston | | | | |
| Certifications | | | | | | |
| Type | | Issuing Agency | | | Date | |
| National Radiography Certification | | American Registry of Radiologic Technologists | | | current | |
| State Radiography License | | Mass. DPH Radiation Control Program | | | current | |
| | | | | | | |
| Membership in Professional Organizations | | | Awards | | | |
| Texas Society of Radiologic Technologists | | | Wade L. Hoots Lecture Honoree | | | |
| American Society of Radiologic Technologists | | | | | | |
| ASRT Radiologist Assistant Educator's Council (RAEC) | | | | | | |
| Massachusetts Society of Radiologic Technologists (MSRT) | | | Editor – 2009-2011, Secretary -2010-2011 | | | |
| Alpha Eta (Academic) Honor Society | | | Awards Committee Member -2011 | | | |
| Phi Kappa Phi Academic Honor Society | | | | | | |
| | | | | | | |
| Publications (relevant to teaching responsibilities) | | | Presentations (relevant to teaching responsibilities) | | | |
| | | | North Texas Society of Radiologic Technologists Annual Conference and Awards Luncheon – “Going for the Gold” | | | |

| | |
|--|--|
| | Teaching and Learning Conference – <i>“Creating Community and Enhancing Presentation in an Online Anatomy and Physiology Course for Radiologist Assistants”</i> |
| | Association of Schools of Allied Health Professionals Annual Conference- <i>“Translating the Oral Systemic Link into the Practice of Radiologic Imaging Professionals- A Pilot Endeavor Merging Two Professions”</i> |
| | Association of Schools of Allied Health Professionals Annual Conference- <i>“Integration of Learner-Centered Teaching Into Health Sciences Online Courses”</i> |
| | |

CHART 6 (CONTINUED)

| | | |
|---|--|--------------------------|
| NAME: Lynne Davis | | |
| | | |
| Continuing Education Activities/Professional Development (For past 3 years, or of major significance prior to this time and related to area of teaching responsibility) | | |
| Type | Sponsoring Agency | Date |
| Blackboard Workshop-Professional Development | NECC-Haverhill | 2/7/12 |
| New Faculty Orientation- Professional Development | NECC | Spring 2012 Fall 2012 |
| Numerous (24+) CE Workshops – Continuing Education | Mass Society of Radiologic Technologists | Throughout 2010-2012 |
| Joint Review Committee of Education in Radiologic Technology- Professional Development | JRCERT | 10/27/12 |
| Other information which you believe demonstrates your academic and experiential qualifications, and maintenance of expertise in your area of educational responsibility. | | |
| Keynote Speaker – National Urban League Conference (National Council of Urban League Guilds) 2011 Boston Convention Center- <i>Jobs Rebuild America.</i> | | |

CHART 6: FACULTY CREDENTIALS

Complete one chart for each member of the faculty

(Note: Each individual faculty member should complete this form and return it to the Program Coordinator, or designee.)

| | | | | | | |
|---|-----------|---|--|-------------|-----------------|---------|
| NAME: Patricia Willett | | | | | | |
| | | | | | | |
| Current Academic Rank: | Professor | Tenure Status | | Tenured [X] | Not Tenured [] | |
| Academic Degrees: | | | | | | |
| Bachelor Degree BA [] BS [X] | | Concentration: | Business Management | | | |
| Institution Granting Degree: | | Franklin Pierce College | | | | |
| Masters Degree: | MA [] | MS [] | MEd [] | MBA [] | MPH [] | Other : |
| Concentration: | | | | | | |
| Institution Granting Degree | | | | | | |
| Doctorate: | | PhD [] | EdD [] | JD [] | Other: | |
| Concentration: | | | | | | |
| Institution Granting Degree | | Franklin Pierce College | | | | |
| Certifications | | | | | | |
| Type | | Issuing Agency | | | Date | |
| National Radiography Certification | | American Registry of Radiologic Technologists | | | current | |
| State Radiography License | | Mass. DPH Radiation Control Program | | | current | |
| National CT Certification | | American Registry of Radiologic Technologists | | | current | |
| Membership in Professional Organizations | | | Awards | | | |
| American Society of Radiologic Technologists | | | MA Affiliate Alternate Delegate, MA Affiliate Delegate 2012 | | | |
| Massachusetts Society of Radiologic Technologists | | | State Delegate 2009-2011, Vice President 2012 | | | |
| | | | | | | |
| | | | | | | |
| Publications (relevant to teaching responsibilities) | | | Presentations (relevant to teaching responsibilities) | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

CHART 6 (CONTINUED)

| | | |
|---|---|-----------|
| NAME: Pat Willett | | |
| | | |
| Continuing Education Activities/Professional Development (For past 3 years, or of major significance prior to this time and related to area of teaching responsibility) | | |
| Type | Sponsoring Agency | Date |
| Continuing Education lectures Related to Medical Imaging | MSRT Annual Conference | Yearly |
| ASRT Annual Educational Symposium and Governance Meeting | ASRT | 2011,2012 |
| Digital Imaging Conference | University of North Carolina | 2008 |
| Various Journal Articles and Directed Reading Related to Medical Imaging and Education | ASRT | Continual |
| Professional Development Seminars related to Education | NECC | Yearly |
| CIT Coaching Online Course Delivery | NECC | Continual |
| I Teach & iHealth Faculty Development | NECC | 2012-2013 |
| Radiology Educators Conference | NE Association of Allied Health Educators | 2012 |
| Joint Commission Update As It Relates to Radiology | JRCERT | 2012 |
| Other information which you believe demonstrates your academic and experiential qualifications, and maintenance of expertise in your area of educational responsibility. | | |
| | | |

CHART 6: FACULTY CREDENTIALS**Complete one chart for each member of the faculty***(Note: Each individual faculty member should complete this form and return it to the Program Coordinator, or designee.)*

| | | | | | | |
|---|-----------------------------|---|---|----------------------------------|---|--|
| NAME: Kim McHugh | | | | | | |
| | | | | | | |
| Current Academic Rank: | Professor | Tenure Status | | Tenured <input type="checkbox"/> | Not Tenured <input checked="" type="checkbox"/> | |
| Academic Degrees: | | | | | | |
| Bachelor Degree BA <input type="checkbox"/> BS <input type="checkbox"/> | | Concentration: | Radiologic Technology | | | |
| Institution Granting Degree: | | Northeastern University | | | | |
| Masters Degree: | MA <input type="checkbox"/> | MS <input type="checkbox"/> | MEd <input type="checkbox"/> | MBA <input type="checkbox"/> | MPH <input type="checkbox"/> | Other <input checked="" type="checkbox"/> : MHCM |
| Concentration: | | | | | | |
| Institution Granting Degree | | Cambridge College | | | | |
| Doctorate: | | PhD <input type="checkbox"/> | EdD <input type="checkbox"/> | JD <input type="checkbox"/> | Other: | |
| Concentration: | | | | | | |
| Institution Granting Degree | | | | | | |
| Certifications | | | | | | |
| Type | | Issuing Agency | | | Date | |
| National Radiography Certification | | American Registry of Radiologic Technologists | | | current | |
| State Radiography License | | Mass. DPH Radiation Control Program | | | current | |
| | | | | | | |
| Membership in Professional Organizations | | | Awards | | | |
| | | | | | | |
| Massachusetts Society of Radiologic Technologists | | | | | | |
| | | | | | | |
| | | | | | | |
| Publications (relevant to teaching responsibilities) | | | Presentations (relevant to teaching responsibilities) | | | |
| Positioning Total Knee Replacements-Radiologic Technology, Sept/October 2008, Vol. 80/No. 1 | | | Positioning Total Knee Replacements- MSRT Annual Meeting 2009 | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

CHART 6 (CONTINUED)

| | | |
|---|-------------------|------------|
| NAME: Kim McHugh | | |
| | | |
| Continuing Education Activities/Professional Development (For past 3 years, or of major significance prior to this time and related to area of teaching responsibility) | | |
| Type | Sponsoring Agency | Date |
| | | |
| Required CE for state license and national certification | MSRT/ASRT | continuous |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Other information which you believe demonstrates your academic and experiential qualifications, and maintenance of expertise in your area of educational responsibility. | | |
| | | |

CHART 6: FACULTY CREDENTIALS

Complete one chart for each member of the faculty

(Note: Each individual faculty member should complete this form and return it to the Program Coordinator, or designee.)

| | | | | | | |
|---|-----------|--|-------------|-----------------|--------------|---------|
| NAME: Carole Wallace | | | | | | |
| | | | | | | |
| Current Academic Rank: | Professor | Tenure Status | Tenured [X] | Not Tenured [] | | |
| Academic Degrees: | | | | | | |
| Bachelor Degree BA [X] BS [] | | Concentration: | | | | |
| Institution Granting Degree: | | | | | | |
| Masters Degree: | MA [] | MS [] | MEd [] | MBA [] | MPH [] | Other : |
| Concentration: | | | | | | |
| Institution Granting Degree | | | | | | |
| Doctorate: | | PhD [] | EdD [] | JD [] | Other: | |
| Concentration: | | | | | | |
| Institution Granting Degree | | Franklin Pierce College | | | | |
| Certifications | | | | | | |
| Type | | Issuing Agency | | | Date | |
| Registered Radiologic Technologist | | American Registry of Radiologic Technologists | | | 1963-present | |
| | | | | | | |
| | | | | | | |
| Membership in Professional Organizations | | Awards | | | | |
| Massachusetts Society of Radiologic Technologists | | Professional Paper Awards | | | | |
| American Society of Radiologic Technologists | | Consumer product radiation-What the radiographer needs to know. | | | | |
| | | Diagnostic Radiography? How does it affect us today | | | | |
| | | The Radiologic technologist as a professional and how they fit into the health care system. Oliver E. Merrill Award – Outstanding Service to the profession. Recognized for service to Massachusetts Society of Radiologic Technologists. | | | | |
| Publications (relevant to teaching responsibilities) | | Presentations (relevant to teaching responsibilities) | | | | |

| | |
|---|----------------------------------|
| What is radiation? Ionizing vs Non ionizing | Nuts, bolts, breaks and fixators |
| Imaging Bone Pathology | Inside the glass envelope |
| | |
| | |

CHART 6 (CONTINUED)

| | | |
|---|-------------------|------|
| NAME: Carol Wallace | | |
| | | |
| Continuing Education Activities/Professional Development (For past 3 years, or of major significance prior to this time and related to area of teaching responsibility) | | |
| Type | Sponsoring Agency | Date |
| (See pages below this document). | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Other information which you believe demonstrates your academic and experiential qualifications, and maintenance of expertise in your area of educational responsibility. | | |
| <p>A minimum of 12 hours of continuing education is required to maintain a license as a Registered Radiographer. Professional education related to the profession of Radiologic Technology has been accomplished each year by professional journal readings with post-tests, and attendance at the annual state conference or other professional conferences. Documentation of various lectures attended will be submitted.</p> | | |



American Society of Radiologic Technologists
 Department of Continuing Education
 15000 Central Ave. SE, Albuquerque, NM 87123-3909
 505-298-4500 • 800-444-2778 • Fax 505-291-6072 • www.asrt.org

Report for period beginning 4/1/2012 and ending 3/31/2014

Carol Wallace
 9 Daniel Webster Drive
 Hudson, NH 01824-4510

Member Number: 000847

Join Date: 8/10/1995

Paid Thru: 6/30/2014

Biennium Start: 4/1/2012

Biennium End: 3/31/2014

Dear Carol,

This copy of your current CE record lists the credits you have earned during your current biennium period. If your biennium dates are incorrect, please Contact Us. To view your CE record for a previous biennium, change the dates at the bottom of this report.

Only CE credits earned while you are an ASRT member are recorded. If you believe you are missing CE credits, send a copy of this report to us along with documentation of CE credits earned.

Yellow highlighted text below indicates today's CE activity

| Ref# | CAT | Course Description | Date | Credit |
|-------------|-----|---|------------|--------|
| DRI0001035R | A+ | 12801-02 Imaging of the Injured Shoulder | 11/21/2012 | 1.50 |
| DRI0001025R | A+ | 11804-02 Occupational Lung Diseases | 8/11/2012 | 1.50 |
| DRI0001026 | A | 11804-01 A Review of Ethics for the Radiologic Technologist | 8/11/2012 | 1.50 |
| DRI0001017R | A+ | 11802-01 Fungal Pathogens: An Overview | 5/31/2012 | 1.50 |
| DRI0001024 | A | 11803-01 Radiation Protection in Pediatric Imaging | 5/17/2012 | 2.00 |
| MAX0002020 | A | Imaging of Pulmonary Embolism | 4/5/2012 | 1.00 |
| MAX0002009 | A | Hold Your Photons, We're Not Making Art! | 4/5/2012 | 1.00 |
| MAX0002013 | A | STAT Means Now or Does It? | 4/5/2012 | 1.00 |
| MAX0002002 | A | Radiographer Burnout: How to Remain Safe by Recognizing Signs, Symptoms & Solutions | 4/4/2012 | 1.00 |
| MAX0002004 | A | Postmortem CT: Value in Radiation Reduction | 4/4/2012 | 1.00 |
| DRI0001033R | A+ | 11806-02 Disorders of the Cervical Spine | 4/1/2012 | 2.00 |
| DRI0001028R | A+ | 11805-01 Medical Imaging & Osteoarthritis of the Knee | 4/1/2012 | 1.50 |

Total Category A Credits: 8.50

<http://apps.asrt.org/continuingeducation/record.aspx>

11/29/2012

Barbara

Total Category A+ Credits: 8.00

Total Credits: 16.50

Barbara A. Whitefield
Director of Continuing Education

From:

To:

Example: 01/01/2003 to 12/31/2004



American Society of Radiologic Technologists
 Department of Continuing Education
 15000 Central Ave. SE, Albuquerque, NM 87123-3909
 505-298-4500 • 800-444-2778 • Fax 505-291-6072 • www.asrt.org

Report for period beginning 4/1/2010 and ending 3/31/2012

Carol Wallace
 9 Daniel Webster Drive
 Hudson, NH 01824-4510

Member Number: 000847

Join Date: 8/10/1993

Paid Thru: 6/30/2014

Biennium Start: 4/1/2012

Biennium End: 3/31/2014

Dear Carol,

This copy of your current CE record lists the credits you have earned during your current biennium period. If your biennium dates are incorrect, please Contact Us. To view your CE record for a previous biennium, change the dates at the bottom of this report.

Only CE credits earned while you are an ASRT member are recorded. If you believe you are missing CE credits, send a copy of this report to us along with documentation of CE credits earned.

Yellow highlighted text below indicates today's CE activity

| Ref# | CAT | Course Description | Date | Credit |
|-------------|-----|---|------------|--------|
| DRI0009036 | A | 09806-01 Patient-centered Care | 7/23/2011 | 1.50 |
| DRI0000018 | A | 10802-01 Medical Imaging of Explosion Injuries | 7/21/2011 | 2.00 |
| MAX0001010 | A | Image Gently - Its Ramification for the Practice of Imaging, Therapy & the Use of Radiation | 4/8/2011 | 1.00 |
| MAX0001011 | A | Privacy & Information Security: What You Need to Know | 4/8/2011 | 1.00 |
| MAX0001004 | A | The Path to Publication: A Workshop for Aspiring Writers | 4/7/2011 | 1.00 |
| DRI0000023 | A | 10803-01 Radiation Dose in Computed Tomography | 1/26/2011 | 1.50 |
| DRI0009035R | A+ | 09805-02 Adrenal Gland Disorders | 1/10/2011 | 1.50 |
| CTD0110014 | A | Orientation to Communication with Deaf and Hard of Hearing Individuals in Medical Settings | 11/19/2010 | 1.50 |
| CTD0110013 | A | Cultural Competence in the Delivery of Healthcare | 11/19/2010 | 2.00 |
| DRI0009026 | A | 09803-01 Radiation Biology and Protection | 7/17/2010 | 2.00 |
| CTD0040015 | A | A Healthy Work Environment | 4/16/2010 | 1.50 |
| CTD0040012 | A | Getting 25 Hours Out of a 24 Hour Day | 4/16/2010 | 2.50 |
| CTD0040011 | A | Using Humor to Improve Health | 4/16/2010 | 1.50 |

<http://apps.asrt.org/continuingeducation/record.aspx>

11/29/2012

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|------------|---|---|-----------|------|
| CTD0040010 | A | Stress..It's Something to Laugh At | 4/16/2010 | 0.75 |
| CTD0040014 | A | Oops...I Did It Again: The Anatomy of a Mistake | 4/16/2010 | 1.50 |
| MAX0000001 | A | Changes in MA RT Licensing Regulations | 4/8/2010 | 1.00 |
| MAX0000003 | A | Terrorism Using a Radioactive Element: Radiation Safety & Lesson Learned | 4/8/2010 | 1.00 |
| MAX0000004 | A | Evolution of Radiology & Its Future Under Health Care Reform | 4/8/2010 | 1.00 |

Total Category A Credits: 24.25



Total Category A+ Credits: 1.50

Total Credits: 25.75

Barbara A. Whitefield
Director of Continuing EducationFrom: To:

Example: 01/01/2003 to 12/31/2004



American Society of Radiologic Technologists
 Department of Continuing Education
 15000 Central Ave. SE, Albuquerque, NM 87123-3909
 505-298-4500 • 800-444-2778 • Fax 505-291-6072 • www.asrt.org

Report for period beginning 4/1/2008 and ending 3/31/2010

Carol Wallace
 9 Daniel Webster Drive
 Hudson, NH 01824-4510

Member Number: 000847
 Join Date: 8/10/1993
 Paid Thru: 6/30/2014
 Biennium Start: 4/1/2012
 Biennium End: 3/31/2014

Dear Carol,

This copy of your current CE record lists the credits you have earned during your current biennium period. If your biennium dates are incorrect, please Contact Us. To view your CE record for a previous biennium, change the dates at the bottom of this report.

Only CE credits earned while you are an ASRT member are recorded. If you believe you are missing CE credits, send a copy of this report to us along with documentation of CE credits earned.

Yellow highlighted text below indicates today's CE activity

| Ref# | CAT | Course Description | Date | Credit |
|-------------|-----|---|------------|--------|
| DRI0008029R | A+ | 08805-01 Imaging in Podiatry | 8/17/2009 | 2.00 |
| DRI0008028R | A+ | 08805-02 Sarcoidosis: A Primer | 8/17/2009 | 1.50 |
| DRI0007020 | A | 07806-01 Diagnosis and Treatment of Back Pain | 8/17/2009 | 2.50 |
| DRI0009018 | A | 09801-01 Preventing Drug-resistant Infections In Health Care | 8/17/2009 | 1.50 |
| DRI0007018 | A | 07805-01 Paget Disease of Bone | 7/9/2009 | 1.00 |
| DRI0008034R | A+ | 08806-02 Gallbladder Disease: Imaging & Treatment | 6/1/2009 | 1.00 |
| MAX0009002 | A | Determination & Optimization of Dose, Radiation Risk & Image Quality in Pediatric Radiology | 5/8/2009 | 1.00 |
| MAX0009003 | A | What's New in Fusion Imaging | 5/8/2009 | 1.00 |
| DRI0008022 | A | 08803-01 Radiation Protection & Procedures in the Operating Room | 4/21/2009 | 1.00 |
| DRI0008026R | A+ | 08804-01 Treatment of Brain Aneurysms | 3/20/2009 | 1.50 |
| DRI0008023 | A | 08803-02 Renal Disorders | 1/26/2009 | 1.00 |
| SCD0118018 | A | Enforcement and Documentation of Policies and Procedures | 11/21/2008 | 2.00 |
| DRI0007013 | A | 07804-02 Diffuse Benign Liver Disease | 11/11/2008 | 1.00 |

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|-------------|----|--|------------|------|
| DRI0007015 | A | 07805-02 Spinal Curves and Scoliosis | 11/11/2008 | 1.50 |
| DRI0008018 | A | 08802-01 Legal Trends in Imaging: Update | 10/12/2008 | 2.00 |
| DRI0007008 | A | 07804-01 Chest Radiography for Radiologic Technologists | 8/14/2008 | 1.50 |
| <hr/> | | | | |
| DRI0007001 | A | 07801-01 Improving Communication for Better Patient Care | 8/8/2008 | 1.50 |
| DRI0006010 | A | 06803-01 Diagnostic Reference Levels in Radiology | 6/23/2008 | 1.00 |
| DRI0006008 | A | 06803-02 Pelvic Organ Prolapse | 6/17/2008 | 1.00 |
| DRI0008017R | A+ | 08802-02 Bladder Cancer Imaging | 6/17/2008 | 1.00 |
| DRI0007009 | A | 07803-01 Radiation Protection | 5/27/2008 | 1.50 |
| DRI0007011 | A | 07803-02 Diagnosis & Treatment of Carotid Artery Disease | 5/27/2008 | 1.50 |

Total Category A Credits: 23.50



Total Category A+ Credits: 7.00

Total Credits: 30.50

Barbara A. Whitefield
Director of Continuing Education

From: 04/01/08

To: 03/31/10

Go

Example: 01/01/2003 to 12/31/2004

APPENDIX 4
ADVISORY COMMITTEE MINUTES

**Northern Essex Community College
Radiologic Technology Program
Advisory Committee Meeting
April 30, 2010**

Board/Committee Members Attending: Nancy Garcia (NECC, Radiologic Technology Program Director), Pat Willett (NECC Clinical Coordinator), Jeanne Broderick (Mass. Radiation Control Program), Carol Wallace (NECC, Clinical Coordinator), Migdalia Martinez (Lowell General Hospital), Judy Erbsstein (Lowell General Hospital), Debra Ralls (Lawrence General Hospital), Lynette Hickey (Program Graduate), Jackie-Long Goding (NECC, Dean of Health Professions),

Board/Committee Members Absent: Arthur Zerbey MD (Medical Director), Candace Ahearn (Holy Family Hospital & Medical Center), Lynne Randall (Merrimack Valley Hospital), James Borek (Anna Jaques Hospital), Sharon Dodge (Nashoba Valley Medical Center), Candace Ahearn (Holy Family Hospital)

Recorder: Nancy Garcia

| Topic | Discussion | Action |
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| 1. Review Minutes of Dec 4, 2009 Meeting | <ul style="list-style-type: none"> Minutes accepted | <ul style="list-style-type: none"> None Needed |
| 2. Program Review and Assessment Plan Spring 2010 | <p>Review and results of ARRT Certification exam for class 2009 21 out of 21 have taken and passed on first attempt: 100% pass rate.</p> <p>Retention Rate class of 2009: Graduated 21 out of 26: 81% retention rate. This meets and exceeds ARRT and Program benchmark of 75%</p> <ul style="list-style-type: none"> Employment rate for graduating class 2009 for those seeking positions: When employment rate is based on total class benchmark is just met 16/21 students found employment so rate is only 76% but the ARRT states employment rate is based on those graduates actively seeking employment. So at 6 months after graduation only 19 were actively seeking positions. Two graduates were not seeking positions: One (1) graduate was going on to school and one (1) was staying home with sick daughter and thus they were not seeking employment and not included in the count. 16/19 or 84% of graduating class had found employment, and thus we met and exceeded the benchmark of 75% employment rate at 6 months required by ARRT. On Graduate survey: 5 students who returned survey | <ul style="list-style-type: none"> Pass rate: Benchmark Met and Exceeded, No action needed Retention Rate: Benchmark Met and exceeded, No action needed. <p>Graduate Rate: 6 months and 1 year</p> <ul style="list-style-type: none"> Graduate rate is based on those actively seeking employment. Of 21 graduates, 2 were not actively seeking employment: one returned to school, and one was caring for sick daughter. When employment rate is based on 19 seeking positions then 16 out of 19 had positions at 6 months: 84% employment rate. At one year 18/19 seeking employment had positions: 95% employment rate, meets 1 year benchmark. Most positions are per diem or part time. It is difficult for current graduating classes to find full time permanent employment now that the |

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| | <p>indicated they had found jobs after graduation (5/21 surveys returned for a 24% return rate on survey).</p> <ul style="list-style-type: none"> One year following graduating we met the benchmark for employment: 2 out of 21 graduates were not seeking employment previously and are still not seeking employment due to the same issues: school and sick daughter. Employment rate: 95% for 18/19 employed for those 18/19 actively seeking positions. <p><u>Feedback on on-Line Employer Survey:</u></p> <ul style="list-style-type: none"> Issue: Some firewalls at some sites prevented on-line survey from being sent through on Survey Monkey: For future will send an e-mail from N. Garcia's NECC e-mail with link to Survey Monkey website so managers can access survey. 4 out of 6 NECC sites completed survey for a total of 9 students from the graduating class of 2009 being evaluated. Met all benchmarks in all categories being evaluated. | <p>technologist shortage is over and the economy is doing so poorly.</p> <ul style="list-style-type: none"> Many of the hospitals are beginning to have a hiring freeze for any open positions and/or limit the number of per diem positions they may authorize. Number of students accepted into the program has been decreased steadily since 2007 when the accepted class was at its highest of 26 students; in fall 2008 it was decreased to 24; in fall 2009 20 students were accepted. Survey Monkey link to be embedded in e-mail from Ngarcia in the future to avoid problem with site's firewalls blocking access to Survey Monkey website. |
| 3. Radiologic Technology Program Admission for fall 2010 and Drug Screening requirements | <p>Total number accepted for fall 2010 is 22 based on the following breakdown: Anna Jaques Hospital: 3 Caritas Holy Family Hospital 3 Lawrence General Hospital: 5 Lowell General Hospital : 6 Merrimack Valley Hospital: 3 Nashoba Valley Medical Center: 2</p> <p>12 students were placed on a waitlist. One student has already been called from the waitlist. New students are registered for fall courses on May 14, : One Stop Registration</p> <p>Drug Screening</p> <ul style="list-style-type: none"> All new incoming and current students will be required to complete a random drug screening test since two of the clinical sites affiliated with the NECC Radiologic Technology Program require drug testing. Drug screening letters for incoming students will be distributed at new Student Orientation day in August. Senior students will be provided with drug screening letters | <ul style="list-style-type: none"> None Needed <p>Drug Screening:</p> <ul style="list-style-type: none"> N. Garcia to bring drug testing notification letters to the 6 clinical sites during the summer during the student's Clinical Practicum 3 experience notifying the senior students to report to Lawrence General Hospital for drug testing within 48 hours. First year students entering the program this fall |

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| | <p>during the summer clinical practicum 3 course on a random basis.</p> <ul style="list-style-type: none"> Students must pay the cost of this drug screening (\$57.00). | <p>2010 will receive this letter during their orientation day in August.</p> |
| <p>Continuing Service Learning Component in the Radiologic Procedures III course for this summer.</p> | <ul style="list-style-type: none"> Since the pediatric service learning activity went well last year we are continuing it this year. Rad Tech students will be partnered with children from the Campus Learning Center a child care center located on the NECC Lawrence campus as part of their pediatric module for Rad Proc III this summer. NECC Radiologic Technology students will simulate a pediatric radiographic procedure on the children from the Campus Learning Center. The NECC RT students will then develop an informational brochure about the simulated procedure which they will bring to the childcare center to explain and share with the class. | <ul style="list-style-type: none"> None needed |
| <p>Portfolios as part of Clinical Practicum Requirements</p> | <ul style="list-style-type: none"> The Rad Tech students will start developing a portfolio of samples of their work. We want students to be able to save this information electronically instead of printing images on film which is costly. Each site will need to have a person that the students can go to get help to save images, with the patient identifiers removed onto a thumb drive or a CD. The Clinical Coordinators will be responsible for grading the portfolio, not the Clinical Instructor. The grade for the portfolio will become part of, or replace, the written assessment exam on the Clinical Practicum grade sheet, depending on the semester. | <ul style="list-style-type: none"> Sites in attendance indicated they would be able to assist students with saving images electronically. Viewer for images is imbedded in the CD when it is burned so the CD can run off any computer. |
| <p>Carol's Retirement</p> | <ul style="list-style-type: none"> Carol has announced her retirement effective the end of the spring 2010 semester. Carol has agreed to continue to teach as a DCE instructor in the Program. She will continue teaching some of the Radiologic Technology courses. Carol's party is scheduled for June 4th at Capellini's Restaurant in Methuen. Details will be sent out shortly by e-mail | <ul style="list-style-type: none"> Please be sure to reply to the future e-mail you will be receiving so we will have a count of attendees for Carol's retirement party. Please remember space is limited to approximately 50. |
| <p>CT Certificate Program:</p> | <ul style="list-style-type: none"> There are 10 students out of the 14 students who registered | <ul style="list-style-type: none"> We are still looking to add additional CT clinical |

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| Start of Clinical Summer 2010 | <p>in the fall 2009 semester opting to complete their CT clinical experience through the NECC CT clinical sites.</p> <ul style="list-style-type: none"> • One student was able to complete her clinical requirements through her employer. Other students are either not eligible to start clinical because they did not take courses in the correct sequence or they have decided to withdraw from the program. • Please keep in mind if a student does not register for the CT Clinical Practicum course they are no longer a NECC student and thus are not covered by the college's liability insurance. • We have added Saint's Medical Center in Lowell, MA as another CT Clinical Site. • We will continue to run the CT courses only if we are able to meet the minimum class requirement of 16 students. • We will be discussing with the current CT instructors the possibility of developing these CT courses in an on-line or hybrid format instead of in the current face-to face format. • College will be sending a mailing to local facilities in Mass and NH reminding them about the NECC CT Program. • College should consider mailing brochures to other colleges before the end of the spring semester next year and ask them to post brochure. | <p>sites to the program in order to expand the number of CT clinical placements we can offer.</p> <ul style="list-style-type: none"> • We are investigating the possibility of developing these CT courses in an on-line format to draw in more students from various areas of Massachusetts and NH and even perhaps Maine. |
| Technologists Evaluating Students | <ul style="list-style-type: none"> ▪ Implementation of a simple one (1) page evaluation form for the staff technologists to complete to provide the Clinical Instructor with feedback on student's performance ▪ Sample form W attached ▪ Plan to implement use of form for fall 2010. ▪ Form will be used at least twice in a semester, before the student's mid-semester performance assessment and again at the end of the semester, or approximately every 3 weeks | <ul style="list-style-type: none"> ▪ Implement use of Form W for fall 2010 semester, for both first year and second year students. |
| Clinical Sites responsibilities for a Positive Educational Environment for Students | <ul style="list-style-type: none"> • Staff and Clinical Instructors need to be able to assist students with NECC assignments scheduled to be performed during the student's clinical time. • Staff need to be reminded of their responsibility to assist with the education of the Radiologic Technology students by helping students review technique selections (both manual techniques and Automatic exposure control (AEC)), positioning, anatomy on images, etc. • Students have noted unprofessional and unethical behaviors | <ul style="list-style-type: none"> • Clinical Instructors and Clinical Coordinators should bring issues of problems in the department to the attention of the Radiology Managers. Especially if staff technologists are not being supportive of student's educational experience or are creating a hostile work environment. • Managers can then discuss and address issues during staff meetings or with the individuals concerned. |

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| | <p>of staff such as gossiping, sharing answers to ASRT directed reading post-tests. Students will mirror behaviors they witness.</p> <ul style="list-style-type: none"> Perhaps program faculty would develop an in-service for staff on professionalism and working with students. And the role of the staff and the Clinical Instructors in educating students. | |
| Program Mission Statement and Goals | <ul style="list-style-type: none"> The 4th goal of the program is being updated to reflect the College Assessment outcomes and goals as was previously discussed in the Dec 5, 2008 Advisory Board meeting when the college outcomes assessments were being examined and updated. At the time it was agreed to add in communication skills to the 4th goal when the college outcomes assessment were finalized. It was further discussed that the 4th goal should be changed for the next revision of the Policy and Procedure Manual to include Communication Skills, as well as Problem Solving and Critical Thinking skills since are part of the Program's goals that are already being evaluated by the program and will read: "To ensure graduates have the writing, computer and communication and critical thinking and problem solving skills necessary to practice successfully within the radiology profession." | <ul style="list-style-type: none"> Program mission statement and goals to be updated in the next revision of the Program student Handbook and Clinical Policy and Procedure manual for the class entering in the fall 2010 (Graduating class 2012) and the college website will be updated to reflect the discussed changes. |
| New England Association of Allied Health Educators Seminar: Fall at NECC | <ul style="list-style-type: none"> C Wallace and N. Garcia will be hosting a half day seminar sponsored by the NAAHE at the NECC Haverhill Campus Details will be forthcoming. Radiology Managers should encourage their Clinical Instructors to attend this meeting so that the CIs are meeting the JRCERT standards for continuing education by earning credits related to education. | <ul style="list-style-type: none"> Details of NAAHE seminar will be sent to the clinical sites by C Wallace and N. Garcia so the information can be posted. |
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| | | Respectfully submitted, Nancy Garcia |

**Northern Essex Community College
Radiologic Technology Program
Advisory Committee Meeting
November 5, 2010**

Board Members Attending: Arthur Zerbey MD (Medical Director), Judy Erbstein, (Lowell General Hospital) Migdalia Martinez (Lowell General Hospital), Nancy Garcia (NECC, Radiologic Technology Program Director), and Pat Willett (NECC, Clinical Coordinator), Debra Ralls (Lawrence General Hospital), James Borek (Anna Jaques Hospital), Jeanne Broderick (Mass. Radiation Control Program), Sharon Dodge (Nashoba Valley Medical Center), Carol Wallace (NECC, Clinical Coordinator), Lynette Hickey (Alumni),

Students Members Attending:

Board Members Absent: Jackie-Long Goding (NECC, Dean of Health Professions), Candace Ahern (Holy Family Hospital & Medical Center), Lynne Randall (Merrimack Valley Hospital),

Student Members Absent:

Recorder: Nancy Garcia

| Topic | Discussion | Action |
|---|--|---|
| 1. Review Minutes of May , 2010 Meeting | <ul style="list-style-type: none"> Minutes accepted | <ul style="list-style-type: none"> None Needed |
| 2. Program Review and Assessment Plan Fall 2010 | <ul style="list-style-type: none"> ARRT Exam results: Review and discussion of current American Registry of Radiologic Technologists (ARRT) certification exam results class 2010: 100% <ul style="list-style-type: none"> -Some students still delay in taking the ARRT exam and this continues to be a problem. Program encourages them to sit for exam within a month or two of graduation. ARRT statistics show the longer a student waits to take the exam after graduation the less likely they are to pass. Program Retention Rate: Retention of %, meets ARRT and Program benchmark of 75% or higher. <ul style="list-style-type: none"> -Class of 2010. Retention currently at 87.5%. 21 remaining students out of the 24 accepted -Class 2011. Retention currently at 70%. 14 remaining students out of the 20 who started. -This does not meet the JRCERT or the program's benchmark of 75% retention | <ul style="list-style-type: none"> Radiology managers should also continue to encourage recent graduates not to delay in sitting for the ARRT exam. Unless a department puts a time frame on completing the ARRT exam as a condition of employment there will be those graduates who continue to delay in taking the exam since they can work with their temporary Mass Radiography license for 1 year. Retention: |

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| <p>2. Program Review and Assessment Plan Fall 2009 (cont'd)</p> | <ul style="list-style-type: none"> • Employment Rate: Comparison of employment rate of the class of 2007 where 95% had obtained employment at 6 months, compared to the class of 2008 where 85.7% obtained employment at 6 months and to the class of 2009 where 71.4% were employed at 6 months. • Discussion of reducing numbers of accepted students. <ul style="list-style-type: none"> -Program has been reducing its numbers of accepted students since the fall of 2007 down to a current low of 22 accepted students from a high of 26 students accepted in the fall of 2007. -Program can not reduce its numbers further and maintain a viable program. • Senior Exit Survey Class 2009: Employment <ul style="list-style-type: none"> -6 out of the 21 graduates indicated they had found jobs after graduation. -Similar to previous year's class when 4 out of 21 indicated they had found jobs. - benchmark is set for 75% of graduates obtaining employment 6 months after graduation and 90% finding employment, continuing with their education or have joined the military 1 year after graduation. -Discussion of current job market: Job market has tightened up considerably in the past two years. • Economy's downward spiral negatively impacts on healthcare. Admissions to hospitals are down. As people lose their jobs and their medical insurance benefits they do not schedule appointments, elective surgeries, etc. Hospitals have cut backs in their budgets. Radiology managers are cutting budgets and eliminating open positions. | <ul style="list-style-type: none"> • Program is not meeting the ARRT's and program benchmark of 75% of graduates finding employment at 6 months for the class of 2009. • Program continues to allow students release time from their clinical practicum to attend job fairs in the spring semester and will continue to do so. • The Program maintains a job listing board at the college. Current job market is very limited due to the poor economy. |
| <p>2. Program Review and Assessment Plan Fall 2009 (cont'd)</p> | <ul style="list-style-type: none"> • Graduate Survey Results, Class of 2008. Response rate 6/21, 29% • Did not meet benchmark of 80% of graduates responding positively in two areas of evaluation of the clinical site. • One question relates to the level of supervision the student received at the clinical site. <ul style="list-style-type: none"> • Students have also indicated on CP semester evaluations that the staff technologists don't always seem willing to work with them and supervise them. | <ul style="list-style-type: none"> • Managers at staff meetings can: <ul style="list-style-type: none"> • Ensure that their staff is made aware they need to be available to supervise the students at the appropriate level: Direct vs. Indirect. • Encourage their staff technologists to allow students to view their images. This is an important aspect of the student's learning. |

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| | <ul style="list-style-type: none"> • Also students state that they don't always get a chance to look at their images. • The other low rating is the availability of the Clinical Instructor to complete competency evaluations. • Clinical Instructors have been told to contact the Clinical Coordinators if they are falling behind in completing competency evaluations. | |
| 3. Radiologic Technology Program Admission for Fall 2010 | <ul style="list-style-type: none"> • Reviewed admission numbers for fall 2010 • The total number of accepted students for fall 2010 is still 22 based on the following numbers: <ul style="list-style-type: none"> ○ Anna Jaques Hospital: 3 ○ Caritas Holy Family Hospital: 3 ○ Lawrence General Hospital: 5 ○ Lowell General Hospital: 6 ○ Merrimack Valley Hospital: 3 ○ Nashoba Valley Medical Center: 2 • Two students remain from the waitlist for fall 2009 who are guaranteed acceptance for fall 2010 | <ul style="list-style-type: none"> • None needed |
| 4. Service Learning component of Rad Procedures 3, summer 2009 See flyer | <ul style="list-style-type: none"> • The Radiologic Technology students were partnered with children from the on-site Campus Learning Center. The Rad Tech students performed simulated radiographic procedures in the X-ray lab on these children as part of their pediatric component of their course. • The Rad Tech students then developed a brochure about the procedure they simulated and scheduled time to go to the Campus Learning Center to present the brochure and to show radiographic images to the children. • The children had activities to color diagram of skeletons and identify bones of the skeleton. • This activity was written up in an NECC publication and is posted on the College's website | <ul style="list-style-type: none"> • The Program plans to continue this service learning activity next summer. |
| 5. CT Certificate Program | <ul style="list-style-type: none"> • 14 new students enrolled in the program this fall. • College is going to be strictly enforcing the requirement that class enrollment must contain a minimum of 15 students to run a course or the course will be cancelled. • They will be eligible to begin their CT Clinical Practicum in the summer of 2010. • The Program Director was notified by three of the students who completed the program summer/fall 2009 have taken and successfully passed the exam. | <ul style="list-style-type: none"> • Program will continue to work to add additional clinical sites for the CT program. |

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| | <ul style="list-style-type: none"> • The Program still is working to add additional clinical sites so more students can be accepted in the program. The current limiting factor to enrollment is the number of clinical practicum placement slots currently available: 13. • Could consider offering the program every other year instead of every year to boost enrollments • Considering offering the courses as on-line course work instead of in face to face classrooms. • American College of Radiology (ACR) is recommending that technologists operating CT scanners have ARRT Ct certification by 2012. | |
| 6. ARRT Certification Exams as of 1/1/2011 | <ul style="list-style-type: none"> • Individuals who complete an entry level or advanced certification exams as of 1/1/2011 will no longer be registered for life. The certification will be time limited to 10 years. • This means they will need to complete re-certification requirements every 10 years to maintain certification with the ARRT. • As to what the re-certification requirements will be the ARRT has not defined that yet. One possible way to re-certify might be to re-take the ARRT certification exam in that discipline again. • People who took the ARRT exams prior to 1/1/2011 are grandfathered in and are exempt from the new requirement. • | <ul style="list-style-type: none"> • Radiology Managers might want to remind their technologists who are thinking about obtaining advanced certification that they should do so before 1/1/2011. |
| 7. Other: Students Leaving Program: What are the reasons students are leaving program? | <ul style="list-style-type: none"> • When students leave program do they indicate the reasons they are leaving? • Are they indicating there are problems/issues at the clinical sites? • Program Director tries to schedule an exit interview with each student who leaves the program. • Students have indicated the reasons they are leaving are personal issues: Young children at home that still need to be raised and going to college is interfering with the student's ability to manage the home life, and child care issues; another student had a sick father that needed to be cared for; another was struggling in clinical and felt like the career was not a good for the individual's personality, skill sets and abilities. • Students have not indicated to the Program Director there is a problem with clinical but have shared with the Clinical | <ul style="list-style-type: none"> • At the start of each fall as the new incoming class enters clinical it would be helpful for the Radiology Managers to have a staff meeting remind their staff to be patient with the new incoming students and to be sure to be providing the required direct supervision. |

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| | <p>Coordinators some issues related to how these adult learners view their educational experience. Some have felt that technologists and supervisors seem very impatient with them and with mistakes they make.</p> <ul style="list-style-type: none"> • Part of the learning process does involve a new student making mistakes. • Technologists and supervisors need to be reminded each year that the new students coming in are “green” and must be directly supervised and guided. Everyone gets used to having the senior students around and they forget that these new incoming students are “newbies” and they are just starting to learn what comes as second nature to the technologists. • All clinical sites need to provide a supportive and encouraging environment for the students to learn in. | |
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| | | Respectfully submitted, Nancy Garcia |

**Northern Essex Community College
Radiologic Technology Program
Advisory Committee Meeting
April 29, 2011**

Board Members Attending: Arthur Zerbey MD (Medical Director), Nancy Garcia (NECC, Radiologic Technology Program Director), and Pat Willett (NECC, Clinical Coordinator), Debra Ralls (Lawrence General Hospital), Jackie-Long Goding (NECC, Dean of Health Professions), Candace Ahern (Holy Family Hospital & Medical Center), Lynne Randall (Merrimack Valley Hospital), Jeanne Broderick (Mass. Radiation Control Program)

Students Members Attending:

Board Members Absent: Judy Erbstein, (Lowell General Hospital) Migdalia Martinez (Lowell General Hospital), James Borek (Anna Jaques Hospital), Sharon Dodge (Nashoba Valley Medical Center), Carol Wallace (NECC, Clinical Coordinator), Lynette Hickey (Alumni)

Student Members Absent:

Recorder: Nancy Garcia

| Topic | Discussion | Action |
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| 1. Review Minutes of Nov 5, 2010 Meeting | <ul style="list-style-type: none"> Minutes accepted | <ul style="list-style-type: none"> None Needed |
| 2. Program Review and Assessment Plan Spring 2011 Review of results for graduating class of 2010 | <ul style="list-style-type: none"> ARRT Exam results: Review and discussion of current American Registry of Radiologic Technologists (ARRT) certification exam results class 2010: 100% Program Retention Rate <ul style="list-style-type: none"> -Class of 2010. Retention currently at 87.5%. 21 remaining students out of the 24 accepted -Class 2011. Retention currently at 70%. 13 remaining students out of the 20 who started. -This does not meet the JRCERT or the program's benchmark of 75% retention | <ul style="list-style-type: none"> Retention: We had established the use of a check list for accepted students to use during their clinical observation in the fall of 2010 in order to help students realize the complexity of creating radiographic images. Often the seasoned technologists make taking x-rays look so easy that incoming students are not aware of what they will be expected to do. We will continue to use this check list during the student's clinical observation to make students aware of the skills that are needed to create radiographic images so they can determine if this profession is the right fit for them prior to entering the program in the hope of improving our retention rate. |

2. Program Review and Assessment Plan spring 2011(cont'd)

- **Employment Rate:** Comparison of employment rate of the class of 2007 where 95% had obtained employment at 6 months, compared to the class of 2008 where 85.7% obtained employment at 6 months and to the class of 2009 where 71.4% were employed at 6 months.
- **Discussion of reducing numbers of accepted students.**
 - Program has been reducing its numbers of accepted students since the fall of 2007 down to a current low of 22 accepted students from a high of 26 students accepted in the fall of 2007.
 - Program can not reduce its numbers too much further and still maintain a viable program.
- **Senior Exit Survey Class 2010: Employment**
 - 6 out of the 21 graduates replied to survey: 28.5%/29% response rate. Normal return rate
- At 6 months 6 out of the 21 graduates had not found any type of employment in the radiology field. **Employment rate of 71.4% is lower than established benchmark of 75% employment at 6 months post graduation for those actively seeking employment.**
 - benchmark is set for 75% of graduates obtaining employment 6 months after graduation and 90% finding employment, continuing with their education or join the military 1 year after graduation.
 - Discussion of current job market: Job market has tightened up considerably in the past two years.
- Economy's downward spiral negatively impacts on healthcare. Admissions to hospitals are down. As people lose their jobs and their medical insurance benefits they do not schedule appointments, elective surgeries, etc. Hospitals have cut backs in their budgets. Radiology managers are cutting budgets and eliminating open positions. Reimbursement from insurance companies and Medicare has decreased.
- Discussion: The two larger clinical sites: Lawrence General Hospital and Lowell General Hospital will consider further reducing the number of students they take in for the fall 2012

- Program is not meeting the ARRT's and program benchmark of 75% of graduates finding employment at 6 months for the class of 2009.
- Program continues to allow students release time from their clinical practicum to attend job fairs in the spring semester and will continue to do so.
- The Program maintains a job listing board at the college. Current job market is very limited due to the poor economy.
- Nancy Garcia to contact the radiology Managers/Administrators at Lawrence General Hospital and Lowell General Hospital as a follow-up to the discussion of reducing the number of student's accepted for fall 2012. We have been reducing the number of accepted students through the years from a high of 26 admitted in fall 2007/graduating class 2009 to 24 students for the fall of 2008/graduating class of 2010, 20 students were accepted in the fall of 2009/graduating class of 2011 and for the class that entered in the fall of 2010/graduating class 2012: 22 students were accepted
- For fall 2012 the plan is to accept a total of 20 students if the clinical sites are in agreement with reducing the number of students assigned to their site.

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| | <p>semester. Current class starting fall 2011 has already been accepted: 22 new students. Suggestion made to reduce numbers accepted to a total of 20 for class entering fall 2012.</p> | |
| 3. Radiologic Technology Program Admission for Fall 2011 | <ul style="list-style-type: none"> • Reviewed admission numbers for fall 2011 • The total number of accepted students for fall 2010 is still 22 based on the following numbers: <ul style="list-style-type: none"> ○ Anna Jaques Hospital: 3 ○ Caritas Holy Family Hospital: 3 ○ Lawrence General Hospital: 5 ○ Lowell General Hospital: 6 ○ Merrimack Valley Hospital: 3 ○ Nashoba Valley Medical Center: 2 • 11 students were placed on a waitlist. We have already accepted students from the waitlist so there are seven (7) students remaining on the waitlist. • Discussion of some sites now requiring documentation of flu vaccination on an annual basis. If a person is unable to receive the vaccine due to allergies some sites then require those individuals to wear a face mask when working with patients. We | <ul style="list-style-type: none"> • None needed |

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| | are trying to arrange a way to provide the flu shot vaccinations at NECC for our students. U Mass Memorial Medical Center (UMMMC) is requiring annual flu shots. | |
| 4. Service Learning component of Rad Procedures 3, summer 2011 continuing for 3rd year | <ul style="list-style-type: none"> • The Radiologic Technology students partner with children from the on-site Campus Learning Center in Lawrence. The Rad Tech students performed simulated radiographic procedures in the X-ray lab on these children as part of their pediatric component of their course. • The Rad Tech students then develop a brochure about the procedure they simulated and scheduled time to go to the Campus Learning Center to present the brochure and to show radiographic images to the children. • The children from the Learning Center have activities while they wait to have their simulated X-ray like: Coloring diagrams of skeletons and identifying bones of the skeleton with the NECC Radiologic Technology students. | <ul style="list-style-type: none"> • The program plans to continue this service learning activity this summer as well. |
| 5. Student Portfolios | <ul style="list-style-type: none"> • Student Portfolio was implemented as a requirement of the clinical practicum courses (I, II, IV & V) in place of review tests that had been used previously. • Students provide examples of procedures they have performed and write up a description of how the procedure was performed, the criteria for proper images and a critique of their images with suggestions for improvement. • The plan is to continue this portfolio requirement. | None needed |
| 6. CT Certificate Program | <ul style="list-style-type: none"> • 14 students will start their CT clinical this summer 2011. • One (1) student is completing the clinical requirements through her employer. • The college is going to be strictly enforcing the requirement that class enrollment must contain a minimum of 15 students to run a course or the course will be cancelled. • The CT Program adding an additional clinical site of Frisbie Memorial Hospital in Rochester, NH. • We want to continue to develop clinical sites so more students can be accepted in the program. The current limiting factor to enrollment is the number of clinical practicum placement slots currently available: 16, with the addition of Frisbie Memorial Hospital. • American College of Radiology (ACR) is recommending that technologists operating CT scanners have ARRT CT certification by 2012 though it isn't required yet. | <ul style="list-style-type: none"> • Program will continue to work to add additional clinical sites for the CT program. • If managers know of technologists who are interested in the program they should instruct these individuals to contact Nancy Garcia and look on NECC website for additional information. |

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| | <ul style="list-style-type: none"> The Massachusetts Radiation Control Program has been discussing having the current regulations for technologists updated and revised to include a separate licensing requirement to operate a CT scanner. CT courses will be offered on-line this fall. | |
| 7. Direct Supervision | <ul style="list-style-type: none"> Please remind your staff that as the new students start in the fall 2011 semester they must be directly supervised until the student successfully passes their competency evaluations. Once a student successfully passes a competency evaluation for a particular procedure then they can work with indirect supervision for that procedure. | <ul style="list-style-type: none"> Managers/Supervisors to remind staff about the parameters of direct supervision for new incoming students in the fall 2011 semester. |
| 8. N. Garcia's additional responsibilities: Acting Assistant Dean Health Professions | <ul style="list-style-type: none"> As of January 2011 N. Garcia has taken on additional responsibilities as the Acting Dean of Health Professions. In this new role N. Garcia is no longer teaching courses in the Radiologic Technology Program. Carol Wallace has continued teaching in the program and adjunct faculty have also been utilized. At the end of 2011 a decision will be made as to whether N. Garcia continues in the position of Acting Assistant Dean of Health Professions. If N Garcia remains in Assistant Dean Role then a search will begin for a new Radiologic Technology Program Director. | <ul style="list-style-type: none"> None needed |
| 9. Lab Instructor Needed for Fall 2011 for Freshmen and Senior Level Rad Tech Labs | <ul style="list-style-type: none"> Job posting will be made for this part time lab instructor position. Labs are on Wednesday for Freshmen and Thursday for Seniors. Minimum of 2 years of full time experience as a radiographer with an AS degree, Baccalaureate degree preferred. Previous teaching experience preferred. | <ul style="list-style-type: none"> Managers to mention availability of lab instructor position to interested staff. |
| 10. Other: a. Mammography b. Bone Densitometry Program c. ASRT Curriculum d. Customer Service Skills | <p>a. Discussion of developing a training program in Mammography, since there is the possibility of shortages in these areas in the future because many older technologists have become mammographers and they may be reaching retirement age soon.</p> <ul style="list-style-type: none"> Typically mammography has never been a formal program of study but has been on-the-job- training (OJT). <p>b. Discussion of a possible program in Bone Densitometry:</p> | <ul style="list-style-type: none"> None |

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| | <p>Numbers are probably too low to realistically offer an educational program in Bone densitometry. Could consider a continuing education seminar.</p> <p>c. ASRT curriculum is changing; they are eliminating much of the information of film/screen technology and adding more on Computed Radiography and Digital Radiography (CR/DR).</p> <ul style="list-style-type: none"> ▪ Discussion about having students spend more time in CT. ASRT is still not requiring CT competency at the entry level, though this was previously being considered. It just needs to be covered in the curriculum which we have been doing for over 10 years. Currently we only require students to observe 14 hours in CT. We might consider increasing student time in CT in their senior year but it is not really essential to do at this point in time and may negatively impact on the student's ability to complete their mandated competency requirements. <p>d. Program should continue to emphasize the importance of good customer service skills to our students. Lynne Randell at MVH has noticed that many of our students go out of their way to help patients and provide their patients with good customer service which is so important to keeping patient's returning to healthcare facilities.</p> | |
| | | <p>Respectfully submitted,</p> <p>Nancy Garcia</p> |

**Northern Essex Community College
Radiologic Technology Program
Advisory Committee Meeting
November 30, 2011**

Board Members Attending: Arthur Zerbey MD (Medical Director), Nancy Garcia (NECC, Radiologic Technology Program Director), and Pat Willett (NECC, Clinical Coordinator), Debra Ralls (Lawrence General Hospital), Jeanne Broderick (Mass. Radiation Control Program), Sharon Dodge (Nashoba Valley Medical Center), Carol Wallace (NECC, Clinical Coordinator), Lynette Hickey (Alumni),

Students Members Attending:

Board Members Absent: Jackie-Long Goding (NECC, Dean of Health Professions), Candace Ahern (Holy Family Hospital & Medical Center), Lynne Randall (Merrimack Valley Hospital), Judy Canal, (Lowell General Hospital) , Migdalia Martinez (Lowell General Hospital), James Borek (Anna Jaques Hospital),

Student Members Absent:

Recorder: Nancy Garcia

| Topic | Discussion | Action |
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| 1. Review Minutes of April 29, 2011 Meeting | <ul style="list-style-type: none"> Minutes accepted | <ul style="list-style-type: none"> None Needed |
| 2. Program Review and Assessment Plan Fall 2011 | <ul style="list-style-type: none"> ARRT Exam results: Review and discussion of current American Registry of Radiologic Technologists (ARRT) certification exam results class 2011: 100%. Students don't appear to be delaying taking the ARRT exam. Program Retention Rate: Retention of 65% for graduating class of 2011, does not meet ARRT and Program benchmark of 75% or higher. <ul style="list-style-type: none"> -Class 2011. 13 remaining students out of the 20 who started. -3 students left for personal reasons, 3 left who were struggling in clinical and 1 senior left in second year of program because he had struggled in clinical and his financial situation changed for the better (inheritance of money) so he decided to leave. Senior Exit Survey; Graduating Class 2011: At time of graduation only 5 students had lined up positions, 4 were per diem one did not indicate type of position. These numbers are similar to previous graduating classes: Class 2010: 9 out of 21 students indicated they had jobs lined up at graduation; Class 2009: 6 out of 21 indicated they found jobs at time of graduation. | <ul style="list-style-type: none"> No Action needed for exam results Retention: Program will continue to utilize check list during student's clinical observation to help students understand the complex nature of radiographic imaging. Program faculty continue to work with students who struggle in clinical but some students realize after starting the program that this field is more difficult to learn than it initially appears and they are overwhelmed by all of what they need to learn and remember to be successful. Students are provided with alternate employment suggestions by faculty: Orthopedic offices, Pain clinics, Podiatric offices, Chiropractic offices, |

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| | <p>Class of 2008: 4 out of 21 students indicated they found jobs at time of graduation</p> <ul style="list-style-type: none"> • Benchmark for employment at 6 months is set at 75% and at one year 90% will be employed, be continuing their education or have joined the military. It is anticipated the Class of 2011 will not meet this 75% employment benchmark due to the current economy's downward spiral which negatively impacts on healthcare. Admissions to hospitals are down. As people lose their jobs and their medical insurance benefits they do not schedule appointments, elective surgeries, etc. Hospitals have cut backs in their budgets. Radiology managers are cutting budgets and eliminating open positions. • Graduate Survey for Graduating Class of 2011 to be sent to graduates shortly. We plan to send these electronically this year. | <p>Veteran Administration (VA) hospitals, mobile companies</p> <ul style="list-style-type: none"> • Graduate survey for Class of 2011 to be sent electronically. |
| <p>3. Radiologic Technology Program Admission for Fall 2012</p> | <ul style="list-style-type: none"> • Reviewed admission numbers for fall 2012 • The total number of accepted students for fall 2012 was reduced to 20 based on the advice from the Advisory Board meeting in Spring 2011 • Fall 2012 admitting class is based on the following numbers: <ul style="list-style-type: none"> ○ Anna Jaques Hospital: 3 ○ Holy Family Hospital: 3 ○ Lawrence General Hospital: 4 ○ Lowell General Hospital: 5 ○ Merrimack Valley Hospital: 3 ○ Nashoba Valley Medical Center: 2 • Three (3) students remain from the waitlist for fall 2011 who are guaranteed acceptance for fall 2012. • Currently we have accepted 14 students who have met all of the Program's admission criteria and submitted their packets on October 6, 2011. • Two slots are being held for high school students until December 2011 or beginning of 2012. • Monthly information sessions will continue until the program and waitlist of 10 students have been filled | <ul style="list-style-type: none"> • None Needed |

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| 4. Review and revision of Program Mission Statement | <ul style="list-style-type: none"> • Minor revisions made to the Mission Statement to align Program's mission with the college's strategic directions that include the requirement of graduates of associate degree programs to complete 6 different intensive courses to graduate from NECC: oral communication, written communication, information literacy, quantitative reasoning, scientific reasoning and global awareness • Current mission statement: "The mission of the Radiologic Technology Program is to graduate competent entry level technologists who meet the employment needs of area healthcare facilities." • Change to: "The mission of the Radiologic Technology Program is to graduate competent entry level technologists who meet the healthcare needs of area facilities." • Goal 4 was changed from "To ensure graduates have the writing, computer, communication and critical thinking and problem solving skills necessary to practice successfully within the radiology profession." to "To ensure graduates have the computer skills, the written and oral communication skills ; and the critical thinking and problem solving skills necessary to practice successfully within the radiology profession." | <ul style="list-style-type: none"> • Revision to mission statement to be posted in X-ray labs; director's office; updated in the next version of the Radiologic Technology student clinical handbook and policy and procedure manual and updated on Radiologic Technology page on the NECC website. |
| 5. CT Certificate Program | <ul style="list-style-type: none"> • 18 new students started in the fall 2011 semester when we moved to an on-line format for the CT didactic courses. • The only courses that remain as face-to-face courses are the Advanced Cardiac Life support (ACLS) and the CT Clinical Practicum course for the obvious hands-on nature required for these courses. • Of the 12 CT students who started in the NECC CT clinical sites in the summer 2011, 10 have finished their CT clinical requirements. The 2 remaining students are almost finished. One additional student completed her CT clinical requirements with her employer. • The new CT clinical competency requirements that went into effect as of July 1, 2011 now permits that only one exam can be used for competency evaluation per patient. This will be enforced for any technologists taking the ARRT's CT Certification exam as of July 1, 2013. • Up until June 30, 2013 applicants may use the previous CT Clinical Experience Requirements dated July 1, 2008 which allowed multiple exams to be performed on the same patient or | <ul style="list-style-type: none"> • None needed at this time but it is anticipated that for some of the smaller community hospitals it is going to take NECC CT student technologists longer than 2 semesters (Summer and Fall) to complete all of their ARRT CT clinical experience requirements. |

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| | the new requirements dated July 1, 2011. | |
| 6. Back-Up Clinical Instructors | <ul style="list-style-type: none"> • At this time all of the sites except Merrimack Valley Hospital have more than one technologist listed as a clinical instructor. • The availability of more than one clinical instructor at a site is especially beneficial when the clinical instructor is absent due to illness or other unexpected emergencies or has scheduled vacation time | <ul style="list-style-type: none"> • N. Garcia to follow up with Lynne Randall about the possibility of another technologist listed as a clinical instructor at MVH in Jeannine Gagne's absence. |
| 7. NECC Annual Report | <ul style="list-style-type: none"> • Had a quote and photo of Dr. Zerby. • Dr. Zerby had not received a copy. | <ul style="list-style-type: none"> • N. Garcia to contact Ernie Greenslade about forwarding a copy of report to Dr. Zerby at Holy Family Hospital |
| 8. Discussion of NECC 50th anniversary | <ul style="list-style-type: none"> • C. Wallace discussed events planned by NECC for upcoming 50th anniversary celebration in the spring 2012. | <ul style="list-style-type: none"> • None needed |
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| | | Respectfully submitted, Nancy Garcia |

**Northern Essex Community College
Radiologic Technology Program
Advisory Committee Meeting
April 13, 2012 * 2:00pm**

Board Members Attending: Lynne Davis (NECC, Radiologic Technology Program Director); Pat Willett (NECC, Clinical Coordinator), Judy Canal, (Lowell General Hospital) ; Jackie-Long Goding (NECC, Dean of Health Professions), Hospital & Medical Center), Lynne Randall (Merrimack Valley Hospital); Jeanne Broderick (Mass. Radiation Control Program; James Borek (Anna Jaques Hospital),

Students Members Attending:

Board Members Absent: Arthur Zerbey MD (Medical Director), Debra Ralls (Lawrence General Hospital); Migdalia Martinez (Lowell General Hospital), Sharon Dodge (Nashoba Valley Medical Center), Candace Ahern (Holy Family ; Lynette Hickey (Alumni)

Student Members Absent:

Recorder: Lynne Davis

| Topic | Discussion | Action |
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| 1. Introductions | <ul style="list-style-type: none"> Dean Long-Goding announced her retirement effective in June 2012. She has been at the college for 10 years. Lynne introduced herself by email when she sent out the meeting notice. | <ul style="list-style-type: none"> None needed |
| 2. Review Minutes of Nov 30, 2010 Meeting | <ul style="list-style-type: none"> Minutes resent electronically and accepted | <ul style="list-style-type: none"> None Needed |
| 3. New Faculty-Adjunct Instructor | <ul style="list-style-type: none"> Kim McHugh, has been a tech for 25 years at MGH. She taught a Procedures I lab in fall 2011 and is teaching the Procedures II course this spring 2012 semester. | <ul style="list-style-type: none"> None Needed |
| 4. Clinical Instructors | <ul style="list-style-type: none"> We have secured a Backup CI for the Merrimack Valley Clinic – Garry L'Abbe, Jr. RT/NM. Lynne Randell spoke highly of this technologist. Jillian Woundy is now in the CI role at Anna Jaques. The Program has provided online access to the CIs for all clinical forms used in the program via Blackboard. The program sees the need to move from the paper-based clinical record keeping system used by the CI's and students to a web-based system called TRAJECSYS. This is not a software based system. Administrators understood the need for this direction and were in agreement. | <ul style="list-style-type: none"> AJ indicated they may need to speak with their IT and upgrade so CIs will have access to the internet to access this web-based system. Give administrators time to speak with their IT departments. We plan to implement with the incoming Sept 2012/Fall class. Administrators will talk to their IT Departments ASAP. |
| 5. Planning for the Future | <ul style="list-style-type: none"> What should we be doing now to produce the best graduates for the future market? Cross modality training-CT, Bone Densitometry, pain clinic. Hospitals are sharing staff-multisite training. Cath lab and IR should be seamless. | <ul style="list-style-type: none"> Lynne will explore the Women's Health Imaging Certificate. |

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| | <ul style="list-style-type: none"> NS & BH have Mammography Programs. What would it take to develop a Mammography Certificate or a Women's Health Imaging Certificate which would include Mammography, Bone Densitometry and Breast Imaging. Certificate needs to have 12 credits. Will need to do a survey to determine if the need exists. | |
| 6. Program Review and Assessment Plan Spring 2012 Review of results for graduating class of 2011 | <ul style="list-style-type: none"> ARRT Exam results: Previously discussed in fall meeting. Program Retention Rate <ul style="list-style-type: none"> -Class of 2012. Retention currently at 77%. 17 remaining students out of the 22 accepted -Class 2013. Retention currently at 100%. -This meets the JRCERT and the program's benchmark of 75% retention Discussion of reducing numbers of accepted students. <ul style="list-style-type: none"> -Program has reduced its numbers of accepted students since the fall of 2007 down to a current low of 20 accepted students from a high of 26 students accepted in the fall of 2007. -Program can not reduce its numbers too much further and still maintain a viable program. Graduate Survey: Out of 13 Graduates 6 responded. <ul style="list-style-type: none"> 6 working/1 working fulltime/4 working Per Diem/ 1 not working Wages between \$21-\$24 <p>All 6 passed Registry</p> | <ul style="list-style-type: none"> Retention: We continue the use of a check list for accepted students to use during their clinical observation in order to help students realize the complexity of creating radiographic images. Perhaps this has resulted in the improved retention rate. Of the 5 attrited students some are due to non-academic factors. We have been reducing the number of accepted students through the years from a high of 26 admitted in fall 2007/graduating class 2009 to 24 students for the fall of 2008/graduating class of 2010, 20 students were accepted in the fall of 2009/graduating class of 2011 and for the class that entered in the fall of 2010/graduating class 2012: 22 students were accepted in fall 2011/graduating class 2013. 20 students have been accepted in fall 2012/graduating class 2014 as previously agreed upon. |
| 7. Radiologic Technology Program Admission for Fall 2012 | <ul style="list-style-type: none"> Reviewed admission numbers for fall 2012 <ul style="list-style-type: none"> The total number of accepted students for fall 2012 is 20. Based on the following: <ul style="list-style-type: none"> Anna Jaques 3 Lowell General hospital 5 Holy Family 3 Lawrence General Hospital 4 Merrimack Valley 3 Nashoba Valley 2 For the first time in a long time we do not have a waitlist. Compared the numbers of interested student in fall 2011 on the list. There were 80 names. This year there are about 20-25 names. Student Mentoring Event-This started in 2011 and continues to be modified to | <ul style="list-style-type: none"> Forward us a FAX BLAST or email information to say you are still recruiting and we will post it. We will continue to have Information Sessions on the Lawrence Campus May 23-3:30pm/ June 21 at 2pm/ July 26 at 2pm. |

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| | provide a better mentoring experience for the freshman students. Had a gathering in April. Students gave Lynne feedback on how it would work better and we look forward to the new students coming in and implementing some of the suggestions. Freshman and Seniors do not cross on campus and so it is difficult to plan activities to get them together. | |
| 8. Computed Tomography Certificate Program | <ul style="list-style-type: none"> • Holy Family has provided 2 clinical spots for CT. • Currently 15 students in CT Program. There were 18. They all need clinical sites. | <ul style="list-style-type: none"> • Program will continue to work to add additional clinical sites for the CT program. • If managers know of technologists who are interested in the program they should instruct these individuals to contact Lynne Davis. |
| 9. Program Curriculum Changes | <ul style="list-style-type: none"> • Core Intensives- Core Intensives - NECC has implemented a process to insure all graduates have what it considers 'essential skills' to adequately prepare them for further academic pursuits and careers. The program has identified courses in the program where 5 (oral communication, written communication, information literacy, quantitative reasoning and science and technology) of the 6 core academic skills are taught. Our Clinical Practicum courses are being looked at to determine if the 6th intensive, Global Awareness, can be appropriately addresses in the practicums. CI's provided great feedback on how cultural awareness, sensitivity and global awareness could be heightened in the clinical setting. Pat discussed using the Portfolios, the clinical courses and Discussion Board of Blackboard to meet the objectives of the Global Awareness Intensive. • Pat shared the possible articulation between Regis Colleges BS in Nuclear Medicine & Interventional Imaging and our AS in Radiography. • NECC has developed a 3+1 Articulation Agreement with St. Joseph's college of Maine. In this agreement SJC College accepts all NECC RT credits, students may complete their 3rd year of General education at NECC which results in a significant cost advantage. 33 credits must be completed at SJC online to complete the BS in Radiologic Science Administration. | <p>Lynne & Pat will be working on developing the Global Awareness Curriculum</p> <ul style="list-style-type: none"> • Dean Young is currently working on this agreement. |
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| | | Respectfully submitted,Lynne Davis |

**Northern Essex Community College
Radiologic Technology Program
Advisory Committee Meeting
December 12, 2012**

Board Members Attending: Arthur Zerbey MD (Medical Director), Mary Farrell (NECC, Dean of Health Professions), Nancy Garcia (Associate Dean), Lynne Davis (NECC, Radiologic Technology Program Director), and Pat Willett (NECC, Clinical Coordinator), Debra Ralls (Lawrence General Hospital), Jeanne Broderick (Mass. Radiation Control Program), Sharon Dodge (Nashoba Valley Medical Center), James Borek (Anna Jaques Hospital), Judy Canal, (Lowell General Hospital), Lynne Randell (Merrimack Valley Hospital),

Students Members Attending:

Board Members Absent: Candace Ahern (Holy Family Hospital & Medical Center) , Migdalia Martinez (Lowell General Hospital)

Alumni Absent: Lynnette Hickey

Recorder: Lynne Davis

| Topic | Discussion | Action |
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| 1. Review Minutes of April 13, 2012 Meeting-sent electronically 5/18/12 | <ul style="list-style-type: none"> Minutes accepted | <ul style="list-style-type: none"> None Needed |
| 2. Introductions | <ul style="list-style-type: none"> Mary Farrell is the new Dean of NECC Health Professions Division. She started at NECC in July of 2012. She shared her background with the Committee and expressed her pleasure in being at NECC at meeting the Board. | <ul style="list-style-type: none"> None Needed |
| 3. Clinical Instructors | <ul style="list-style-type: none"> Gabriel Carr (Lawrence General Hospital) has been officially recognized by the JRCERT as one of our Clinical Instructors. | <ul style="list-style-type: none"> None Needed |
| 4. Review Mission Statement and Goals | <ul style="list-style-type: none"> The current 2012 Mission Statement and Goals were reviewed. The discussion centered on Goal 4 and whether the words 'computer skills' should be changed to information management or something that honed in on radiology more specifically. It was decided that the broad use of the words 'computer skills' best articulated how computers were used in every aspect of radiology. The mission and goals remain accurate at this time. | <ul style="list-style-type: none"> The mission statement and goals are posted in X-ray labs; director's office. They exist in the Radiologic Technology student clinical handbook and policy and procedure manual and on the Radiologic Technology page on the NECC website |
| 5. Program Review and Assessment Plan Fall 2012 | <ul style="list-style-type: none"> ARRT Exam results: Review and discussion of current American Registry of Radiologic Technologists (ARRT) certification exam results for the 2012 class: 100%. The first time test taking pass rate was 94% but the one student who failed the first time passed the second time and this occurred | <ul style="list-style-type: none"> No Action needed for exam results Retention: Even though the 2012 retention rate exceeds the benchmark it is still close to the benchmark. |

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| | <p>within the year.</p> <ul style="list-style-type: none"> • Program Retention Rate: Retention of 77% for graduating class of 2012, meets the ARRT and Program benchmark of 75% or higher. <ul style="list-style-type: none"> ○ –Class 2012. 17 graduated out of 22 who started. <ul style="list-style-type: none"> ▪ 5 students left. 4 students left for person reasons: financial, did not like x-ray, did not pay tuition bill and mother was diagnosed with Alzheimer's. ▪ 1 student left because they were struggling in clinical and felt this was not a good fit. ○ Class 2011 -in comparison- 13 remaining students out of the 20 who started. <ul style="list-style-type: none"> ▪ 7 students left. 3 students left for personal reasons, 3 left who were struggling in clinical and 1 senior left in second year of program because he had struggled in clinical and his financial situation changed for the better (inheritance of money) so he decided to leave. • Senior Exit Survey; Graduating Class 2012: At time of graduation only 6 students of 17 had lined up positions-35% employment rate. 1 was part-time and 4 were per Diem. The Program is aware of 2 individuals from the 2012 class who are not looking for employment. In comparison, the Class of 2010 (9 out of 21 students) had jobs lined up at graduation-43% employment rate; Class 2009: (6 out of 21) indicated they found jobs at time of graduation-29% employment rate; Class of 2008: (4 out of 21) students indicated they found jobs at time of graduation -19% employment rate. • Benchmark for employment at 6 months is set at 75% and at one year 90% will be employed, will be continuing their education or will have joined the military. Based on data supplied by the Program's Clinical Instructors, the 2012 class at 6 months- 12 out of 17 are employed. 1 full time, 5 part-time and 6 per diem. Of the per diem graduates one is also in ultrasound school at Bunker Hill. The Class of 2012 has a 6 month employment rate of 65% but may still not meet this 75% employment benchmark due to the current economy's downward spiral which negatively impacts on | <p>Analyzing the data reveals that attrition is primarily due to non-academic issues. The Program requires attendance at an Information Session and utilizes a Checklist during student's clinical observation to help students understand the complex nature of radiographic imaging. Will continue to require these.</p> <ul style="list-style-type: none"> • Despite the Program's best efforts some students realize after starting the program that this field is not what they expected and they exit out after starting. Applicants receive financial aid information when they meet with the CPAC (Advisors) at the time they state their interest in the Program. The Program will do a better job of letting current students know of emergency financial aid that might be available to them once in the Program. • The Program has responded to these lean times by decreasing the acceptance numbers in the program. Currently, the program accepts 20 students to the program. This is down from the 24 that is has accepted in earlier times. |
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| | <p>healthcare. Admissions to hospitals remain down. Radiology managers connected to this Program have indicated that their budgets have not increased.</p> <ul style="list-style-type: none"> Graduate Survey for Graduating Class of 2012 to be sent to graduates within the next week. We have begun to send these electronically. Program Employer Survey 2011-9 Employers responded and rated their NECC employees at 'meets or exceeds' standards in 18 of 20 questions. In the areas of dependability and reliability one graduates behavior resulted in a 'below standard' rating. | <ul style="list-style-type: none"> Graduate survey for Class of 2012 to be sent electronically within the next week. Program Employer Survey- The 1 graduate who wanted the per diem position and begged for it and then did not make themselves available did not represent the general attitude of the class. |
| 6. Radiologic Technology Program Admission for Fall 2013 | <ul style="list-style-type: none"> Reviewed admission numbers for fall 2013 The total number of accepted students for fall 2013 remains at 20 based on the former advice from the Advisory Board meeting in Spring 2011. 18 students have been accepted into the Program and 2 spaces are being held for high school students. In early February we will release these spaces to Waitlisted students. Fall 2013 admitting class is based on the following numbers: <ul style="list-style-type: none"> Anna Jaques Hospital: 3 Holy Family Hospital: 3 Lawrence General Hospital: 4 Lowell General Hospital: 5 Merrimack Valley Hospital: 3 Nashoba Valley Medical Center: 2 3 students were accepted from the Waitlist. They were guaranteed acceptance for fall 2013. 1 student remains on the Waitlist. The acceptance count can be quite dynamic and so we are continuing monthly Information Sessions and the dates/times are posted on the NECC Website on the Radiography Landing page. This will continue until there are 10 students on the Waitlist. | <ul style="list-style-type: none"> None Needed |
| 7. Internal Program Review | <ul style="list-style-type: none"> Every 5-6 years the associate and certificate programs at NECC undergo an Internal Review. This program went through it in 2006 and is undergoing that process now. It is similar to a JRC Self Study preparation. Advisory Committee member, James Borek, is the Advisory Committee and External member | <ul style="list-style-type: none"> None Needed |

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| | Representative to this Program Review Committee. | |
| 8. ARRT Updates | <ul style="list-style-type: none"> • Associates Degree -2015 marks the implementation of the associate degree requirement in order to sit for the Registry. There are no certificate programs in MA. • CQR 10 – Continuing Qualifications Requirements (CQR) – As of Dec 31, 2010 the ARRT has ushered in a new evaluation method. No longer can a graduate take the Registry and once passed, always certified. Now, every 10 years from the date of the Registry, the RT will have to undergo some sort of evaluation/assessment that will begin in the 7th year leading up to their 10th year as a tech. The purpose is to assure they have remained current in entry level knowledge in the profession. The assessment is not retaking the Registry and it is not a pass/fail concept. It will be designed to highlight an RTs strengths and weaknesses and then identify learning opportunities to strengthen the weaknesses. These learning opportunities can be used towards mandatory biennium CEs. • Ethics - The ARRT asks a question on the Registry Application now, “Have you ever been suspended, dismissed, or expelled from an educational program that you attended in order to meet ARRT certification requirements?” If yes, they applicant must supply all necessary documentation relevant to the mater, along with a detailed explanation of the events that occurred.” (<i>Educator Update Spring 2012</i>). This ethical milestone is consistent with hospitals, such as Lowell General, who will no longer hire smokers. • Cut Score - Beginning January 1, 2013 the ‘cut score’ for the Radiography exam will increase. Students must answer more questions correctly. The scaled score of 75 will continue to be the minimum for passing but it will take more questions to reach that 75. Pat expressed concern for some of our students who are marginal in the program and barely pass the Registry now. For those students this will mean failing and our Pass Rate will be impacted. The Board cautioned against simply making this a grade-based acceptance policy for students. Some of the best students are “C” students. | <ul style="list-style-type: none"> • Assure that the Program is alerting students on the front end of acceptance about the ethics standards. Can add to the Admissions Checklist and to Information Session document. • The increased Cut Score will impact students who are barely passing the Program. Re-evaluate the efficacy of it requiring a 73% to remain in the Program but a 75% to pass the Registry. Should the Program consider making a “B” the passing score across the board. • Look at what St. Joseph’s scoring rubric is for the online Rad Program. Online courses generally require a higher grade. |
| 9. Digital Imaging and Cropping | <ul style="list-style-type: none"> • Pat discussed that there is a difference between post processing cropping and collimating. Students have reported that at some of the clinic sites they have seen post processing cropping occurring. This is considered illegal. • At a recent JRCERT Workshop attended by Lynne and Pat manipulating Repeat images was discussed. A technologist | <ul style="list-style-type: none"> • All supervisors stated if this was happening at their institution they wanted to know about it because they did not approve and wanted to educate the staff on this. • Pat will send the AC the link to ASRT |

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| | must be present when image manipulation occurs. Pat suggested ASRT Best Practices in Digital Imaging. | Best Practices in Digital Imaging. She indicated this was an excellent guide to digital imaging. |
| 10. Digital Imaging in the Lab | <ul style="list-style-type: none"> • 3 of our 6 clinical sites have upgraded to Digital imaging and the other 3 are waiting for funding to follow suit. Currently, the Program does not have the time or space in the curriculum to add Digital Technology teaching in the lab. The clinics are hard pressed to do the procedures and related labs with the students currently. • The Advisory Committee firmly stated the need to upgrade the lab to include Digital Radiography equipment. We need to move forward on this. • The OREX needs to be upgraded. It was at the low end of CR equipment when it was purchased and now it is outdated. • A new campus is being built across the street but the RT Program will remain in this building and currently no funds exist for lab or space upgrades. This may need to be a capital expenditure request. | <ul style="list-style-type: none"> • Develop a proposal for Digital equipment in the lab. The Board supports the recommendation that this program needs to stay current with the technology. |
| 11. Fit Test | <ul style="list-style-type: none"> • One of our clinical facilities is requiring students to pay to get their own respirator/fit test mask. The school cannot do this for all students because the fit test is hospital specific and brand specific. Currently, non-fit tested students do not participate in procedures involving TB patients. Sharon and Deb and Lynne Will address it at their hospitals to come to a resolution that is considerate of the very few students that this decision actually impacts. | <ul style="list-style-type: none"> • Sharon and Lynne Will address it at their hospitals to come to a resolution that is considerate of the very few students that this decision actually impacts. |
| 12. Rotating to different clinics for 1 semester | <ul style="list-style-type: none"> • An area Rad Program was cited by the JRC at its Site Visit for only letting their students rotate out to a different hospital for 1 semester. The JRC believed the rotations should be a year in endurance and provide the balance of large and small settings and the differences that occur with these departments. • Additionally, this same program was cited for students receiving an "I" at the end of the fall semester and continuing to rotate them in in clinic over a school break/prior to the beginning of the semester. That program's accreditation was decreased from 8 years to 3 years. The NECC Program operates the same way. The concern is that when students are out of clinic for 5 weeks between Winter break and the start of spring semester they lose a lot of information. | <ul style="list-style-type: none"> • Lynne will consult the JRC about these rulings to assure this Program is receiving the most accurate information on these decisions before we implement any changes. • It was agreed that we would begin a two semester rotation beginning with the fall 2013 incoming class. |
| 13. Other | 2. Trajecsys – The Clinical Instructors and students are adjusting well to the electronic clinical record keeping system. There | 3. None Needed |

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| | are still some adjustments to be made. In some departments CI's are finding it cumbersome to complete competency evaluations, with only 1 computer monitor available to view images and complete the electronic grading. | |
| | NEXT MEETING DATE Thursday, April 11, 2013 2pm | |
| | | Respectfully submitted, Lynne Davis |

APPENDIX 5
OUTCOMES ASSESSMENT PLAN

Curriculum Map 2012

Radiologic Technology

CORE COMPETENCIES = *

PROGRAM MISSION STATEMENT: The Mission of the Radiologic Technology Program is to graduate competent entry level technologists who meet the healthcare needs of area facilities.

| OBJECTIVES | | ASSOCIATED LEARNING OUTCOMES | PROGRAM CURRICULUM: SPECIFIC COURSES AND RELATIONSHIP TO OUTCOME** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|--|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|---------|--------|--------|-------------------|----------------------|-----------------------------|--|--|--|
| | | | RTA110 | RTA111 | RTA191 | RTA120 | RTA121 | RTA192 | PHS121 | BIO121* | BIO122* | ENG101 | ENG102 | HES130 | CIS101 | RTA220 | RTA292 | RTA201 | RTA202* | BIO210 | RTA294 | RTA203 | RTA204* | RTA205 | RTA295 | Lib Arts Elective | Humanities Elective* | Behavioral Science Elective | | | |
| The objectives of the Program include to assist students in the development of: | | The graduating student will be able to: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | The knowledge and skills needed to ensure that they are competent entry level technologists who are academically and clinically prepared to sit for their national credentialing exam. | 1 Apply knowledge and demonstrate competency in the skills needed to perform routine diagnostic radiology procedures which includes: facility preparation, patient care, patient positioning, radiographic image quality, radiation protection, anatomy and pathology, on a variety of patient types and conditions . | X | X | X | X | X | X | X | X | X | | | X | | X | X | | X | X | X | | X | X | X | | X | X | | | |
| | | 2 Identify and demonstrate how various types of radiographic equipment operate. | X | X | X | X | X | X | X | | | | | | | | X | X | X | | X | | | X | X | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| OBJECTIVES | | ASSOCIATED LEARNING OUTCOMES | PROGRAM CURRICULUM: SPECIFIC COURSES AND RELATIONSHIP TO OUTCOME** | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--------|--------|---------|--------|--------|--------|---------|---------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|---------|--------|---------|-------------------|----------------------|-----------------------------|---|
| | | | RTA110 | RTA111 | RTA191 | RTA 120 | RTA121 | RTA192 | PHS121 | BIO121* | BIO122* | ENG101 | ENG102 | HES130 | CIS101 | RTA220 | RTA292 | RTA201 | RTA202* | BIO210 | RTA294 | RTA203 | RTA204* | RTA205 | RTA 295 | Lib Arts Elective | Humanities Elective* | Behavioral Science Elective | |
| The objectives of the Program include to assist students in the development of: | | The graduating student will be able to: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | The ability to provide competent and compassionate healthcare to culturally diverse populations. | 1 Effectively communicate with patients, family members and other members of the healthcare team. | | | X | | | X | | | | | | X | | | X | | | | X | | | | X | | X | X | |
| | | 2 Apply knowledge to provide patients with a caring and compassionate environment while performing diagnostic radiographic procedures. | X | | X | X | | X | | | | | | X | | X | X | | X | | X | | | | | X | | X | X |
| | | 3 Recognize patient's medical emergency situations and initiate the appropriate steps to deal with the situation. | X | | X | X | | X | | | | | | X | | X | X | | X | | X | | X | | X | | | | |
| 3 | The development of those intellectual skills that will demonstrate critical thinking and professional attitudes and values necessary for life long learning. | 1 Demonstrate critical thinking and problem solving abilities in order to be able to adapt to different patient conditions and situations. | X | X | X | X | X | X | | | | | | X | | X | X | X | X | | X | X | X | | X | | | | |
| | | 2 Utilize various resources to earn continuing education credits in order to continue their life long learning. | | | X | | | X | | | | | | | | | X | | | | X | | | | | X | | | |
| 4 | The computer skills, the written and oral | 1 Demonstrate effective writing skills by producing clear and well organized writing that uses standard American English . | X | X | | X | X | | X | X | X | X | X | X | X | X | | X | X | X | | X | X | X | | X | X | X | X |

2/14/2013

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Northern Essex Community College
Radiologic Technology Program Outcomes Review and Assessment: Fall 2012

Mission Statement: To graduate competent entry level technologists who meet the employment needs of the area healthcare facilities.

| Program Goals (G) | Outcomes (O) | Assessment Criteria Benchmarks (B) | Data Results (DR) | Criteria Met or Unmet | Actions for Unmet Criteria & Other information |
|---|--|--|---|-----------------------|---|
| G1: To ensure graduates are academically and clinically prepared to sit for their national credentialing exam. | O1: Program's Student Retention Rate will meet JRCERT Standards of 75% of entering class will complete the program | B1: 75% of students will complete the program in the requisite time as outlined in the College catalog. | DR1: Retention Results | | Class of 2003, 2004, and 2005 exhibited improved retention rates due to the improved academic quality of students applying to program improving. Larger applicant pool applying to program. Minimum requirement of a grade of "C" in science and Algebra II level courses is still required to enter program but the majority of applicants are students with grades of "A" and "B". Applicants attend Information session and clinical observation/interview. |
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| | | | Graduating Class of 2004 - 25 students admitted, 23 graduates: 92% | Y | Class entering fall 2006, Graduating class of 2008: Admission requirements changed: 1. Applicants must receive a grade of "B" or higher in science courses and C in Algebra II level course. 2. Applicants to Program still must attend an information session in order to be provided with a review of program curriculum and program requirements. 3. The best qualified applicants are required to complete a clinical day of observation at one of the NECC Clinical affiliate sites. Clinical Instructors complete an evaluation form for applicants who complete clinical observations. 4. A panel of NECC program faculty interviewed applicants and then determined accepted and waitlisted students. |
| | | | Graduating Class of 2005 - 25 students admitted, 21 graduates: 84% | Y | |
| | | | Graduating Class of 2006- 25 students admitted, 25 graduates:100% | Y | Class entering fall 2007, graduating 2009: Students accepted based on Grades in Math/science and overall GPA. Two (2) sciences with a grade of "B" or higher. Accepted and waitlisted students then completed a clinical observation in which CIs documented their observation time. |
| | | | Graduating Class of 2007- 25 students admitted-20 Graduating: 80% + 1 Advanced Standing student graduating with class | Y | |
| | | | Graduating Class of 2008- 25 students Current : 21 student to graduate: 84% retention | Y | |
| | | | Graduating Class of 2009-26 students started with 20 remaining students: 77% retention rate 2 students returned to the program to join this class, one after a medical leave of absence, one returning in an advanced standing status after 4 unsuccessful attempts at ARRT certification exam. Advanced standing student did not finish course work for program due to financial difficulties. 21 students to graduate spring 2009: 81% retention rate with the 1 student who returned and finished program. | Y | |
| | | | Graduating Class of 2010: accepted 24 students. Currently 21 students remain One additional student who was supposed to return to program in fall 2009 semester | Y | |

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| | | | after a Medical Leave of Absence did not complete requirements to return. Anticipate graduating 21 students- Retention rate: 87.5% | | For class entering fall 2008, graduating 2010: The HOBET (Health Occupations Basic Entrance Test) has been added as an additional admission criteria in addition to 2 sciences with a "B" or higher, Algebra II level course or completion of math assessment test at algebra II level or higher and overall GPA. Accepted and waitlisted students must complete a clinical observation day documented by CI. |
| | | | Graduating Class 2011: Accepted 20 students 13 Graduated. 65% retention rate 7 students left. Of this #, 3 left for personal reasons, 3 were struggling in clinical. 1 other was also struggling with clinical but he inherited money so he left. | N | Class entering fall 2009- graduating 2011 Continued to use the HOBET (Health Occupations Basic Entrance Test) as one of the admission criteria in addition to 2 sciences with a "B" or higher, Algebra II level course or completion of math assessment test at algebra II level or higher and overall GPA. Accepted and waitlisted students must complete a clinical observation day documented by Clinical Instructor. Retention benchmark not met for class 2011 Program implemented use of new checklist for student's clinical observation (Students entering in fall 2010- graduating class 2012 to use for first time. Use of form is to help new students understand the complex nature and need for multi-tasking skills to perform radiographic imaging. In addition students entering fall 2010 (Graduating class of 2012) will have a lunch with the current students to learn how to be successful in the program. |
| | | | Graduating Class 2012: Accepted 22 students. 17 Graduated, 77% retention rate 4 students left for personal reasons- financial, did not like x-ray, did not pay tuition bill and mother was diagnosed with Alzheimer's. 1 student was struggling with clinical and felt x-ray was not a good fit. | Y | HOBET is being phased out by test company. Program will use TEAS (Test of Essential Academic Skills) in its place for applicants who will be entering the program in fall 2010 to graduate in 2012. It is a similar type of test which evaluates a student's reading comprehension, math and science skills. Minimum grade for passing overall and in each category is set at 55%. Students must meet the minimum grade of 55% to enter program. Continuing to implement the student mentoring |

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| | | | | | <p>student program through program supported lunches. It seems to have benefit at the moment the students are together but sustaining the communication throughout the semesters needs attention. The freshman class has pledged to be better mentors when they become seniors.</p> |
| | | | <p>Graduating class 2013: Accepted 22 students Currently 20 students remain. Retention based on 22 is 91%</p> | Y | <p>HOBET (Health Occupations Basic Entrance Test) is being re-instituted by test Company. The HOBET and TEAS are the same test but name change is to differentiate Allied Health Program students from Nursing students. Nursing students primarily use the TEAS. Version 5 has changed slightly so cut scores are changing for class entering fall 2012, graduating 2014.</p> <p>When the program is willing to pull students from clinic to meet with freshman they are more enthusiastic than when they were asked to come during a free space of time in finals week. Students have said they leave messages to the freshman students who are in their same clinical rotation and keep up with connection that way.</p> <p>The Program is re-looking at the HOBET Cut Scores to evaluate which scores are the truest measures of success. In a survey of other HOBET using Radiography Programs, no set standard emerged for which HOBET scores were used in the Admissions Process. It is noted that the program is not very ethnically diverse. It is also noted that students who do not pass the HOBET the first time are often minorities. These same minorities, however, have made A's and B's in their math and English and science classes.</p> |
| | | | <p>Graduating class of 2014: Accepted 18 students.</p> | | <p>Program moved from a 1 day admission date back to a rolling admission. A day is selected and applicants can begin turning in completed paperwork packets. The Advisors will continue to accept students into the program until the class is filled and 10 individuals are on the Waitlist.</p> |

| Program Goals (G) | Outcomes (O) | Assessment Criteria Benchmarks (B) | Data Results (DR) | Criteria Met or Unmet | Actions for Unmet Criteria & Other information |
|--|---|--|--|-----------------------|--|
| G1: To ensure graduates are academically and clinically prepared to sit for their national credentialing exam. (Cont'd) | O2: Students will successfully complete the requisite number of competencies for each clinical practicum course and for program completion | B2: Score of 85% or higher on competency evaluations and completion of all requisite competencies for each clinical practicum and for program completion. | DR2: Competency requirements Class 2004: 100% of class completed all competency requirements with a score of 85% or higher and completed all competency requirements for each Clinical Practicum and for Program Completion | Y | None needed |
| | | | Class 2005: 100% of class completed all competency requirements with a score of 85% or higher and completed all competency requirements for each Clinical Practicum and for Program Completion | Y | |
| | | | Class 2006: 100% of class completed all competency requirements with a score of 85% or higher and completed all competency requirements for each Clinical Practicum and for Program Completion | Y | |
| | | | Class 2007: 100% of class completed all competency requirements with a score of 85% or higher and completed all competency requirements for each Clinical Practicum and for Program Completion. | Y | |
| | | | Class 2008:: 100% of class completed all competency requirements with a score of 85% or higher and completed all competency requirements for each Clinical Practicum and for Program Completion. | Y | |

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| | | | Class 2009: 100% of class completed all competency requirements with a score of 85% or higher and completed all competency requirements for each Clinical Practicum and for Program Completion. | | | Y | |
| | | | Class 2010: 100% of class completed all competency requirements with a score of 85% or higher and completed all competency requirements for each Clinical Practicum and for Program Completion. | | | Y | |
| | | | Class 2011: 100% of class completed all competency requirements with a score of 85% or higher and completed all competency requirements for each Clinical Practicum and for Program Completion. | | | Y | |
| | | | Class 2012: 100% of class completed all competency requirements with a score of 85% or higher and completed all competency requirements for each Clinical Practicum and for Program Completion. | | | Y | |
| | | | Class 2013: | | | | |
| | | | Class 2014: | | | | |
| G1: To ensure graduates are academically and clinically prepared to sit for their national credentialing exam.(Cont'd) | O3: Students will have a successful pass rate on the ARRT certification exam. | B3: 80% of graduates will be successful in their first attempt to pass the ARRT certification exam. Note: As of 12/06 The Advisory committee agreed to change benchmark to 75% of graduates will be successful in their first attempt to pass the ARRT certification exam to | DR3: Pass Rate on ARRT Certification Exam | | | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information As a result of the lower scores for the graduating class of 2001 and 2002 Registry Review computer programs were purchased to aide students in reviewing material for the ARRT certification exam. These programs are loaded in the open computer labs so all students have free access to these programs during school hours. In addition a registry review was built into the final weeks of Clinical Practicum V for the graduating class of 2003. |
| | | | Class | # passing exam/# in class | Pass rate % | | |
| | | | 2004 | 19/23 | 89.5% | Y | |
| | | | 2005 | 15/20 4 students failed the exam, 1 has not taken | 75% | N | |

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| | | coincide with JRCERT standards | | exam | | | <p>Scores for the graduating class of 2003 improved but still did not meet the Program's benchmark of 80% but has met the JRCERT benchmark of 75%.</p> <p>Class of 2005 did not meet the program's benchmark of 80% pass rate but has met the JRCERT benchmark of 75%. 2 of the 4 students who failed the exam waited more than 5 months following graduation to take exam. The other two of the failing students were students who averaged grades of "C" in their science and Radiologic Exposure courses. Students are being encouraged to attend a registry review course and not to wait to sit for the certification exam. Additional registry review on-line programs have been purchased to assist the graduating class of 2006 in reviewing material for the ARRT exam.</p> <p>Rad Tech Advisory Committee decided to amend benchmark for first time pass rate on the ARRT certification exam to 75% to coincide with the JRCERT standards beginning with graduating class of 2007.</p> |
| | | | 2006 | 19/20 5 have not taken | 95% | Y | |
| | | | | 23/25 have passed | 88% | | |
| | | | 2007 | 19/20 have passed | 95% | Y | |
| | | | | Advanced standing student passed | | | |
| | | | 2008 | 20/21 have passed on first attempt | 95% | Y | |
| | | | 2009 | 21/21 have taken and passed on 1 st attempt | 100% | Y | |
| | | | 2010 | 21/21 have currently taken and passed on 1 st attempt | Current 100% | Y | |
| | | | 2011 | 13/13 have currently taken and passed on 1 st attempt | 100% | Y | |
| | | | 2012 | 16/17 have currently taken and passed on 1 st attempt. On 2 nd | 94% 1 st time | | |

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| | | | | attempt the one graduate passed exam. | | | |
| | | | 2013 | | | | |
| G1: To ensure graduates are academically and clinically prepared to sit for their national credentialing exam.(Cont'd) | O4: Mean scaled score on ARRT certification exam will reflect student success by a score of 80% or higher | B4: The mean scaled score for total tests taken annually for the ARRT certification exam will be 80% or higher. Note: the mean scaled score does not reflect the scores for just the graduating class but reflects the score for first time examinees which may include graduates of previous classes. | DR4: % of mean scaled score for total tests taken for ARRT certification exam | | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information Though the program has met the benchmark since 2004. The use of registry review programs and the suggestion to students to take a registry review course, as well as encouraging students not to delay taking the ARRT certification exam has helped improve the mean scaled score. These scores do not necessarily represent a particular graduating class since graduates from previous years may sit for the exam at the same time as current graduates and their scores are included in the mean scaled score for total test results for that year. | |
| | | | 2004 | 82.5% | | | |
| | | | 2005 | 80% | Y | | |
| | | | 2006 | 83.6 % | Y | | |
| | | | 2007 | 86.4 % | Y | | |
| | | | 2008 | 86 % | Y | | |
| | | | 2009 | 87.7 | Y | | |
| | | | 2010 | 86% | Y | | |
| | | | 2011 | 86% | Y | The program began incorporating a registry review practice test as part of the written exam requirements for Clinical Practicum 5 in spring of 2008 to help students review for ARRT exam. | |
| | | | 2012 | 88% | Y | A more intense Registry Review practice has been implemented through Bb in the Clinical Practicum V course. Students complete modules and are tested over a module every 3 weeks. | |
| | | | 2013 | | | | |
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| Program Goals (G) | Outcomes (O) | Assessment Criteria Benchmarks (B) | Data Results (DR) | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information |
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| G2. To educate and train entry level technologists to provide competent and compassionate healthcare to culturally diverse populations | O5: Graduating seniors will be able to successfully perform as entry level technologists. | B5: 80% of graduating senior students will respond positively on their senior exit survey to their preparedness level into entry-level practice through self-appraisal regarding their: clinical competency, communication skills, ability to interact cooperatively with other members of the healthcare team and their ability to work effectively with a culturally diverse population. Positive response is represented by scores of: 4: Always/excellent, 3: Usually/Good | DR5: clinical competency, communication skills, ability to interact cooperatively with other members of the healthcare team and their ability to work effectively with a culturally diverse population. Class 2005: 20/21 Senior Exit Surveys completed: 95% response rate Rating scale: 4 always/excellent, 3 usually/good, 2 sometimes/fair, 1 Rarely/poor) Personal Performance Evaluation: Average score of 3.6, 100% Institutional Performance; Average score: 3.0, 100% Clinical Education: Average Score 3.0, 100% | | None Needed |
| | | | | Y | |
| | | | | Y | |
| | | | | Y | |
| | | | Class 2006 25/25 Senior Exit surveys completed 100% response rate Personal Performance Average score: 3.7, 100% Institutional Performance Average score: 3.4, 100% Clinical Education Average score: 3.0, 100% | Y | |
| | | | | Y | |
| | | | | Y | |
| | | | Class 2007 20/21 Senior Exit Surveys completed 95% response rate Personal Performance Average score: 3.7% | Y | |

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| | | | Scores of 95% to 100% >3 | | |
| | | | Institutional Performance Average Score: 3.6% Scores of : 90% to 100% >3 | Y | |
| | | | Clinical Education Average Score: 3.7% Scores of 95% to 100% >3 | Y | |
| | | | Class 2008 21/21 senior exit surveys completed 100% response rate | Y | |
| | | | Personal Performance Average Score: 3.7 90% to 100% scored 3 or above on questions | | |
| | | | Institutional Performance Average Score 3.5 95% to 100% scored 3 or above on questions. | | |
| | | | Clinical education Average Score: 3.4 86% to 95% scored 3 or above | Y | |
| | | | Class 2009 21/21 senior exit surveys completed 100% response rate | Y | |
| | | | Personal Performance Average Score: 3.8 90% to 100% scored 3 or above on questions | | |
| | | | Institutional Performance Average Score 3.7 90% to 100% scored 3 or above on questions. | | |
| | | | Clinical education Average Score: 3.6 90% scored 3 or above | Y | |

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| | | | Class 2010 21/21 senior exit surveys completed 100% response rate Personal Performance Average Score: 3.8 95% to 100% scored 3 or above on questions | Y | In 2011 although scores were favorable graduates commented that the 2 nd Senior Portfolio was not as beneficial as the Freshman Portfolio. They wanted more opportunity for Image Critique and thought that writing on it as opposed to the Portfolio would be more beneficial. They thought the Cross Sectional class should not be 1 full semester and more time needed to be devoted to a Registry Review concept. These will be addressed in 2012 |
| | | | Institutional Performance Average Score 3.7 95% to 100% scored 3 or above on questions. | Y | |
| | | | Clinical education Average Score: 3.8 90% to 100 % scored 3 or above | Y | |
| | | | Class 2011 13/13 senior exit surveys completed 100% response rate. Personal Performance Average Score: 3.7 95% to 100% scored 3 or above on questions Institutional Performance Average Score 3.5 95% to 100% scored 3 or above on questions. Clinical education Average Score:3.7 95% to 100% scored 3 or above | Y | |
| | | | Class 2012 : 10/ 17senior exit surveys completed 59%* response rate. Personal Performance Average Score: 3.8 90% to 100% scored 3 or above on questions Institutional Performance Average Score 3.5 95% to 100% scored 3 or above on | Y | In 2012 the Program sent out the Senior Exit Survey electronically because we failed to do it before the last day of classes. This resulted in a lower return rate when compared to past rates.* In response to the 2011 comments, the Portfolios are being phased out and replaced with an, in clinic, written exam that involves image evaluation that covers competencies they need to acquire in the current semester. Ultimately the Program |

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| | | | questions. Clinical education Average Score:3.9 | | will put this process on Bb. In the final RTA 295 CP V course the instructor is strengthening the Registry Review offerings with online testing modules -RAD Review Easy. Students will cover weekly modules and take practice exams every 3 weeks. The Program realizes the students/graduate needs an increasing amount of cross-sectional awareness and will leave the CT Course as it is though the students feel like they receive too much instruction in this area. |
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| G2. To educate and train entry level technologists to provide competent and compassionate healthcare to culturally diverse populations (Cont'd) | O5: Graduating seniors will be able to successfully perform as entry level technologists. (Cont'd) | B6: 80% of graduates will respond positively* on the graduate survey to their preparedness level into entry level practice regarding: clinical competency/performance, communication skills, ability to interact cooperatively and effectively with other members of the healthcare team and their ability to work effectively with a culturally diverse population. Note: Scale changed for class of 2004 to 4: Always/Excellent, 3: Usually/Good, 2: Sometimes/Fair, 1: Rarely/Poor 3 or higher indicates positive response | DR6: Clinical competence, communication skills, work cooperatively , work effectively with diverse cultural population | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information |
|--|---|--|--|------------------------------|--|
| | | | Class 2004: 26% return rate Personal Performance: 3.6 Institutional Performance: 3.0 Clinical Education: 3.0 Note: Scale changed for class of 2004 to 4: Always/Excellent, 3: Usually/Good, 2: Sometimes/Fair, 1: Rarely/Poor | Y Y Y | None needed |
| | | | Class 2005: 24% return rate Personal Performance: 3.31 Institutional Performance: 2.7 Clinical Education: 3.0 | Y N Y | Low response rate 5 out of 21 surveys returned. Institutional performance score lower than benchmark. Lower scores can partially be attributed to a change in Program Director and numerous changes in policies and procedures midway through the graduating class of 2005's program of study. Many students resented the changes and the new requirements such as earning continuing education credits during the student's program of study. |

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| | | | Class 2006: 9/25 surveys=36% response rate Personal Performance: Avg: 3.7 100%>3 Institutional Performance: Avg: 3.7 100%>3 Clinical Education: Avg: 3.3 100%>3 | Y Y Y | Response rate improved slightly |
| | | | Class 2007: 6/20 surveys= 30% response rate Personal Performance: Avg: 3.5 100%>3 Institutional Performance: Avg:3.4 100%>3 Clinical Education: Avg: 3.4 100%>3 | Y Y Y | None needed |
| | | | Class 2008: 6/21 surveys=29% response rate Personal Performance: 3.78 100% >3 Institutional Performance: 3.56 100%>3 Clinical Education: 3.05 78% to 89% <3 | | None Needed |
| | | | | Y | |
| | | | | Y | For Questions 3 and 6 Question 3 related to level of supervision you received at clinical site. <3 on 2 evals Question 6-Availability of CI to complete evaluations. <3 on 2 evals Issue discussed with managers at Fall 09 advisory board meeting. |
| | | | Class 2009 5/21 surveys=24% response rate Personal Performance: 3.79 89% to 100% >3 Institutional Performance: 3.73 89% to 100%>3 | Y | |
| | | | | Y | None Needed |

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|--|--|--|---|---------------------|---|
| | | | Clinical Education: 3.69 89% to 100% <3 | Y | |
| | | | Class 2010 6/21 surveys=29% response rate Personal Performance: 3.71 89% to 100% >3 Institutional Performance: 3.76 89% to 100%>3 Clinical Education: 3.43 89% to 100% >3 | Y Y Y | |
| | | | Class 2011 8/13 surveys=62% response rate Personal Performance: 95% to 100% >3 Institutional Performance: 90% to 100%>3 Clinical Education: 90% to 100% =>3 | Y Y Y | |
| | | | Class 2012 5/17 surveys=29% response rate Personal Performance: 90% to 100%>3 Institutional Performance: 90% to 100%>3 Clinical Education: 100% =>3 | Y Y Y | Low Response Rate 5 out of 17 surveys returned. In 1/2013 a 2 nd request was made to graduates to increase the response rate and this increased the rate from 2 to 5. In 2012 the Program adopted a new online format for completing the Graduate Survey. It does not seem to have significantly increased or decreased the return rate but his needs to be monitored over the next 2-3 years. |
| | | | Class 2013 | | |

| G2. To educate and train entry level technologists to provide competent and compassionate healthcare to culturally diverse populations (Cont'd) | O5: Graduating seniors will be able to successfully perform as entry level technologists. (cont'd) | B7: 80% of employers will respond favorably* to the preparedness level of program graduates into entry level practice regarding clinical competency/performance, communication skills, ability to interact cooperatively and effectively with other members of the healthcare team and their ability to work effectively with a culturally diverse population. Beginning with the graduating class of 2004 there is a change in the Likert scale. A favorable response is now indicated by a score of: 3: Exceeds Standards, or 2: Meets Standards. Overall score of 2 or higher is a favorable response Scores of 1: Below Standards is not considered a favorable response. | DR7 Clinical competency/performance, communication skills, ability to interact cooperatively and effectively with other members of the healthcare team and their ability to work effectively with a culturally diverse population. | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information |
|---|--|---|--|-----------------------|---|
| | | | Class 2004: 75% return rate Overall Performance average 2.125 Note: Scale change from a 4 point scale to a 3 point scale and scale is in reverse order Based on a scale of: 3: Exceeds Standards 2: Meets Standards 1: Below Standards | Y | None Needed |
| | | | Class 2005: return rate: 76% 16/21 Overall Performance average: 1.98 Based on a scale of: 3: Exceeds Standards 2: Meets Standards 1: Below Standards | N | Though average score below 2 and it is lower than in previous years. One employer indicated that 7 students were below standards in their knowledge of equipment operation, Independent judgment, and ability to organize work. These Issues need to be reviewed and discussed further at advisory board meeting in May 2006 in order to determine ways the faculty and clinical instructors can assist students in improving in these areas. |
| | | | Class 2006: 17/25 return rate: 68% Overall Performance: 2 Based on a scale of: 3: Exceeds Standards 2: Meets Standards 1: Below Standards | Y | None Needed |
| | | | Class 2007: 15/21: 75% response rate Overall performance: 2.07% Based on a scale of: 3: Exceeds Standards 2: Meets Standards 1: Below Standards | Y | None Needed |

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| | | | Class 2008: 14/21: 67% response rate Overall performance: 2.21, 100% of those responding felt the students met or exceeded standards Based on a scale of: 3: Exceeds Standards 2: Meets Standards 1: Below Standards | Y | None Needed |
| | | | Class 2009; 9/21 : 43% response rate Overall Performance: 2.56 Based on a scale of: 3: Exceeds Standards 2: Meets Standards 1: Below Standards | Y | None Needed: Note Survey Monkey was used for the first time. Issues with firewalls at some sites prevented the intended recipients from receiving e-mail about link to Survey Monkey. |
| | | | Class 2010; 9/21 : 43% response rate Overall Performance: 2.56 Based on a scale of: 3: Exceeds Standards 2: Meets Standards 1: Below Standards | Y | |
| | | | Class 2011; 9/13 : 69% response rate Overall Performance: 2.28 Based on a scale of: 3: Exceeds Standards 2: Meets Standards 1: Below Standards | Y | While a>= 2 is a favorable response one employer commented on a Below Standard score due to one student's lack of dependability, reliability and inability to accept responsibility. The student begged to be hired and then did not accept shifts Comments were made regarding the need for students to have more Critical Thinking exercises for alternative positioning. A need for an increase in attention to pathology was noted. Need to address in 2013 Procedures classes. |
| | | | Class 2012; 9/21 : 43% response rate Overall Performance: 2.21 Based on a scale of: 3: Exceeds Standards 2: Meets Standards 1: Below Standards | Y | In 2012 the Program adopted a new online format for completing the Senior Exit Survey – Survey Monkey. One comment was that the Program needed to build in weekend, evening or an afterhours experience. The Program allows for an alternate clinical experience at the request of the student. |

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| G2. To educate and train entry level technologists to provide competent and compassionate healthcare to culturally diverse populations (Cont'd) | O6: Graduating seniors who desire positions will secure positions within six months of graduation. | B8 + B9: 90% of responding graduates will obtain employment within 6 months of graduation. Tools used: Senior Exit Survey and Graduate Survey . Benchmark to be modified for class graduating in 2009 as agreed by advisory committee members to more accurately reflect ARRT standards as well as Perkin requirements: 75% of graduates will obtain employment within 6 months of graduation and 90% of graduates will obtain employment, continue their education and/or join the military service within 1 year of graduation. <u>What the statistics mean- Example 2009</u> Senior Exit Survey-21 students graduated 6 were employed. 6 out of 21 had jobs Graduate Survey- 5 completed the Graduate Survey. All 5 had jobs. | DR 8 & 9:Percentage of graduates obtaining employment with 6 months of graduation | | | Criteria Met or Unmet Actions for Unmet Criteria & Other Information Data for 1999-2004 compiled from graduate surveys and verbal communication from graduates. 2005 1 student did not complete senior exit survey but gained employment through our clinical affiliates, 2 additional students gained employment after completing survey and one student relocated to Puerto Rico., Thus 20/21 have gained employment to date. Class 2006: Job market tightening up. Students finding it more difficult to find jobs, some students still looking for positions until after they take ARRT exam. 24/25 Students notified clinical coordinator of successful employment 6 months after graduation Class 2007: Job market continues to tighten. Students finding it more difficult to find jobs. Six months to 1 year after graduation 19 out of the 20 students have found employment. Class 2008: Job market continues to tighten and fewer students are finding job opportunities upon graduation. Class 2009: Job market continues to tighten and fewer students are finding job opportunities upon |
| | | | Class | # employed / # Graduates | % | |
| | | | 2004 | 23/23 | 100% | Y |
| | | | 2005 | 17/20 senior exit survey | 85% | N |
| | | | | 20/21 at 6 months | 95% | Y |
| | | | 2006 | 20/25 senior exit survey | 80% | N initially |
| | | | | 24/25 have obtained jobs | 96% | Y |
| | | | 2007 | 16/20 senior exit survey | 80% | N Initially |
| | | | | 19/20 have obtained jobs | 95% | Y |
| | | | 2008 | 4/21 senior exit survey | 19% | N initially |
| | | | | 19/21 have obtained jobs | 90.4% | Y |
| | | | In 2009 the Program started tabulating the # Employed / # of Responders for the Graduate Survey. This is consistent with a JRC Change that said employment # were based on those who responded to the survey. The Program continues to tabulate the Exit Survey as # employed/# of graduates. | | | |
| | | | 2009 | 6empl/21grad senior exit survey | 29% | N Initially |
| | | | | 5jobs /5respond Graduate survey | 100% | Y |
| | | | 2010 | 9/21 senior exit survey | 43% | N |
| | | | | 5/6 Graduate | 83% | Y |

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| | | | | survey | | | graduation. |
| | | | 2011 | 4/13 senior exit survey | 31% | N | |
| | | | | 6/8 Graduate survey | 75% | Y | |
| | | | 2012 | 6/17 senior exit survey | 35% | N | |
| | | | | 4*/5 Graduate survey *one person skipped the question. | 80% | Y | |
| | | | | Class of 2012 Employment Data by Clinical Instructors 11jobs/17grad | 65% | N | |
| | | | 2013 | | | | |
| | | | 2014 | | | | |
| | | | | | | | Class 2012: Fewer students are finding full-time job opportunities upon graduation. Based on updated information by the Clinical Instructors in 2013, 11 out of 17 have found employment but only 1 is full time. 5 are part-time and 5 are per diem and one has returned to school for US. The Program will consider a phone survey to increase return rate which will improve statistics. |

| G3: To Promote the development of those intellectual skills and professional attitudes and values necessary for life long learning. (Cont'd) | O7: Graduates will have developed the critical thinking and problem solving skills to be successful in their profession (cont'd) | B10: 75% of the responding employers will indicate on the Employer Surveys that they felt the program had helped the graduate in developing the necessary critical thinking and problem solving skills to be successful in their profession. | DR13: Employer Surveys Critical Thinking and Problem Solving Skills | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information |
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| | | | Class 2004: 15 responses Critical Thinking & Problem Solving Overall score: 2.06 Independent judgment: Average:2.0, 100% Film Critique: | Y Y Y | None Needed |

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| | | <p>A favorable response is indicated by a score of: 3: Exceeds Standards, or 2: Meets Standards. (Score of 2 or higher is favorable).</p> <p>Scores of 1: Below Standards is not considered a favorable response</p> | <p>Avg: 2.125, 100%</p> <p>Selection of Technical Factors:</p> <p>Avg: 2.125, 100%</p> <p>Ability to organize assigned work:</p> <p>Avg: 2.0, 87%</p> | <p>Y</p> <p>Y</p> | |
| | | | <p>Class 2005: 16 responses</p> <p>Critical Thinking & Problem Solving</p> <p>Overall Score: 1.77</p> <p>Independent judgment: Average:1.53 56% felt students met standards 44% below standards</p> <p>Film Critique: 2.0, 100%</p> <p>Selection of Technical Factors:</p> <p>Avg: 2.0, 100%</p> <p>Ability to organize assigned work:</p> <p>Avg: 1.53, 56% met standards 44% below standards</p> | <p>N</p> <p>N</p> <p>Y</p> <p>Y</p> <p>N</p> | <p>Benchmark of 80% of employers feeling graduates had the necessary critical thinking/problem solving skills has not been met. One employer rated 7 graduates as being below standards in the areas of independent judgment and ability to organize assigned work.</p> <p>These issues need to be investigated and discussed further at the Advisory Board meeting in May 2006.</p> |
| | | | <p>Class 2006:</p> <p>Critical Thinking & Problem Solving</p> <p>Independent judgment: Average:1.8, 82% ≥ 2</p> <p>Film Critique: 2, 100% ≥ 2</p> <p>Selection of Technical Factors: 2, 100% ≥ 2</p> <p>Ability to organize assigned work: 2, 100% met standards</p> | <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> | <p>None Needed</p> |
| | | | <p>Class 2007:</p> <p>Critical Thinking & Problem Solving</p> <p>Independent judgment: Average:2.0, 93% ≥ 2</p> | <p>Y</p> | <p>None Needed</p> |

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| | | | Film Critique: Average: 2.33, 93% ≥ 2 Selection of Technical Factors: Average :2, 93% ≥ 2 Ability to organize assigned work: Average: 2 , 100% met standards | Y Y Y | |
| | | | Class 2008 Critical Thinking & Problem Solving Independent judgment: Average:2.14, 100% ≥ 2 Film Critique: Average: 2.14, 100% ≥ 2 Selection of Technical Factors: Average: 2.14, 100% ≥ 2 Ability to organize assigned work: Average: 2.07, 100% met standards | Y Y Y Y | None Needed |
| | | | Class 2009 Critical Thinking & Problem Solving Independent judgment: Average:2.11, 100% ≥ 2 Film Critique: Average: 2.11, 100% ≥ 2 Selection of Technical Factors: Average: 2.11, 100% ≥ 2 Ability to organize assigned work: Average: 2.11 , 100% met standard | Y Y Y Y | None Needed |
| | | | Class 2010 Critical Thinking & Problem Solving | | |
| | | | Class 2010 Critical Thinking & Problem Solving Independent judgment: Average:2.11, 100% ≥ 2 Film Critique: Average: 2.11, 100% ≥ 2 | Y Y Y | None Needed |

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| | | | Selection of Technical Factors: Average: 2.11, 100% ≥ 2 Ability to organize assigned work: Average: 2.11 , 100% met standard | Y | |
| | | | Class 2011: 9 Responses Critical Thinking & Problem Solving Independent judgment: Average:2.0, 100% = 2 Film Critique: Average: 2.11, 100% ≥ 2 Selection of Technical Factors: Average: 2.11, 100% ≥ 2 Ability to organize assigned work: Average: 2.4 , 100% met standard | Y Y Y Y | Though the scores are positive one employer commented regarding the need for students to have more Critical Thinking exercises for alternative positioning. Need to address in 2013 Procedures classes. |
| | | | Class 2012: 5 Responses Critical Thinking & Problem Solving Independent judgment: Average:2.2, 100% ≥ 2 Film Critique: Average: 2.0, 100% ≥ 2 Selection of Technical Factors: Average: 2.2, 100% ≥ 2 Ability to organize assigned work: Average: 2.4 , 100% met standard | Y Y Y Y | None Needed |

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| G3: To Promote the development of those intellectual skills and professional attitudes and values necessary for life long learning. (Cont'd) | O8: Students will demonstrate the development of professional attitudes and values necessary for life-long learning | B11. 80% of the students will score 15 out of a possible 20 points for the Professional Behavior Section of their Clinical Practicum Grade Form for each clinical practicum rotation and will be in compliance with the continuing education units (CEU) requirements for each clinical practicum | DR14 Life Long Learning and Professionalism | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information |
| | | | Class 2005: Professional Behavior Section and CEU requirements were not started until the second year of program for this class (January 2005). . | | |
| | | | Class 2006 will have earned CEU credits for 4 of the 5 Clinical Practicum courses. | | Beginning with the graduating class of 2007 complete data will be |

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| | | course. | Began CEU requirements in January 2005 | | tabulated regarding professional behavior scores and CEU compliance. |
| | | Benchmark to change for Class of 2009 for last two clinical practicums to the following: 80% of the students will score 11 out of a possible 15 points for the Professional Behavior Section of their Clinical Practicum Grade Form for each clinical practicum rotation and will be in compliance with the continuing education units (CEU) requirements for each clinical practicum course. | Class 2007: for each clinical practicum 85% to 100% of students scored 15 or more points for their professional behavior section of their clinical practicum grade and were in compliance with their CEU requirements | Y | The class of 2007 met the required benchmark for the professional behavior scores but it was noted that these scores for each of the clinical practicum grades were consistently higher for CP1, CP2 and then begin to drop slightly for CP3, CP4, and CP5. It was determined that many of the senior student's choose not to make up missed clinical days and opt to loose the points in this section when ultimately it will not negatively impact on their final clinical grade. |
| | | | Class 2008: For each clinical practicum 100% of students scored 15 or more points for their professional behavior section of their clinical practicum grade and were in compliance with their CEU requirements | Y | For graduating class of 2010 the Clinical Practicum grade sheet have been changed to reflect a different grading scale for the professional behavior section. |
| | | | Class 2009: For each clinical Practicum 81 to 100% of students scored 15 or more points for the professional behavior section of their Clinical Practicum grade and were in compliance with CEU requirements | Y | Professional behavior is now a total of 15 points. Benchmark to be changed from 80% of students will score a possible 11 points out of 15 in the professional behavior section on their clinical practicum grade sheet. |
| | | | Class 2010 For each clinical Practicum 100% of students scored 11 out of the 15 points for the professional behavior section of their Clinical Practicum grade and were in compliance with CEU requirements | Y | |
| | | | Class 2011 For each clinical Practicum 100% of students scored 11 out of the 15 points for the professional behavior section of their Clinical Practicum grade and were in compliance with CEU requirements | Y | |
| | | | Class 2012 For each clinical Practicum | Y | |

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| | | | 100% of students scored 11 out of the 15 points for the professional behavior section of their Clinical Practicum grade and were in compliance with CEU requirements | | |
| | | | Class 2013 | | |
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| G3: To Promote the development of those intellectual skills and professional attitudes and values necessary for life long learning. (Cont'd) | O9: Students will demonstrate life-long learning by continuing or planning to continue their education and/or through membership in their professional societies | B12: 75% of graduating seniors will indicate on their Senior Exit Survey that they are planning to continue their education and/or are members of their professional societies. | DR15: Senior Exit survey Life Long Learning | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information None Needed |
| | | | Class 2005 100% indicated membership in State Society: MSRT 16% indicated membership in National Society: ASRT 20% indicated they are planning to continue their education 40% were unsure 40% were not planning on continuing their education | Y | |
| | | | Class 2006: 100% indicate membership in State Society :MSRT 78% indicated membership in national society: ASRT 48% indicated they were planning to continue their education 44% indicated they were unsure 8% either did not indicated or were not planning on continuing | Y | |
| | | | Class 2007 19/20, 95% indicate membership in State | Y | |

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|--|--|--|--|---|--|
| | | | <p>society: MSRT</p> <p>11/20, 55% indicate membership in national society: ASRT</p> <p>11/20 : 55% indicted they were planning on continuing their education</p> <p>3/20: 15% unsure</p> <p>6/20: 30% marked no they were not continuing their education or left question blank</p> | | |
| | | | <p>Class 2008</p> <p>21/21: 100% membership in State society: MSRT</p> <p>9/21: 43% membership in national society: ASRT</p> <p>12/21: 57% indicated they were planning on continuing their education</p> <p>9/21: 42% were unsure about continuing their education</p> | Y | |
| | | | <p>Class 2009</p> <p>21/21: 100% membership in State society: MSRT</p> <p>6/21: 29% membership in National Society: ASRT</p> <p>14/21: 67% indicated they were planning on continuing their education</p> <p>5/21: 24% were unsure about continuing their education</p> | Y | |
| | | | <p>Class 2010</p> <p>21/21: 100% membership in State Society: MSRT</p> <p>3/21: 14% membership in National Society: ASRT</p> <p>9/21: 43% indicated they were planning on continuing their education.</p> <p>11/21: 53.4% indicated they were unsure</p> | Y | |

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| | | | about continuing their education 1/21: 5% were not planning on continuing their education | | |
| | | | Class 2011 12/13: 92% membership in State society: MSRT 5/13: 38% membership in National Society: ASRT 8/13: 62% indicated they were planning on continuing their education 5/13: 38% were unsure about continuing their education | Y | |
| | | | Class 2012 7/11: 64% membership in State society: MSRT* 4/11: 36% membership in National Society: ASRT* 6/10: 60% indicated they were planning on continuing their education 1/10: 10% were unsure about continuing their education | Y* | When the # of students who are members of the state and national society are combined the result is 100% |
| | | | Class 2013 _____ membership in State society: MSRT _____ membership in National Society: ASRT _____ indicated they were planning on continuing their education _____ were unsure about continuing their education | | |
| | | | | | |
| G3: To Promote the development | O10: Students will demonstrate life-long | B13: 75% of graduates will indicate on the | DR16: Graduate Survey Life Long Learning | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information |

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| of those intellectual skills and professional attitudes and values necessary for life long learning. (Cont'd) | learning by continuing or planning to continue their education and/or through membership in their professional societies (Cont'd) | graduate survey that they have either continued their education or are planning to continue their education, maintained their professional continuing education and/or joined or remained members of their professional societies. | Class 2002 80% membership in state or national society | Y | None needed |
| | | | Class 2003 100% membership in state or national society | Y | |
| | | | Class 2004 6 returned out of 23: 26% response rate 83% belong to their national society (ASRT) & 50% belong to their state society (MSRT) 33% plan to continue their education for a baccalaureate degree 67% unsure about continuing education | Y | |
| | | | Class 2005 5/21 returned , 24% return rate 80% (4/5) belong to National and State Societies (ASRT/MSRT) 60% (3/5) are unsure about continuing their education 20% (1/5) is planning on continuing education 20% (1/5) does not plan to continue education | Y | |
| | | | Class 2006 9/25 returned, 35% response rate 89% (8/9) belong to ASRT 67% (6/9) belong to MSRT 67% (6/9) continuing education 11% (1/9) unsure about continuing education 22% (2/9) not continuing education | Y | |
| | | | Class 2007 6/20 returned : 30% response rate | Y | |

| | | | | | |
|--|--|--|---|---|-------------|
| | | | 100% (6/6) belonged to ASRT 33% (2/6) belonged to MSRT 67% (4/6) planning on continuing their education 16% (1/6) not continuing their education 16% (1/6) unsure about continuing their education | | |
| | | | Class 2008 6/21 returned : 29% response rate 83% (5/6) belonged to ASRT 50% (3/6) belonged to MSRT 67% (4/6) planning on continuing their education 17% (1/6) not continuing their education 17% (1/6) unsure about continuing their education 0% joining the military | Y | None Needed |
| | | | Class 2009 5/21 returned : 24% response rate 100% (5/5) belonged to ASRT 100% (5/5) belonged to MSRT 40% (2/5) planning on continuing their education 60% (3/5) unsure about continuing their education 0% joining the military | Y | |
| | | | Class 2010 6/21 returned : 28% response rate 100% (5/6) belonged to ASRT | Y | |

| | | | | | |
|--|--|--|---|---|--|
| | | | 100% (5/5) belonged to MSRT 50% (3/6) planning on continuing their education 50% (3/6) unsure about continuing their education 0% joining the military | | |
| | | | Class 2011 8/13 returned : 62% response rate 86% (6/8) belonged to ASRT 72% (5/8) belonged to MSRT 50% (4/8) planning on continuing their education 13% (1/8) unsure about continuing their education 0% joining the military | Y | |
| | | | Class 2012 2/17 returned : 12% response rate 100% (2/2) belonged to ASRT 100% (5/5) belonged to MSRT 50% (1/2) planning on continuing their education 0% (0/0) unsure about continuing their education 0% joining the military | Y | |
| | | | | | |

**Goals formerly a part of G3 but addressed critical thinking were moved to G4 in 02/2013.

| Program Goals (G) | Outcomes (O) | Assessment Criteria Benchmarks (B) | Data Results (DR) | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information |
|--|---|--|--|------------------------------|---|
| G4: To ensure graduates have the computer | O11: Graduates will have developed the critical thinking and | B14: 90% of the students will achieve a grade of "C" or higher in their | DR 10: Critical Thinking and Problem Solving Skills | Criteria Met or Unmet | |

| | | | | | |
|--|---|--|--|---|--|
| skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology profession. | problem solving skills to be successful in their profession | Radiologic Technology courses that focus on critical thinking and problem solving skills. | Class 2004: All 23 students (100%) passed the required Radiologic technology courses with a grade of "C" or higher. | Y | |
| | | | Class of 2005 all 21 students passed the required Radiologic technology courses with a grade of "C" or higher. | Y | |
| | | | Class 2006: all 25 students passed the required Radiologic technology courses with a grade of "C" or higher. | Y | |
| | | | Class 2007: all 20 students passed the required Radiologic technology courses with a grade of "C" or higher. | Y | |
| | | | Class 2008: all 21 students passed the required Radiologic technology courses with a grade of "C" or higher. | Y | |
| | | | Class 2009: All 21 students passed the required Radiologic Technology Courses with a grade of "C" or higher. | Y | |
| | | | Class 2010: All 21 students passed the required Radiologic Technology courses with a grade of "C" or higher. | Y | |
| | | | Class 2011: All 13 students passed the required Radiologic Technology Courses with a grade of "C" higher. | Y | |
| | | | Class 2012: All 17 students passed the required Radiologic Technology Courses with a grade of "C" or higher | Y | |
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|--|---|---|--|------------------------------|---|
| G4: To ensure graduates have the computer | O12: Graduates will have developed the critical thinking and | B15: 75% of graduating seniors will indicate on the Senior Exit Survey that | DR 11: Senior Exit Survey Critical Thinking/Problem Solving | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information |
|--|---|---|--|------------------------------|---|

| | | | | | |
|--|--|--|--|--------|-------------|
| skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology profession | problem solving skills to be successful in their profession (cont'd) | they felt the program had helped them develop the necessary critical thinking and problem solving skills to be successful in their profession. Score of 3 or higher Likert Scale 4: Always 3: Usually 2: Sometimes 1: Rarely | Class 2005 Critical Thinking: average score: 3.5 Problem Solving: average score: 3.4 100% rated themselves at 3 or higher | Y Y | None Needed |
| | | | Class 2006 Critical Thinking: Average Score: 3.7 Problem Solving: Average Score: 3.6 96% rated themselves at 3 or higher | Y Y | |
| | | | Class 2007 Critical Thinking: Average Score: 3.8 Problem Solving: Average Score: 3.6 100% rated themselves at 3 or higher | Y Y | |
| | | | Class 2008 Critical Thinking: Average Score: 3.7 Problem Solving: Average Score: 3.4 100% rated themselves at 3 or higher | Y Y | |
| | | | Class 2009 Critical Thinking: Average Score: 3.7 Problem Solving: Average Score: 3.6 100% rated themselves at 3 or higher | Y Y | |
| | | | Class 2010 Critical Thinking: Average Score: 3.7 Problem Solving: Average Score: 3.6 100% rated themselves at 3 or higher | Y Y | |
| | | | Class 2011 Critical Thinking: Average Score: 3.6 Problem Solving: Average Score: 3.5 92% rated themselves at 3 or higher | Y Y | |
| | | | Class 2012 Critical Thinking: Average Score: 3.6 Problem Solving: Average Score: 3.7 100% rated themselves at 3 or higher | Y Y | |
| | | | Class 2013 Critical Thinking: Average Score: Problem Solving: Average Score: 100% rated themselves at __ or higher | | |
| | | | | | |

| | | | | | |
|---|---|--|---|-----------------------|---|
| G4: To ensure graduates have the computer skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology profession | O12: Graduates will have developed the critical thinking and problem solving skills to be successful in their profession (cont'd) | B16: 75% of responding graduates will indicate on the Graduate Survey that they felt the program had helped them develop the necessary critical thinking and problem solving skills to be successful in their profession. | DR 12: Graduate Survey Critical Thinking/Problem Solving | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information None Needed |
| | | | Class 2004 Critical Thinking: Average score: 3.8/100% ≥3 Problem Solving Average score: 3.5/100% ≥3 | Y | |
| | | | Class 2005 Critical Thinking: Average Score: 3.0/100% ≥3 Problem Solving Average Score: 3.0/100% ≥3 | Y | |
| | | | Class 2006 Critical Thinking: Average Score: 3.8/100% ≥3 Problem Solving Average Score: 3.3/89% ≥3 | Y | |
| | | | Class 2007 Critical Thinking: Average Score: 3.5/100% ≥3 Problem Solving Average Score: 3.5/100% ≥3 | Y | |
| | | | Class 2008 Critical Thinking: Average Score: 3.7/100% ≥3 Problem Solving Average Score: 3.6/100% ≥3 | Y | |
| | | | Class 2009 Critical Thinking: Average score: 3.8%/100% ≥3 Problem Solving: | Y | |

| | | | | | |
|--|--|--|---|---|--|
| | | | Average Score: 3.2%/100% ≥3 | | |
| | | | Class 2010 Critical Thinking: Average score: 3.5%/100% ≥3 Problem Solving: Average Score: 3.5%/100% ≥3 | Y | |
| | | | Class 2011 Critical Thinking: Average score: 3.37%/100% ≥3 Problem Solving: Average Score: 3.5%/100% ≥3 | Y | |
| | | | Class 2012 Critical Thinking: Average score: 3.5%/100% ≥3 Problem Solving: Average Score: 3.5%/100% ≥3 | Y | |
| | | | Class 2013 Critical Thinking: Average score: Problem Solving: Average Score: | Y | |

2013 All of the Goals in G3 that pertained to Critical Thinking were moved to G4 and renumbered to flow accordingly.

| Program Goals (G) | Outcomes (O) | Assessment Criteria Benchmarks (B) | Data Results (DR) | Criteria Met or Unmet | Actions for Unmet Criteria |
|--|---|---|---|------------------------------|----------------------------|
| G4: To ensure graduates have the computer skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice | O13: Students will be proficient in the use of computers within the clinical environment | B17: Students will receive a passing grade of 85% or higher for each clinical competency evaluation and will successfully pass the computer requirement of the competency evaluation where applicable. | DR17: Computer skills | Criteria Met or Unmet | None Needed |
| | | | Class 2004 100% of graduating students have met this requirement to graduate. | Y | |
| | | | Class 2005 100% of graduating students have met this requirement to graduate | Y | |
| | | | Class 2006 100% of graduates have met this requirement to graduate | Y | |

| | | | | | |
|--|---|--|--|------------------------------|--|
| successfully within the radiology profession | | | Class 2007 100% of graduates have met this requirement to graduate | Y | |
| | | | Class 2008 100% of graduates have met this requirement to graduate | Y | |
| | | | Class 2009 100% of graduates have met this requirement to graduate | Y | |
| | | | Class 2010 100% of graduates have met this requirement to graduate | Y | |
| | | | Class 2011 100% of graduates have met this requirement to graduate | Y | |
| | | | Class 2012 100% of graduates have met this requirement to graduate | Y | |
| | | | Class 2013 100% of graduates have met this requirement to graduate | | |
| | | | | | |
| G4: To ensure graduates have the computer skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology profession. | O14: Students will demonstrate they have the necessary writing, computer, communication and critical thinking and problem solving skills to be successful in the program and the profession. | B18: Completion of all RTA courses with a grade of "C" or higher. | DR18: RTA course completion for writing, computer, communication and critical thinking, problem solving skills. | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information None needed |
| | | | Class 2004 100% of graduating students have met this requirement | Y | |
| | | | Class 2005 100% of graduating students have met this requirement | Y | |
| | | | Class 2006 100% of graduating students have met this requirement | Y | |
| | | | Class 2007 100% of graduating students have met this requirement | Y | |
| | | | Class 2008 100% of graduating students have met this requirement | Y | |
| | | | Class 2009 100% of graduating students have met this requirement | Y | |

| | | | | | |
|--|---|---|--|------------------------------|---|
| | | | Class 2010 100% of graduating students have met this requirement | Y | |
| | | | Class 2011 100% of graduating students have met this requirement | Y | |
| | | | Class 2012 100% of graduating students have met this requirement | Y | |
| | | | Class 2013 | | |
| | | | Class 2014 | | |
| G4: To ensure graduates have the computer skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology profession. | O15: Students will demonstrate they have the necessary computers skills to be successful in the program and the profession. (cont'd) | B19: 75% of responding graduating senior students will indicate in the Senior Exit Survey that they felt they had been provided with educational activities and experiences that enhanced their ability to successfully operate computer systems in the clinical environment. Score of 3 or higher on a Likert scale: 4=Always 3=Usually 2=Sometimes 1=Rarely | DR19: Senior Exit Survey Computer skills | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information None Needed The program provides students with computer experiences within the program. A CR system was purchased for the X-ray lab in the fall of 2007. |
| | | | Class 2005 Average Score: 3.6 100% scored 3 or higher | Y | |
| | | | Class 2006 Average score: 3.7 100% scored 3 or higher | Y | |
| | | | Class 2007 Average score 3.9 100% scored 3 or higher | Y | |
| | | | Class 2008 Average Score: 3.6 100% scored 3 or higher | Y | |
| | | | Class 2009 Average Score: 3.6 100% scored 3 or higher | Y | |
| | | | | | |
| | | | Class 2010 Average Score: 3.9 100% scored 3 or higher | Y | |
| | | | Class 2011 Average Score: 4.0 100% scored 3 or higher | Y | |
| | | | Class 2012 Average Score: 3.8 100% scored 3 or higher | Y | |
| | | | | | |

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|--|---|--|---|------------------------------|--|
| G4: To ensure graduates have the computer skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology profession. | O15: Students will demonstrate they have the necessary computers skills to be successful in the program and the profession. (cont'd) | B20: 75% of responding graduates will indicate in the Graduate Survey that they felt they had been provided with educational activities and experiences that enhanced their ability to successfully operate computer systems in the clinical environment. Score of 3 or higher on a Likert scale 4=Always 3=Usually 2=Sometimes 1=Rarely | DR 20: Graduate Survey Computer Skills | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information |
| | | | Class 2004 26% response rate Average score 3.7/100% scored of 3 or higher | Y | None Needed A CR system was purchased for the X-ray lab in the fall of 2007. |
| | | | Class 2005 245 response rate Average score: 3.40 / 100% score of 3 or higher | Y | With the graduating class of 2007 more course material was being offered through Blackboard platform as web companion courses. |
| | | | Class 2006 Response rate 35% Average score: 3.9/100% score of 3 or higher | Y | The class of 2008 had both web companion and web enhanced courses. The graduating class of 2008 was required to complete registry review tests on-line as part of their CP5 clinical course grade. |
| | | | Class 2007 Response rate: 30% Average score: 3.3/100% score of 3 or higher | Y | The class of 2009 had both web companion and web enhanced courses. The graduating class of 2009 was required to complete registry review tests on-line as part of their CP5 clinical course grade. |
| | | | Class 2008 Response rate 29% Average score: 4.0/100% scored of 3 or higher | Y | |
| | | | Class 2009 Response rate: 24% Average score: 4.0/80% of those responding indicated a score of 3 or higher. One response wrote in N/A | Y | |
| | | | Class 2010 Response rate: 29% Average score: 3.5/85% of those responding indicated a score of 3 or higher. | Y | |

| | | | | | |
|--|---|---|---|------------------------------|--|
| | | | Class 2011 Response rate: 62% Average score: 3.37/90% of those responding indicated a score of 3 or higher. | Y | |
| | | | Class 2012 Response rate: 12% Average score: 3.5/90% of those responding indicated a score of 3 or higher. | Y | |
| | | | Class 2013 | | |
| G4: To ensure graduates have the computer skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology profession. | O15: Students will demonstrate they have the necessary computers skills to be successful in the program and the profession. (cont'd) | B21: 75% of responding employers will indicate in the Employer Survey that graduate students are able to effectively use the Radiology and Hospital computer systems Scale of 3 to 1 3= Exceeds standards 2=Meets standards 1=Below Standards | DR21: Employer Survey Computer skills | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information None Needed |
| | | | Class 2004 Average score: 2.125 100% scored 2 or higher | Y | |
| | | | Class 2005 Average Score: 2.0 100% scored 2.0 | Y | |
| | | | Class 2006 Average score: 2.3 100% scored 2 or higher | Y | |
| | | | Class 2007: Average score: 2.47 100% scored 2 or higher | Y | |
| | | | Class 2008 Average score: 2.21 100% scored 2 or higher | Y | |
| | | | Class 2009 Average score:2.11 100% scored 2 or higher | Y | |
| | | | | | |
| | | | Class 2010 Average score:2.21 100% scored 2 or higher | Y | |

| | | | | | |
|--|--|--|--|---|--|
| | | | Class 2011 Average score:2.3 100% scored 2 or higher | Y | |
| | | | Class 2012 Average score:2. 100% scored 2 | Y | |
| | | | Class 2013 | Y | |

| | | | | | |
|--|---|--|---|------------------------------|--|
| G4: To ensure graduates have the computer skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology profession. | O16: Students will demonstrate they have the necessary computers skills to be successful in the program and the profession. (cont'd) | B22: Students must receive a passing grade in their computer course or successfully pass the challenge exam for computer science elective. | D22: Passing Computer Course | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information None Needed |
| | | | Class 2004 100% of graduating students have met this requirement | Y | |
| | | | Class 2005 100% of graduating students have met this requirement. | Y | |
| | | | Class 2006 100% of graduating students have met this requirement. | Y | |
| | | | Class 2007 100% of graduating students have met this requirement. | Y | |
| | | | Class 2008 100% of graduating students have met this requirement. | Y | |
| | | | Class 2009 100% of graduating students have met this requirement. | Y | |
| | | | Class 2010 100% of graduating students have met this requirement. | Y | |
| | | | Class 2011 100% of graduating students have met this requirement. | Y | |
| | | | Class 2012 100% of graduating students have met this requirement. | Y | |
| | | | Class 2013 100% of graduating students have met this requirement. | Y | |
| | | | DR 23: Senior Exit Surveys Writing Skills | Criteria Met or Unmet | |
| | | | Class 2005: Average score: 3.5 100% felt they had the needed writing skills | Y | |
| | O17: Students will have the needed writing skills to be successful within the clinical environment upon graduation. | B23: 75% of responding graduating students will indicate in the Senior Exit Surveys that they felt they have been provided with educational activities and | | | Actions for Unmet Criteria & Other Information None Needed |

| | | | | | |
|--|---|--|---|------------------------------|--|
| | | experiences that enhanced their ability to develop writing skills to be successful within their clinical setting. | Class 2006 Average Score: 3.7 100% felt they had the needed writing skills | Y | |
| | | | Class 2007 Average score: 3.9 100% felt they had the needed writing skills | Y | |
| | | | Class 2008 Average score: 3.7 100% felt they had the needed writing skills | Y | |
| | | | Class 2009 Average Score: 3.8 100% felt they had the needed writing skills. | Y | |
| | | | Class 2010 Average Score: 3.8 100% felt they had the needed writing skills. | Y | |
| | | | Class 2011 Average Score: 3.9 100% felt they had the needed writing skills. | Y | |
| | | | Class 2012 Average Score: 3.9 100% felt they had the needed writing skills. | Y | |
| | | | | | |
| G4: To ensure graduates have the computer skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology | O17: Students will have the needed writing skills to be successful within the clinical environment upon graduation. (Cont'd) | B24: 75% of responding graduates will indicate on the Graduate Surveys that they felt they had been provided with educational activities and experiences that provided them with the needed writing skills to be successful within their clinical setting. Score of 3 or higher on a Scale of 4 to 1 4: Always | DR24: Graduate Surveys Writing Skills | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information None Needed |
| | | | Class 2004 Response Rate: 26% Average score: 3.8 100% surveyed felt they had the needed writing skills. | Y | |
| | | | Class 2005 Response Rate: 24% Average Score: 3.6 100% surveyed felt they had the needed writing skills. | Y | |
| | | | Class 2006 Response rate 35% | Y | |

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|-------------|--|---|--|---|--|
| profession. | | 3: Usually 2: Sometimes 1: Rarely | Average Score: 3.7 100% surveyed felt they had the needed writing skills | | |
| | | | Class 2007 Response Rate: 30% Average Score: 3.5 100% surveyed felt they had the needed writing skills | Y | |
| | | | Class 2008 Response Rate 29% Average Score: 3.83 100% surveyed felt they had the needed writing skills | Y | |
| | | | Class 2009 Response rate 24% Average Score: 3.83 100% surveyed felt they had the needed writing skills | Y | |
| | | | Class 2010 Response rate 28% Average Score: 3.83 100% surveyed felt they had the needed writing skills | Y | |
| | | | Class 2011 Response rate 62% Average Score: 3.87 100% surveyed felt they had the needed writing skills | Y | |
| | | | Class 2012 Response rate 12% Average Score: 4.0 100% surveyed felt they had the needed writing skills | Y | |
| | | | | | |

| | | | | | |
|--|--|---|--|------------------------------|--|
| G4: To ensure graduates have the computer skills, the written and oral communication skills; and critical thinking and problem solving skills necessary to practice successfully within the radiology profession. | O17: Students will have the needed writing skills to be successful within the clinical environment upon graduation. (Cont'd) | B25: 75% of responding employers will indicate in the Employer Surveys that graduate students have the needed writing skills to be successful within their clinical setting. Scale 3: Exceeds Standards 2: Meets standards 1: Below Standards Success is indicated by a score of 2 or higher. | DR25: Employer Surveys Writing Skills | Criteria Met or Unmet | Actions for Unmet Criteria & Other Information None Needed |
| | | | Class 2004 15/15 of surveys: 100% Average score of 2.0 100% of employers surveyed felt graduates had the needed writing skills | Y | |
| | | | Class 2005 16/16 of surveys: 100% Average score of 2.0 100% of employers surveyed felt graduates had the needed writing skills | Y | |
| | | | Class 2006 Average score 2.0 82% (14/17) of employers surveyed felt graduates had the needed writing skills | Y | |
| | | | Class 2007: Average score 2.13 100% (15/15) of employers surveyed felt graduates had the needed writing skills | Y | |
| | | | Class 2008 Average score 2.07 100% (14/14) of employers surveyed felt graduates had the needed writing skills | Y | |
| | | | Class 2009 Average score 2.11 100% (9/9) of responding employers felt graduates had the needed writing skills. | Y | |
| | | | Class 2010 Average score 2.03 100% (9/9) of responding employers felt graduates had the needed writing skills. | Y | |
| | | | Class 2011 Average score 2.3 100% (9/9) of responding employers felt graduates had the needed writing skills. | Y | |
| | | | Class 2012 Average score 2.0 100% (5/5) of responding employers felt graduates had the needed writing skills. | Y | |

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APPENDIX 6

OCCUPATION PROFILE REPORT

see below

Occupation Profile

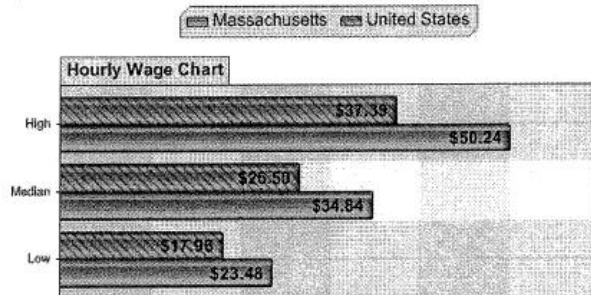
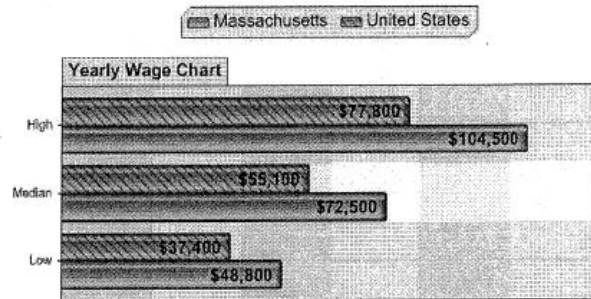
RADIOLOGIC TECHNOLOGISTS: MASSACHUSETTS

Occupation Description

Take x rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Includes technologists who specialize in other scanning modalities. Excludes "Diagnostic Medical Sonographers" and "Magnetic Resonance Imaging Technologists"

State and National Wages

The wage occupation *Radiologic Technologists and Technicians* aggregates data for these 2 occupations: Magnetic Resonance Imaging Technologists — Radiologic Technologists .



Mid. Pay / have a date to meet this person

- High is the wage at which 90% of workers earn less and 10% earn more.
- Middle is the wage at which 50% of workers earn less and 50% earn more.
- Low is the wage at which 10% of workers earn less and 90% earn more.

| Location | Pay Period | 2011 | | | | |
|---------------|------------|----------|----------|----------|----------|-----------|
| | | 10% | 25% | Median | 75% | 90% |
| United States | Hourly | \$17.96 | \$21.59 | \$26.50 | \$32.31 | \$37.39 |
| | Yearly | \$37,400 | \$44,900 | \$55,100 | \$67,200 | \$77,800 |
| Massachusetts | Hourly | \$23.48 | \$28.07 | \$34.84 | \$42.24 | \$50.24 |
| | Yearly | \$48,800 | \$58,400 | \$72,500 | \$87,900 | \$104,500 |

[Occupation Wages FAQs](#)

[Median Wage by Occupation Across States](#)

[Compare Wages by Occupation and Local Area](#)

[Compare Wages by Metropolitan Areas](#)

National Data Source: Bureau of Labor Statistics, Occupational Employment Statistics Survey

State Data Source: Massachusetts Wage Information

State and National Trends

National Employment Trends are for **Radiologic Technologists and Technicians**, which includes Magnetic Resonance Imaging Technologists ; Radiologic Technologists .

| United States | Employment | | Percent Change | Job Openings ¹ |
|--|------------|---------|----------------|---------------------------|
| | 2010 | 2020 | | |
| Radiologic Technologists and Technicians | 219,900 | 281,000 | +28% | 9,510 |
| Massachusetts | Employment | | Percent Change | Job Openings ¹ |
| | 2008 | 2018 | | |
| Radiologic technologists and technicians | 6,290 | 6,940 | +10% | 180 |

¹Job Openings refers to the average annual job openings due to growth and net replacement.

Note: The data for the State Employment Trends and the National Employment Trends are not directly comparable. The projections period for state data is 2008-2018, while the projections period for national data is 2010-2020.

[Occupation Trends FAQs](#)

[Employment Trends by Occupation Across States](#)

[Compare Employment Trends by Occupation](#)

[Employment Trends by Industry and Occupation](#)

National Data Source: [Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections](#)

State Data Source: [Massachusetts Executive Office of Labor and Workforce Development](#)

Knowledge, Skills, and Abilities

The most important knowledge, skills, and abilities (KSAs) are listed for **Radiologic Technologists**.

Knowledge:

- **Customer and Personal Service** - Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- **Medicine and Dentistry** - Knowledge of the information and techniques needed to diagnose and treat human injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.
- **English Language** - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- **Physics** - Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.
- **Computers and Electronics** - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Skills:

- **Speaking** - Talking to others to convey information effectively.
- **Active Listening** - Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Operation and Control** - Controlling operations of equipment or systems.
- **Service Orientation** - Actively looking for ways to help people.
- **Coordination** - Adjusting actions in relation to others' actions.
- **Monitoring** - Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Operation Monitoring** - Watching gauges, dials, or other indicators to make sure a machine is working properly.
- **Social Perceptiveness** - Being aware of others' reactions and understanding why they react as they do.

Abilities:

- **Oral Comprehension** - The ability to listen to and understand information and ideas presented through spoken words and sentences.
- **Oral Expression** - The ability to communicate information and ideas in speaking so others will understand.
- **Near Vision** - The ability to see details at close range (within a few feet of the observer).
- **Arm-Hand Steadiness** - The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Information Ordering** - The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- **Problem Sensitivity** - The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.

Source: [Occupational Information Network: Radiologic Technologists](#)

Tasks and Activities

Occupation specific tasks and the most important generalized work activities are listed for **Radiologic Technologists**.

Occupation Specific Tasks:

- Assign duties to radiologic staff to maintain patient flows and achieve production goals.
- Collaborate with other medical team members, such as physicians or nurses, to conduct angiography or special vascular procedures.
- Coordinate work with clerical personnel or other technologists.
- Demonstrate new equipment, procedures, or techniques to staff and provide technical assistance.
- Explain procedures and observe patients to ensure safety and comfort during scan.
- Key commands and data into computer to document and specify scan sequences, adjust transmitters and receivers, or photograph certain images.
- Measure thickness of section to be radiographed, using instruments similar to measuring tapes.
- Monitor patients' conditions and reactions, reporting abnormal signs to physician.
- Monitor video display of area being scanned and adjust density or contrast to improve picture quality.
- Operate fluoroscope to aid physician to view and guide wire or catheter through blood vessels to area of interest.
- Operate or oversee operation of radiologic or magnetic imaging equipment to produce images of the body for diagnostic purposes.

- Perform administrative duties, such as developing departmental operating budget, coordinating purchases of supplies or equipment, or preparing work schedules.
- Perform scheduled maintenance or minor emergency repairs on radiographic equipment.
- Position and immobilize patient on examining table.
- Position imaging equipment and adjust controls to set exposure time and distance, according to specification of examination.
- Prepare and administer oral or injected contrast media to patients.
- Provide assistance in dressing or changing seriously ill, injured, or disabled patients.
- Record, process, and maintain patient data or treatment records and prepare reports.
- Remove and process film.
- Review and evaluate developed x-rays, video tape, or computer-generated information to determine if images are satisfactory for diagnostic purposes.
- Set up examination rooms, ensuring that all necessary equipment is ready.
- Take thorough and accurate patient medical histories.
- Use radiation safety measures and protection devices to comply with government regulations and to ensure safety of patients and staff.

Generalized Work Activities:

- **Assisting and Caring for Others** - Providing personal assistance, medical attention, emotional support, or other personal care to others such as coworkers, customers, or patients.
- **Getting Information** - Observing, receiving, and otherwise obtaining information from all relevant sources.
- **Performing for or Working Directly with the Public** - Performing for people or dealing directly with the public. This includes serving customers in restaurants and stores, and receiving clients or guests.
- **Updating and Using Relevant Knowledge** - Keeping up-to-date technically and applying new knowledge to your job.
- **Controlling Machines and Processes** - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).

Detailed Work Activities:

- administer injections
- administer radioactive isotopes
- analyze medical data
- collect clinical data
- communicate technical information
- explain testing procedures to patient
- follow clinical radiation safety procedures
- follow dental or medical office procedures
- follow dental or medical x-ray procedures
- follow infectious materials procedures
- follow patient observation procedures
- identify body response variations
- inventory medical supplies or instruments
- lift or transport ill or injured patients
- make presentations on health or medical issues
- observe patient condition
- operate radiologic equipment
- operate ultrasound equipment
- operate x-ray machines
- position patient for therapy
- prepare patients for tests, therapy, or treatments
- take vital signs
- understand technical operating, service or repair manuals
- use darkroom procedures in radiology or medical or dental lab setting
- use hazardous materials information
- use interpersonal communication techniques
- use knowledge of medical terminology
- use medical diagnostic equipment
- use quality assurance techniques
- use sanitation practices in health care settings

Source: [Occupational Information Network: Radiologic Technologists](#).

Tools and Technology**Radiologic Technologists** [View Detailed Report](#)**Tools:**

- **Hypodermic needles** - Hypodermic needles, Intramuscular needles, Subcutaneous hypodermic needles, Venipuncture needles
- **Medical radiological positioning aids for general radiological use** - Compression bands, Cushions, Patient immobilizing devices, Sandbags, Straps
- **Medical x ray darkroom equipment or supplies** - Automatic x ray film processors, Portable film processors, Self-contained film processors, Tabletop film processors
- **Medical x ray film archiving system software** - Image storage systems, Picture archiving and communication systems PACS, Scan converters
- **Medical x ray intensifying screens** - Intensifying screens, X ray image intensifier television systems, X ray imaging charge-coupled device CCD cameras

Technology:

- **Data base user interface and query software** - Structured data entry software
- **Information retrieval or search software** - Information systems integration software
- **Medical software** - Diagnostic image review software, Digital Imaging Communications in Medicine DICOM software/modality management software, Electronic medical record EMR software, Film processor tracking and management software, Information management subsystem software

Source: [Occupational Information Network: Radiologic Technologists](#).

Education and Training

Occupation: Radiologic Technologists
 Typical education needed for entry: Associate's degree
 Typical work experience needed for a job in this occupation: None
 Typical on-the-job training once you have a job in this occupation: None

Related Instructional Programs:

- Mammography Technician/Technology
- Medical Radiologic Technology/Science - Radiation Therapist
- Radiologic Technology/Science - Radiographer

Distribution of Educational Attainment

| Occupation | Percent of employees aged 25 to 44 in the occupation whose highest level of educational attainment is | | | | | | |
|--|---|-----------------------------------|-------------------------|--------------------|-------------------|-----------------|---------------------------------|
| | Less than high school diploma | High school diploma or equivalent | Some college, no degree | Associate's degree | Bachelor's degree | Master's degree | Doctoral or professional degree |
| Radiologic Technologists and Technicians | 0.5% | 9% | 21.6% | 45% | 19.4% | 2.2% | 2.3% |
| Health Technologists and Technicians | 1.8% | 19.4% | 30% | 25.5% | 18.9% | 2.3% | 2.1% |
| Healthcare Practitioners and Technical | 1.1% | 10.1% | 15.6% | 15.3% | 20.7% | 11.5% | 25.7% |
| Total, All Occupations | 10.4% | 27.4% | 20.9% | 8.9% | 19.5% | 8.2% | 4.7% |

Find [colleges, training schools and instructional programs](#) for this occupation.

Find education and training programs where you can earn a certificate, diploma, or award in less than 2 years with the [Short-Term Training Finder](#).

Access additional [Education Resources](#) in the Career Resource Library.

Use the [Financial Aid Advisor](#) to help find funds for financing education.

WIA Eligible Training Provider List: <http://web.deltma.org/JobQuest/Training.aspx>

Source: Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections (Education/Training Level, Educational Attainment); National Center for Education Statistics (Typical Instructional Programs)

Related Occupation Profiles

Occupations with similar skill requirements

- [Cardiovascular Technologists and Technicians](#)
- [Dental Assistants](#)
- [Dental Hygienists](#)
- [Health Technologists and Technicians, All Other](#)
- [Nuclear Medicine Technologists](#)
- [Prosthodontists](#)
- [Radiation Therapists](#)
- [Respiratory Therapists](#)

Web Resources

The following resources are related to occupations in the job family
Healthcare Practitioners and Technical

[Health Diagnosing and Treating Practitioners](#)
[Health Technologists and Technicians](#)
[Other Healthcare Practitioners and Technical Occupations](#)

Health Diagnosing and Treating Practitioners

- [AIDS Care Nurse](#), Nursing Spectrum
- [Ambulatory Care Nurse](#), Nursing Spectrum
- [Art Therapist](#), The Council for Exceptional Children
- [Audiologist](#), American Medical Association
- [Audiologists](#), Occupational Outlook Handbook
- [Audiology](#), American Speech-Language-Hearing Association
- [Becoming a Veterinarian](#), American Veterinary Medical Association
- [Cardiac Rehabilitation Nurse](#), Nursing Spectrum
- [Certified Registered Nurse Anesthetists](#), American Association of Nurse Anesthetists
- [Chiropractor](#), Princeton Review
- [Chiropractors](#), Occupational Outlook Handbook
- [Chiropractors](#), Human Resources and Skills Development Canada
- [Chiropractors and Doctors of Chiropractic](#), California Occupational Guide
- [Clinical laboratory scientist/medical technologist](#), American Medical Association
- [Correctional Nurse](#), Nursing Spectrum
- [Dentist](#), American Dental Association
- [Dentist](#), Princeton Review
- [Dentists](#), Occupational Outlook Handbook
- [Dentists](#), California Occupational Guide
- [Dentists](#), Job Futures
- [Denturists](#), Human Resources and Skills Development Canada
- [Dietetics](#), American Medical Association
- [Dietitians and Nutritionists](#), Human Resources and Skills Development Canada

- [Dietitians and Nutritionists](#), Occupational Outlook Handbook
- [Doctor of Optometry](#), Association of Schools and Colleges of Optometry
- [Educational Audiologist](#), The Council for Exceptional Children
- [Emergency Nurse](#), Nurses for a Healthier Tomorrow
- [Enterostomal Therapy Nurse](#), Nursing Spectrum
- [Genetics Nurse](#), Nursing Spectrum
- [Hospice Nurse](#), Princeton Review
- [Hospice/Palliative Care Nurses](#), Nurses for a Healthier Tomorrow
- [Infection Control Nurse](#), Nursing Spectrum
- [Intravenous Therapy Nurse](#), Nursing Spectrum
- [Kinesiotherapist](#), American Medical Association
- [Labor and Delivery Staff Nurse](#), Nurses for a Healthier Tomorrow
- [Long-Term Care Nurse](#), Nursing Spectrum
- [Managed Care Nurse](#), Nursing Spectrum
- [Medical Careers](#), Association of American Medical Colleges
- [Medicine and Health](#), WetFeet.com
- [Music Therapist](#), The Council for Exceptional Children
- [Nephrology Nurse](#), Nursing Spectrum
- [Nurse](#), Princeton Review
- [Nurse Executive](#), Nurses for a Healthier Tomorrow
- [Nursing](#), WetFeet.com
- [Nutritionist](#), Princeton Review
- [Occupational Health Nurse](#), Nursing Spectrum
- [Occupational Therapist](#), The Council for Exceptional Children
- [Occupational Therapist](#), Princeton Review
- [Occupational Therapists](#), CareerZone
- [Occupational Therapists](#), Occupational Outlook Handbook
- [Occupational Therapists](#), California Occupational Guide
- [Occupational Therapy Occupations](#), American Medical Association
- [Oncology Nurse](#), Nursing Spectrum
- [Oncology Nurse](#), Nurses for a Healthier Tomorrow
- [Ophthalmic Nurse](#), Nursing Spectrum
- [Optometrist](#), Princeton Review
- [Optometrists](#), Human Resources and Skills Development Canada
- [Optometrists](#), Occupational Outlook Handbook
- [Optometrists](#), California Occupational Guide
- [Orthopaedic Nurse](#), Nurses for a Healthier Tomorrow
- [Orthoptist](#), American Medical Association
- [Otorhinolaryngology Nurse](#), Nursing Spectrum
- [Pathology Professions](#), American Society for Clinical Pathology
- [Pediatric Nurse](#), Nursing Spectrum
- [Perianesthesia Nurse](#), Nursing Spectrum
- [Perinatal Nurse](#), Nursing Spectrum
- [Perioperative \(O.R.\) Nurse](#), Nurses for a Healthier Tomorrow
- [Pharmaceuticals](#), WetFeet.com
- [Pharmacist](#), Princeton Review
- [Pharmacists](#), Occupational Outlook Handbook
- [Pharmacists](#), California Occupational Guide
- [Pharmacists](#), Job Futures
- [Physical Therapist](#), The Council for Exceptional Children
- [Physical Therapist](#), Princeton Review
- [Physical Therapists](#), Occupational Outlook Handbook
- [Physical Therapists](#), CareerZone
- [Physical Therapists](#), California Occupational Guide
- [Physical Therapy Occupations](#), American Medical Association
- [Physician](#), Princeton Review
- [Physician Assistant](#), Princeton Review
- [Physician Assistant](#), American Medical Association
- [Physician Assistants](#), California Occupational Guide
- [Physician Assistants](#), Occupational Outlook Handbook
- [Physicians and Surgeons](#), California Occupational Guide
- [Physicians and Surgeons](#), Occupational Outlook Handbook
- [Podiatrists](#), Occupational Outlook Handbook
- [Podiatrists and Doctors of Podiatric Medicine](#), California Occupational Guide
- [Primary Care and Office Nurse](#), Nursing Spectrum
- [Psychiatric Nurse](#), Nursing Spectrum
- [Psychiatric-Mental Health Nurse](#), Nurses for a Healthier Tomorrow
- [Radiation Therapists](#), Occupational Outlook Handbook
- [Radiation Therapists](#), California Occupational Guide
- [Radiologic Technology Occupations](#), American Medical Association
- [Reconstructive Surgical Nurse](#), Nursing Spectrum
- [Recreational Therapists](#), Occupational Outlook Handbook
- [Registered Dietitian](#), American Dietetic Association
- [Registered Nurses](#), California Occupational Guide
- [Registered Nurses](#), Occupational Outlook Handbook
- [Registered Nurses](#), Job Futures
- [Rehabilitation Nurse](#), Nursing Spectrum
- [Respiratory Nurse](#), Nursing Spectrum
- [Respiratory Therapist](#), American Association for Respiratory Care
- [Respiratory Therapists](#), California Occupational Guide
- [Respiratory Therapists](#), Occupational Outlook Handbook
- [Respiratory Therapy Occupations](#), American Medical Association
- [School Counselor](#), The Council for Exceptional Children
- [School Nurse](#), Nurses for a Healthier Tomorrow
- [School Nurse](#), The Council for Exceptional Children
- [Speech-Language Pathologist](#), American Medical Association
- [Speech Therapist](#), Princeton Review
- [Speech-Language Pathologist](#), The Council for Exceptional Children
- [Speech-Language Pathologists](#), American Speech-Language-Hearing Association
- [Speech-language pathologists](#), Occupational Outlook Handbook
- [Speech-Language Pathologists](#), CareerZone
- [Speech-Language Pathologists and Audiologists](#), California Occupational Guide
- [Staff Nurse](#), Nurses for a Healthier Tomorrow
- [Subacute Care Nurse](#), Nursing Spectrum
- [Telephone Triage or Advice Nurse](#), Nursing Spectrum

- Transplant Nurse, Nursing Spectrum
- Trauma Nurse, Nursing Spectrum
- Veterinarian, Princeton Review
- Veterinarians, Human Resources and Skills Development Canada
- Veterinarians, Occupational Outlook Handbook
- Veterinarians and Veterinary Inspectors, California Occupational Guide

Health Technologists and Technicians

- Biological Technologists and Technicians, Job Futures
- Blood Bank Technology-Specialist, American Medical Association
- Cardiovascular Technologist, American Medical Association
- Cardiovascular Technologists and Technicians, California Occupational Guide
- Cardiovascular Technologists and Technicians and Vascular Technologists, Occupational Outlook Handbook
- Clinical laboratory scientist/medical technologist, American Medical Association
- Cytotechnologist, American Medical Association
- Dental Hygienist, American Dental Association
- Dental Hygienists, CareerZone
- Dental Hygienists, Occupational Outlook Handbook
- Dental Hygienists, California Occupational Guide
- Dental Related Occupations, American Medical Association
- Diagnostic Medical Sonographers, Occupational Outlook Handbook
- Diagnostic Radiologic Technologists, California Occupational Guide
- Dietetic technicians, Occupational Outlook Handbook
- Dietetics, American Medical Association
- Dietitians and Nutritionists, California Occupational Guide
- Dispensing Opticians, California Occupational Guide
- Electroneurodiagnostic Technologist, American Medical Association
- Emergency Medical Technician-Paramedic, American Medical Association
- Emergency Medical Technicians and Paramedics, CareerZone
- Emergency Medical Technicians and Paramedics, California Occupational Guide
- EMTs and Paramedics, Occupational Outlook Handbook
- Health Information Management Occupations, American Medical Association
- Laboratory Assistants and Laboratory Technicians (Except Health), California Occupational Guide
- Licensed Practical and Licensed Vocational Nurses, California Occupational Guide
- Licensed Practical and Licensed Vocational Nurses, CareerZone
- Licensed Practical and Licensed Vocational Nurses, Occupational Outlook Handbook
- Medical and Clinical Laboratory Technologists, California Occupational Guide
- Medical and Clinical Laboratory Technologists and Technicians, Occupational Outlook Handbook
- Medical Laboratory Professions, American Society for Clinical Pathology
- Medical Laboratory Science Professional, American Society for Clinical Laboratory Science
- Medical Records and Health Information Technicians, California Occupational Guide
- Medical Records and Health Information Technicians, Occupational Outlook Handbook
- Medical Records and Health Information Technicians, CareerZone
- Neonatal Nurse, Nurses for a Healthier Tomorrow
- Nuclear Medicine Technologist, American Medical Association
- Nuclear Medicine Technologists, Occupational Outlook Handbook
- Ophthalmic Dispensing Optician, American Medical Association
- Ophthalmic Professions, American Medical Association
- Opticians, Human Resources and Skills Development Canada
- Opticians, Dispensing, Occupational Outlook Handbook
- Optometric Technician and Optometric Assistant, California Occupational Guide
- Orthotist and Prosthetist, American Medical Association
- Orthotists and prosthetists, Occupational Outlook Handbook
- Paramedic, Princeton Review
- Perfusionist, American Medical Association
- Pharmacy Technicians, Occupational Outlook Handbook
- Pharmacy Technicians, California Occupational Guide
- Psychiatric Technicians, California Occupational Guide
- Psychiatric Technicians and Aides, Occupational Outlook Handbook
- Radiologic Technologists, CareerZone
- Radiologic Technologists, Occupational Outlook Handbook
- Radiologic Technology Occupations, American Medical Association
- Registered Dietetic Technician, American Dietetic Association
- Respiratory therapy technicians, Occupational Outlook Handbook
- Surgical Technicians, California Occupational Guide
- Surgical Technologist, American Medical Association
- Surgical Technologists, Occupational Outlook Handbook
- Surgical Technology, Association of Surgical Technologists
- Veterinary Technicians (Animal Health Technicians), California Occupational Guide
- Veterinary Technologists and Technicians, Occupational Outlook Handbook

Other Healthcare Practitioners and Technical Occupations

- Athletic Trainer, American Medical Association
- Athletic trainers, Occupational Outlook Handbook
- Dialysis Technician, California Occupational Guide
- Music Therapist, American Medical Association
- Occupational health and safety Specialists, Occupational Outlook Handbook
- Occupational health and safety technicians, Occupational Outlook Handbook
- Therapeutic Recreation Specialist, American Medical Association
- Women's Health Nurse Practitioner, Nurses for a Healthier Tomorrow

APPENDIX 7

Program Resources List

Northern Essex Community
Radiologic Technology Program-Resources
Updated 12/10/2012

Radiology Lab

Fully energized-Continental TM40
Darkroom-Konica SRX-101

Accessory Equipment Located in the Radiology Lab

1. OREX PcC\$ 1417 ACL4 CR System
2. Cassettes of various sizes
3. Step wedge & spinning top
4. Sensitometer
5. Densitometer-two
6. Radiation dosimeter
7. Phantoms- Skull, Knee & Hand, full upper extremity
8. Quality assurance testing kit
9. Glass x-ray tube
10. Separate cone & collimator
11. Film processor
12. Cassette holder
13. Flexible lead blocker
14. Cervical sand bag set
15. Cross table leg support
16. Radiographic view boxes (mounted and free standing)
17. Radiographic Film Library of:
 - Skeletal Procedures (Extremities, Thorax, Abdomen/Pelvis, Spine, Skull & Sinuses)
 - Gastrointestinal Procedures
 - Urinary System Procedures
 - Pediatric Procedures
 - Angiographic and Interventional Procedures
 - Mammography
 - Arthrography
 - Hysterosalpinography
 - Myelography
 - Venography
18. Anatomical charts:
 - Ear & Eye
 - Chest & abdomen
 - Digestive System
 - Skeletal System
 - Head, Mouth & Throat
 - Heart & Circulation
19. Various guide wires and supplies used in vascular & interventional procedures
20. Aluminum wedge filter

21. Positioning sponges: various sizes, angles
22. Articulated skeleton and disarticulated bones, skulls
23. Pediatric immobilization cradle
24. Portable grids

NECC-Radiologic Technology Program Software Resources

Software purchased for faculty support and development of curriculum

1. Anatomy of the Shoulder
2. Anatomy of the Knee
3. Barium-The How's and Why's
4. Principles of Radiographic Imaging
5. Principles of Radiographic Imaging – Computerized Test Bank
6. Introduction to Sectional Anatomy
7. Fundamentals of Sectional Anatomy
8. Patient Diversity: Beyond Vital Signs
9. Trauma CT of the Abdomen and Pelvis
10. Radiology's Role in the Diagnosis of Patients with Multiple Trauma
11. Clinical Nursing Skills
12. Reducing Radiological Exposure
13. Biological Effects of Radiation
14. Diagnostic Radiology: Focus on CT Scans
- 15.
16. Patient's Rights
17. Learning Cardiology
18. Interactive Radiology Teaching File
19. Non-verbal Communication
20. Delmar's Radiographic Positioning & Procedures Image Library
21. Interventional Radiology
22. Mosby's Radiographic Instructional Series
 - a. Preliminary Steps in Radiography
 - b. Radiation Protection
 - c. General Anatomy and Radiographic Positioning Terminology
 - d. Upper Limb Extremity
 - e. Shoulder Girdle
 - f. Lower Limb Extremity
 - g. Pelvis and Upper Femora
 - h. Vertebral Column
 - i. Bony Thorax
 - j. Thoracic Viscera
 - k. Long Bone Measurement
 - l. Contrast Arthrography
 - m. Foreign Body Localization and Trauma Radiography Guidelines
23. Mosby's Radiobiology and Radiation Protection Electronic Teaching Series
24. Mosby's Radiologic Physics Electronic Teaching File
25. Mosby's Radiographic Imaging Electronic Teaching Library
26. Imaging of Low Back Pain-Insight Media
27. PACS,CR & DR by CE Essentials, LLC

Radiography Technology Program Video Tapes

1. Modern Marvels of Medical Imaging- History Channel
2. History of X-ray-3M
3. Medical Terminology
4. Medical Ethics
5. Negligence and Malpractice
6. Radiographic Positioning Video Tapes-Delmar Learning
 - Chest, Abdomen and Thorax
 - Upper and Lower Extremity
 - Vertebral Column
 - Skull Radiography
 - Digestive System
7. Life Saving Lessons in Myelography
8. The Urinary System Anatomy-NIMCO
9. The History of Contrast Media
10. IVP Patient Education Video-Squibb Diagnostics
11. Recognize and Respond to Reactions to Contrast Media
12. Pediatric Radiography-ASRT
13. Geriatric Radiography-ASRT
14. Cross-Sectional Anatomy-ASRT
15. Spiral/Helical CT-ASRT
16. Siemens EBT Ultrafast CT system
17. CT Issues in Protocol Development
18. Basic Principles of MRI
19. Mammography-ASRT
20. How to Examine Your Breasts: American Cancer Society
21. Breast Imaging-No Longer a Choice: Milwaukee Area Technical College
22. Prime-Time-Mammography
23. Eklund Modified Compression Technique for the Augmented Breast-Lange Productions
24. Techniques, Procedures and Physics of Mammography
25. Mobile Digital Imaging System-Siemens
26. Computed Imaging in Radiology-AIMS Multimedia
27. How Radiography Works: The Inside Story
28. The Respiratory System Anatomy
29. The Circulatory System Anatomy
30. The Endocrine System Anatomy
31. The Digestive System Anatomy
32. X-Ray the UGI
33. The Skeletal & Muscular System
34. Trauma Radiography and the Uncooperative Patient-GE Medical Systems
35. Head Injury
36. Advanced Dissection of TMJ
37. Equipment for Special Procedures
38. Coronary Angioplasty- Patient Education-Winthrop Pharmaceuticals
39. Focus on Cineradiography-Principle of X-ray Generation

- 40. TB or Not TB
- 41. Mitosis
- 42. Radiographic Artifacts I and II-Seven Hills Radiology

Computer Assisted Instruction Available in Computer Labs

Software used in support of program outcomes and/or is used in support of the curriculum. Students are assigned to use the programs as a component of the individual course requirements.

- 1. CD Basics by ASRT
- 2. Bloodborne Pathogens
- 3. Corectec Software
 - a. Radiographic Detail and Distortion
 - b. Radiologic Density
 - c. Radiographic Quality
 - d. Radiographic Contrast
 - e. Radiographic Examination
 - f. Radiographic Examination 4
- 4. Radiologic Anatomy-University of Florida College of Medicine
- 5. Sectional Anatomy for Radiology Sciences

Natural Science Lab Inventory Updated 12/2012

L015 Inventory

| <u>Location</u> | <u>Quantity</u> | <u>Description</u> |
|-----------------|-----------------|--|
| C-27 | 5 | Bottles of Disinfectant |
| C-25 | 12 | Molecule Kits |
| | 8 | 1L Beakers |
| | 7 | 6x6 test tube racks |
| C-23 | 12 | Complete Human Skulls |
| | 9 | Human Jaws |
| C-21 | 2 | Fetal Human Skulls |
| | 2 | Knee joints |
| | 2 | Hip Joints |
| | 1 | Elbow joint |
| | 2 | Scapular Joints |
| | 2 | Complete Hips |
| | 1 | Knee Joint Diarama |
| C-19 | 11 | rib cage (bag) |
| | 1 | Spinal Column |
| | 2 | spinal column and ribs (box) |
| | 2 | Hand Model |
| | 8 | Hand bones (bag) |
| | 8 | Foot bones (bag) |
| | 1 | Joint (bag) |
| C-17 | 2 | Bell Jar/Lung demonstration |
| | 1 | Bronchial tube display |
| C-15 | 1 | Human kidney display |
| | 1 | Pig kidney display |
| | 1 | Fetal Pig display |
| | 1 | Dissected kidney display |
| | 3 | Kidney Model |
| C-13 | 4 | Heart Model |
| | 1 | Pig Heart anatomy display |
| | 2 | Human Artery & Vein display |
| | 1 | Tabers cyclopedic medical dictionary |
| | 1 | Gray Dictionary of Biological Sciences |
| | 2 | Fundamental A&P by Pearson |
| C-11 | Empty | |
| C-9 | 2 | Sheep Brain |
| | 4 | Human Brain |
| C-7 | 4 | Vaginal Models (incomplete) |
| | 2 | Penis Models (incomplete) |
| C-5 | 18 | Brown Bottles |

| | | |
|------|-------|--------------------------------------|
| | | 2 Boxes of Bottle dispenser tops |
| C-3 | Empty | |
| C-1 | | 6 Dispensing bottles |
| | | 1 Pin set |
| | | 1 Ball of Twine |
| D-1 | | 10 Dissection probes |
| | | 8 Dissection Scissors |
| | | 20 Droppers |
| | | 3 Bags of dissection labels |
| | | 2 Bags for dissection |
| | | 1 ball of string |
| C-2 | | 1 Fetal Pig display model |
| | | 2 2 Gallon specimen holding solution |
| | | 1 20L carboy |
| C-4 | | 30 Dissection Trays |
| D-2 | | 1 Box of scalpel blades |
| | | 2 Box of dissection pins |
| | | 17 scalpels |
| | | 8 sharp probes |
| | | 4 blunt probes |
| | | 30+ droppers |
| | | 3 scissors |
| | | 4 dissection kits (empty) |
| | | 1 Box of chromatography paper |
| D-3 | | 15 Thermometers |
| D-4 | | 11 Sphygmomanometers |
| | | 10 Stethoscopes |
| C-6 | | 3 Skull Models |
| | | 1 Skull Display |
| C-8 | | 15 4x10 test tube racks |
| | | 1 6x6 test tube racks |
| D-5 | | 2 Eye models |
| D-6 | | 1 Bag of Colored pencils |
| | | 1 crito seal |
| | | 1 effects of smoking demonstration |
| D-7 | Empty | |
| C-10 | | 2 Female reproductive system poster |
| | | 2 Male reproductive system poster |
| | | 2 Male reproductive system poster |
| | | 2 Female reproductive system poster |
| | | 1 Digestive anatomy poster |
| | | 2 Digestive anatomy poster |
| D-8 | Empty | |
| D-9 | Empty | |

| | | |
|-------------------|-------|--------------------------------------|
| C-12 | | 1 Box specimen cups and covers |
| | | 4 bags cardboard tubes |
| D10 | | 6 sets modeling clay |
| | | 1 bag glass marbles |
| C-14 | Empty | |
| D-11 | | 4 Pipette pump |
| D-12 | | 1 Borer Set |
| | | 12 slide boxes |
| C-16 | | 1 Square wave simulator |
| | | 1 cardiocom 1 |
| | | 1 gallon water |
| | | 1 hospital blanket/gown |
| C-18 | | 1 Mitosis model set |
| | | 1 Meiosis model set |
| | | 4 boxes pasteur pipetts |
| D-13 | Empty | |
| D-14 | | 1 booklet of lens paper |
| Outter bench top | | 1 hotplate |
| | | 1 centrifuge |
| | | 1 waterbath |
| | | 2 spinal columns |
| | | 4 anatomical models |
| | | 1 cell model |
| | | 1 kidney model |
| | | 1 neuron model |
| | | Human Skeleton models |
| Student bench x 6 | | 1 (incomplete/loose) |
| MC-1 | | 12 Microscopes |
| | | 2 Spectrophotometer |
| MC-2 | | 12 Microscopes |
| | | 1 Spectrophotometer |
| | | 1 Box miscellaneous microscope parts |
| MC-3 | | 1 DNA Model kit |
| | | 1 Urinalysis Lab Kit |
| | | 2 Blood Typing Kits |
| | | 6 Anatomical Leg muscle models |
| | | 7 Anatomical arm muscle models |
| | | 6 Dissecting Microscopes |
| | | 14 Smooth Muscle Slides |
| | | 16 Mitosis Slides |
| | | 2 Endocrine-Thyroid gland slides |
| | | 6 Intercolated disc slides |
| | | 13 Areolar tissue slides |
| | | 7 Bone slides |

| | | |
|---------------------------------------|----|--|
| | 18 | Muscle composite slides |
| | 14 | skeletal muscle slides |
| | 12 | Lungs slides |
| | 14 | Cardiac Muscle Slides |
| | 14 | Blood Smear slides |
| | 12 | Hyaline Cartilage slides |
| | 8 | Human Skin slides |
| | 6 | C.T. Reticular slides |
| | 5 | Transitional Epithelium slides |
| | 12 | Simple Cuboidal epithelium slides |
| | 11 | Adipose Tissue slides |
| | 12 | Artery & Vein Slides |
| | 13 | Elastic Cartilage slide |
| | 11 | White Fibrous Connective Tissue slides |
| | 10 | Fibrocartilage slides |
| | 13 | simple columnar slides |
| | 8 | urinary system slides |
| | 13 | nervous tissue slides |
| | 24 | Letter "e" slides |
| | 13 | Letter "e" slides |
| MC-3 (Reproductive tract box) | 13 | Testis slides |
| | 5 | Sperm smear slides |
| | 17 | ovary slides |
| MC-3(Human Scalp box) | 10 | Human Scalp Slides |
| | 18 | Human Skin White slides |
| MC-3 (Digestive Tract Hystology box) | 12 | esophagus slides |
| | 9 | fundic stomach slides |
| | 11 | duodenum slides |
| | 3 | sublingual gland Slides |
| | 2 | liver slides |
| | 3 | small intestine composite slides |
| | 10 | colon Slides |
| MC-3 (Gray microscope slide file box) | 2 | Adipose Tissue slides |
| | 2 | Areolar tissue slides |
| | 3 | Cardiac Muscle Slides |
| | 3 | Colon slides |
| | 2 | duodenum slides |
| | 1 | Elastic Cartilage slide |
| | 3 | esophagus |
| | 3 | Hyaline Cartilage slides |
| | 6 | Human Scalp Slides |
| | 7 | Mitosis Slides |
| | 3 | Scalp Slides |

L015 Corner Cabinet By entrance

- 3 simple columnar slides
- 1 skeletal muscle slides
- 1 Tendon Slides
- 1 Heart Model Slides
- 2 Whole Human Skeleton
- 1 Jaw Display
- 1 Ear Display
- 1 Bone Display
- 1 Eye Display
- 2 Ear Display
- 2 Skin Display

Section VI

Radiology / Radiography items held by the libraries at Northern Essex Community College December 12, 2012

| | Title | Author(s) | Date | Publisher | Shelving Call Number |
|----|---|--------------------------------|------|---|-----------------------|
| 1 | Radiation Protection In Medical Radiography | Statkiewicz Sherer, Mary Alice | 2011 | Mosby Elsevier | RC78.3 .S54 2011 |
| 2 | A Patients Guide To Medical Imaging | Eisenberg, Ronald L | 2011 | Oxford University Press | RC78.7 .D53 E375 2011 |
| 3 | Patient Care In Imaging Technology | Torres, Lillian S | 2010 | Wolters Kluwer Health Lippincott Williams & Wilkins | RC78 .T67 2010 |
| 4 | Medical Imaging | Levine, Harry | 2010 | Greenwood | RC78.7 .D53 L48 2010 |
| 5 | Patient Care In Radiography | Ehrlich, Ruth Ann | 2009 | Mosby Elsevier | RC78 .E48 2009 |
| 6 | Radiology Recall | | 2008 | Wolters Kluwer Health Lippincott Williams & Wilkins | RC78.15 .R325 2008 |
| 7 | Spinal Imaging | | 2008 | Thieme | RD768 .W5513 2008 |
| 8 | Introduction To Radiologic Sciences And Patient Care | | 2007 | Saunders Elsevier | R898 .J565 2007 |
| 9 | Comprehensive Radiographic Pathology | Eisenberg, Ronald L | 2007 | Mosby Elsevier | RC78 .E533 2007 |
| 10 | Chest X Ray Made Easy | Karthikeyan, D | 2007 | Anshan, Jaypee Brothers | RC78 .K37 2007 |
| 11 | Clinical Sonography | | 2007 | Lippincott Williams & Wilkins | RC78.7 .U4 C585 2007 |
| 12 | A Z Of Chest Radiology | Planner, Andrew | 2007 | Cambridge University Press | RC941 .P54 2007 |
| 13 | Essentials Of Dental Radiography For Dental Assistants And Hygienists | Johnson, Orlen N | 2007 | Pearson Prentice Hall | RK309 .D44 2007 |
| 14 | Merrills Atlas Of Radiographic Positioning & Procedures | Frank, Eugene D | 2007 | Mosby Elsevier | RC78.4 .F72 2007 |
| 15 | Merrills Atlas Of Radiographic Positioning & Procedures | Frank, Eugene D | 2007 | Mosby Elsevier | RC78.4 .F72 2007 |
| 16 | Merrills Atlas Of Radiographic Positioning & Procedures | Frank, Eugene D | 2007 | Mosby Elsevier | RC78.4 .F72 2007 |
| 17 | Principles Of Radiographic Imaging | | 2006 | Thomson Delmar Learning | RC78 .C34 2006 |
| 18 | Radiographic Positioning & Procedures | | 2006 | Thomson Delmar Learning | RC78.4 .D44 2006 |
| 19 | Fundamentals Of Special Radiographic Procedures | Snopek, Albert Michael | 2006 | Saunders Elsevier | RC78.7 .D53 S59 2006 |
| 20 | Fundamentals Of Body Ct | Webb, W Richard | 2006 | Elsevier Saunders | RC78.7 .T6 W433 2006 |
| 21 | Diagnostic Ultrasound | Kremkau, Frederick W | 2006 | Elsevier Saunders | RC78.7 .U4 K745 2006 |
| 22 | Dental Radiography | Haring, Joen Iannucci | 2006 | Elsevier Saunders | RK309 .H36 2006 |
| 23 | Radiation Protection In Medical Radiography | Statkiewicz Sherer, Mary Alice | 2006 | Mosby Elsevier | RM854 .S73 2006 |