

**MIDDLESEX COMMUNITY COLLEGE**

**ACADEMIC PROGRAM REVIEW  
FOR HEALTH CAREER PROGRAMS  
THAT CONDUCT SELF-STUDIES  
FOR NATIONAL PROFESSIONAL ACCREDITING BOARDS**

**Radiologic Technology**

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**2006 – 2007**

**Program Review Committee**

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**MIDDLESEX COMMUNITY COLLEGE**

**Academic Program Review**

**FOR HEALTH CAREER PROGRAMS  
THAT CONDUCT SELF-STUDIES  
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## **Middlesex Community College**

### **Academic Program Review**

#### **FOR HEALTH CAREER PROGRAMS THAT CONDUCT SELF-STUDIES FOR NATIONAL PROFESSIONAL ACCREDITING BOARDS**

<p>Note: This program review is an addendum to the Program Self-Study Report that is required for National Accreditation. The report of the Accrediting Board is included in this addendum. The complete Program Self-Study Report is on file with the Dean of Health Careers, Ann Montminy.</p>
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#### **Section I: Summary of Self-Study/Introduction to the Program Review**

This is an opportunity to provide background or contextual information, set goals for the program review and/or include any other introductory information that the committee believes will be helpful to the reader.

Middlesex Community College has demonstrated a commitment to the Radiologic Technology program since its inception 1971. The Radiography program has undergone many changes since its beginning and has adjusted for downsizing and mergers of hospitals in the 1990s which led to the loss of Clinical sites. To most recently the increased demand for Radiographers which has helped the program grow.

The program is externally accredited by the Joint Review Committee on Education in Radiologic Technology and has recently earned the maximum, eight year accreditation by the JRCERT.

To comply with this accreditation, the program needs to submit an interim report in 2009 and has been advised by the accrediting board to continue to refine its assessment plan (see accreditation letter, exhibit 1). The next site visit from the JRCERT is scheduled for 2011.

## **Section II: Mission and Goals**

State the mission/philosophy of the program. Please align the program's mission/philosophy and goals to the institutional mission and goals. Table format is encouraged.

### Mission Statement

The Radiologic Technology Program prepares students for entry into a professional specialty that requires technical skills to produce quality radiographs used for the diagnosis of disease and injury and that is an important part of the health care delivery service. Graduates are eligible for registered technologist-radiographer certification, and they must be capable of working closely with the radiologists and other members of a health care team.

Recognizing that there are differences among learners, we believe that learning is best accomplished in a democratic atmosphere, with open communication between college faculty, clinical faculty and students. The program provides on-going evaluation based on didactic and clinical course objectives, as well as evaluation by advisory board members, employers of our graduates, and the graduate themselves.

Emphasis throughout the program's duration is placed on radiation safety principles and procedures, as well as effective communication skills. Theory is taught in a logical sequence, guiding students through patient-centered activities related to producing radiographs. The Radiologic Technology associate degree program provides a blend of technical and clinical education supported by quality clinical facilities and instruction, and a strong core curriculum in general education

<b>Mission Statements Comparisons</b>	
<b>Radiologic Technology</b>	<b>Middlesex Community College</b>
The Radiologic Technology associate degree program provides a blend of technical and clinical education. Faculty use traditional lecture, power-point, laboratory demonstrations, and group work to deliver course content. The faculty strives to teach using the Multiple intelligence theory.	A Dynamic Learning Environment
Recognizing that there are differences among learners, we believe that learning is best accomplished in a democratic atmosphere, with open communication between college faculty, clinical faculty and students.	A Supportive, Caring Community
Graduates are eligible for registered technologist-radiographer certification, and they must be capable of working closely with the radiologists and other members of a health care team. The program has increased enrollment over the past five years to meet the demand of area hospitals.	Responsive Workforce Development
The Radiologic Technology associate degree program is supported by quality clinical facilities. Students conduct clinical internships at area hospitals working with the sick, injured, and many different cultures.	Active Civic Engagement
Theory is taught in a logical sequence, guiding students through patient-centered activities related to producing radiographs. Most of the programs curriculum is available on line for students to review as needed.	Extended Learning Opportunities
The program provides on-going evaluation based on didactic and clinical course objectives, as well as evaluation by advisory board members, employers of our graduates, and the graduate themselves. Program Faculty are required to continue their education and attend annual conferences to broaden their teaching perspectives.	A Commitment to Excellence

### **Section III: Comparison of Similar Programs**

- A. Based on a review of other college catalogs, list the colleges in our general area that have similar programs and comment on significant differences from the ones we currently offer that bear further exploration.

Northern Essex Community College

North Shore Community College

Bunker Hill Community College

The three colleges listed above have similar Radiography programs. North Shore and Northern Essex are almost exactly aligned to the Radiography program at Middlesex Community College with the exception that Middlesex Community College offer a CAT Scan and Magnetic Resonance Imaging course to give our students the opportunity to explore advanced X-ray modalities.

Bunker Hill Community College offers a night Radiography program. Middlesex Community College has explored this with Lahey Clinic. This was put on hold by our advisory board due to lack of clinical sites and educators.

- B. Based upon the committee's knowledge of institutions beyond our geographical area that have exemplary programs or are known for their 'best practices,' comment on significant similarities or differences at MCC and in what areas that bear further exploration.

All of the Radiography programs in the country are required to follow the same curriculum published by the American Society of Radiologic Technologists. This curriculum is enforced and monitored by the Joint Review Committee on Education in Radiologic Technology. Middlesex Community College is proud of its high registry examination pass rate for first time examinees, (see exhibit 2) and 100% pass rate for second time examinees. Our Radiography at Middlesex Community College is one of the best in the country.

## **Institutional Student Learning Outcomes**

(see **Appendix A** for detailed listing of MCC's Institutional Student Learning Outcomes)

- a. Please describe your program's plan for ongoing, annual assessment of MCC's ISLOs that are supported to proficiency within your program.

The Radiologic Technology program is currently assessing the Communication ISLO. The program will assess each ISLO as outlined in the table below.

The Program's current assessment plan (see exhibit 3), supports Communication, Critical thinking, Knowledge, and Personal and professional development.

<b>Radiologic Technology Program's ISLO time table</b>	
2006-2007	Communication (Written, Oral)
2007-2008	Personal and Professional Development
2008-2009	Critical Thinking
2009-2010	Reassess Communication
2011-2012	Global Perspectives
2013-2014	Social Responsibility
2015-2016	Knowledge and Skills

- b. If applicable, discuss any changes you have made to your program's support of MCC's ISLOs since your last program review.

- c. As appropriate, map the way in which your program provides opportunities for students to progress towards proficiency level of MCC's Institutional Student Learning Outcomes, by noting in which courses outcomes are **Introduced (I)**, **Developed (D)**, or where students are expected to demonstrate **Proficiency (P)**.

**Curriculum Map II:  
Program Opportunities for Student Progress toward ISLOs**

	Course	Course	Course	Course	Course	Course	Course	Course
<b>Knowledge &amp; Skills</b>	RAD102 (I)	RAD103 (I)	RAD101 (I)		RAD105 (D)	RAD203 (D)		RAD204 (P)
<b>Critical Thinking</b>	RAD102 (I)	RAD103 (I)	RAD105 (D)					RAD206 (P)
<b>Communication</b>	RAD102 (I)	RAD103 (I)	RAD101 (I)	RAD106 (D)	RAD105 (D)	RAD203 (D)	RAD206 (P)	RAD204 (P)
<b>Global Perspectives</b>	RAD101 (I)				RAD108 (D)			RAD206 (P)
<b>Social Responsibility</b>	RAD102 (I)	RAD103 (I)	RAD101 (I)		RAD105 (D)	RAD203 (D)	RAD203 (P)	RAD206 (P)
<b>Personal &amp; Professional Development</b>	RAD101 (I)	RAD103 (I)	RAD105 (D)	RAD107 (D)			RAD203 (P)	RAD206 (P)

- d. Please comment on the **sequencing of** opportunities for students to develop and achieve to ISLO proficiency within the program as appropriate, as noted on Curriculum Map II.

Clinical and Direct learning activities guide students from introduction to proficiency levels. Program faculty use the Oral communication Rubric developed by the college to grade student. The program realizes this is a developmental course, and will address this next cycle. The program may require a second presentation in the capstone course, RAD 204.

As the reader can see from the chart above, students do not obtain proficiency level until the second year in the program, i.e. the 200 level courses.



- e. Please indicate on the following pages as appropriate **how each ISLO is supported to proficiency achievement within the program and how that achievement is assessed. Where ISLO achievement is directly supported by PSLO achievement, you can refer the reader back to that section in Question 7, rather than re-writing it.** If the strategy for attainment of an ISLO is contained within a particular course, please list the course first, with the relevant activity (or activities) listed next to each course. If there is nothing currently in place that is intended to provide for the attainment of a particular outcome or to assess the extent to which the outcome has been realized, please leave the appropriate space blank. The blanks will help to identify areas which need further development.

**Communication**

*The MCC graduate will communicate, use information and employ technology effectively.*

<b>Strategies for Attainment</b>		<b>Assessment Strategies</b>
<b>Course</b>	<b>Activities</b>	
RAD204(P)	Journals	Written communication Rubric developed by college.
RAD106(D) RAD105(D)	Presentation Presentation	Oral communication Rubric developed by college.
RAD203(D)	Patient Care and communication.	Monthly clinical evaluation rubric developed by program
RAD206(P)	Patient Care and communication.	Monthly clinical evaluation rubric developed by program

- Describe how this Institutional Student Learning Outcome is **assessed for proficiency** at the **program level**.

Students are required to submit written **Journal entries** on interesting cases or ethical dilemma's encountered in the clinical setting. Two program faculty read and evaluate the writing proficiency of each student and submit a numerical grade using the Written communication Rubric. If the program faculty's grade a not the same, faculty discuss why the grades are different and try to reach a common grade.

Students are required to **present** and demonstrate a disease using radiographs and oral communication skills. Program faculty use the Oral communication Rubric developed by the college to grade student. The program realizes this is a developmental course, and will address this next cycle. The program may require a second presentation in the capstone course, RAD 204.

Students are evaluated each month on **Patient care and Communication** using the Monthly clinical evaluation rubric developed by the program. Each student is required to evaluate his or her self first. The Clinical Instructor then evaluates the student and discusses strategies on how the student can move toward proficiency level.

- What does the program's data analysis reveal about student achievement of this ISLO within the program?

1. Journal entries: The faculty decided benchmark should be a 12.

Two faculty members read and graded the same journals using the new rubric. The goal was that the grades would be close to or the same. There were minor discrepancies. However, faculty discussed these discrepancies', and were able to compromise and agree on a common grade.

The 20 Grades were:

9 14 9 14  
8 11 16 10  
9 7 8 8  
12 15 8 15  
12 15 14 12

The average was 11.3

The average was below our benchmark.

2. Presentations: The faculty decided benchmark should be 18.

Marianne Russell graded the presentations using the new rubric developed by the college.

The 17 Grades were:

15 14 16 19  
21 13 18 13  
24 15 20  
9 16 22  
17 13 19

The average was 16.7

The average was just below our benchmark.

3. Patient Care and Communication. The faculty decided benchmark should be 12.

Clinical faculty graded patient care and communication using the programs Monthly Clinical evaluation rubric.

The 20 Grades were:

14 12 14 14  
14 14 14 14  
14 14 14 12  
14 14 14 12  
12 14 14 12

The average was 13.5

The average was well above our benchmark.

- What curricular and/or instructional changes are planned within the program as a result of this data (if any)? Consider:
  1. Journal entries.
    1. Provide the students with the Rubric for the 100 course level writing assignments.
    2. Return the assignment to the students for editing as needed.
    3. Send the student to the writing lab as needed.
  2. Presentations.
    1. Give the students the Rubric prior to the oral presentation.
    2. Encourage the students to practice prior to the oral presentation.
    3. Encourage the students to critique each other using the rubric prior to the oral presentation.
    4. Give one more oral presentation assignment in the capstone course and reevaluate for proficiency level.
  3. Patient Care and Communication.
    1. No changes will be made at this time.

## **Section V: Program Evaluation Summary**

- A. Program Strengths  
(Bulleted List with reference to the question(s) numbers in the program review where this strength is explained.)
- Mission statements of the college and program are consistent as is their mutual commitment to A Dynamic Learning Environment, A Supportive, Caring Community, Responsive Workforce Development, Active Civic Engagement, Extended Learning Opportunities, and A Commitment to Excellence (please refer to section II).
  - The Program enjoys a positive and productive relationship with each of their five clinical education centers. The open communication and spirit of cooperation that exists between the clinical instructors and program faculty promotes an effective team effort in the administration of the program and meeting students' needs (please refer to section II).

- The program's approach to self-assessment and evaluation demonstrates a commitment to responding to change and maintaining a progressive program that is consistent with its mission. Some of the ways in which this is achieved is through written surveys and open communication between program faculty and clinical instructors and students (please refer to section III).
- The curriculum presents a fine balance of technical information and professional values as evidenced by program course syllabi such as Introduction to Radiologic Technology and Radiographic Positioning I and II. Patient education, care, compassion, and ethics are well integrated within the curriculum and presented with an emphasis equal to that of technical data (please refer Curriculum map III).
- The program conducts ongoing assessment of the curriculum to keep in line with the changing field of Radiologic Technology. We recently implemented a Cat Scan course, an Magnetic Resonance Imaging course, and are in the process of infusing digital radiography into our curriculum (please refer to section III).
- Program faculty strive to provide students with the most current, complete information presented using a variety of teach methods including: power-point presentations, internet assignments, and group work, in an effort to reach all learning styles. Another major strength of the program is the combination of direct education taught by experienced, committed instructors, and clinical education taught by knowledgeable, dedicated instructors (please refer to section II).
- The College strongly supports faculty professional development and takes pride in providing a variety of avenues in which growth may be pursued. Program faculty attend conferences in their specialty, work in their fields to remain current in the changing role of Radiologic Technologists, and attend professional day at Middlesex Community College (please refer to section II).
- Students greatly benefit from the individualized advisement system provided by program faculty and clinical instructors. Due to the low student/faculty ratio and a personal approach in program administration, students readily have access to qualified advisors in a positive, constructive, and nurturing environment (please refer to section II).
- The program meets the employment needs of the community. We have increased enrollment by adding two new Clinical sites over the past five years (please refer to section II).

- Program direction is established by a dedicated Advisory Board. The program reviews and revises program policies at our annual meeting (please refer to section II).

B. Program Needs for Improvement, Proposed Plans for Improvements, Budgetary Implications, Timelines

<b>Program Needs</b> (Reference the question in the program review where this need is explained.)	<b>Proposed Plans for Improvement</b> (Bulleted list of suggestions.)	<b>Financial Needs to Make Improvements</b>	<b>Proposed Timelines for Implementation</b>
Digital processing Equipment	<ul style="list-style-type: none"> <li>• Conduct image critique using new technology.</li> <li>• Give students the opportunity to learn technology prior to entering clinical site.</li> <li>• Keep program competitive with other programs already using digital equipment.</li> </ul>	20,000	5 years
New energized lab	<ul style="list-style-type: none"> <li>• Conduct assessments with students.</li> <li>• Conduct labs with students.</li> <li>• Give students opportunity to practice exams as needed.</li> <li>• Current lab is 30 years old and is showing signs of age. May need to replace due to age.</li> </ul>	40,000	10 years
One full time faculty	<ul style="list-style-type: none"> <li>• Eliminate need for adjuncts.</li> <li>• New faculty will conduct site visits.</li> <li>• New faculty will teach direct courses as needed.</li> </ul>		
Improve Written and Oral Communication.	Refer to page 14	3 years 2009-2010	

**SECTION VI: Report from Professional Accrediting Board**  
If available, please enclose the Board's final report.

## **APPENDIX A**

### **MCC Institutional Student Learning Outcomes**

#### **Knowledge and Skills**

*The MCC graduate will use knowledge acquired at MCC as a foundation for continued study and/or practical application.*

- Freshman and sophomore foundation for transfer
- Professional skills for career track (degree or certificate)

#### **Critical Thinking**

*The MCC graduate will demonstrate an ability to understand, interpret and analyze information in order to engage in critical thinking and problem-solving.*

- Knowledge Acquisition, Comprehension, Application, Analysis, Synthesis, and Evaluation
- Quantitative and Scientific Reasoning
- Knowledge Integration, Reasoning, and Problem-Solving Across Disciplines

#### **Communication**

*The MCC graduate will communicate, use information and employ technology effectively.*

- Effective Written, Presentation and Numeracy Skills, AND
- Information Literacy and Technology Fluency

#### **Global Perspectives**

*The MCC graduate will communicate an understanding of the world from a global perspective.*

- Historical, Political, Economic and Social
- Scientific and Environmental
- Aesthetic Appreciation and Creativity

#### **Social Responsibility**

*The MCC graduate will demonstrate social responsibility both within and outside of the classroom.*

- Multicultural and Diversity Awareness
- Ethics, Values, and Social Justice
- Citizenship and Civic Engagement

#### **Personal and Professional Development**

*The MCC graduate will demonstrate the capacity for on-going personal and professional development.*

- Independent and Life-long Learning
- Professionalism and Accountability
- Collaboration
- Managing Responsibilities and Adapting to Change
- Initiative and Self-Advocacy
- Self Assessment