Fulton Montgomery Community College

Assessment Plan

Radiologic Technology

November, 2016

FMCC Vision, Mission, Values

Vision

The vision of FMCC is to be Fulton and Montgomery Counties' preferred resource for post-secondary education, a potent catalyst for economic development and a vital center for cultural enrichment.

Mission

Fulton Montgomery Community College is Fulton and Montgomery Counties' partner for quality education, accessible transfer and career programs, economic development, and cultural and intellectual enrichment.

Core Values

Our mission is guided by the following core values we value:

- Quality education and teaching
- Excellence and Integrity
- Student learning
- Accessibility
- Caring, personalized service
- Dedicated personnel
- Diversity

Radiologic Technology Program

MISSION STATEMENT

The Radiology Technology Program of Fulton-Montgomery Community College dedicates itself to the education of diagnostic radiographic technologists. Radiologic technologists will be professionally competent and licensed to practice in the various modalities of medical imaging. By providing the highest level of education in a radiology curriculum and partnering with local healthcare facilities for clinical experience, the students are assured of a successful career. The radiographic technologist will be   committed to their profession by continuing education, by fulfilling the employment needs of our community, and by promoting quality care for all patients. This program of study provides the student with the essential qualifications to obtain an A.A.S. degree in Radiologic Technology. Graduates will be eligible to take the examination of the American Registry of Radiologic Technologists for certification   and New York State licensure.

Program Goals

1. Develop clinical competency in the performance of basic radiologic procedures

Student Learning Outcomes:
A. Students will utilize the essentials of radiation safety.
B. Students will apply positioning skills.
C. Students will select appropriate exposure.

2. Demonstrate problem solving and critical thinking skills

Student Learning Outcomes:
A. Students will be able to adapt positioning for trauma examinations.
B. Students will use sound reasoning in making decisions and reaching conclusions.

3. Cultivate and promote good communication skills with patients, staff and others

Student Learning Outcomes:
A. Students will demonstrate good oral communication skills.
B. Students will demonstrate good written communication

4. Establish a role as a medical imaging professional. Develop moral, ethical and legal principles of professionalism

Student Learning Outcomes:
A. Students will recognize the importance of continued education within the field.
B. Students will understand the origins and applications of ethical principles.
C. Students will exhibit professionalism including knowledge of advanced imaging and modalities.

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The assessment of the Radiologic Technology Program rests in two distinct areas: <u>Program Effectiveness Outcomes</u> and <u>Assessment of Program Learning Goals/ Student Learning Outcomes.</u>

Assessment of the Program Effectiveness Outcomes

The program outcomes for the Radiologic Technology program at Fulton Montgomery Community College are the program effectiveness goals and outcomes established by the Joint Commission for Education in Radiologic Technology (JRCERT). JRCERT is an accrediting agency for radiologic technology programs. The Radiologic Technology Program at FMCC achieved an 8-year JRCERT accreditation in 2012, as well accreditation by Middle States. The JRCERT Program Effectiveness Goals are listed along with outcomes and appropriate evaluation tools.

Program Effectiveness Goal: The program will graduate entry-level technologists

Program Effectiveness Outcomes:

1. Students will complete the program within 24 months.
    Tool: Program Completion Rate

2. Graduates will indicate that they are satisfied with their educational program.
    Tool: Graduate Satisfaction Survey

3. Employers will indicate that they are satisfied with the graduate's performance
    Tool: Employer Satisfaction Survey

4. Students will pass the ARRT certification exam on the first attempt
    Tool: ARRT Pass Rates

5. Graduates seeking employment will be employed within 6 months of graduation.
    Tool: Employment Rate

Assessment of Program Goals

Assessment of the four Program Level Goals is accomplished yearly, each goal is matched to two or more Student Learning Outcomes. Each Outcome is assessed using two or more assessment tools, applied at either the fall, spring or summer semesters.

Goals, objectives and outcomes are printed in this order. Where benchmarks are not met, possible explanations are included on spread sheets. A summary of information is finally included. Copies of surveys, survey results, professional assessment, the final competency assessment and other tools used to assess outcomes are available on request

Assessment Activities:

The purpose this assessment report is to reveal strengths and weakness of the Radiologic Technology program. Depending on outcomes, additional revenues may be needed to support changes in curriculum or other measures deemed necessary for improvement of the program.

Program Effectiveness Data Assessment of the Radiologic Technology Program, linking it to FMCC's vision and mission rests in 5 areas. These include: Successful Attainment of ARRT Registration, Student Employment, Student Satisfaction, Employer Satisfaction and Program Completion Rate (Retention Rate). Each of these is evaluated in the body of this report under Program Effectiveness.

Limitations of this Study

In 2004 Fulton, Montgomery and Schenectady county hospitals suffered a severe shortage of qualified radiologic technologists. Workforce shortages resulted in a change in the quality of care that each facility was able to offer the community. The healthcare facilities resorted to hiring 'locum tenens' technologists, which placed an extreme financial burden on these small area hospitals.
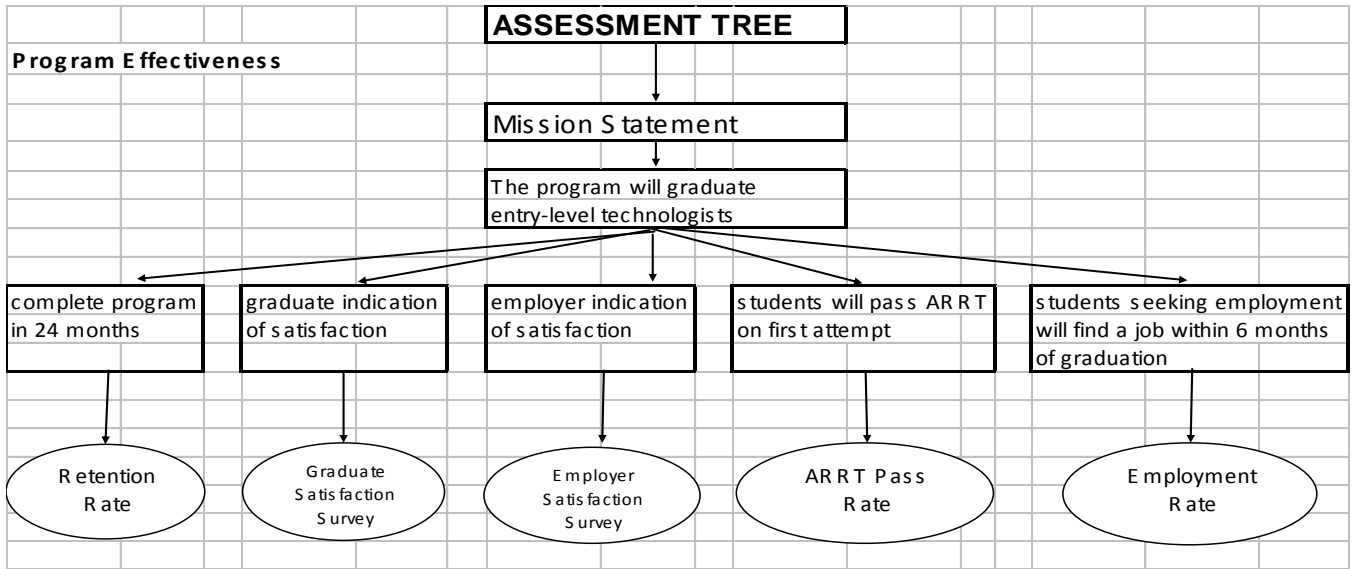
Although the area healthcare facilities competed in many ways a strategy was developed that ultimately resulted in the conception of the Radiologic Technology program at Fulton Montgomery Community College. Since the first graduating class of Radiologic Technologists in 2006, FMCC has provided qualified health care workers in each of the area hospitals.

Program evaluations incorporate program requirements of the JRCERT (Joint Review Committee on Education in Radiologic Technology), an accrediting agency. Course evaluations include Radiologic Technology Program outcomes.

This assessment of FMCC's Radiologic Technology program is limited by the short time that the program has been in existence. Statistics has been gathered beginning in 2006, and are designed to be averaged over a five-year period. In addition, small graduating class sizes (n= 13, 13,11,14, 10) create statistical aberrations.

Cynthia Close, Program Director (Retired)
Radiologic Technology
Submitted January 26, 2016

Updated November 2016
Karlyn LaBate, Program Director

ASSESSMENT TREE

Program Effectiveness

Mission Statement

The program will graduate entry-level technologists

| complete program in 24 months | graduate indication of satisfaction | employer indication of satisfaction | students will pass ARRT on first attempt | students seeking employment will find a job within 6 months of graduation |

Retention Rate

Graduate Satisfaction Survey

Employer Satisfaction Survey

ARRT Pass Rate

Employment Rate

Fulton Montgomery Community College   Program Name: Radiologic Technology   Data Collection Starts with the Class of 2011

Outcome #1	Tool	Benchmark	Time Frame	Person/Group Responsible
Students will complete the program within 24 months.	Retention Rates	75 % of entering freshmen will complete the program	2012-86.7 2013-73.3 2014-93.7 2015-78.5% 2016-100%	Program Director

Outcome #2	Tool	Benchmark	Time Frame	Person/Group Responsible
Graduates will indicate that they are satisfied with their educational program.	Graduate Satisfaction Survey	90% of received graduate surveys will indicate satisfaction with the program	2012 91% 2013 100% 2014 100% 2015 100% 2016 100%	Program Director

Outcome #3	Tool	Benchmark	Time Frame	Person/Group Responsible
Employers will indicate that they are satisfied with the graduate's performance.	Employer Satisfaction Survey	90% of received employer surveys will indicate they are satisfied with graduate employees	2012-91% 2013-100% 2014-100% 2015-88% 2016-Survey sent, not returned yet	2015- LTD data available 3/10 employees evaluated Program Director

Outcome #4	Tool	Benchmark	Time Frame	Person/Group Responsible
Students will pass the ARRT certification exam on the first attempt.	ARRT Pass Rates	Averaged over 5 years, 75% of graduates will pass the ARRT exam on the first attempt.	2012-100% 2013-100% 2014 100% 2015-100% 2016-93.75%	Program Director

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Outcome #5	Tool	Benchmark	Time Frame	Person/Group Responsible
Graduates seeking employment will obtain employment within one year of graduation	Employment Rate	75% of graduates actively seeking employment will obtain employment within one year of graduation	2012-100% 2013-90% 2014-100% 2015-100% 2016-100%	Program Director

Program Effectiveness Outcomes

I. Assessment of the Academic Program Effectiveness Outcomes

The program outcomes for the Radiologic Technology program at Fulton Montgomery Community College are the program effectiveness goals and outcomes established by the Joint Commission for Education in Radiologic Technology (JRCERT). JRCERT is an accrediting agency for radiologic technology programs. . The Radiologic Technology Program at FMCC achieved an 8-year JRCERT accreditation in 2012, as well as accreditation by Middle States, The JRCERT Program Effectiveness Goals are listed along with outcomes and appropriate evaluation tools. The program submitted an interim JRCERT report July 18th, 2016.

Academic program effectiveness outcomes are designed to be averaged over 5 years. The assessment of the Radiologic Technology Program at Fulton Montgomery Community College has completed the fifth year of data collection. Data collection will be "rolled over" to reflect the current 5-year averages. Data will be used to address the benchmarks, explain deviations and describe actions if required.

Program Effectiveness Goal: The program will graduate entry-level technologists

Program Effectiveness Outcomes:

1. Students will complete the program within 24 months.
    Tool: Program Completion Rate

2. Graduates will indicate that they are satisfied with their educational program.
    Tool: Graduate Satisfaction Survey

3. Employers will indicate that they are satisfied with the graduate's performance
    Tool: Employer Satisfaction Survey

4. Students will pass the ARRT certification exam on the first attempt
    Tool: ARRT Pass Rates

5. Graduates seeking employment will be employed within 6 months of graduation.
    Tool: Employment Rate

Program Effectiveness Outcomes:

1. **Students will complete the program within 24 months.**
    Tool: Program Completion Rate

    Program Completion Rate indicates that students accepted into the program will complete the program within 24 months. Reasons for leaving are identified as: Health, Financial, Personal, Academic, or Expelled. A detailed evaluation for classes 2006-2014 is included in the appendix of this document.

    The benchmark: "80% of entering freshmen will complete the program" is the criterion. Over five years the mean retention rate is 83.7%, which meets the benchmark. The most common reason for withdrawal group is "personal". Although personal reasons for withdrawal are varied, students need to feel excited about the Radiologic Technology in order to feel committed. Vince Carelli, past Program

Director retired in 2008. Karlyn LaBate was added as freshman faculty. Ms. LaBate's expertise in CT scanning enabled the addition of RT 212 Cross- sectional Anatomy. This course was used as a tool to enhance marketability of graduates by giving them advance experience in an additional imaging modality. The intended goal was to increase student interest in an additional field of medical imaging.

For the Class of 2010, 83.3% of students completed the program. The most common reason for withdrawal was "personal". Of 18 students, 6 did not finish the program, of these, 3 were readmitted. Of the original 2010 students, 3 did not finish the program. RT/RAD 231 Quality Management was added in the Fall 2010. The addition of RT/RAD 231 may alleviate personal stress issues associated with "work overload" during the first freshman semester. For the Class of 2013, 73.3% of students completed the program. Of 15 admitted students, 4 withdrew for 'personal' reasons. For the Class of 2014 the completion rate was 93.7%

In addition, for subsequent entering classes, students are encouraged to complete Anatomy and Physiology I &II in the summer sessions offered prior to beginning the radiologic technology program. Completing these co-requisites, may further alleviate some of the stress issues associated with work overload.

In January 2016, during the assessment committee meeting; it was decided to lower the benchmark for Program Completion Rate to 75% aligning with JRCERT Recommendations.

In 2015 the below information is compiled in the Program's Annual Report:

Number of Graduates in 2015: 10
Enrollments Fall of 2015: 17
Annual Program Completion Rate: 78.5%
PCR is identified by the JRCERT as the number of students who complete the program within 150% of the stated program length compared with the number of students who initially started with the cohort.
14 students initially enrolled in Class of 2015
2 left for significant health reasons
1 left to pursue Pathology Assistant degree
11 students graduated within the timeframe set by the JRCERT /14 students initially began program =78.5%
(1 student graduated and completed program not with Class of 2015 but Class of 2016)
The program's benchmark for annual program completion rate is 75%.

2. **Graduates will indicate that they are satisfied with their educational program.**
   Tool: Graduate Satisfaction Survey

   Student evaluation of the Radiologic Technology Program is completed voluntarily at the end of the last semester. Questions include topics such as: textbook, syllabus and course content evaluation, admissions criteria, instructor/lecture evaluation, lab evaluation and suggestions for improvement and change. A detailed evaluation for classes 2006-2014 is included in the appendix of this document. A benchmark is established that 90% of received graduate surveys will indicate that they are satisfied with their educational program. Statistics reveal that the benchmark has been met or exceeded in years 2006-2016. No action is required.

3. **Employers will indicate that they are satisfied with the graduate's performance**
   Tool: Employer Satisfaction Survey

   Employer satisfaction surveys asked employers to rate the FMCC graduates of the Radiologic Technology Program using Program Learning Objectives criteria. Criteria included topics such as: performance of radiologic procedures, critical thinking and communication, professionalism, radiation safety and clinical competency. A detailed evaluation for classes 2006-2013 is available on request.

   A benchmark is established that 90% of received employer surveys will indicate that graduate employees perform at an average or above average level. Statistics reveals that the benchmark has been met or exceeded in years 2006-2015. No action is required.

   Survey for the graduating class of 2016 have been sent, awaiting responses.

4. **Students will pass the ARRT certification exam on the first attempt**
   Tool: ARRT Pass Rates

   The ARRT exam is the national certifying examination that qualifies graduates for a New York State DOH license to practice radiologic technology. Successful completion of the ARRT exam is therefore mandatory. A benchmark is established that 75% of graduates will pass the ARRT examination on the first attempt. Statistics reveals that the benchmark has been met or exceeded in years 2006-2016. No action is required.

   2016 statistic is 93.75%.

5. **Graduates seeking employment will be employed within one year of graduation.**
   Tool: Employment Rate (Benchmark lowered to 75%, 2014. Assessment Committee)

   Upon completion of the program, graduates may choose to seek full-time/part time employment or may choose to continue their education in a related modality. A detailed evaluation for classes 2006-2014 is available on request.

   Graduates may work as a radiologic technologist while continuing their education. A benchmark is established that 85% of graduates actively seeking a job will find employment within 6 months of graduation. Statistics reveals that the benchmark has been met or exceeded in years 2006-2016. No action is required.

   2016 has been an excellent year for graduates seeking employment. All graduates who were eligible for and seeking employment were able to do so within 6 months of graduation.

Assessment Implications for:

- Future Staffing
- Hardware/Software/Infrastructure Purchase Requirements
- Professional Development Plans
- Assessment Activities
- Notable Activities
- Activities linked to Strategic Plan

Staffing: Additional Adjunct Faculty, Additional Full-time Faculty

The addition of future staff rests on enrollment. Enrollment depends on the number of clinical sites available for students to receive clinical instruction. Currently the Radiologic Technology employs 8 full time clinical sites and 3 part-time sites. (Part times sites are for student exposure to modalities such as radiation therapy and adjunct experiences such as trauma, pediatrics, and orthopedics). Of the 8 full-time sites, 3 are in locations greater than 1 hour from campus. Adjunct faculty have been utilized for clinical supervision in these sites in order to maximize full-time staffing contact hours. FMCC recently achieved accreditation by the Joint Review Committee on Education for the Radiologic Technology (JRCERT). JRCERT mandates positions for a full-time Program Director and a full-time Clinical Coordinator. The Radiologic Technology program at FMCC supports only two full-time faculty members. It is conceivable that additional faculty may be required to maintain the high standards for Radiologic Technology at FMCC. Each full-time faculty routinely carries course overloads that range from 2- 9 contact hours. JRCERT accreditation must be maintained with yearly reports, a 4-year interim assessment and re-accreditation at 8 years. Future administrative reports may require additional personnel.

In 2016, each clinical site has an FMCC adjunct faculty hired in the position of clinical supervisor.

Hardware/Software, Infrastructure Purchases: Quality Control Testing, Tissue Equivalent Mannequin

FMCC installed an energized x-ray laboratory in 2008. Students benefit from learning their trade at a site where they can 'practice' without exposing real patients to ionizing radiation. Our laboratory is registered by the New York State Department of Health. DOH requires External Beam Testing on a regular basis. In 2011 our lab was evaluated and found to be within requirements. Quality control should be performed biannually and the cost should be included in the budget

Recently FMCC, with support from the FMCC Foundation purchased a DVD course in Computed Technology (CT) from the American Registry of Radiologic Technologists (ARRT). ASRT curriculum standards requires education in CT. Students benefit from the current education in CT as well as the associated image bank.

In 2015, FMCC purchased "RadReviewEasy", an online study and review program. Students benefit from review. The review is aligned with the ARRT Registry Examination. Students and new graduates may access this site and review for the ARRT examination. FMCC continues to support the Radiology Program. This support enables our graduates to reach the excellent standards that are desirable in this profession.

Professional Development Plans: Educational Meeting Reimbursement, Tuition Reimbursement

A quality radiologic technology program rests in faculty academic excellence. Academic excellence is linked to professional development. Several sources exist for professional development. These include: attendance at professional meetings, implementation of new learning tools, such as service-learning projects, and obtaining advanced degrees. Staff should be supported in any or all of these efforts by reimbursement of travel expenses and tuition reimbursement.

JRCERT accreditation demonstrates excellence in Radiologic Technology Programs, is required by some facilities, and may become a national prerequisite. FMCC proactively supports accreditation. FMCC's efforts to achieve and maintain this goal demonstrate forward-thinking and fulfillment of the FMCC strategic plan.

Notable Activities

- RAD 210 Service Learning Project was "Breast Cancer Awareness". Students participated in fund raisers and actively educated the public on this important topic through planned Symposium on Mammography featuring Dr. Philip Fear. Students participated in "Strides for a Cure" held in Albany, NY

- FMCC received notification of an eight year accreditation form the JRCERT. This is the maximum award that JRCERT offers and will expire in 2020. An interim report will be due in 2016.

- Faculty members Karlyn LaBate and Cynthia Close visited ASRT in Albuquerque, NM. They trained in implementation of electronic records keeping with Education Director Kevin Powers. Electronic acquisition and storage of clinical records piloted program in October, 2013.

- Program Director Cynthia Close attended the national headquarters for radiologic technologists, the ASRT, in Albuquerque, New Mexico as a participant in the ASRT Leadership Academy, 2014.

- Clinical Coordinator Karlyn LaBate is selected as one of 20 national participants for the 2015 ASRT Leadership Academy for Educators, held in Albuquerque, NM.

  2015-16

- Students won the NYSSRS Student Quiz Bowl

- Student won the Student Challenge at a National Conference in Las Vegas

- Cindy Close retired, Karlyn LaBate became program director. Kullen Bailey hired as clinical coordinator.

Radiologic Technology Course Description

Radiologic Technology .... A.A.S. 5207.00 0628

RADIOLOGIC TECHNOLOGY (A.A.S.)
APC — 0628
This rigorous program of study provides the student with the essential qualifications to obtain an Associate in Applied Science Degree in Radiologic Technology. Graduates will be eligible to take the examination of the American Registry of Radiologic Technologists for certification and New York State licensure. The radiologic technologist, also known as a radiographer, is an integral member of the Health Care Team. Radiologic technologists utilize their knowledge of human anatomy, radiographic procedures and radiation safety to provide quality diagnostic radiographic films, for the purpose of diagnosis and treatment of injury and disease. Radiologic technologists must be professional using compassion and critical thinking to serve their patients' expectations. Technologists work in hospitals, clinics, private imaging centers and medical physician offices. Students attend didactic and laboratory classes on campus and practical clinical experience in area hospitals.

Assessment of Program Level Goals and Student Learning Outcomes:

1. **Develop clinical competency in the performance of basic radiologic procedures**

   Student Learning Outcomes:

A.   Students will utilize the essentials of radiation safety.
B.   Students will apply positioning skills.
C.   Students will select appropriate exposure.

2. **Demonstrate problem solving and critical thinking skills**

   Student Learning Outcomes:

A.   Students will be able to adapt positioning for trauma examinations.
B.   Students will use sound reasoning in making decisions and reaching conclusions.

3. **Cultivate and promote good communication skills with patients, staff and others**

   Student Learning Outcomes:

A.   Students will demonstrate good oral communication skills.
B.   Students will demonstrate good written communication

4. **Establish a role as a medical imaging professional. Develop moral, ethical and legal principles of professionalism**

   Student Learning Outcomes:

A.   Students will recognize the importance of continued education within the field.
B.   Students will understand the origins and applications of ethical principles.
C.   Students will exhibit professionalism including knowledge of advanced imaging and modalities.

Assessment Plan

Goal 1: Develop clinical competency in the performance of basic radiologic procedures.

Outcome #1	Tools	Benchmark	Time Frame/Responsibility	Results	Analysis/Action Plan
Students will utilize the essentials of radiation safety	Critical Thinking Competency, Question 1	Average score of 77% or higher	1st Year, Spring Semester/ Clinical Supervisor	2012-92% 2013-97.8% 2014-98% 2015-91.2% 2016-95.5%	Benchmark was raised to 75% which is the minimum rounded score acceptable in FM's rad tech program Benchmark met
RAD 110, 120, 130, 111, 121 122 RAD 210, 220, 230, 221	Final Competency, Question 1	Average score of 85% or higher	2nd Year, Spring Semester/ Clinical Supervisor	2012-89.1% 2013-92.6% 2014-88.5% 2015-86.7% 2016-87.6%	senior students scored lower than freshman due to insufficient collimation on exit day exam. More emphasis on collimation
	RAD 221, Final Exam, Radiation Safety Section	Average score of 75% or higher	2nd Year, Spring Semester/Course Instructor	2012 -83.6% 2013-88.8% 2014-82.3% 2015-88.8% 2016-86.5%	Benchmark met Benchmark met Benchmark met Benchmark met Benchmark met
Outcome #2	Tools	Benchmark	Time Frame/Responsibility	Results	Analysis/Action Plan
Students will apply positioning skills	Laboratory Simulation Question 6	Average score of 75% or higher	1st Year, Spring Semester/ Course Instructor	2012 85% 2013-88% 2014-88.1% 2015-87.5% 2016-86.4%	Benchmark was raised to 75%which is the minimum rounded score acceptable in FM's rad tech program Benchmark met
RAD 110, 120, 111, 121, 122, 220 RAD 221, 211, 210	Final Competency Question 6	Average Score of 85% or higher	2nd Year, Spring Semester/ Clinical Supervisor	2012-85.1% 2013-82.4% 2014-80.2% 2015-87.3% 2016- 83.1%	Benchmark met Benchmark not met Benchmark not met Benchmark met Benchmark met
Outcome #3	Tools	Benchmark	Time Frame/Responsibility	Results	Analysis/Action Plan
Students will select appropriate exposure factors	Clinical Competency Technical Factors/Exposure Index (random sample, 3 exams per student)	Students will select exposure factors that are within the exposure index range	2nd Year Fall Semester/Program Director	2012-79% 2013-83% 2014-93.3% 2015-93.3%	New study of accountability, variables include equipment variation, level of education within clinical site. Further observation required
RAD 130, 131, 110,120, 122, 231, RAD 220, 111, 121, 221	RAD 131, Complex Exposure Problems Exam	Average exam score of 75%	1st Year, Spring Semester/ Course Instructor	2012-82.5% 2013-78.5% 2014-77.6% 2015-81.5% 2016-80.8%	Benchmark met Benchmark not met, lowered to 75%which is the minimum rounded score

				acceptable in FM's rad tech program Benchmark met
	Critical Thinking Competency Question 8	Average score of 79.5% or higher	Summer Semester/Clinical Supervisor	2012-96% 2013-92.9% 2014-94.5% 2015-91.9% 2016-92.6	Benchmark was raised to 75%which is the minimum rounded score acceptable in FM's rad tech program Benchmark met

Assessment Plan

Goal 2: Demonstrate problem solving and critical thinking skills.

Outcome #1	Tools	Benchmark	Time Frame/Responsibility	Results	Analysis/Action Plan
Students will be able to adapt positioning for trauma examinations	Clinical Competency Trauma Examinations, Average of 3 exams	Average score 85% or higher	2nd Year, Spring Semester/ Program Director	2012-99.5% 2013-99.3 2014-99 2015-93.3 2016-97.5	Competency scores will be critiqued for accuracy, this is a continuous concern
RAD 102, 121, 122, 131, 202, 210 RAD 220, 231	RAD 210 Trauma/OR Mobile exam Tool deleted 2014	Average Score of 75% or higher	2nd Year, Fall Semester/ Course Instructor	2012-86.8% 2013-84 2014-91.7 2015-87	Benchmark met Benchmark met Benchmark met Benchmark met
Outcome #2	Tools	Benchmark	Time Frame/Responsibility	Results	Analysis/Action Plan
Students will use sound reasoning in making decisions and reaching conclusions	Assessment of Professional Growth Form Section G	Students will score a '2' or higher on Section G	2nd Year, Fall Semester/ Clinical Supervisor	2012-100% 2013-92.9 2014-90 2015-100	Benchmark met Benchmark met Benchmark met Benchmark met
RAD 120, 121, 122, 220, 221 RAD 110, 111, 210, 202	Clinical Snap Shots Section 4, Semester average	Average Score of 77% or higher	1st Year, Spring Semester/ Clinical Supervisor	2012-64% 2013-86 2014-87.9 2015-87.5 2016-88.1	Benchmark not met. Discussion included level of critical thinking in 1st year, scoring issues revision of forms for freshmen considered
New electronic area evaluations for 2015	Clinical Snap Shots Section 4, Semester average	Average Score of 85% or higher	2nd Year, Spring Semester/ Clinical Supervisor	2012-no data 2013-100 2014-93.3 2015-94.5 2016-92.3	Category added for sophomore students to compare critical thinking at end of program Benchmark met

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Goal 3: Cultivate and promote good communication skills with patients, staff and others.

Outcome #1	Tools	Benchmark	Time Frame/Responsibility	Results	Analysis/Action Plan
Students will demonstrate good oral communication skills	RAD 202 Image Critique Rubric	Average 75% or higher	2nd Year, Fall Semester/ Course Instructor	2012-91.4% 2013-92.3 2014-85.9 2015-90.8	Benchmark met, students also grade each other in this tool
RAD 101, 110, 120, 121, 122, 202, 210, 211, 220, 221, 230	Assessment of Professional Growth Section E	Students will score a '2' or higher	1st Year, Fall Semester/ Course Instructor	2012-93% 2013-92 2014-100 2015-100	Benchmark met Benchmark met Benchmark met
	Tool change Final Competency Q9, Communication	Average 85% or higher	2nd year, spring semester, clinical supervisor/Program Director	2012 4.2sess 2013-100% 2014-91.7 2015-88.6 2016-90.2%	Benchmark met. Tool Changed. See tab 33 Benchmark met Benchmark met Benchmark met
Outcome #2	Tools			Results	Analysis/Action Plan
Students will demonstrate good written communication skills	RAD 210 Geriatrics/Pediatric Exam-Age specific competencies	Average Score of 75% or higher, Benchmark lowered minimum rounded score for FM rad tech	2nd Year, Fall Semester/ Course Instructor	2012-90.5% 2013-97.4 2014-91.4 2015-92.9	Benchmark met Benchmark met Benchmark met Benchmark met
RAD 101, 110, 120, 121, 122, 202 RAD 210, 211, 220, 221, 230	RAD 101 Medical Terminology Section Exam	Average Score of 75% or higher, Benchmark lowered minimum rounded score for FM rad tech	1st Year, Fall Semester/ Course Instructor	2012-90.9% 2013-92.5 2014-86 2015-100	Benchmark met Benchmark met Benchmark met Benchmark met
	RAD 202 Annotated Bibliography of Journal Articles	Average Score of 75% or higher, Benchmark lowered minimum rounded score for FM rad tech	2nd Year, Fall Semester/ Course Instructor	2012-90.7% 2013-91.9 2014-79.8 2015-92	Benchmark met Benchmark met Benchmark not met – 2 students-low score tool will be re-evaluated

Assessment Plan

Goal 4: Establish a role as am medical imaging professional. Develop moral, ethical and legal principles of professionalism.

Outcome #1	Tools	Benchmark	Time Frame/Responsibility	Results	Analysis/Action Plan
RAD 101, 202, 102, 212, 211 RAD 210	RAD 211 Professional resume	Average score of 75%	2nd year spring semester/ course instructor	2012- data unavailable 2013-84.8 2014-90.2 2015-74.5 2016-88.2%	Changed to graded resume Benchmark just below Benchmark not met, I student did not turn in Benchmark met
Outcome #2	**Tools**	**Benchmark**	**Time Frame/Responsibility**	**Results**	**Analysis/Action Plan**
Students will understand the origins and applications of ethical principles	RAD 210 Service Learning project	Each student will score 75% or better	2nd Year, Fall Semester/ Course Instructor	2015- Project not completed, adjunct taught class 2016-	Replaces RAD101 Case Review Rubric Project to be completed in RAD 211, spring 2016
RAD 101, 202, 102, 212, 211, 210	RAD101 ARRT Ethical Principles Written Evaluation RAD101 Cultural Diversity Project, graded essay	Average Score of 75%	1st Year, Fall Semester/ Course Instructor 1st Year, Fall Semester/ Course Instructor	2012-91.9% 2013-96.3 2015-81.3	Benchmark met Benchmark met Omit tool Committee meeting 1/15 Replaces RAD101 Ethical Principles Written Evaluation Omit tool, Committee mtg 2015 2015 Cultural Diversity project 87% Average score 81.3% of students achieved 85%
	Professional Assessment Section H	Students will score a "2" or higher	2nd year, fall semester/ Course Instructor	2012-100% 2013-92.9 2014-100 2015-100	Benchmark met Benchmark met benchmark met benchmark met
Outcome #2	**Tools**			**Results**	**Analysis/Action Plan**
Students will exhibit professionalism including knowledge of advanced imaging modalities revised to new electronic scoring	Assessment of Professional Growth	100% of students will meet a score of 77% for professional growth assessment	1st Year, Spring Semester/ Course Instructor	2012-100% 2013-100 2014-100 2015-87.5 2016-100%	Benchmark met Benchmark met Benchmark met Benchmark met Benchmark met
RAD101, 202, 102, 212, 211 RAD 210	Assessment of Professional Growth	100% of students will meet a score of **85%** for professional grown assessment	2nd Year, Spring Semester/ Course Instructor	2012-100% 2013-100 2014-86 2015- 80% 2016-100%	Benchmark met Benchmark met Benchmark not met-new scoring for 2015 Benchmark met

	RAD 212 Section 1 exam	Average score of 85% of higher	2nd Year, Spring Semester/ Course Instructor	2012-95.4% 2013-96 2014-87.3 2015-95 2016-93.25	Benchmark met Benchmark met Benchmark met Benchmark met Benchmark met

SUMMARY

Assessment of Program Level Goals

The Assessment Committee met on January 11, 2016.

Present: Cindy Close, Program Director; Karlyn LaBate, Clinical Coordinator; Lucas Prime, Director, Liberty Partnerships Program (LPP) Coordinator, Science Technology Entry Program (STEP);Lynne Illsley, Nursing faculty; Diana Putnam, Dean of Academic Affairs, Ronalyn Wilson Assistant Dean of Academic Affairs

After review of the Mission, and Goals, the committee reviewed the entire Assessment report for program level goals, including tools and examples. A discussion was held describing the criteria and recent outcomes. Discussion and input are noted in the text of the summary.

Program Completion Rate is below the benchmark for the Class of 2015, as 5 0f 16 students withdrew. This measure fluctuates from year to year. The most common reason for withdrawal is 'personal'. For the cl;ass of2015, 2 students withdrew for health reasons and 1 withdrew for academic reasons. Adding a shadow experience, adding an additional semester of Physics and strongly recommending that A&P be taken prior to the start of the cohort have been added to remediate early dropout. Keeping with ARRT recommendations, the shadow experience was increased to a full day experience and includes an interview with a practicing technologist. FM uses the SAGE early warning system and in 2015-16 uses Perkins tutoring system. Averaged over 5 years, FM Program Completion rate is 80.3%. The success of the remediation measures is unclear. FM reduced the benchmark to 75% Program Completion Rate, aligning with JRCERT recommendations

I. Assessment of the Academic Program Level Goals

The program level goals for the Radiologic Technology program at Fulton Montgomery Community College are the academic goals established by the Joint Commission for Education in Radiologic Technology (JRCERT). JRCERT is an accrediting agency for radiologic technology programs. The Radiologic Technology Program at FMCC achieved an 8-year JRCERT accreditation in 2012, as well as accreditation by Middle States. The JRCERT Program Level Goals are listed along with outcomes and appropriate evaluation tools.

Academic program level goals and outcomes are designed to be averaged over 5 years. The assessment of the Radiologic Technology Program Level Goals at Fulton Montgomery Community College has completed the fifth year of data collection. Five-year averages of data will be used to address the benchmarks, explain deviations and describe actions if required. All 4 Program Level Goals (outcomes) were discussed. When tools met or exceeded the benchmark a note was made. We noted that certain tools consistently reveal 100% or high results. Discussion and revision of consistently positive tools will be reviewed for efficacy. Tools and/or Outcomes will be changed as required for the second 5-year sequence beginning in 2017. Comments were focused on tools and outcomes that did not meet the benchmark…or when tools were considered ineffective.

Program Goals, Students will:

1. Develop clinical competency in the performance of basic radiologic procedures.
2. Demonstrate problem solving and critical thinking skills.
3. Cultivate and promote good communication skills with patients, staff and others.
4. Establish a role as a medical imaging professional. Develop moral, ethical and legal principles of professionalism.

Student Learning Outcomes:

Outcomes supporting Program Goal #1 include:
1. Students will utilize the essentials of radiation safety
2. Students will apply positioning skills
3. Students will select appropriate exposure factors

Note: all Didactic tool benchmarks will be 75% which is the minimum acceptable score for core radiography courses. Clinical tool benchmarks will adhere to a progressive clinical scoring system (ie: first semester freshmen= 74.5 progressing to 85% for second semester sophomores)

For outcome #1, tools used include critical thinking competency testing question 1-students are scored (0-100%) "Student demonstrate radiation protection for the patient, self and others" Benchmark= 77**%. 2012 data shows that students scored an average of 92% for this question.2013 data reveal an average of 97.8%2014 data reveal an average of 98%, 2015 data reveal an average of 91.2%The same question is evaluated at the end of the program on the final competency exam.** Benchmark=85%. **Students scored an average of 89% for this question in 2012. 2013 data revealed an average score of 92% while 2014 data shows an average of 88.5% and 2015data reveal an average of 87.6%** This indicates that students preformed slightly worse at the end of the program than at the beginning . Possible reasons include: reluctance to utilize close collimation (a radiation safety measure) on their final competency exam. On the final competency exam students are meticulous in their positions skills and fear "cutting off" certain aspects of anatomy. Typically students do not use tight collimation on their exit for this reason. Another reason may reflect habits that they have acquired in exposure to staff radiography. Another possible reason is that freshmen students may be more acute aware of radiation safety guidelines**.** Border collimation was emphasized both in class and on the clinical site. Freshmen scores have decreased from the 2014 tool. For second year students 2015 data showed an increase. It is noted that the minimum passing score for the Final Competency Exam in 85%, while the critical thinking exam pass rate at this level is 77%. For the radiation safety section of the final program exam, students scored an average of 88.8% (benchmark 75%). For each tool students exceeded benchmark.

For outcome #2-tools include lab simulation question #6 (benchmark 75%) and final competency question #6 (benchmark 85%). Question #6 reads Student will "display effective positions skills" Students are graded 0%-100% for this question. Students average scores for freshmen tools = 87%, exceeding the benchmark.

2014 Students average scores for sophomore tools = 80.2% trending downward and not meeting the benchmark. It is suggested that during the final competency the patient set is general more challenging which

may increase levels of anxiety. Other opinions suggest that sophomore students may not be achieving an adequate degree of independence during their last semester. Committee members suggested increasing the number of evening or weekend clinical hours for sophomore students in their last semester and that shift changes be mandated, dependent on staffing considerations. We will continue to monitor this to reveal trends. We implemented this change in 2 ways, Second year sophomore students were required to attend at least two evening or weekend shift in their last semester. In addition students were offered a rotation of 11AM until 8PM at most clinical sites. Scores for this tool increased to 87.3% in 2015.

For Outcome#3-Tools used are results from complex exposure exam (RAD 131,Benchmark 75%) and a random sample of 3 competency exams per student showing the relationship between exposure factors used and exposure index range. 2012 results showed that students demonstrated that 78.9% of exposure factors used where within the exposure index, while 2013 showed an increase to 83% and 2014 and 2015 scores elevated to 93.3% indicating that emphasis on exposure factors improved performance**.** A goal to reach the underexposed or center of the EI range is suggested for further reduction of patient exposure. It is noted that exposure indicators are inconsistent and some clinical sites do not utilized this measure.

For tool #2 Students scored an average of 77.6% on the exam, <u>not</u> meeting the benchmark, (benchmark = 80%) trending downward. Possible reasons include changes in clinical processing parameters, (digital vs. analog) many factors are no longer such as RS evaluation and kVp/mAs manipulation are no longer used to a great extent, therefore the learning is not applied knowledge. Review of complex exposure problems will occur in RAD 131 with emphasis on reduction of patient exposure. The benchmark is lowered to 75%, keeping with minimum requirements. 2015 scores increase to 81.5%, meeting the benchmark

Outcomes supporting Goal #2include:
1. Students will be able to adapt positioning for trauma exams
2. Students will use sound reasoning in making decisions and reaching conclusions

For outcome #1-Tools used were an average of scores for 3 trauma competency examinations-benchmark=85%, average scores = 97.8% exceeding benchmark. Competency scores will be critiqued for accuracy. Trauma competencies may not be scored critically. This is a continuous concern. This tool is revised during electronic conversion. New scoring considerations will be added for accuracy. The trauma competency required students to apply critical thinking skills while designing unique positions for a patient that is unable to assume traditional projections.

The on-line trauma examination (benchmark80%) was given in RAD 122. .Average score=61.8%, missing the benchmark, trending downward Evaluation of scores reveal that three students did not take the exam, skewing results. This tool was omitted, as it mimics Tool #3
Rad 210 Trauma/OR and Mobile exam teaches decision-making for uncommon examinations, benchmark=average score of 75%. Average scores in 2015=87% exceeding benchmark

For outcome #2-Tools used were the Assessment of Professional Growth form section G. which rates students reasoning and interpretation skills. Students are scored from 0 (Somewhat illogical, poor decisions) to 3 (Takes

control of situation responds well under pressure). A score of 2 indicates that the student used sound reasoning and a score of 1 indicates that a student has limited ability to assess situations. Benchmark states that students will score a '2' or higher on section G. in 2015 100%of students scored at least a '2' on section G, meeting benchmark and exceeding 2014 scores.

Another tool used bi-weekly area evaluation, section 4. Section 4 scores the student on 1) critical thinking and problem solving, 2) working independently and 3) sound decision making regarding the exam and patient. A benchmark was set at an average score of 77% or higher. The tool was administered after the 1st year, second semester. 2012 data revealed an average score of 64% was achieved, not meeting the benchmark. Committee discussion suggested that the level of critical thinking is not well developed in the freshmen year. The suggested revision of the form was implemented. Scores trended upward. 2014 scores = 87.9%, 2015 scores -87.5% In addition another tool was added using the same area evaluation form section 4, but administered to 2nd year students at the end of the program, benchmark = 85%. 2014 scores report an average score of 90% while 2015 scores = 94.5% meeting benchmarks and reflecting changes in the tools.

Outcomes supporting Goal#3 include:
1. Students will demonstrate good oral communication skills
2. Students will demonstrate good written communication skills

For outcome#1, tools used are: Radiologist Image critique experience, Radiologist film critique requires students to interact verbally with a professional radiologist by asking appropriate questions regarding case studies. The benchmark for this exercise is 3 sessions. Students completed an average of 4.1 sessions, exceeding benchmark. Committee discussion revealed that this tool was not particularly effective as students are required to attend review sessions. Subsequently this tool will be dropped in favor of oral communication skills evidenced in patient explanation and radiologic interaction during fluoroscopic examinations. Measures from fluoroscopic clinical competency forms reveal that 100% of students received a 'yes' in each radiologist communication category. Discussion revealed that this tool may not effectively demonstrate communication skills. Scoring on competency examinations may again not be critical. After discussion, the committee suggested a new tool that uses history- taking as a measure of communication. This tool was changed on the Final Competency Question 9"Communicates with patient by obtaining complete history" (benchmark = 85%) 2014 data= 91.7% meeting benchmark. Changes in the new bi-weekly area evaluation form will require an addition change in this tool beginning spring 2015. 2015 scores =88.6% exceeding benchmark.

For outcome #2, Data from tools #1 and #2 reveal the benchmark has been met. For Tool #3 RAD 202 Annotated Bibliography (benchmark average score 75%) revealed 2014 scores of 79.8%, 2 students underperformed. This tool will be re-evaluated. 2015 scores = 92% exceeding benchmark.

Outcomes supporting Goal#4 include:
1. Students will recognize the importance of continued education within the field
2. Students will understand the origins and applications of ethical principles
3. Students will exhibit professionalism including knowledge of advanced imaging modalities

For Outcome #1- Tool #2 was changed to a graded resume (benchmark= 75%) 2013 Average scores =84.8%, Data from 2014= 90.2 trending upward. 2015 scores =74.5%, missing benchmark. One student did not turn in a resume, skewing results

For Outcome #2- Tool#1 RAD 101 Case Rubric met or exceeded the benchmark in 2012, 2013 and 2014. However was omitted as it did not address the outcome sufficiently. A graded Service Learning Project was added to replace Tool #1 for 2015. This was not completed for RAD 210, as an adjunct taught the course. A service learning project will be completed for RAD 211, Spring 2016. For Tool #2 RAD 101 The Ethical Principles Written Evaluation met or exceeded the benchmark in 2012, 2013, and 2014. A graded Cultural Diversity project replaced this graded evaluation for 2015. A graded essay is assigned benchmarks= 75%. 2015 data reveal an average score of 87%, meeting benchmark. Tool #3 met or exceeded the benchmark and will continue to be monitored.

For Outcome #3-Tools #1 and # compare professional growth between first and second year students. Data from 2012, 2013, 2014 and 2015 exceeded the benchmark for first year students. For second year students, 2 students did not meet the benchmark score. These were at the same clinical site and although they demonstrate excellent clinical skills, the Clinical Instructor scores at a lower rate that all other clinical sites. We will continue to monitor these tools. Tool #3 RAD 212 compares CT knowledge in cross-sectional anatomy. The Benchmark (75%) has been exceed in each year.

Committee discussions suggested that students seek and become aware of current trends in the profession. Students are given the opportunity to "shadow in an advanced modality of their choice following successful completion of the Final Competency Examination. This was offered to 2014 second year students and will be offered this spring. In 2015, 2 students utilized this and are employed in their specialty modality.
The committee recommends that students be evaluated using the list of ARRT rules. This may be implemented as a new tool in 2016.

Budget

Assessment Implications for:
- Future Staffing
- Hardware/Software/Infrastructure Purchase Requirements
- Professional Development Plans
- Assessment Activities

Staffing: Additional Adjunct Faculty, Additional Full-time Faculty
See staffing implications from the Program Evaluation Summary

Hardware/Software, Infrastructure Purchases: Quality Control Testing, Tissue Equivalent Mannequin
To achieve a high level of professionalism, students should be exposed to professionals in the field. A state or local professional society meeting would allow students to observe and participate in the organization at a very high level. In addition students would be able to 'network' with staff professionals- observation and networking reveal positive traits of professionalism often found in dedicated individuals in our vocation. Most state

meetings are held annually; central locations that require overnight accommodations. The New York State Society of Radiologic Sciences (NYSSRS) sponsors an annual meeting that contains special events for students of radiography. Students from the class of 2015 attended this meeting in October 2015. Costs were provided by the Student Government Association through our radiology club, MISA. This is a satisfactory arrangement, however, costs for this trip are not guaranteed. Students would benefit from membership in the national society for radiologic technologists the American Society for Radiologic Technologists. Student membership is reasonably adjusted at $35.00 per student. We consider adding this a requirement in RAD 202, Patient Care.

The Radiologic Technology Program launched a program designed to convert all clinical records to a digital format. This will eliminate countless numbers of papers and man-hours associated with filing and organizing. The HanDBase software system is suited for this endeavor. Students are required to purchase and maintain hand-held devices as well as an app. Implementation and maintenance of the system is best managed by an information specialist. Staffing has been and will continue to be adjusted to complete this requirement.

Professional Development Plans: Educational Meeting Reimbursement, Tuition Reimbursement See professional development plans from the Program Evaluation Summary