**Department/Program Review**

**Self-Study Report Template**

**2020 - 2021**

**Department: 0678-Radiologic Technology**

**Section I: Innovations and Accomplishments**

**Please list noteworthy innovations in instruction, curriculum and student learning over the last five years (including student awards, faculty awards, etc.).**

In fall of 2017 the Radiologic Technology Program moved into the new location on the 2nd floor of Building 14. Just after 17/FA started, the program went through the first programmatic accreditation site visit to be held in the Sifferlen Health Sciences Center. The site visitors representing the Joint Review Committee on Education in Radiologic Technology (JRCERT) were very impressed with the program facilities, students, and faculty, and the clinical education settings. After this site visit the program earned an eight-year accreditation award, which is the highest award given by the JRCERT Board. We are proud of the fact that we were able to submit a great self-study while packing and preparing to move the program offices, lab, etc., and host a very successful site visit only a few weeks after moving into the new facility.

Regarding curriculum and instruction, faculty have integrated many new ideas and teaching methods into didactic and lab courses including the use of digital media, videos and audio accompanied PowerPoint presentations, and flipped classroom concepts. With the recent move to off campus/remote learning all faculty members have been exceptional in altering their delivery methods and have been very creative in getting concepts across to students.

The proximity with other Health Sciences program facilities and labs have allowed us to participate in Interprofessional Education events and hold some labs in other appropriate labs such as the OR Simulation Lab and the Simulation Center. These experiences are very valuable for our students as they allow us to create lab experiences for them that “take place” in areas that are reflective of the hospital environment such as a patient room or the surgical suite. During spring, summer and fall of 2019 Radiologic Technology faculty members worked for months planning an IPE event with Surgical Technology that was scheduled to take place in spring term, 2020. Due to the campus shut-down and subsequent conversion to virtual learning we were unable to hold this IPE event as scheduled. It is our hope that once we are safely able to return to campus we can once again schedule the IPE event with the Surgical Technology Program faculty and students.

Faculty are very active in the Ohio Society of Radiologic Technologists (OSRT) professional organization, serving on the board of directors and serving as chairperson and members of various committees each year. Several of our students have participated in the student leadership program offered by the Ohio Society of Radiologic Technologists (OSRT), have participated in the OSRT annual conference and education sessions, and have participated in the annual Student Quiz Bowl Competition. Students prepare for this competition by practicing and studying an extra four or more hours per week outside of regularly scheduled classes. This competition was created and is held each year by the OSRT for the sole purpose of allowing students a different and fun way of studying for the ARRT national certification exam in radiography. The competition each year has at least 15-20 educational programs participating in the all-day event. We believe this additional review and study time in a unique format helps our students be successful on the certification exam each year.

In the past five years we have had several students serve as Student Leaders, and in the 2019 Quiz Bowl Competition our students placed 2nd, in 2018 our students placed 1st, and in 2017 our students placed 2nd. The Class of 2020 students prepared very hard for the Quiz Bowl Competition and were very well prepared but unfortunately the 2020 Annual Meeting was cancelled due to the state stay-at-home order enacted due to COVID. Even though the conference itself was cancelled, one of our students applied for and was awarded an educational grant through the OSRT Education Research and Foundation.

**Section II: Completions and Course Success**

**A: Department Trend Data, Interpretation, and Analysis**

**Degree and Certificate Completion Trend Data – OVERALL SUMMARY**

The department continues to make changes as needed to improve program and degree completion. Some of the changes include revisions to admission requirements for RAT.S.AAS. These changes include moving from a two-part biology series to the BIO 1107 course, revising some of the RAT course credit hours to assure adequate coverage of course concepts, increasing the admission grade point average from 2.5 to 2.8, and adding minimum scores on the Test of Essential Skills (TEAS) in the overall score and the Reading Section score. The current total credit hours for RAT.S.AAS is 62. These changes were made very recently so we will not see the data for a couple of years, but it is our hope that these changes will help bring in students that are better prepared for the academic rigor of the program. These changes have been disseminated to all RAT.S.AAS-Linked students and admission requirements are reviewed in detail in the Introduction to Radiologic Technology course, RAT 1101. The department chair and administrative assistant have regular communication with the academic advising department, academic coaches, etc. to make sure they know of all changes.

The RAT.S.AAS degrees earned over the past five years fall at an average of 23. The completion rates have improved from the last department review where it was in the 60% range, to 72% average completion in the most recent five years. Faculty are very proud of the improvement on completion rates and we continue to work hard to assure more qualified students completion the program to graduation. We believe this improvement in program completion is tied to curricular and program changes made that included the re-sequencing of classed and changing some program courses from didactic only to include didactic and lab. The improvement may also be tied the addition of a student mentoring program where second-year radiologic technology students are paired up with first-year students and serve as mentors and points of contact for the incoming students. This has been very valuable in helping students get acclimated to the rigor of the program and has given our second-year students some leadership and problem-solving opportunities as they communicate with their mentees and faculty advisors.

Upon graduating with the RAT.S.AAS degree, our graduates are eligible to take the American Registry of Radiologic Technologists (ARRT) National Certification exam in Radiography. Our students do exceptionally well on the ARRT exam, and they have a 96% pass rate on the first attempt on this exam over the past five years. It should be noted that we are required to report first attempt exam pass rates, however, all students not passing the exam on the first attempt were successful on the second attempt. This 96% five-year average is very high, and the overall score averages are often higher than the national score averages.

The department offered three Short-Term Certificates in Computed Tomography (CT.S.STC), Magnetic Resonance Imaging (MRI.S. STC) and Mammography (MAMMO.S.STC.) The number of Short-Term Certificates issued has gone down in the past couple of years, but these STC’s are offered as needed by the community so the number of completers varies each year. If imaging professionals are already working in one of these disciplines, our program offers them the opportunity to only take the didactic course and they can get their mandatory clinical procedures during their worktime. While this does not lead to the actual completion of the STC thought our department, these individuals often go on to take the American Registry of Radiologic Technologists (ARRT) National Certification exam in the specified discipline. So that means that while the number of STC’s issued may be lower, the number of imaging professionals that earn additional national credentials is much higher.

Of the students that have taken a course or courses in Computed Tomography over the past five years 64% (18/28) have gone on to pass the national exam and become ARRT Certified in Computed Tomography. For those students that have taken Magnetic Resonance Imaging courses, 41% (14/34) have become ARRT certified in Magnetic Resonance Imaging. Mammography is one of our newer STC’s and while the enrollment is still lower than we’d like in those courses, 33% (1/3) of the students completing a Mammography course have become ARRT certified in Mammography.

We will monitor the community need for our short-term certificates and we plan to continue to offer them if there is a need. In addition, the department is always looking for additional short-term certificate ideas and each year we have conversations with the advisory board to see what the community needs are and if we can offer a course to help out area imaging professionals, we are willing to do that.

**Course Success Trend Data – OVERALL SUMMARY**

Over the past five years course success rates for RAT courses are just above 80%. Faculty members have worked hard as a group to set up a curricular sequence that has helped increase the completion rates from the previous five years, and we will continue to work hard to help students be successful by offering extra study sessions, offering advice on test taking strategies, etc. This high success rate has also come after our two most seasoned faculty members retired and their courses were taken over by another faculty member, so we are very happy with the course success rates. Even with the high percentage of success the faculty review the sequence each year to see if it still works well, and if changes are needed then they are made. In addition to the sequencing of course, each course and lab is evaluated by individual and department faculty members and improvements are made to help improve student success.

**B: Progress Since the Most Recent Review**

**Goals from the last Program Review**

Your department’s most recent Annual Update report on goals from the last Program Review is provided in **Appendix A**. Please provide a brief summary of your department’s progress on goals from the last Program Review Self-Study.

Since the last Program Review Self-Study, the department has added a short-term certificate in Mammography (MAMMO.S.STC.) While our department is not offering a four-year degree, Advisory Board members support graduates continuing on after completing of the RAT.S.AAS degree to earn Baccalaureate Degrees. A very lengthy feasibility and need study was performed to see if there was a community need for a Sonography (Ultrasound) program. After working with a consultant and area imaging managers it was determined that there is no need for Sinclair to offer a degree-program in Sonography. This was due mainly to the fact that Clark State had already submitted and was approved to offer a Sonography Program. The Ohio Bureau of Labor Statistics shows that there is a need in our region, however, Clark State’s program has still not started by the submission date of this report. In an attempt to improve student preparation for the rigor of the program, curricular changes were made recently that include increasing gpa from 2.5 to 2.8, adding minimum TEAS test scores, changing from six credit hours of biology to 3 credit hours of biology, and some technical curriculum course credit hours were revised.

**Recommendations from the last Program Review**

Your department’s most recent Annual Update report on Review Team recommendations from the last Program Review is provided in **Appendix B**. Please provide a brief summary of your department’s progress on recommendations from the last Program Review Self-Study.

In the past five years the admitted classes RAT.S.AAS program have been more diverse than the previous five years. While we are not exactly sure of the reason for the increase in diversity, we maintain confidence that we have the correct math course requirement in our curriculum. Recently classes have included students from many groups including African American males and females, male students in general, English as a Second Language students, students with ages higher than Sinclair student age average, etc. This increase in diversity has been very refreshing and faculty and students have learned a lot from this diversity. We sincerely hope this trend continues in future classes.

We work very hard to maintain open communication with potential RAT students, academic advisors, admission staff, high school teachers, etc. so students with questions can get them answered. The RAT 1101 (Introduction to Radiologic Technology) course has been most recently taught by the RAT department chair, which has given all interested students taking this course a direct line to ask questions, get clarifications, etc. on the program. The administrative assistant for the department also participates in a class meeting so the potential students can meet her and see her face in hopes that in the future they are comfortable contacting the department if they have questions.

RAT reports are used when needed, but often the department maintains charts and data as required for programmatic accreditation. A mentoring program has been implemented into the accepted RAT.S.AAS cohort where a second-year student is assigned as a mentor for one or two first-year students. This mentoring program has worked very well in helping acclimate new first-year students to the program and has given the second-year students the ability to offer tips, assistance to the incoming students. We believe the mentoring program has been helpful in improving program completion and it has also helped improve communication amongst first and second-year students as well as the communication between students and faculty members.

The department is not currently concerned with encroachment by any proprietary programs, but we continue to watch out for programs that try to push their way into our clinical sites. Our program has a lot of interest currently, but we continue to work closely with high schools for recruiting and we actively participate in Tech Prep and other high school recruitment events.

The department was planning to hold an advance imaging modality continuing education event in May 2020 but that event was held due to on-campus restrictions due to COVID. We continue to plan for this type of event in the future when it is safe again to bring area imaging professionals to campus for education. We will work with Workforce Development on this event when we are able to hold it.

**C: Assessment of General Education & Degree Program Outcomes**

**General Education Outcomes**

All available General Education Outcome rubric data for your department is provided in **Appendix C**. Please provide a brief summary and analysis of these assessment results. In addition to this data, please review and briefly discuss any assessment work your department might have done in these areas in the past five years. Also, please provide a response to the following two questions:

* **Are changes planned as a result of the review of general education outcomes assessment data for your students? If so, what are those changes?**
* **How will you determine whether those changes had an impact?**

General education outcomes are assessed using college-wide rubrics in ALH 1101, ENG 1101, and COM 2206/2211. These outcomes are also assessed throughout the technical portion of the RAT.S.AAS program in a variety of RAT didactic, lab and clinical courses. Expanding on the above college course assessments, specific assignments are used to assess items such as professional communication in the lab and clinical setting, professional electronic communication using email, applied computer skills such as digital imaging equipment utilization in the lab and clinical setting, literature review and research on an imaging-specific topic, etc.

In accordance with the programmatic accreditation agency guidelines, program assessment plans are reviewed each year. During these reviews all data, including data for general education outcomes, is reviewed and an analysis takes place on the results. The results and analyses are shared with communities of interest (faculty, students, Advisory Board, etc.) and revisions are made to items when needed.

During assessment meetings revisions to courses, assignments, etc. are made based on data review. Some of these recent reviews are what lead to recent admission requirement and curricular sequencing changes. We will continue to monitor items such as assessment data, program completion, course completion, etc. to determine if the desired changes have been achieved.

**Degree Program Outcomes**

Your department’s most recent Annual Update report on assessment of program outcomes is provided in **Appendix D**. Please provide a brief summary and analysis of assessment results for your program outcomes since the last Program Review. Also, please provide a response to the following two questions:

* **Are changes planned as a result of the assessment of general education outcomes? If so, what are those changes?**
* **How will you determine whether those changes had an impact?**

The program outcomes review process is the same as the general education assessment. These items are reviewed at program assessment meetings. See general education section above for additional details.

**Section III: Overview of Department Mission**

1. **Mission of the department and its programs(s)**

Please provide the department’s mission statement, and then address the following questions:

* What is the purpose of the department and its programs?
* What publics does the department serve through its instructional programs?
* What positive changes in students, the community and/or disciplines/professions is the department striving to effect?

Radiologic Technology Program Mission Statement:

The program is committed to providing quality educational opportunities helping individuals prepare for entry-level competency as staff radiographers. Instruction is geared to meet the needs of a diverse student body with varied academic, social, cultural and economic backgrounds.

The Radiologic Technology Department consists of one AAS program, RAT.S.AAS, and three (3) short-term certificate programs, CT.S.STC, MRI.S.STC and MAMMO.S.STC. The associate of applied science degree in radiologic technology serves to provide didactic, lab and clinical instruction to students in all aspects of diagnostic radiographic imaging. The program provides area hospitals and imaging centers with entry-level radiologic technologists (radiographers.) Many imaging professionals in the Dayton and surrounding area graduated from Sinclair’s radiologic technology program and they continue to provide professional imaging services to patients, and many graduates provide instruction in the clinical setting to current program students. Many of the current full-time and adjunct faculty members program graduates.

The short-term certificates are offered with the sole purpose of providing radiographers already certified in radiography with didactic and clinical education in advanced modalities. Upon completion of one or more short-term certificates a radiographer will be eligible to apply for and sit for the national certification exam in that specific modality. Many employers currently are only hiring radiographers with dual credentials. This means that in addition to radiography certification employers are looking for certification in one or more additional modalities such as Computed Tomography (CT), Magnetic Resonance Imaging (MRI) and Mammography (MAMMO.)
The program has a large, active advisory board that helps provide feedback on employment trends, additional modality certifications, etc. The program is recognized on the local, state and national level for innovation. Faculty members are often contacted by faculty from other in and out of state programs for help and advice on instruction and teaching methods, curriculum design and revision, assessment data collection and measures, accreditation requirements, etc.

1. **Department Completion Plans**

Below are five milestones that are highly predictive of students graduating in a timely manner. What specific strategies or plans does the department have to help more students achieve one or more of these milestones?

* Students solidify their choice of major within the first or second term
* Students receive a MAP to completion within the first or second term
* Students complete a college-level Math and English class within the first year
* Student take 30 credits within the first year, including summer
* Students take 9 credits in their major area of interest within the first year, including summer

Please describe any work the department has done over the past five years which may have impacted these milestones.

In the RAT 1101 (Introduction to Radiologic Technology) course, students are given details on the program admission requirements and an overview of the profession and the expectations of a professional radiographer. When reviewing the field of medical imaging we are very frank, and sometimes graphic, with our description of situations radiographers encounter daily in practice. It is our hope that by being honest with students regarding program and professional expectations they will either solidify their choice to continue in radiologic technology or they will move to another more suitable major. While we can’t be sure in which term the students take the RAT 1101 course, we hope that after they complete that course, they will be ready to commit to our program or look for another major.

All students are assumed to have a MAP that is set up for them by their assigned academic advisor. In RAT 1101 students without a MAP are highly encouraged to set up an appointment with a Health Sciences Advisor to get a MAP made and make sure they are on the right path. The HS Advisors MAP the students through their pre-requisite coursework, so the student meets the program waiting list requirements. After students are accepted into the technical portion of the program the department chair assists students with registration and course selection through to graduation.

MAT 1470 (College Algebra) and ENG 1101 (English Composition I) are both pre-requisite courses for the RAT.S.AAS program so most students take these courses in the first year so they can move faster toward placement onto the program clinical waiting list.

Students are placed onto the clinical waiting list in the order in which they finish all required pre-requisites. RAT.S.AAS-linked students have a variety of starting points so it’s not possible for the department to know if students complete 30 credit hours within the first year.

Since RAT.S.AAS has a waiting list it is not likely students will take any courses within the technical portion of the program within their first year. Once students meet all pre-requisite requirements, they are placed on a clinical waiting list. The average wait is between 12-18 months on the waiting list, but most students wait much less than the published timeframe.

1. **Specialized Accreditation**

Does your department have any specialized accreditations or other form of external review?

\_\_\_\_X\_\_\_\_ Yes \_\_\_\_\_\_\_\_ No

If yes, please briefly summarize any commendations or recommendations from your most recent accreditation or external review. Note any issues that the external review organization indicated need to be resolved.

The Radiologic Technology Program is accredited by The Joint Review Committee on Education in Radiologic Technology (JRCERT.) As mentioned earlier in this report, after the Site Visit in 2017 the program was given an eight-year accreditation award, which is the highest award given by this programmatic accreditation agency. Advisory board members are managers from area imaging departments, and many are graduates of the program. Their success in management is representative of their education from Sinclair’s program and we are very proud of the number of graduates that have moved into advanced roles in management and education.

**Section IV: Overview of Environmental Factors**

1. **Analysis of environmental factors**

Based on your discussion with the Assistant Provost in the Environmental Scan process, how is the department responding to the (1) current and (2) emerging needs of the community? The college?

The department faculty utilize information from student surveys, clinical education setting surveys, Advisory Board meetings, etc. to determine if we are meeting the needs of the community and our students. On campus we are actively involved in college-wide events, recruitment activities, Tech Prep events, etc. We communicate regularly with academic advisors, enrollment services, marketing, etc. to assure information on our program is correctly disseminated and that all questions are answered in a timely manner. Faculty members are actively involved in professional organizations both on the state and national level, and students are encouraged to become professionally active during their time in the program and after graduation. The department is always looking for additional certificate we could offer, and we are working with our clinical education settings on potential continuing education offerings.

1. **Evidence of program quality from sources outside of the department (e.g., advisory committees, accrediting agencies, other departments on campus, transfer partners, etc.)**

What evidence does the department have about department/program quality from sources outside the department?

End of course evaluations are administered by the college for each course and they are reviewed by faculty to look for ways to improve. Graduate and employer surveys are administered to assure employer and graduate satisfaction with the program. American Registry of Radiologic Technologists (ARRT) certification exam results are extremely high each year, which is a great indication of program effectiveness. An Annual Report is submitted each year to The Joint Review Committee on Education in Radiologic Technology (JRCERT) that includes specified program effectiveness data (PED). PED data includes graduate and employer satisfaction, program completion rates, ARRT certification exam pass rates on the first attempt, and job placement rates. All of this data is reviewed by the JRCERT professional staff to assure goals are met. All of this data is also published on the Radiologic Technology website and is linked to the PED page on the JRCERT website ([www.jrcert.org](http://www.jrcert.org).) We are also able to see our graduates perform as professional radiographers in area hospitals and imaging centers as we make regular visits to check on current students.

**Section V: Student Demand, Placement of Graduates, Cost Effectiveness**

1. **Evidence of student demand for the program**

Please login to the **Program Review Dashboard** in SAS Visual Analytics (<https://dawn.sinclair.edu:8443/SASVisualAnalyticsHub/index.jsp>) and review the “**Enrollment**” tab after selecting your division and department. Provide an interpretation and analysis of the enrollment trend data provided on this tab. Responses might include, but need not be limited to, the following:

* How has/is student demand for the program changing? Why?
* Should the department take steps to increase the demand? Decrease the demand?
* What is the likely future demand for this program and why?

RAT.S.AAS continues to have a high number of students linked to it so there is current demand for the program. Even with the high number of RAT.S.AAS-linked students the program waiting list is 12-18 months, and many students wait less than 12 months. The demand seems to be adequate for now, and the job market is very good right now in and out of the Dayton area so the future demand for the program should remain. We also hope to see an increase in enrollment in our short-term certificate programs as more institutions begin to require additional certification in advanced modalities. In May of 2019 we collaborated with Workforce Development to offer a seminar in Computed Tomography. This on campus two-day session was very well attended for our first attempt at this type of educational event. We had planned to hold another on-campus educational seminar in May 2020, but plans were put on hold due to COVID-related restrictions on gatherings and face-to-face activities on campus. The department chair has had regular communication with James Warden and we hope to host an educational seminar for Computed Tomography and Magnetic Resonance Imaging on-campus as soon as it’s safe to resume on-campus activities. We will continue to work with Workforce Development to offer educational seminars when we are able to, and we will continue to get valuable input from our advisory board members regarding educational offerings and training sessions for their department staff members.

1. **Evidence of the placement/transfer of graduates**

Please login to the **Program Review Dashboard** in SAS Visual Analytics (<https://dawn.sinclair.edu:8443/SASVisualAnalyticsHub/index.jsp>) and review the “**Graduate Outcomes**” tab after selecting your division and department. Provide an interpretation and analysis of the placement and/or transfer trend data provided on this tab. What is your interpretation of the available transfer and placement data?

Entry level for radiologic technologists is currently the associate degree. Because Sinclair does not offer an applicable baccalaureate degree for our graduates, this data is nearly impossible to track. Some graduates have completed a general health care administration degree, and others have completed an applied radiologic science bachelor’s degree. Information on graduates completing bachelor’s programs usually comes back to the department via word of mouth, or by information gathered on graduate surveys. Again, the number of transfer students to four-year degree institutions is very difficult to track and from what we know unofficially, the numbers are low due.

1. **Evidence of the cost-effectiveness of the department/program**

Please login to the **Program Review Dashboard** in SAS Visual Analytics (<https://dawn.sinclair.edu:8443/SASVisualAnalyticsHub/index.jsp>) and review the “**Course Characteristics**” tab. Provide an interpretation and analysis of the average class size and faculty ratio trend data provided on this tab. Also, please discuss any measures the department has taken to reduce costs. Responses might include, but need not be limited to, the following:

* What is the department doing to manage costs? Examples might include:
	+ Managing Average Class Size
	+ Managing full-time/part-time ratios
	+ Specific cost saving measures implemented by the department
* What additional efforts could be made to control costs?
* What factors drive the costs for the department, and how does that influence how resources are allocated?

The department has worked hard to increase average class size in all didactic courses. Our classroom in Building 14 is large enough to hold all our cohort students, so we usually have one section of each didactic course. Didactic course enrollment usually falls between 25-33 students. Lab courses have a lower capacity due to there only being one piece of x-ray equipment in our lab, so that capacity is usually set at 12-13 per section. The lower lab sections tend to lower our overall class average, but we are at maximum capacity in labs with our current lab setup. The RAT 1101 course is usually capped at 30, but it is very difficult to be assigned to an adequate classroom that legitimately holds 30 students and has the necessary projection and computer equipment for the faculty member.

The department continues to be very frugal with our department funds and we do not request capital equipment unless we truly believe that our students will not be successful without having that equipment in our program. We take every advantage of our clinical sites when they are getting new equipment, and we attempt to secure their previously used equipment that we can use in the department. We also take a lot of care when requiring textbooks for students and we do not require anything that our students won’t use for at least two (2) semesters of classes, or in more than one class in a term. Students appreciate our ability to supplement textbooks with our own material in lieu of purchasing a textbook or workbook, and they appreciate the ability to use textbooks more than one time. We also use electronic textbooks and allow rentals and used books when possible to save students additional money.

**Section VI: Department/Program Status and Goals**

1. Based on the environmental scan, data in the Program Review Dashboard, information provided in this self-study, and other factors, please briefly list the department’s/program’s Strengths, Weaknesses, Opportunities, and Threats (SWOT analysis). Please list as many as appropriate in each category.

**Strengths:**

* Graduates of RAT.S.AAS consistently exceed average exam pass rate on the national radiography certification exam.
* Graduates of the CT.S.STC, MRI.S.STC and MAMMO.S.STC successfully pass the national certification exam in CT, MRI, and/or Mammography.
* RAT.S.AAS has held the highest programmatic accreditation award for many years, and program officials and faculty members are often asked for advice and assistance from other radiography programs in and out of Ohio.
* The RAT lab has hospital-grade x-ray and digital imaging equipment where students can learn and practice before and during their clinical education.
* Highly dedicated and educated faculty and a staff member that is an integral part of the department success.
* Faculty members participate in college-wide service and are active professionally on the local, state and national level.
* Enrollment is high in the Introduction to Radiologic Technology (RAT 1101) courses which indicates there is still high interest in the program.

**Weaknesses:**

* Consistent access to a computer room to be used for testing, image analysis, etc. continues to be a challenge, even after moving into the new building. It is extremely difficult to secure a computer classroom for any purpose for up to four hours one or two times per term to allow for exams, training, etc.
* Adjuncts are only allowed to work 12 payload hours per term. They are the most qualified and are willing to help cover clinicals and labs above 12 hours. This limitation dilutes our applicant pool and reduces consistency when we must use more adjuncts where we could use a smaller number with more hours. It also prohibits some very qualified professionals from applying since we cannot give them enough hours to consider changing from their current positions.
* We are getting close to retirement of 25-50% of our current full-time faculty members with replacement of those positions unknown. It’s unclear how the department will move forward after these retirements if we can’t get another full-time person and we can’t give our qualified adjuncts more hours. The issue of faculty positions and succession planning is one of our biggest concerns.

**Opportunities:**

* We have been contacted by local high schools to make presentations, but have had challenges, especially since the pandemic, have had visits scheduled that haven’t worked out, are going to try and do that in the future. It’s good to get out and help high school students understand what people in our field do but we haven’t had much opportunity other than Tech Prep events.
* We have had ideas for additional short-term certificates and classes, even continuing education activities, but haven’t had much interest from the community. It is also sometimes difficult to find the time to create marketing flyers to advertise STC’s and continuing education offerings.
* Recently we have been working with Workforce Development to offer continuing education seminars for advanced modalities rather than offering them as classes. One big roadblock is that it is more expensive to go through Workforce and they have a different end goal (profit), whereas our goal is to offer professional education. We can’t compete at higher prices because many times the same product is offered through a professional organization at a much cheaper rate.

**Threats:**

* Faculty retirements in the very near future/succession planning.
* COVID Pandemic – Clinical Education. The longer the pandemic goes on the more challenges we face getting our students the mandatory clinical competencies required for graduation. The American Registry of Radiologic Technologists (ARRT) requires specific procedures ion order to be eligible for their radiography certification exam. Without completion of these mandatory procedures the students are not eligible to take the exam, and therefore would be unable to practice professionally after graduation. Many of our clinical education settings are restricting the areas and procedures our students are permitted to participate in due to institutional protocols. If this practice of restricting clinical exams continues then we will have students unable to complete graduation requirements on time.
* COVID Pandemic – American Registry of Radiologic Technologists (ARRT) National Certification exam pass rates. In 21/SP the Radiologic Technology Program Class of 2021 will be in their last term of the program. We are concerned that the virtual learning environment and the lack of on-campus review and study sessions will manifest itself as lower pass rates on the ARRT certification exam. Throughout spring term, we will hold as many online review sessions as we can, but we are very worried that online learning will not lead to comprehension of concepts and passing scores on the ARRT exam. In addition, some of these students will have a delayed program completion date due to them missing clinical days due to COVID quarantines, illnesses, etc. These clinical days must be made up prior to completing the program and this will delay their eligibility to schedule and take the ARRT exam.
* COVID Pandemic – Didactic Instruction. The department faculty members have done an amazing job altering delivery methods due to didactic courses being moved to remote delivery. If the short-term remote delivery method moves to more of a long-term issue then our faculty are not prepared with the right equipment, resources, training, etc. for long-term remote delivery of program didactic courses.
* COVID Pandemic – Program interest. While the interest in our program currently is very high, the longer the pandemic goes there is a possibility that potential students may change majors due to fear or concerns over working in healthcare during a pandemic. Continued monitoring of RAT.S.AAS-linked students, imaging procedure numbers throughout the area, and hospital occupancy rates will be very important to watch in the next few years.
1. **What are the department’s/program’s goals for expanding and improving student learning, including new courses, programs, delivery formats and locations? Please note that the department goals listed in this section will be reviewed for progress on Annual Updates and in your next Program Review.**
* The department is planning to convert at least one course to the hybrid delivery model. This conversion was in process prior to the pandemic and has been delayed for at least another year.
* Securing additional Clinical Education Settings could be very helpful in the future if we see lower exam numbers in the departments. This takes research, meetings, on tours of the potential clinical sites, and accreditation paperwork and additional fees. We would like to add some clinical sites in the next few years to assure we have enough adequate clinical rotations for our students.
1. **What resources and other assistance are needed to accomplish the department’s/program’s goals?**
* Training and support will be needed for conversion of courses to the hybrid model.
* Funding will be needed for additional clinical education settings as there is a cost associated with getting a clinical site approved through the accrediting agency. In addition, the addition of clinical sites will increase the annual accreditation fees required by our programmatic accreditation agency.

**Section VII: Appendices: Supporting Documentation**

* **Appendix A: Progress on goals from the last Program Review**
* **Appendix B: Progress on recommendations from the last Program Review**
* **Appendix C: General Education Rubric Data**
* **Appendix D: Program Outcome Assessment Data from the last Annual Update**

**Appendix A: Progress on goals from the last Program Review**

Below are the goals from Section IV part E of your last Program Review Self-Study. Describe progress or changes made toward meeting each goal over the last year. Responses from the previous year’s Annual Update are included, if there have been no changes to report then no changes to the response are necessary.

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| **GOALS** | **Status** | **Previous Years’ Progress or Rationale for No Longer Applicable** | **FY 2019-20 Update** |
| The Mammography short-term certificate will begin in 16/FA and other modalities are being investigated and will be discussed with advisory committee members. The program faculty members are always evaluating the need and ability for us to offer additional certificates, a higher degree, etc. and we will continue to do so. The advisory board members will be consulted with regard to which imaging modalities are in need at this time, which will guide us toward what new short-term certificates we may add in the future. | In progress 🞏 Completed 🗷No longer applicable 🞏 | Clinical Practicum courses in the Mammography STC were offered in 18/FA with one student participating. This student transferred in didactic coursework and transfer credit was awarded for the MAMMO.S.STC didactic course, and the student completed all required clinical competencies and exams. We are excited that this student became the department’s first MAMMO.S.STC completer and finished on time in December, 2018. She also went on to pass the American Registry of Radiologic Technologists (ARRT) mammography certification exam on the first attempt, which means this student earned two ARRT national credentials (Radiography and Mammography) in less than one year! There is currently one student enrolled in MAMMO.S.STC in 19/SP. | The Mammography STC has been up and running since 18/FA but we are currently enrolling only 1-2 students in the Mammography STC each year so it has not picked up as much as anticipated. In fact, enrollment in all of the RAT Department STC’s has declined significantly over the past couple of years. The department has consulted with the Advisory Board on the reasons why enrollment has declined, and decisions on continuing the STC’s will be made this year. |
| We will also do a feasibility and need study in the area to gain additional information on interest in our department offering a bachelor’s degree and on which additional imaging modalities would be viable options. | In progress 🞏 Completed No longer applicable 🗶 | The community and Advisory Board members are still in support of a Bachelor’s Degree that would help Radiologic Technologists gain an advanced degree, and the group hopes that it will at some time be offered by Sinclair. Until that time, graduating students are encouraged to enroll in area Bachelor’s degree programs at other area institutions. Due to Sinclair not offering a RAT bachelor degree program option, we consider the feasibility and need study completed.”In addition, the department is currently doing early research and is having discussions with the community regarding the need for an associate degree program in Sonography (Ultrasound.) Discussions are ongoing at this time. | Since Sinclair will not be pursuing a BS in RAT, we deem this goal no longer applicable. Should the college surface interest, we would then complete a needs assessment.After working with a consultant and area imaging managers it was determined that there is no need for Sinclair and Edison to enter into a collaboration to offer a degree-program in Sonography.  |
| We will also increase the information provided to potential students regarding the rigor and schedule of the program in hopes of reducing the number of students that leave the program for non-academic reasons. | In progress 🗷 Completed 🞏No longer applicable 🞏 | Introduction to Radiologic Technology (RAT 1101) continues to be a great resource for faculty to answer student questions and concerns regarding the program, and faculty continue to stress the rigor and schedule of the program. The number of students in the Class of 2018 that left the program for personal reasons was seven (7) and the Class of 2019 had four (4) students leave for personal reasons, so the number of personal withdrawals decreased. Unfortunately, in the Class of 2019 the number of students that left the program for academic reasons increased, so the program will continue to evaluate entrance requirements.  | After much discussion the RAT Department decided to make curricular and admission requirement changes to RAT.S.AAS. The entrance will be raised from 2.5 to 2.8, the BIO course requirement will be changed from BIO 1121/1222 to BIO 1107, and a minimum section score of 50 on the Reading section of the TEAS exam will be added to the current overall score of 50. The changes will be effective August 10, 2020. The department will continue to track retention based on these changes and will report in future annual updates/department review documents. |
| Once Connect for Completion has defined new student services opportunities, we will work with them to assist students with personal issues in hopes of keeping them in the program. | In progress 🞏 Completed 🗷No longer applicable 🞏 | The programs for completion have changed since the time of this goal, the department considers this particular goal completed.However, our faculty and staff routinely discuss student services with students and links to services are included in the program policy book. The department continues to investigate ways to assist students who leave the program for academic and personal reasons. | No change from last year. |

**Appendix B: Progress on recommendations from the last Program Review**

Below are the Recommendations for Action made by the review team. Describe the progress or changes made toward meeting each recommendation over the last year. Responses from the previous year’s Annual Update are included, if there have been no changes to report then no changes to the response are necessary.

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| **RECOMMENDATIONS** | **Status** | **Previous Years’ Progress or Rationale for No Longer Applicable** | **FY 2019-20 Update** |
| In the discussion with the Review Team, it was noted that the diversity of students who make it into the program is not reflective of the diversity of students in the Introduction to Radiologic Technology course. How can the diversity of students who actually make it into the program be more representative of those who are interested in the program? Is the math requirement appropriate for this program, and is it an unnecessary barrier to program diversity? The department is strongly encouraged to have conversations with the math department to determine whether the math requirement is the appropriate one for this program, and whether students are unnecessarily being screened out of the program by the math requirement, or by any other program requirements. Sometimes the best radiographers are not the ones that have the highest scores in math, or the best grades in their classes. If the purpose of this particular math requirement is to encourage critical thinking, perhaps other means can be found to teach this valuable skill. The department is strongly encouraged to have conversations surrounding these issues. | In progress 🗷 Completed 🞏No longer applicable 🞏 | The program participates in recruitment activities such as Tech Prep events, high school student tours, etc. Students of all backgrounds are recruited and the current graduating class and the current first-year class are much more diverse than in past years. The program will continue to recruit students via many activities.The program is in compliance with the objectives set by the Joint Review Committee on Education in Radiologic Technology (JRCERT) and follows the national radiography curriculum. The national curriculum includes radiologic technology courses and general education courses such as algebra, biology, communication, etc. The JRCERT requires that the curriculum be well-structured, comprehensive and appropriately sequenced and our program curriculum meets curricular requirements. The program is still satisfied that the current math requirement is appropriate for the program curriculum, however, a comprehensive review of admission criteria is planned for May, 2019. | The department still participates in all events possible on campus, and is still in compliance with the JRCERT Standards for Accredited Programs in Radiography. The department is still satisfied with the current math course requirement for RAT.S.AAS. Due to continued tracking needed for curricular and admission changes this goal was marked in progress. |
| The Review Team wondered who is responsible for students who are interested in the RAT program before they're actually admitted to the program. The department is keenly aware of and responsive to the responsibility it has for students who are admitted to the program. But who has responsibility for the students who are interested in the program but have not yet been admitted? That should probably be part of a wider campus discussion regarding students who are in the Health Sciences degree program but are waiting to get into other programs. Do they have adequate support? What additional support could the department provide? It was clear from the discussions with the department that the department's perception of the waitlist is different from student perceptions of the waitlist. The department is encouraged to discuss how it might help students who are interested in the program but have not yet been admitted, and come up with a brief list of recommendations. | In progress 🗷 Completed 🞏No longer applicable 🞏 | Department offices are always open and available for students to drop in or call and ask questions. Regular meetings and communication with academic advisors help convey accurate information about the length of the wait list, and to answer any other questions they receive from students.After completing a review of admission criteria in May 2019, if changes are made then faculty will discuss holding 1-3 RAT Town Hall/Open House events during the 2019-20 academic year to further reach out to students on campus and potentially market to interested students via Tech Prep, CCP, etc. | Due to extenuating circumstances the department was unable to hold the Town Hall/Open House events as planned. The plan is to host 1-3 events during the 2020-21 academic year. |
| To what extent could RAR help the program identify students who are at risk for non-success, both those were waiting to get into the program, and those who have already been admitted? Are there predictive analytics that could both help identify students who may not be adequately prepared to enter the program, and those in the program who may need additional resources in order to successfully complete? The department is strongly encouraged to meet with representatives from RAR to discuss what kinds of research might be done in this regard. Can we identify students who are in danger of withdrawing from the program before they do, and thereby improve retention? | In progress 🞏 Completed 🗷No longer applicable 🞏 | The program will continue to review RAR reports as needed to assist predicting at risk students. Accepted students have the program faculty open-door policy reviewed regularly and the Department Chair meets with students struggling whenever needed to assist with study habits, clinical issues, etc. Students are very often referred to counseling services and when needed are tutored by program faculty.An official student mentoring program was also implemented beginning in August, 2018 and each incoming first-year student is assigned a second-year student that helps students with advice for program success and when needed refers students to faculty for tutoring and/or advice. | The RAT.S.AAS Mentoring program has been a great success and now all incoming first-year students are assigned a second-year mentor. Students in both years of the program state this program is very valuable to them. The department faculty are also very happy with the mentoring program as well and have been able to offer assistance to “at risk” first-year students that were identified by their second-year mentors. This program will continue to build in the future and department faculty anticipate the ability to identify struggling students earlier and intervene to offer assistance, tutoring and/or counseling.  |
| While the department indicated the proprietary competitors are not currently a concern, the department is strongly encouraged to keep an eye out for potential competitors emerging in the area. | In progress 🞏 Completed 🗷No longer applicable 🞏 | The program is always looking out for competitors that may encroach on clinical sites. | No change from last year. |
| Do the local career centers present an opportunity for recruitment? The department is encouraged to discuss whether students from local career centers could be attracted to the program through focused efforts. | In progress 🞏 Completed 🗷No longer applicable 🞏 | We have a lot of interest in our program so at this time recruitment is not an issue. Even though we do not get a lot of students that enter the program via the direct Tech Prep route, program faculty members participate in Tech Prep events and communicates with potential students and family members at these events.  | No change from last year. |
| Having enough clinical sites was mentioned as a challenge for the department. Are there any opportunities to expand clinical sites beyond the immediate region? In Springfield, for example? | In progress 🞏 Completed 🗷No longer applicable 🞏 | At this time, all graduating students are completing required clinical competencies with no problems. If needed new clinical education settings will be added in the future. | No change from last year.  |
| The department has done a great job of developing short-term certificates to address industry needs where appropriate. They are strongly encouraged to continue this. Are there cases were single courses, rather than a certificate, could meet local industry need? What about the needs of radiographers who have continuing education requirements - are there any opportunities there? | In progress 🗷 Completed 🞏No longer applicable 🞏 | The program Advisory Board has not recently suggested any additional short-term certificate programs or courses, however, a two-day Computed Tomography (CT) workshop will be piloted in May 2019 as an alternate delivery option to the CT.S.STC didactic course. If this option is successful then the MRI.S.STC didactic course will be evaluated with the potential to be offered in this format. | The CT seminar was offered in May 2019 and was attended by 20 imaging professionals and recent program graduates. The department is working on offering the CT seminar again in May 2020 and maybe adding MRI concepts as well.  |

**Appendix C: General Education Rubric Data**

**Information Literacy**

**Oral Communication**

**Appendix D: Program Outcome Assessment Data from the last Annual Update**

The Program Outcomes for the degrees are listed below. **All program outcomes must be assessed at least once during the 5 year Program Review cycle, and assessment of program outcomes must occur each year**. Assessment results from previous years are in red font – if you assess those outcomes again this year, please add the additional assessment data in black font.

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| --- | --- | --- | --- | --- |
| **Program Outcomes** | To which course(s) is this program outcome related? | Year assessed or to be assessed. | Assessment MethodsUsed | What were the assessment results? (Please provide brief summary data) |
| Demonstrate competence in the delivery of clinical practice with entry-level skills. (RAT.S.AAS) | RAT 1111, 1212, 2413, 2514, 1121, 1131, 1222, 2423, 2442, 2543 | Assessed annually | Lab and clinical competencies, case studies and scenarios, clinical instructor evaluations | 8 out of 12 benchmarks were met. Faculty will evaluate all current measures with the potential to revised, delete and/or add new measures for the next assessment cycle. 6 out of 11 benchmarks were met. In many of these unmet benchmarks students showed improvement so these measures will be continued for the next assessment cycle. |
| Demonstrate critical thinking and problem-solving skills. (RAT.S.AAS) | RAT 1111, 1212, 2413, 2514, 1121, 1222, 2442, 2526 | Assessed annually | Trauma case studies, procedure competencies in lab and clinical, capstone assignment | 1 out of 4 benchmarks were met. Assignments have been changed, benchmarks were revised, and new assignments have been created for the 2018-19 assessment cycle. All four benchmarks went unmet this year. After much consideration, program faculty will re-evaluate all measures for this outcome and results for new measures will be reported next year. |
| Demonstrate effective communication. (RAT.S.AAS) | RAT 1111, 1212, 2413, 2514, 1131, 1222, 2423, 2526 | Assessed annually | Group presentations, case studies, and clinical communication | 3 out of 5 benchmarks were met, and 1 assignment was removed for the next assessment cycle. 5 benchmarks were met and a few others were not run and will be changed for the next assessment cycle. |
| Demonstrate professional and ethical attitudes and behaviors. (RAT.S.AAS) | RAT 1111, 1212, 2413, 2514, 2526 | Assessed annually | Ethical case studies and presentations, clinical instructor evaluations, capstone ethical and professionalism assignments | 7 out of 9 benchmarks were met. Several new assignments will be added for the next assessment cycle as professionalism continues to be somewhat difficult to assess accurately. Faculty continue to revise the assessment plan each year. 2 out of 4 benchmarks were met this year. Measures in this outcome were administered in different courses, and several new measures were created and will be run with revisions next assessment cycle. Program faculty are still working on new ways to assess this outcome. |