**Academic Program Review: Self-Study**

***Instructions:*** *The following pages will guide your submission of your academic program review self-study. Please type your responses directly into the document. The completed self-study instrument and all attachments must be submitted to the Academic Program Review Coordinator and your Academic Dean by September 9.*

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| **Program Under Review: Radiologic Technology AAS** |
| Degree(s):  Radiologic Technology AAS |
| Certificate(s):  None |
| Contact Information for lead on Self-Study:  Name: Frank Mollica  Campus: SMC  Phone: 480 677 7746  Email: Frank.mollica@centralaz.edu |

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| **I. Program Description, Vision and Outcomes** |
| 1. What is the description of the program as stated in the current CAC catalog:   RADIOLOGIC TECHNOLOGY AAS Total Credits: 79 Radiologic Technology is a health care profession involving the use of ionizing radiation to generate diagnostic images in the diagnosis and treatment of disease. The Associate of Applied Science Degree in Radiologic Technology is a two-year program (six sequential semesters including summers) that prepares students for entry-level positions as radiographers. The program starts once per year in the Spring Semester. The curriculum is designed in accordance with the Radiography Curriculum established by the American Society of Radiologic Technologists. Students are required by Arizona State Statute to complete 1,800 practicum hours within the two years. The Radiologic Technology course of study is a demanding experience and involves a full-time commitment of at least 40hours per week plus homework. Students must earn a grade of 75%or better in all required courses. Graduates of the program are eligible to: 1.Receive a Radiologic Technology Associate of Applied Science Degree; 2.Sit for the American Registry of Radiologic Technologists examination (ARRT);3.Apply for an Arizona license to practice Radiography -CRT (Certified Radiologic Technologist).The Radiologic Technology Degree is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 North Wacker Drive, Suite 2850, Chicago, Illinois 60606-3182; 312-704-5300;mail@jrcert.or |
| 1. Does your program have a mission and/or a vision statement? If it does, please write them below and indicate where they appear.   **Mission Statement**  To provide an intellectually stimulating and challenging environment where competency based education in radiography is focused on the needs of the patient and intended to produce competent and progressive imaging professionals of the highest caliber.  The program has a mission statement that defines its purpose and scope which is published in the Radiologic Technology Student Handbook, Radiologic Technology Information and Admissions Packet and Program Webpage  The Mission Statement, Goals and Student Learning Outcomes are also framed and prominently displayed within the program building complex. The mission statement is regularly reviewed and approved by the Medical Imaging Program Advisory Committee.  <https://centralaz.edu/divisions-programs/health-careers-division/radiologic-division/> |
| 1. Describe how the program’s description, mission and/or vision aligns with the College’s Mission and Vision:   **CAC Vision and Mission Statements:**  **Vision:** Central Arizona’s premier choice in education and career excellence.  **Mission:** Central Arizona College serves as a TRUE Learning community by empowering our students and staff to succeed.  *Teaching. Reaching. Understanding. Empowering. Learning.*  **Radiologic Technology’s Vision and Mission Statement:**  The program is dedicated to communicating our comprehensive competency based education model to our community by being accessible, knowledgeable, and reliable. The program focuses on professionalism by supporting a specialized educational environment for students, faculty and staff. The Learning Community is supported by the highest caliber of instruction and ensuring academic equity and access for every student |

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| **II. Program Enrollment and Graduation Trends** |
| 1. Summarize the program enrollment data for the past 5 years in the chart below:  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Degree/Certificate | 2017-18 | 2016-17 | 2015-16 | 2014-15 | 2013-14 | | Radiologic Technology AAS | 20 | 20 | 20 | 20 | 21 | |  |  |  |  |  |  | |
| 1. Discuss and explain the factors influencing the enrollment trends:   Program capacity is designated by the Joint Review Committee on Education in Radiologic Technology. The program has maintained full capacity since its establishment in 2007 |
| 1. How has the program typically recruited students and marketed the program:   The program does not market or advertise. The program generally receives 100-150 applicants annually for 20 seats. |
| 1. Summarize the program graduation rate trends for the past 5 years in the chart below:  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Degree/Certificate | 2017-18 | 2016-17 | 2015-16 | 2014-15 | 2013-14 | | Radiologic Technology AAS | 18 | 20 | 15 | 19 | 17 | |  |  |  |  |  |  | |
| 1. How many program enrollees or graduates studied at an in-state baccalaureate level institution during the past 5 years? Put the data in the table below.   \****The Radiologic Technology Program was not able to get accurate data for this table***   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Degree/Certificate | 2017-18 | 2016-17 | 2015-16 | 2014-15 | 2013-14 | |  | ? | ? | ? | ? | ? | |  |  |  |  |  |  | |
| 1. Discuss and explain the graduation trends. What efforts has the program made to help students achieve completion?   The program is currently running a 5 year average retention rate of 91% through 2018. The program has noted that retention rates may be adversely affected by students with medical issues. These factors generally affect the retention rate by about 5% annually. It has been noted that cohorts that enjoy a high level of bonding usually have better rates of retention than those less connected. The program conducts bonding activities each semester to promote team work. |
| 1. Provide a summary of this section. Indicate trends observed in the data; identify areas of strengths, and areas for improvement.   The program has experienced 3 students that did not pass the national boards over the last 11 years since the inception of this course of study. Data shows that the three (3) failing students all had English as a second language. Due to the highly technical nature of training and time restrictions on the national boards it is evident that a mastery of English is a necessity. The competitive admissions process is strength of the program. The panel interview segment of the process and the ability to evaluate applicants allows the program to assess dropout risks and choose a cohesive cohort. |

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| **III. Program Curriculum:** *Submit a completed Curriculum Comparison Chart along with the self-study, comparing the CAC program curriculum to three similar programs, for each Degree and Certificate discussed in this self-study. Ideally compare to other Arizona programs, and out of state if necessary. Use the charts to answer the following questions.* |
| 1. Certificate(s): After reviewing the Curriculum Comparison Chart of the other institutions for the certificate(s), is insight given into courses that could be added, combined or deleted?   After completing the comparison, analysis demonstrates that the curriculum is on a par with two in-state programs and one out of state program. More importantly the curriculum of the CAC program is in compliance with the curriculum blueprint sponsored by the American Society of Radiologic Technologists (ASRT) and mandated by the American Registry of Radiologic Technologists (ARRT). The program director plans to update the curriculum next year in an effort to restructure delivery and align language with current evolving digital terminology, content will remain unchanged. |
| 1. Degree (s): After reviewing the Curriculum Comparison Chart of the other institutions for the degree(s), is insight given into courses that could be added, combined or deleted?   Currently, RAD170 I and II contain digital content. These courses will be streamlined as separate courses of Principles of Exposure and a free standing Digital Imaging course. Content and outcomes will remain constant but the structure of delivery will be updated. |
| 1. When the Curriculum Review for each degree and certificate comes due, are there any course descriptions, articulation, additions, revisions or deletions anticipated?   Minor revisions are anticipated during the next curriculum review. The governing body of the American Society of Radiologic Technologists (ASRT) issues updates and revisions to the curriculum blueprint in cooperation with the American Registry of Radiologic Technologists (ARRT). Revisions are regularly incorporated into the programs teaching. Some revisions may be requiring curriculum changes for alignment purposes. These changes do not effect more than 15% of the course of study. Changes greater than 15% require accreditor permission. Specific revisions are to be determined. |

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| **IV. Program Outcomes and Assessment** |
| 1. What are the Program Learning Outcomes (PLOs) for the program degree or certificate as currently indicated in ACRES:   Goal: Graduates will be clinically competent.   * Student Learning Outcomes: * Students will demonstrate competency in radiographic positioning * Students will demonstrate competency in radiation protection * Students will demonstrate appropriate patient care   Goal: Graduates will communicate in an effective manner.   * Student Learning Outcomes: * Students will demonstrate effective written communication skills * Students will demonstrate effective oral communication skills * Students will demonstrate effective communication skills with patients   Goal: Graduates will apply critical thinking skills.   * Student Learning Outcomes: * Students will demonstrate appropriate image analysis competency * Students will adapt to changing workloads and complete assignments on time * Students will demonstrate an ability to perform non-routine procedures   Goal: Graduates will demonstrate professionalism.   * Student Learning Outcomes: * Students will present a professional appearance in the clinical education settings * Students will accept constructive criticism and guidance in a manner to aid their professional growth * Employers will indicate that graduates conduct themselves in an ethical and professional manner |
| 1. Are the outcomes from your program determined or influenced by any external organization, agency, or accreditor? If so, please explain. Are there any available accreditations which the program does not have, but maybenefit from seeking?   Although program outcomes are determined by the program director, and influenced by the standards of the American Society of Radiologic Technologists (ASRT) and the American Registry of Radiologic Technologists (ARRT), the Joint Review Committee on Education in Radiologic Technology (JRCERT) exercises the greatest influence on goal setting and student learning outcomes. Learning outcomes must be reviewed and approved bi-annually by the standards of JRCERT. The program is accredited by both the Higher Learning Commission and Joint Review Committee on Education in Radiologic Technology (JRCERT). There are no other accreditors universally accepted by our affiliate partners. |
| 3, 4, 5, 6.  **Assessment report for Programs with MSLOs, PLOs and CSLOs**  If student achievement for one or more of Program Learning Outcomes (PLOs) during the last academic year were assessed, list the PLOs, each PLOs alignment with a CLSO, the assessment method (e.g. external exam for certification or licensure, internship, portfolio, capstone course assessment), and any improvements enacted in response to the results.  **PLEASE SEE ATTACHED RADIOGRAPHY PROGRAM ASSESSMENT PLAN** |
| 7. Discuss how the program supports current or future needs for the job market in Pinal County, the state of Arizona, and/or the United States.  The program has run a 100% job placement rate since its establishment in 2007. The field is rapidly growing sector of health care services. Emerging technology and an aging population insures future growth of the job market. |
| 8. For degree programs, identify any specific in-state baccalaureate programs into which this program is particularly suited for transfer.  The program is closely tied to the NAU BS degree program for imaging. |
| 9. Indicate if there are any articulation agreements in place for degree graduates. |
| 10. Discuss how the program gets feedback on its program and curriculum from external sources, suchas advisory boards, employers, articulation task forces, accreditors, etc.  The program maintains a dynamic advisory committee comprised of various stake holders including the management of regional health care organizations, community members and vendors. Annually in June the program conducts graduate and employer surveys. The program also submit self-studies to the JRCERT, interim reports and undergoes onsite inspections. |

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| **V. Program Specific Resources:**  *In this section please focus on program specific resource. You may, but do not have to, discuss resources available to the college at large such as Blackboard, the Learning Centers, Library, etc. However, if these resources are impacting your program in a positive or negative way which you would like to discuss, please do so.* |
| **Radiology Program Budget Summary Report**   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Acct** | **Account Title** | **Budget** | **Expense Current** | **Expense YTD** | **Encumbrance** | **Available Balance** | **Available Bal %** | | 5111 | SALARY,INSTRUCTOR | 0.00 | 50,821.00 | 50,821.00 | 0.00 | -50,821.00 | 0% | | 5112 | SALARY, MANAGERIAL& TECHNICAL | 46,441.00 | 8,813.52 | 8,813.52 | 0.00 | 37,627.48 | 81% | | 5115 | WAGES, TEMP-PART TIME | 4,395.37 | 220.00 | 220.00 | 0.00 | 4,175.37 | 95% | | 5121 | SALARY, OVERLOAD | 0.00 | 1,051.50 | 1,051.50 | 0.00 | -1,051.50 | 0% | | 5122 | SALARY, INSTRUCTOR PT | 5,005.00 | 2,145.04 | 2,145.04 | 0.00 | 2,859.96 | 57% | | 5125 | SALARY, EXTRA ASSIGNMENT | 1,080.00 | 1,078.80 | 1,078.80 | 0.00 | 1.20 | 0% | | 5191 | STATE RETIREMENT | 5,405.47 | 6,723.85 | 6,723.85 | 0.00 | -1,318.38 | -24% | | 5192 | FICA | 4,354.87 | 4,792.60 | 4,792.60 | 0.00 | -437.73 | -10% | | 5193 | INDUSTRIAL INSURANCE | 269.88 | 304.49 | 304.49 | 0.00 | -34.61 | -13% | | 5194 | HEALTH INSURANCE | 14,400.00 | 19,304.46 | 19,304.46 | 0.00 | -4,904.46 | -34% | | 5195 | DISABILITY INSURANCE | 76.73 | 94.94 | 94.94 | 0.00 | -18.21 | -24% | | 5196 | DENTALINSURANCE | 840.00 | 862.68 | 862.68 | 0.00 | -22.68 | -3% | | 5197 | VISIONINSURANCE | 120.00 | 122.81 | 122.81 | 0.00 | -2.81 | -2% | | 5198 | LIFE INSURANCE | 202.05 | 222.57 | 222.57 | 0.00 | -20.52 | -10% | | 5243 | ACCREDITATION DUES & FEES | 2,600.00 | 2,600.00 | 2,600.00 | 0.00 | 0.00 | 0% | | 5252 | LICENSE FEE | 543.50 | 525.00 | 525.00 | 0.00 | 18.50 | 3% | | 5310 | OFFICE SUPPLIES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0% | | 5325 | INSTRUCTIONAL SUPPLIES | 5,191.50 | 4,281.55 | 4,281.55 | 0.00 | 909.95 | 18% | | 5329 | DUPLICATION SUPPLIES | 50.00 | 46.03 | 46.03 | 0.00 | 3.97 | 8% | | 5410 | SUBSCRIPTIONS | 18.50 | 18.50 | 18.50 | 0.00 | 0.00 | 0% | | 5431 | ORGANIZATIONAL DUES | 40.00 | 40.00 | 40.00 | 0.00 | 0.00 | 0% | | 5810 | TRAVEL INSTATE | 575.00 | 574.22 | 574.22 | 0.00 | 0.78 | 0% | | 5820 | TRAVEL OUT OF STATE | 431.50 | 397.55 | 397.55 | 0.00 | 33.95 | 8% | | **Program Total:** | | **92,040.37** | **105,041.11** | **105,041.11** | **0.00** | **-13,000.74** | **- 14%** | |
| 1. **After viewing the Budget Summary Report for 2018**, discuss the adequacy of the budgetary resources, human resources, technological resources, classrooms, labs and space, academic support for students (ie: learning center, library) and student support (ie: advising) available to the program over the past 5 years:   The Central Arizona Radiologic Technology Program staff is sufficient to carry out all educational, program, administrative and accreditation requirements. Staffing includes a full time Program Director and Clinical Coordinator. Budgetary considerations provide for adjunct instructors. The college has pledged its financial support for the radiological program and has invested substantial funds to sustain the program. Annually, the college has commits funding for equipment and accessories as well as an operating budget which includes provisions for instructional materials, supplies and services. Central Arizona College is committed to the financial support of the radiological technology program and has the financial resources and facilities to sustain the achievement of the program’s mission, goals and student learning outcomes. |
| 1. What future goals does the program have? Will extra resources and funding be required to achieve it?   The program plans to update its aging computed radiography laboratories to flat panel detector direct digital radiography technology. These updated units will align the program’s teaching methods and equipment with the current environment in regional health care organizations affiliated with the college. Updating equipment will require capital. |

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| **VI. Program Effectiveness for Graduates** |
| 1. Describe how you measure the success of degree and certificate program graduates. For example, are graduate surveys conducted? Are surveys given to employers to determine satisfaction with program graduate employees?   Graduate and Employer survey are conducted annually 6 months post-graduation. The surveys collection various data including graduate and employer satisfaction responses. |
| 1. If a degree or certificate is designed to lead directly into the workforce, describe the success of students in obtaining a job in the field of study upon graduation. Please provide any qualitative or quantitative data you have:   The program collect employment data 6 months post-graduation. The program has enjoyed a 100% job rate since being established. |
| 1. If your program serves to prepare a student for external certification or licensure of any kind identify the certification or license and the percentage of program graduates who earn/achieve it. Put data in the table below.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Licensure/Certification | 2017-18 | 2016-17 | 2015-16 | 2014-15 | 2013-14 | | American Registry of Radiologic Technologists (ARRT) | 17 of 17 100% | 19 of 19 100% | 14 of 15 93% | 19 of 20 95% | 17 of 18 94% | |  |  |  |  |  |  | |

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| **VII. Program Continuous Quality Improvement** |
| 1. Discuss how the program has used operational planning goals to achieve quality improvement over the past 5 years:   The program’s goals are dictated by the JRCERT. These program effectiveness measures have been incorporated into the CAC annual operational plan. |
| 1. Describe other ways the program has engaged in continuous quality improvement:   The program has an assessment plan that is a dynamic document, changing and improving from one cycle to the next. Recently the program modified its assessment cycle to a calendar year for proper alignment with the program’s academic schedule which also follows the calendar year, January through December.  The program collects and analyzes data regarding the credentialing examination, job placement, and program completion on annual basis. Required program data is reported on the Program Effectiveness Data (PED) form. Program effectiveness measures are also maintained in the assessment plan.  The American Registry of Radiologic Technologists certification examination first attempt pass rate data is maintained as a component of the program’s assessment plan and reported to the JRCERT on the Program Effectiveness Data (PED) form. Program completion rates are reported in accordance with guidelines.  Job placement rates and graduate and employer satisfaction data is collected via the six month post-graduation, graduate and employer surveys. A summary of results of the surveys are shared with the program’s communities of interest at the Medical Imaging Advisory Committee to facilitate discussion and analysis.  The program takes a comprehensive approach to the analysis of learning outcomes and program effectiveness data contained in the formal framework of the assessment plan and other systematic review structures. Data within the assessment plan is reviewed and analyzed as a tool to drive program decisions. The program considers benchmarks and compares recent outcomes with those from previous assessment cycles. Analysis of outcome data examines central tendencies and trends. The program uses various tools for analysis including spreadsheets and graphical presentations to examine data distributions and outliers to suggest areas requiring program development.  Other criteria for analysis are exemplified by comparisons performed on data collected from affective skills evaluations used as assessment plan tools. Results within a cohort were compared based on age, gender and other characteristics.  .Further, effectiveness results including the program completion rates, pass rates on the ARRT examination, employment and several satisfaction measures are used in a comparative analysis of individual cohorts. The program has also compared outcomes with outcomes of similar programs where data has been available. Results of individual cohorts are used in a comparison against national and state benchmarks available from the ARRT.  The program staff shares outcome and effectiveness data both formally and informally in various formats and forums. Data is related to clinical partners on a continual basis during the clinical visits and at program meetings or events. Comparisons of outcomes, policies, procedures and activities to support learning outcomes are often discussed with clinical staff in an effort to learn and incorporate best practices in the industry. Effectiveness measures are related within the college community in the form of updates and at the various meetings that staff attend throughout the year. The program shares the program effectiveness data with it communities of interest at the Medical Imaging Advisory Committee. |

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| **VIII. Program Alignment with Institutional Strategic Goals:** |
| 1.Describe how the program has directly or indirectly is helping the College achieve its current strategic goals.  ***CAC Strategic Goals:***  **Student Success**  *Ensure student success through retention, persistence, completion, and transfer*  **Access**  *Ensure all Pinal County residents and others have access to high quality innovative post-secondary opportunities*  **Workforce**  *Ensure students acquire the skills necessary for job placement and that meet employer needs in Pinal County and Region*  **Community**  *Ensure Pinal County residents have access to lifelong learning and cultural enrichment*  **Environment**  *Ensure a safe, sustainable environment that promotes learning, communication, diversity and satisfaction among students and employees*.  **Stewardship**  *Ensure optimization of fiscal resources through a balanced budget to support the needs and expectations of students and the community*  **Infrastructure**  *Ensure a physical and technological infrastructure that support changes in learning and working environment* |

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| **IX. Evaluation of Program Strengths, Viability and Areas for Improvement:** |
| 1. After completing the APR Self Study, identify areas of strength and areas for improvement in the program. Is the program still a viable program? Discuss the next steps for the program and possible Action Plan Ideas.   The program’s effectiveness measures demonstrate a high level of success. Statistically, the program operates in the upper percentiles nationally. In Arizona the program has the highest retention rate, the highest pass rate on the national boards and the highest employment rate post-graduation. |