Assessment Report

Yuba Community College District

YC - Radiologic Technology Program Recommendations

Year of Review: 2013-2014

Type of Review: Self-Study (4-year review)

Executive Summary (Include a list of team members): NOTE: Posted by the program director (Angela Willson) . There was no team for this PR.

The Program takes two years to complete both the didactic and clinical portions. The Program meets the required accreditation requirements for the State of California Radiation Health Branch (RHB) and the Joint Review Committee in Radiologic Technology (JRCERT). The curriculum is designed to meet the recommended prerequisite and subject matter presented by the American Society of Radiologic Technology (ASRT). Upon completion of the program, students are eligible to take the American Registry of Radiologic Technology (ARRT) Registry Exam.

PROGRAM HISTORY:The Yuba College X-Ray Technology Program for Radiographers started operation in 1966 to alleviate a community shortage of technologists. The college staff and members of the community worked together to construct a program that would supply the Northern Sacramento Valley with skilled technologists. By the fall of 1967 JRCERT provisional approval had been granted and the first class began with six students. In 1973 full accreditation was achieved and it was decided to increase the number of incoming students to twenty-five (25.)

JRCERT Accreditation History: Of historical significance, in 1992 it was decided not to reapply for JRCERT accreditation. There were many factors that led to that decision, but two major considerations led to the decision. First the director of twenty plus years was retiring during the accreditation process and an extension was denied by JRCERT. It was decided that to bring in a new director under those circumstances would be a disservice to both the new director and the program. The second concern was fiscal in nature. This program had thirteen (13) clinical sites and the new essentials required the addition of a clinical coordinator for programs with four (4) or more sites. With a diminishing budget it seemed impossible to find funds for an additional salary and it was not practical to drop to three (3) sites. This decision was made to not renew accreditation with JRCERT with approval of the Advisory Board Committee.

The current program director was hired in November of 1991. Shortly thereafter, the program name was changed to the Yuba College Radiologic Technology Program. The necessity of accreditation by JRCERT was discussed at an Advisory Board meeting and the decision was made to apply for accreditation after a clinical coordinator was hired. A clinical coordinator was hired in August of 1993. (NOTE: this was a categorically funded position and remained that way until he was let go Spring 2012).

Program Dateline Summary:
1. 1993 three (3) years accreditation status, highest for new program.
2. 1997 granted a five (5) year approval, at that time the highest possible.
3. A Program Expansion Plan was submitted to JRCERT March 2002. The plan was to meet the demand and shortage of technologist in the Nation but more specifically in the greater Sacramento region. The plan was accepted: a second classroom was opened (the use of point-to-point video conferencing made this possible), a second Clinical Coordinator was hired (NOTE: also categorically funded, and remained that way until he was let go Spring 2011), the number of clinical facilities was expanded and the number of entering students increased from twenty-five (25) to fifty (50). Note: this number has decreased to the acceptance of forty-six (46) fall 2010 and we are in discussion of lowering the number as the number of technologist jobs has decreased.
4. 2002 eight (8) year approval. The interim report was submitted in 2007 and the continuation of the cycle was accepted.
5. 2011 was the last site visit and a provisional five (5) years was granted. We were aware of the problems caused by the program

expansion and believed the response was reasonable under the current circumstances.
6. Early Spring 2013, JRCERT CEO and assistant CEO came to the college to review the program because of the Yuba College Probationary status. They found the program to be deficient and placed the program on probation.
7. Based upon that status a self-study report is due Jan 2014 with a scheduled site visit of July 2014
8. Currently there is one (1) full-time faculty member the required Program Director and no adjunct faculty.
9. Program curriculum has been redesigned and will be offered for the first time in Fall 2013.
10. There was not an entry cohort Fall 2013. With one (1) faculty member the load would have been too great with both a first and second year cohort. Entry will now be every other year. This could change if there was an additional faculty member.

Current Issues:
1. With only one (1) faculty both JRC and Calif. Dept of Health RHB (radiation health branch) have restrictions on the number of students and clinical sites. No more than five (5) clinical sites and no more than thirty (30) students. The sites have been identified as
a. Rideout in Marysville
b. Oroville in Oroville
c. Sacramento
I. U.C.D.M.C.
ii. Sutter General
iii. Mercy San Juan
2. There is a 1:1 ratio requirement (student to technologist) based upon this requirement and the number of department procedures we will be unable to have more than twenty-four (24) students. An issue has occurred with U.C.D.M.C. which could lower the total number by 2-4.

3. JRCERT has placed the program on probation. This event is the catalyst for several considerations.
a. Program closure
b. Program transfer to a different college
c. Program revisions – the remainder of this report will be based upon this consideration.

Revisions:
1. Move to Building 1700. There has been much time spent on this. George Parker is working with various individuals on retrofitting the room. The problem right now is we do not have an x-ray machine. PD has been looking for donated equipment but so far no luck. EBay appears to be an option with all the equipment that would be necessary. Estimate is about 50K. The need for generated equipment was a suggestion by JRCERT – but this is not a requirement. Yuba has historically been the only program in CA that has not had live equipment for students' demonstrations and practice on phantoms.

We have two (2) very old non-energized tables and tubes. At least one (1) of them should be moved to the new building. There will be a cost associated with the instillation.

2. A contract is being drafted with Rideout to use one of their rooms in Fremont Hospital. This is a good option and will not cost the college anything. We could still move to the 1700 Building.

Program Description : A1. Do students have access to curriculum-specific and/or program-specific support services? If so, describe this service(s). If not, explain why.

Not in the traditional sense. There are no services available on campus for the students to seek tutoring with the exception of the

single faculty member. What they do have is support from past program graduate technologist and other staff technologist while they are in the clinical setting.

A2. If services are available, how do they demonstrate an increase in student success?

The nontraditional assistance is of great assets to the students. Students are required to complete 1850 clinical hours and many procedure competencies during their internship. This could not happen without the assistance of those in the clinical sites that are willing to be Clinical Instructors and staff technologist willing to work with and train the students. Clinical Instructors (CI's) are assigned by mutual agreement of the program and clinical administrators. They are trained by college program faculty.

B3. How is current and previous program review data used to refine and improve program or department practices?
As an accredited program we are required to maintain qualitative and quantitative data on the program that exceeds the data in program review. All the data that is gathered is reviewed to assure the program meets standards established by Yuba College, the Joint Review Committee on Education in Radiologic Technology (JRCERT), California Department of Health, Radiation Health Branch (RHB), American Society of Radiologic Technology (ASRT) and the American Registry of Radiologic Technologists (ARRT). We also survey employers, staff and graduating students for additional data on the program.
The data and requirements drive the curriculum, prerequisites, program entry criteria, and clinical facility selection.
90% average completion rate over the past 5 years.
3.5 % average fail rate over the past 5 years (others have left for personal reasons)
98.2% (213 students) average student pass rate on ARRT Board exam over the past 5 years (This will increase as currently the 2013 group has a 100% pass rate with only a few students who have not taken the exam yet)

Radiologic Technology 2013-2014

Year	FTEF	FTES	WSCH	Stu/Fac	WSCH/FTEF
2007-8	3.00	217.53	6525.90	72.51	1087.65
2008-9	2.87	215.69	6470.70	76.88	1153.15
2009-10	2.75	188.86	5665.80	68.68	1030.15
2010-11	1.87	189.82	5694.60	101.69	1525.34
2011-12	2.08	140.73	4221.90	67.55	1013.26
2012-13	3.00	94.64	2839.20	31.55	473.20

NOTE: the decrease is because the program has dropped from three faculty to one. Fall 2012 no students started the program. Fall 2011 fifteen (15) started but we are now down to eleven (11). Based upon the single person program, the plan is to start 20-24 every other Fall semester.

Industry Trends and Program Data Analysis :

C4. How do program or department goals align with the education, diversity, demographic, and workforce needs of local communities
An annual advisory board meeting keeps the program abreast of our affiliate sites needs (although this meeting has not occurred for two years). Every three years an employer survey is done to determine how many of our students were employed by our affiliate

sites. This survey also seeks information on the quality of the new employees as well as the quality of the students.
The program director attends local health force meetings to determine the community needs.
DATA downloaded September 2013 for Radiologic Technologist
Calif EDD – 2012 hourly mean 33.43
Employment Projections 2010-2020 23.8% increase
Annual Avg Openings 680

C5. How is your program or department direction driven by empirical data?
As stated in B3 the program would not meet mandated requirements and accreditation without consistent review. The program expanded ten (10) years ago to meet the needs of the radiology department managers in the greater Sacramento area. About four (4) years ago the number of graduates obtaining jobs dropped. This drop resulted in JRCERT putting the Program on watch because we did not meet the required 75% employment rate averaged over a five (5) year period. The program director requested of the Yuba College administration and the Contracted Consortium to lower the number of entry students from the contracted fifty (50) to thirty-four (34) this request was denied. As a result, this requirement has been deemed probational by JRCERT. The intent of the expansion was to meet the then current shortage of technologist. It was also the intent after a five (5) year period the need would be reviewed and changes would be addressed to meet industry changes. As stated, this did not occur.

Curriculum & SLO Assessment Summary :

What has your program or department done to improve completion of degrees, certificates, or transfers? What are your future plans?
The program completion rate has always been acceptable. We are not considered a transfer program.
90% average completion rate over the past 5 years.
3.5 % average fail rate over the past 5 years (others have left for personal reasons)
98.2% (213 students) average student pass rate on ARRT Board exam over the past 5 years (This will increase as currently the 2013 group has a 100% pass rate with only a few students who have not taken the exam yet)

Based upon the data provided in Tracdat - The RT program retention and sucess is in the high 90% to 100%. this is far above both for the general college rate.
Do you have any courses, certificates, or degrees that should be inactivated or expanded? If yes, please identify and justify your recommendations with data.
NONE

Do all of your courses have current CORs? If not, what steps are you taking to ensure compliance?
All new and old courses have current COR's. The curriculum has been completely revised and will be implemented Fall 2014. Each will be reviewed at the conclusion of the new course. They will be updated as necessary.

If applicable, how are teaching methodologies in your program or department assessed?
NOTE: the curriculum has been revised. There will no longer be any online courses.
Various methodologies are used.

• Visual – PowerPoint, Radiographs, Radiographic Digital images, dynamic YouTube Videos of radiographic exams and equipment
• Auditory – YouTube Videos, demonstrations of correct patient interactions
• Kinesthetic- Demonstrations of the appropriate ways to position patients
• Tactile – Demonstrations on appropriate methods of touching patients.
• Cognitive Domain – we focus on the intellectual skills of the student, by asking them to use critical thinking to adapt to those patients who do not fit the textbook criteria.

• The Affective Domain – working with the students attitudes, motivation, willingness to participate, valuing what is being learned. This is not always an easy task, but we encourage the students to talk with graduates during their clinical time to understand that what is taught may not all appear to be useful, but all is delivered to assure patient safety and to create diagnostically sound radiographs.

• Psychomotor Domain – same as Tactile above. Students practice in the classroom on each other so they can increase their skills.

• Interpersonal Domain – this is so important. The students learn how to accept responsibility and to work as a team in an environment that is often stressful.

• Traditional lectures are infused with iclickers for student involvement.
• Situational patient examples are used to address affective domain methodology.
• Procedures classes use lecture, demonstrations using students and phantoms, example radiographs and student practical exams.

If applicable, how are the results of the assessment used to support, improve, and/or expand your current teaching methodologies?
Graduating students complete an exit survey, specific questions ask for suggestions to improve all aspects of the program. When applicable they are integrated. As an example a few years ago a student recommended a chart to be used for the pathology course. Students are not encouraged to use this form.
Many of the SLO's that have been chosen per course and to meet the JRCERT accreditation standards have not proven to be effective. In many cases they were to narrow in scope. What they did prove was there are areas of study that the students did not have a clear understanding. This did change the way chest pathology was presented, but did not change the way the course was taught. The new revised curriculum has new SLO's; they will be reviewed for relevancy. Also, it is anticipated that more than one will be created per course. The plan is to use the iclicker device as a two-step device. Testing will occur and specific questions will be evaluated, a few weeks later the same questions will be given using the device and then at the end of the semester the same questions will be given. This should demonstrate retention. The findings will be used to compare various learning modalities effectiveness. One SLO in particular (number of student competencies per semester) has proven to be exceptionally effective. Those students who are not at speed are given remediation plans and has provided us with clinical indicators also.

If your program or department uses a DE modality to support instruction, how are you evaluating the effectiveness of that instruction?
A majority of our second year courses were offered online. The intent was to allow the students more at home learning time with more interactive links and visuals to support the text. Many of the students have disliked the online classes. Starting with the Fall 2014 all the online material has been integrated into the traditional classroom setting. The old program contained a great deal of duplication, the duplicated material has been removed, but the students will not be expected to do much more work outside of class

to be prepared for the classroom. The expectation is this will be a hybrid of the flipped classroom.

If your department offers DE courses, what support services does it provide for DE students? What can be done to improve support services for these students?
Given all our student are also traditional students, faculty is available to assist them.

How is your program or department applying sound principles of learning and teaching theory to its curriculum?
As stated in D9, all teaching modalities are used.

McCarthy (1980) described students as innovative learners, analytic learners, common sense learners or dynamic learners. To meet this standard the following activities occur.
o Innovative learners – students are asked to discuss their opinions and beliefs in ethical situations with patients, clinical staff, other students and supervisors/instructors.
o Analytic learners – the field of radiology and medicine is very fact driven. This is the easiest to address.
o Common sense learners – problem –solving situational activities are provided.
o Dynamic learners – the procedures courses allow students to demonstrate their in class learning and then in the clinical sites, they can practice their skills.

Which CSLOs (course student learning outcomes) and PLOs (Program learning outcomes) were assessed within the last year?
Those required for JRCERT accreditation. The intent has been to tie all learning outcomes to meet multiple needs. As stated in D10, many were not effective indicators. They have all been assessed, but now the program is a faculty of one the process is not as dynamic as it was with three (3) faculty. All of the learning outcomes will be evaluated with the Fall 2014 new curriculum for effectiveness and will be revised as needed.

For each of the above, how did the assessment data influence program, department and/or course improvement?
The improvement has evolved in revision of choices of learning outcomes. The required JRCERT evaluations are mostly program outcomes but some have been tied specifically to course. Those have been the most effective as tools for analysis. The real improvement has come from the time spent considering which program and course outcomes would provide us with effective data.

Future Goals and Program Direction: To get the program back to the strength it was in the past, more faculty and updated equipment. To move into the new classroom. The program needs more administrative commitment. We could be a hub and teach students in a distance format in all the Sac region and northern CA. But without an additional faculty member the program will be effective but very small.

Course Content and Statistical Analysis:	See Reports
Are you ready to submit your final program review?:	Yes

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 1 - To provide curriculum that meets ASRT/ARRT requirements to assure the students learning experience is developed to meet student success in passing the board exams as well as developing skills so the graduate will meet all entry level technologist skills. 1. Foster a culture of evidence---informed decision making, including SLO development/assessment and other measures of student success.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 4 - To offer curriculum using a variety of modalities to address multiple learning styles. 4.Research and utilize effective modes of delivery for our courses and services.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 5 - To provide a program with a specific published schedule that is developed to address mandated requirements that will follow sound educational and medical practice. 5. Design our programs in such a way as to allow students to complete their educational goals in a timely manner.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 6 - To use various methods to evaluate the program for improvement: Student exit surveys, clinical evaluations, advisory board recommendations, annual JRCERT Annual Program Evaluation. 6. Evaluate our programs, services and processes to ensure continuous quality improvement.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 8 - To place students in modern clinical facilities to assure they exposed to modern medical and radiographic equipment, a variety of procedures and patients. 8.Develop partnerships to enhance educational resources and student opportunities.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YCCD VS 2 - To train and graduate radiographers who will provide exemplary patient care services to all broad based medical clientele needs. Building and maintaining an atmosphere of trust within the college district and with our communities;				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YCCD VS 5 - To provide a local radiographic program that trains and graduates radiographers to meet the local and				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
regional radiographic staff needs. Providing educational, economic, cultural, and civic leadership for our communities and region.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
E16. How do program or department goals align with stated Yuba College goals? The program aligns with the YC goals by maintaining current curricular requirements, addressing a variety of teaching and learning modalities, allow students to graduate in a timely manner, and fosters a diverse and safe environment.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
E17: How does the program support the YCCD District Vision Statement? Specifically, how does the program meets the needs of our students and communities? The program curriculum is up to date and meets innovative radiographic standards. We train and graduate radiographers who provide exemplary patient care services. Our graduates are hired in the local area and both the graduates and the program are respected in the community. Our student base reflects the diversity of our communities and region. These students are taught to respect diversity of the client base as well as each other. We are				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
currently the only radiology program in the area. The program as provided technologist since the 1960's.				