CAÑADA COLLEGE
Comprehensive Program Review Checklist

- ☐ Comprehensive Program Review Self-Study Document
- ☐ All Bi-Annual State of the Department Documents since last Program Review
- ☐ Executive Summary
- ☐ Completed Evaluation of the Comprehensive Program Review Process Form
- ☐ Additional data as necessary

Date: 3/27/07

Program Name: Radiologic Technology Program

Review Committee Chair: Rafael Rivera

Review Committee Members: Pamela Jones

Cañada College

PROGRAM REVIEW

Radiologic Technology Program

3/27/07

Rafael Rivera

Pamela Jones

CAÑADA COLLEGE
COMPREHENSIVE PROGRAM REVIEW SELF-STUDY DOCUMENT

In preparing this Program Review, keep the college mission in mind as a reminder that Program Review is to ensure that all programs are aligned with the institutional mission.

Cañada College's Mission: It is the mission of Cañada College to ensure that students from diverse backgrounds achieve their educational goals by providing quality instruction in transfer and general education courses, professional/technical programs, basic skills and activities that foster students' personal development and academic success. Cañada College accepts responsibility for serving the community's diverse needs for lifelong enrichment and highly values close teacher to student teaching and learning relationships, support services and a co-curricular environment that contributes to personal growth and success for students.

PROGRAM NAME:

PART A: Overview of Program

1. **If the program has completed a previous self-study, evaluate the progress made toward previous goals.**

   Please see attached self study reports on the Data Collection Document section.

2. **State the goals and focus of this program and explain how the program contributes to the mission, comprehensive academic offerings, and priorities of the College and District.**

Mission Statement

The mission of the Radiologic Technology program at Cañada College is to provide a high quality vocational education to members of our diverse community who seek a career in the radiologic technology profession.

The Radiologic Technology Program enables students to develop the skills necessary for employment in the medical care community and provides a professional labor pool to match the needs of the community.

Program's goals

The Radiologic technology program seeks to enable our students to attain upon graduation:

1- Professional licensure
2- Competency in the skills of the profession
3- Skills in problem solving, critical thinking, and communication
4- Professionalism, empathy , and interest in professional growth

Furthermore, our Radiologic Technology Program working with local industry seeks to:

1- Match local labor needs with high qualified graduates
2- Meet the need for continuing education of local Radiologic Technologists.

3. **If the student population has changed, state how the program is addressing these changes. Document the demographic trends.**

The trend we have seen in the last few years is that many people from the computer industry came to health care and specifically to diagnostic radiography. And for the most part these individuals were male, in their mid thirties or early forties. However, the trend seems to be changing back to the more traditional Radiologic technology student, the female student in their twenties or early thirties. This includes single parents who often have child care challenges and approximately 40% for whom English is their second language.

At this point in time we can not document the demographic trends; however, the documentation was requested and we are expecting to receive it soon.

Probably the biggest challenge we have faced is having groups of student of very different ages. Each group learns a little differently, so we have had to adapt our teaching strategies and methodologies.

4. **If the program utilizes advisory boards and/or professional organizations, describe their roles.**

The advisory committee makes recommendations to the Radiologic Technology Program faculty and administration with regards to curriculum, policies and offerings to maximize our limited resources.

Please see number B-1 and B-4

PART B: Curriculum

1. **Describe how the courses offered in the program meet the needs of the students and the relevant discipline(s). (This may be answered through narrative or quantitative evaluation).**

The courses offered in the program are based on the American Registry of Radiologic Technologist (ARRT) content specifications and clinical competency requirements (attachment A), Joint Commission on Education in Radiologic Technology (JRCERT) curriculum analysis (attachment B), the American Society of Radiologic Technologists (ASRT) curriculum guidelines (attachment C), Title 17 ((attachment D), and clinical education facility requirements (refer to Clinical Instructor Meeting minutes).

We have met the needs of our students by successful completion of the program and 100% passing rate on the first trial of the ARRT examination. Also 100% our graduates have gained employment during the first three months after graduation. See attached documents.

2. **State how the program has remained current in the discipline(s).**

Health care and specifically imaging technologies have evolved dramatically the last few years and this evolution affects how and what we teach our students. To be able to stay current, our faculty regularly attends conferences and seminars, but more importantly every member of our faculty works in health care, where they are exposed to new technologies, new equipment and direct patient care.

The Radiologic Technology Program at Cañada College strives to provide learning opportunities in current and developing technologies. This is in accordance with our mission and goals, which is to provide a strong foundation for our students.

Learning opportunities for our students are provided in the following ways:

1. RADT 440 (Advance Imaging Modalities and Specialized Procedures), RADT 441 (Sectional Anatomy), RADT 442 (Radiographic Pathology).
    - RADT 440 is a second year course that offers an introduction to CT, MRI, Interventional Radiography, Mammography and Computerized Radiography. In the same course students are required to write a research paper on one these modalities.
    - RADT 441, gives the student the basic understanding of the cross sectional format used in some advanced modalities.
    - RADT 442, Provides the students with the basic knowledge of how they need to adapt to imaged the different pathologies and what advanced modalities are best to image a particular disease.

2. One month of intensive clinical training in one of the latest technologies (CT, MRI, Angiography)
    - One month intensive clinical training in one advance modality. For the final month of the students' clinical education they will be introduced to, and train on an advanced modality

3. Opening up our continuing education courses in Fluoroscopy, Mammography and Venipuncture to our second year students.
    - We require our students to take Venipuncture to meet the new hospital demands in California. We also encourage them to take Fluoroscopy and Mammography. These courses are taught by working technologist in hospitals with the state of the art equipment in those specialty areas.

4. Making sure that every student rotates at least on one rotation to a facility that offers the latest technologies in Radiography.
    - Since not every facility can offer the latest technologies (Computerized Radiography for instance), we make sure that every student rotates at least on one rotation to a facility that offers the latest technologies.

3. **All course outlines in this program should be reviewed and, if appropriate, revised every six years. If this has not occurred, please list the courses and present a plan for completing the process.**

    All course outlines are reviewed annually and appropriate changes are made to the syllabi as necessary to reflect ASRT curriculum guidelines, ARRT examination content, California Radiation Control Regulations and any possible new trends identify by our faculty and clinical education centers.

    Currently we are reviewing the course **sequence** in the second year and we will be requesting these changes to the curriculum committee.

    Please see attachment on section III-C of the Data Collection Document.

4. **If external accreditation or certification is required, please state the certifying agency and status of the program.**

    The Radiologic Technology Program at Cañada College is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). JRCERT is the only entity recognize by the United States Department of Education to accredit Radiologic Technology schools in The United States. Our last accreditation was done in 2005 and we were accredited for five years.

    In addition we are also licensed by the California Department of Health Services Radiation Health Branch. This license has to be renewed every year and our next renewal period is January of 2008.

5. **Describe how your program is articulated with similar departments within SMCCD, the Sequoia High School District and/or other four year institutions. (Include articulation agreements, common course numbering etc.)**
   The program is currently setting up an articulation agreement with Cal State Northridge, which is one of only two Radiologic Technology Bachelor Degree granting colleges in the State of California.

6. **Discuss plans for future curricular development and/or program modification.**
Please see section III-C of the Bi-Annual State of the Department Data Collection Document

PART C: Student Outcomes

1. **Please attach all Bi-Annual State of the Department reports from the past six years.**
   This is the first time that a State of the Department is done.

2. **Update any analysis to include a summary of all years. Attach student learning outcomes here.**
   This is the first time that a State of the Department is done.

PART D: Faculty and Staff

1. **List current faculty and staff members in the program, areas of expertise, and how positions contribute to the program success.**
   The program coordinator is responsible for the scheduling, staffing and operation of all courses. The instructor is responsible for teaching, at a minimum, the material as specified in the course outline of record within the general outline of content
Job responsibilities for the program coordinator and all faculty and clinical instructors are clearly delineated. These responsibilities are designed to insure that all faculty members actively support the program's goal and mission
Rafael Rivera .Program Director.
At Cañada College the program director's title is Program Coordinator. This individual is a full time tenure instructor with additional responsibilities including curriculum development and administrative functions associated with the program. The teaching assignment is 60% of the total time assigned and 40% is assigned to administrative duties.
Teaches: Radiographic Positioning I, Radiographic Specialties, Radiobiology, Radiographic Techniques, Registry Review, Orientation to Radiologic Technology.

Pamela Jones. Clinical Coordinator.
The Clinical Coordinator coordinates clinical instruction for all students. The Clinical Coordinator works closely with the Program Director and with the Assistant Clinical Coordinator.
Teaches: Radiographic Positioning II, Quality Control, and Clinical Instruction

Jennifer O'Laughlin. Adjunct Clinical Coordinator / Instructor - Radiographic Pathology, Radiographic Positioning Labs, and Clinical Instruction

Louise Wightman. Adjunct Clinical Coordinator - Clinical Instruction

Sheri Chun. Adjunct Clinical Coordinator - Clinical Instruction

Theresa Bell. Adjunct Instructor - Cross Sectional Anatomy and Fluoroscopy

Arnulfo Germes. Adjunct Instructor – Fluoroscopy

Audrey Pitcher. Adjunct Instructor – Mammography

Scott Crawford. Adjunct Instructor – Venipuncture

Please note. There are ten Clinical Instructors at our affiliated clinical education facilities, which are not included here because they are hospital employees.

2. **List major professional development activities completed by faculty and staff in this program in the last six years and state what development is needed or proposed by faculty in this program.**
    - Attendance of the annual American Society of Radiologic Technologist (ASRT)
    - Attendance of the annual California Society of Radiologic Technologist (CSRT)
    - Attendance of the annual Radiologic Technologist Educators of California (RTEC)
    - Attendance of the annual Association of Educators in Imaging and Radiological Science (AEIRS)

    These conferences have helped the faculty to stay on top of new developments in Radiologic Technologies and also in the application of new teaching strategies. Therefore, it is important for our faculty to continue attending these conferences

3. **Describe the departmental orientation process for new full-time and adjunct faculty and staff (please include student workers such as tutors and aides).**

At this point in time there is no formal process in place for orientation of new faculty and staff. We are going to look at this item and set up a process. However, informally what we have done is the following:

1- For Clinical Coordinators we help them to familiarize with the multiple forms used in clinical training, get acquainted with the different clinical facilities and personnel and then we have them observe a few film critiques before they can start doing their own.

2- Tutors. We provide the current syllabus of the class they are tutoring; we advise them on different ways to approach a subject; and the first couple of tutoring sessions we have one of our faculty be present.

PART E: Facilities, Equipment, Materials and Maintenance

1. **Discuss the quality and accessibility of the facilities, equipment, equipment maintenance, and materials available to the program. List projected needs.**

The facilities include one combination classroom and laboratory area dedicated to the use of the Radiologic Technology Program. The classroom area can comfortably sit 20 students, and the laboratory area can accommodate 8 students. Our laboratory has one x-ray unit, one mammography unit, one portable x-ray unit, and one fluoroscopy unit. All of these units are de-

energized. The fluoroscopy unit and the portable x-ray unit are kept in storage and are pulled out when necessary. Because the program has exclusive use of this classroom/laboratory scheduling our classes, laboratories and the open labs is not a problem. In addition, whenever necessary the Radiologic Technology Program has access to any of the resources available at Cañada College, including the auditorium.
There is a portion of the classroom/laboratory that serves as an office for our clinical coordinators, and adjunct faculty. These office functions do not interfere with schedule classroom use.
The college provides a separate office for the program director and clinical coordinator which provides a space for the director and clinical coordinator to plan and address issues related to the conduction of the program. Adjunct faculty or clinical coordinators may also use this office if privacy is required.

2. Describe the use and currency of technology. List projected needs.
Our radiographic tube and table are approximately 35 years old, and their use can be limiting at times. We are working with our hospitals the possibility of a donation of newer equipment.
Projected needs:
3 x-ray units
3 x-ray tables
3 high resolution flat panel screens (14 x 14 matrix)

3. If applicable, describe the support the program receives from industry. If the support is not adequate, what is necessary to improve that support?
The Radiologic Technology Program receives a great deal of support from industry in many areas. For example, equipment donations, the use of their facilities and equipment to perform experiments, and more importantly they provide the personnel to help us train our radiologic technology students.

PART F: Budget Request

1. What faculty positions will be needed in the next six years in order to maintain or build the department?
1. Two radiographic positioning lab assistants. This will allow us to run multiple labs at the same time.
2. One MRI instructor to teach an online MRI class

2. What staff positions will be needed in the next six years *in order to maintain or build* the department? (Staff, facilities, equipment and/or supplies) will be needed in the next six years?
1- Part-time clerical to help us with the collection of data and documentation required by the Department of Health Services, JRCERT, and to help us provide information to prospective students. (On an average day we received approximately 15 phone calls and probably the same number of emails of prospective students requesting information)

3. What equipment will be needed in the next six years in order to maintain or build the department?
Please look at Part E number 2.

4. **What facilities will be needed in the next six years in order to maintain or build the department?**

No new facilities will be needed after the completion of the new classroom. The radiologic technology classroom will be relocating to a new larger room after the refurbishing of building 18.

PART G: Additional Information

1. **Describe any other pertinent information about the program that these questions did not address?**

No additional information at this time.

CAÑADA COLLEGE
BI-ANNUAL STATE OF THE DEPARTMENT
DATA COLLECTION DOCUMENT

Program Name: Radiologic Technology Program

I. Program goals and objectives:

Mission:

The mission of the Radiologic Technology program at Cañada College is to provide a high quality vocational education to members of our diverse community who seek a career in the Radiologic Technology profession.
The Radiologic Technology Program enables students to develop the skills necessary for employment in the medical care community and provides a professional labor pool to match the needs of the community.

Goals and Objectives:

The Radiologic technology program seeks to enable our students to attain upon graduation:
1- Professional licensure
2- Competency in the skills of the Radiologic Technology profession
3- Skills in problem solving, critical thinking, and communication
4- Professionalism, empathy, and interest in professional growth

Furthermore, our Radiologic Technology Program working with local industry seeks to:
1- Match local labor needs with high qualified graduates
2- Meet the need for continuing education of local Radiologic Technologists.

II. Student Learning Outcomes:

A. **List all identified program student learning outcomes:**

B. **Attach correlated assessment tools and relevant data:**

C. **List a sample of course level student learning outcomes:**

D. **Attach correlated assessment documents and relevant data:**

We have attached copies of our assessment plan from the previous years which include our learning outcomes, tools of assessment, including courses that assess a specific learning outcome.

CAÑADA COLLEGE
RADIOLOGIC TECHNOLOGY PROGRAM
ASSESSMENT PLAN (2005 – 2006)

Mission Statement: To provide a high quality vocational education to members of our diverse community who seek a career in the radiologic technology profession.
To enable students to develop the skills necessary for employment in the medical care community and to provide a professional labor pool to match the needs of the community.

Goals	Expected Outcomes	Measurement Tool	Person/ Group Responsible	Result	Action
1- Professional Licensure	90% passing rate for first time examinees of those graduates taking the ARRT registry	ARRT results	Program Director	100%	None
	80% of graduates will be employed within six months of graduation.	Graduate surveys	Program Director /Clinical Coordinators	100%	The program will keep on looking at enrolment and the job market. Also we look at different ways to support our students and graduates with new technology trends.
2- Competency in the Skills of the Profession	85% of employers will rate graduates as prepared and competent as entry level technologists	Employers survey	Program Director /Advisory Committe	93.3%	The program will set-up meetings with employers to look at issues and strategies for improvement
	85% of graduates will report that the program prepare them to perform as entry level radiographer.	Graduate surveys	Program Director /Clinical Coordinators	98%	None
	80% of graduates will be employed six months after the first day of	Graduate survey Employer Survey	Program Director/Ad	100%	Survey done in early July

	employment		visory Committe		
	85% of students will complete didactic radiologic technology courses successfully the first time	Course completion rates	Program Director	85.7%	We will try to identify problems with the student and to provide different strategies to help them succeed in the program.
	85% of students will complete clinical radiologic technology courses successfully the first time	Course completion rates	Program Director/Clinical Coordinators		We will try to identify problems with the student and to provide different strategies to help them succeed in the program.
	Second year students will complete review class (RADT 450) with at least 75%	School records	Program Director	100%	None
	Second year students will average 90% on clinical competencies	Clinical competencies sheets	Clinical Coordinator/ Clinical Instructor	92%	None
	Second year students will score an average of 90% on film critique evaluations	Film Critique Forms	Clinical Coordinator	90%	None
	First year students will score an average of 85% on film critique evaluations	Film Critique Forms	Clinical Coordinator	95%	None
	First year students will average 85% on clinical competencies	Clinical competencies sheets	Clinical Coordinator/ Clinical Instructor	90%	None
	75% of students starting the program will complete	Program completion rates	Program Director/ Clinical Coordinator	75%	1- We will do a review and evaluation of our entrance requirements. 2- We will try to

					identify problems and issues early on and then provide different strategies to help the student succeed in the program.
	85% short term completion. First semester.	Number of students entering the 1st spring semester, compared to those who completed the 1st fall semester.	Program Director/ Clinical Coordinator	93.7%	1- We will try to identify problems and issues early on and then provide different strategies to help the student succeed in the program.
3- Skills in problem solving, critical thinking, and communications	Employers will show a 90% satisfaction in problem solving skills, critical thinking and communication	Employers survey	Program Director/ Advisory Committee	93%	None
	Students will average a score of 90% or better on Sections 3-9 of the film critique form.	Critique evaluation Form	Clinical Coordinator	Class of 2005 - 98% Class of 2006- 95.8%	None
	First year students will score 80% or better on radiographic examination observation, on questions relating to communication and critical thinking	Observation Form	Clinical coordinator (This tool was added for 2004)	Class of 2005- 59.4% Class of 2006 90.9%	*Implemented additional orientation and review at the beginning of the clinical education rotations. January 2006
	Second year students will score 90% or better on radiographic examination observation, on questions relating to communication and critical thinking	Observation Form	Clinical coordinator (This tool was added for 2004)	Class of 2005 – 82.6% Class of 2006 84.6%	*Implemented additional orientation and review at the beginning of the clinical education

CAÑADA COLLEGE
RADIOLOGIC TECHNOLOGY PROGRAM
ASSESMENT PLAN (2004 – 2005)

Mission Statement: To provide a high quality vocational education to members of our diverse community who seek a career in the radiologic technology profession.
To enable students to develop the skills necessary for employment in the medical care community and to provide a professional labor pool to match the needs of the community.

Goals	Expected Outcomes	Measurement Tool	Person/ Group Responsible	Result	Action
1- Professional Licensure	90% passing rate for first time examinees of those graduates taking the ARRT registry	ARRT results	Program Director	100%	None
	90% passing rate for first time examinees of those graduates taking the State of California Licensure Exam.	California exam results	Program Director	100%	None
	80% of graduates will be employed within six months of graduation.	* Graduate surveys	Program Director /Clinical Coordinators	100%	The program will keep on looking at enrolment and the job market. Also we look at different ways to support our students and graduates with new technology trends.
2- Competency in the Skills of the Profession	85% of employers will rate graduates as prepared and competent as entry level technologists	* Employers survey	Program Director /Advisory Committe	93.3%	The program will set-up meetings with employers to look at issues and strategies for improvement
	85% of graduates will report that the program prepare them to perform as entry level radiographer.	* Graduate surveys	Program Director /Clinical Coordinators	98%	None

					rotations. January 2006
	First year students will score 80% or better on patient survey form, on questions relating to communication.	Patient survey	Program Director/Clinical Coordinator	Not enough surveys returned	We will do the first survey in August 2006. We will repeat survey in 2007
	Second year students will score 90% or better on patient survey form, on questions relating to communication.	Patient survey	Program Director/Clinical Coordinator	Not enough surveys returned	We will do the first survey in August 2006. We will repeat survey in 2007
	First year students will score 80% or better on radiologists survey.	Radiologist survey	Program Director/Clinical Coordinator	Not enough surveys returned	We will do the first survey in August 2006. We will repeat survey in 2007
	Second year students will score 90% or better on radiologists survey.	Radiologist survey	Program Director/Clinical Coordinator	Not enough surveys returned	We will do the first survey in August 2006. We will repeat survey in 2007
4- Professionalism, empathy and interest in professional growth					
Professional growth	Second year students will complete Advance Imaging Modalities and Specialties (RADT 440) with at least 80%.	School Records	Program Director/ Clinical Coordinator	91.7%	None
Professional growth	75% of our graduates will join professional associations; such as the ASRT and the CSRT	Graduate Survey	Program Director	80%	Keep encouraging our students about the benefits of joining professional organizations
Professionalism and empathy	80% of graduates will be rated as above average in demonstrating professionalism and empathy.	Employer survey	Program Director/Clinical Coordinator	86.6%	The program will set-up meetings with employers to look at issues and possible ways of improvement.

	Students will receive 75% or better in RADT 400 (introduction to Radiologic Technology)	School Records	Program Director	100%	None
Empathy	Students will receive 75% or better in RADT 408's (Hospital Observation) clinical Instructors' form.	Clinical Instructor's form	Program Director/Clinical Coordinator	90%	None
Empathy	First year students will score 80% or above in their midterm and final evaluations, section on personal and professional growth assestment	Midterm and Final Evaluations	Program Director/Clinical Coordinator	Class of 2006-92% Class of 2007-91%	The program has established workshops at the beginning of both the first and second year to work on professionalism and empathy
Empathy	Second year students will score 90% or above in their midterm and final evaluations, section on personal and professional growth assestment	Midterm and Final Evaluations	Program Director/Clinical Coordinator	Class of 2006-94%	The program has established workshops at the beginning of both the first and second year to work on professionalism and empathy

	80% of graduates will be employed within six months of graduation.	* Graduate surveys	Program Director /Clinical Coordinator	100%	The program will keep on looking at enrolment and the job market. Also we look at different ways to support our students and graduates with new technology trends.
	80% of graduates will be employed six months after the first day of employment	*Graduate survey *Employer Survey	Program Director/Advisory Committe	None	We will do the first survey in May 2005.
	85% of students will complete didactic radiologic technology courses successfully the first time	Course completion rates	Program Director	85.7%	We will try to identify problems with the student and to provide different strategies to help them succeed in the program.
	85% of students will complete clinical radiologic technology courses successfully the first time	Course completion rates	Program Director/Clinical Coordinators		We will try to identify problems with the student and to provide different strategies to help them succeed in the program.
	Second year students will complete review class (RADT 450) with at least 75%	School records	Program Director	100%	None
	Second year students will average 90% on clinical competencies	Clinical competencies sheets	Clinical Coordinator/ Clinical Instructor	92%	None
	Second year students will score an average of 90% on film critique evaluations	Film Critique Forms	Clinical Coordinator	90%	None
	First year students will score an average of 85% on film critique evaluations	Film Critique Forms	Clinical Coordinator	95%	None
	First year students will average 85% on clinical competencies	Clinical competencies sheets	Clinical Coordinator/ Clinical	90%	None

			Instructor		
	75% of students starting the program will complete	Program completion rates	Program Director/ Clinical Coordinator	75%	1- We will do a review and evaluation of our entrance requirements. 2- We will try to identify problems and issues early on and then provide different strategies to help the student succeed in the program.
	85% short term completion. First semester.	Number of students entering the 1st spring semester, compared to those who completed the 1st fall semester.	Program Director/ Clinical Coordinator	93.7%	1- We will try to identify problems and issues early on and then provide different strategies to help the student succeed in the program.
3- Skills in problem solving, critical thinking, and communications	Employers will show a 90% satisfaction in problem solving skills, critical thinking and communication	* Employers survey	Program Director/ Advisory Committee	93%	None
	Students will average a score of 90% or better on Sections 3-9 of the film critique form.	Critique evaluation Form	Clinical Coordinator	Not Available	
	First year students will score 80% or better on radiographic examination observation, on questions relating to communication and critical thinking	Observation Form	Clinical coordinator (This tool was added for 2004)	Not Available	
	Second year students will score 90% or better on radiographic examination observation, on questions relating to communication	Observation Form	Clinical coordinator (This tool was added for	Not Available	

	and critical thinking		2004)		
	90% of all students will complete English Composition (English 100) before graduation	School Records	Program Director and Counselor	100%	None
	90% of all students will complete the General Education Requirements	School Records	Program Director and Counselor	100%	None
	First year students will score 80% or better on patient survey form, on questions relating to communication.	Patient survey	Program Director/Clinical Coordinator	Not Available	We will do the first survey in May 2005.
	Second year students will score 90% or better on patient survey form, on questions relating to communication.	Patient survey	Program Director/Clinical Coordinator	Not Available	We will do the first survey in May 2005.
	First year students will score 80% or better on radiologists survey.	Radiologist survey	Program Director/Clinical Coordinator	Not Available	We will do the first survey in May 2005.
	Second year students will score 90% or better on radiologists survey.	Radiologist survey	Program Director/Clinical Coordinator	Not Available	We will do the first survey in May 2005.
4- Professionalism, empathy and interest in professional growth					
Professional growth	Second year students will complete Advance Imaging Modalities and Specialties (RADT 440) with at least 80%.	School Records	Program Director/ Clinical Coordinator	91.7%	None
Professional growth	75% of our graduates will join professional associations; such as the ASRT and the CSRT	* Graduate Survey	Program Director	80%	Keep encouraging our students about the benefits of joining professional organizations

Professionalism and empathy	80% of graduates will be rated as above average in demonstrating professionalism and empathy.	* Employer survey	Program Director/Clinical Coordinator	86.6%	The program will set-up meetings with employers to look at issues and possible ways of improvement.
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Empathy	Students will receive 75% or better in RADT 408's (Hospital Observation) clinical Instructors' form.	Clinical Instructor's form	Program Director/Clinical Coordinator	Not Available	None
Empathy	First year students will score 80% or above in their midterm and final evaluations, section on personal and professional growth assestment	Midterm and Final Evaluations	Program Director/Clinical Coordinator	Not Available	None
Empathy	Second year students will score 90% or above in their midterm and final evaluations, section on personal and professional growth assestment	Midterm and Final Evaluations	Program Director/Clinical Coordinator	Not Available	None

*** This measurement tool will be done biannually; However, for this time period it was done only once.**

CAÑADA COLLEGE
RADIOLOGIC TECHNOLOGY PROGRAM
ASSESMENT PLAN (2003 – 2004)

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2- Competency in the Skills of the Profession	85% of employers will rate graduates as prepared and competent as entry level technologists	* Employers survey	Program Director /Advisory Committe	93.3%	The program will set-up meetings with employers to look at issues and strategies for improvement
	85% of graduates will report that the program prepare them to perform as entry level radiographer.	* Graduate surveys	Program Director /Clinical Coordinators	98%	None
	80% of graduates will be employed within six months of graduation.	* Graduate surveys	Program Director /Clinical Coordinator	100%	The program will keep on looking at enrolment and the job market. Also we look at different ways to support our students and graduates with new technology trends.

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	85% short term completion. First semester.	Number of students entering the 1st spring	Program Director/	93.7%	1- We will try to identify problems and issues early

		semester, compared to those who completed the 1st fall semester.	Clinical Coordinator		on and then provide different strategies to help the student succeed in the program.
3- Skills in problem solving, critical thinking, and communications	Employers will show a 90% satisfaction in problem solving skills, critical thinking and communication	* Employers survey	Program Director/ Advisory Committee	93%	None
	Students will average a score of 90% or better on film critique	Critique evaluation Form	Clinical Coordinator	Not Available	
	First year students will score 80% or better on radiographic examination observation	Observation Form	Clinical coordinator (This tool was added for 2004)	Not Available	
	Second year students will score 90% or better on radiographic examination observation	Observation Form	Clinical coordinator (This tool was added for 2004)	Not Available	
	90% of all students will complete English Composition (English 100) before graduation	School Records	Program Director and Counselor	100%	None
	90% of all students will complete the General Education Requirements	School Records	Program Director and Counselor	100%	None
4- Professionalism, empathy and interest in professional growth					
	Second year students will complete Advance Imaging Modalities and Specialties (RADT 440) with at least 80%.	School Records	Program Director/ Clinical Coordinator	91.7%	None
				86.6%	The program will set-up

	80% of graduates will be rated as above average in demonstrating professionalism and empathy.	* Employer survey	Program Director/Clinical Coordinator		meetings with employers to look at issues and possible ways of improvement.
	Students will receive 75% or better in RADT 400 (introduction to Radiologic Technology)	School Records	Program Director	100%	None

*** This measurement tool will be done biannually; However, for this time period it was done only once.**

CAÑADA COLLEGE
RADIOLOGIC TECHNOLOGY PROGRAM
ASSESMENT PLAN (2002 – 2003)

Mission Statement: To provide a high quality vocational education to members of our diverse community who seek a career in the radiologic technology profession.
To enable students to develop the skills necessary for employment in the medical care community and to provide a professional labor pool to match the needs of the community.

Goal 1	Expected Outcomes	Measurement Tool	Person/ Group Responsible	Result	Action
Professional Licensure	90% passing rate for first time examinees of those graduates taking the ARRT registry	ARRT results	Program Director	100%	None
	90% passing rate for first time examinees of those graduates taking the State of California Licensure Exam.	California exam results	Program Director	100%	None
Competency in the Skills of the Profession	85% of employers will rate graduates as prepared and competent as technologists	Employers' survey	Program Director	86.6%	The program will set-up meetings with employers to look at possible ways of improvement.
	85% of graduates will report that the program prepare them to perform as a radiographer.	Graduate surveys	Program Director	98%	None
	80% of graduates will be employed within six months of graduation.	Graduate surveys	Program Director	100%	None
	85% of students will complete radiologic technology courses successfully the first time	Course completion rates	Program Director	100%	None
	Second year students will complete review class (RADT 450) with at least 75%	School records	Program Director	100%	None
	Second year students will average	Clinical competencies	Clinical	92%	None

	90% on clinical competencies	sheets	Coordinator		
	Second year students will score an average of 90% on film critique evaluations	Film Critique Forms	Clinical Coordinator		
	First year students will score an average of 85% on film critique evaluations	Film Critique Forms	Clinical Coordinator		
	First year students will average 85% on clinical competencies	Clinical competencies sheets	Clinical Coordinator		
Skills in problem solving, critical thinking, and communications	Employers will show a 90% satisfaction in problem solving skills, critical thinking and communication	Employers survey	Program Director	93%	None
	Students will average a score of 90% or better on film critique	Critique evaluation Form	Clinical Coordinator		
	First year students will score 80% or better on radiographic examination observation.	Observation Form	Clinical coordinator (This tool was added for 2004)		
	Second year students will score 90% or better on radiographic examination observation.	Observation Form	Clinical coordinator (This tool was added for 2004)		
	90% of all students will complete English Composition (English 100) before graduation	School Records	Program Director and Counselor	100%	None
	90% of all students will complete the General Education Requirements	School Records	Program Director and Counselor	100%	None
Professionalism, empathy and interest in professional growth	85% of our graduating students will complete a 20 day specialty rotation.	School Records	Program Coordinator	100%	None

	80% of graduates will be rated as above average in demonstrating professionalism and empathy.	Employer survey	Program Director/Clinical Coordinator		
	75% of our graduates will join professional associations; such as the ASRT and the CSRT	Graduate Survey	Program Director	80%	Keep encouraging our students about the benefits of joining professional organizations
	Students will receive 75% or better in Introduction to Radiologic Technology (RADT 400).	School Records	Program Director	100%	None

EXAMINATIONS IN RADIOLOGIC TECHNOLOGY

The American Registry of Radiologic Technologists®

School Name: **CANADA COLLEGE**
School I.D. Number: **7020**
Date Range: **1/01/2006** to **12/31/2006**

SUMMARY REPORT

Radiography

SECTION	SECTION CONTENT	NUMBER OF QUESTIONS	MEAN SECTION SCALED SCORE
A	Radiation Protection	40	9.5
B	Equipment Operation and Quality Control	24	9.0
C	Image Production and Evaluation	50	9.0
D	Radiographic Procedures	60	8.5
E	Patient Care and Education	26	9.1

MEAN SCALED SCORE FOR TOTAL TEST	89.5	PERCENT OF EXAMINEES PASSING	100	NUMBER OF EXAMINEES	19

NOTES

These summary statistics are based on program graduates taking the test for the first time (refer to NUMBER OF EXAMINEES box in the table).

Total scaled scores are reported on a scale of 1 to 99. These are not percentage scores. A total scaled score of 75 or greater is required to pass.

Section scores are reported on a scale of 1 to 10. Pass/Fail status is not determined from section scores. Section scores are for advisory purposes only. They provide a general indication of test performance in each content area.

THE AMERICAN REGISTRY OF RADIOLOGIC TECHNOLOGISTS
1255 NORTHLAND DRIVE • ST PAUL, MN 55120-1155
(651) 687-0048
www.arrt.org

EXAMINATIONS IN RADIOLOGIC TECHNOLOGY

The American Registry of Radiologic Technologists®

School Name: **CANADA COLLEGE**
School I.D. Number: **7020**
Date Range: **1/01/2005** to **12/31/2005**

SUMMARY REPORT

Radiography

SECTION	SECTION CONTENT	NUMBER OF QUESTIONS	MEAN SECTION SCALED SCORE
A	**Radiation Protection**	40	9.4
B	**Equipment Operation and Quality Control**	24	9.3
C	**Image Production and Evaluation**	50	9.0
D	**Radiographic Procedures**	60	8.9
E	**Patient Care and Education**	26	9.3

MEAN SCALED SCORE FOR TOTAL TEST	91.1	PERCENT OF EXAMINEES PASSING	100	NUMBER OF EXAMINEES	17

NOTES

These summary statistics are based on program graduates taking the test for the first time (refer to NUMBER OF EXAMINEES box in the table).

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The American Registry of Radiologic Technologists

School Name: **CANADA COLLEGE**
School I.D. Number: **7020**
Date Range: **1/01/2004** to **12/31/2004**

SUMMARY REPORT

Radiography

SECTION	SECTION CONTENT	NUMBER OF QUESTIONS	MEAN SECTION SCALED SCORE
A	**Radiation Protection**	30	9.1
B	**Equipment Operation and Maintenance**	30	9.1
C	**Image Production and Evaluation**	50	8.7
D	**Radiographic Procedures**	60	8.6
E	**Patient Care**	30	9.1

MEAN SCALED SCORE FOR TOTAL TEST	88.6	PERCENT OF EXAMINEES PASSING	100	NUMBER OF EXAMINEES	13

NOTES

These summary statistics are based on program graduates taking the test for the first time (refer to NUMBER OF EXAMINEES box in the table).

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EXAMINATIONS IN RADIOLOGIC TECHNOLOGY

The American Registry of Radiologic Technologists

School Name: **CANADA COLLEGE**
School I.D. Number: **7020**
Date Range: **1/01/2002** to **12/31/2002**

SUMMARY REPORT

Radiography

SECTION	SECTION CONTENT	NUMBER OF QUESTIONS	MEAN SECTION SCALED SCORE
A	**Radiation Protection**	30	9.2
B	**Equipment Operation and Maintenance**	30	8.3
C	**Image Production and Evaluation**	50	8.4
D	**Radiographic Procedures**	60	8.5
E	**Patient Care**	30	8.7

MEAN SCALED SCORE FOR TOTAL TEST	85.5	PERCENT OF EXAMINEES PASSING	100	NUMBER OF EXAMINEES	6

NOTES

These summary statistics are based on program graduates taking the test for the first time (refer to NUMBER OF EXAMINEES box in the table).

Total scaled scores are reported on a scale of 1 to 99. These are not percentage scores. A total scaled score of 75 or greater is required to pass.

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EXAMINATIONS IN RADIOLOGIC TECHNOLOGY

The American Registry of Radiologic Technologists

School Name: **CANADA COLLEGE**
School I.D. Number: **7020**
Date Range: **1/01/2000 to 12/31/2000**

SUMMARY REPORT

Radiography

SECTION	SECTION CONTENT	NUMBER OF QUESTIONS	MEAN SECTION SCALED SCORE
A	**Radiation Protection**	30	8.9
B	**Equipment Operation and Maintenance**	30	8.8
C	**Image Production and Evaluation**	50	8.5
D	**Radiographic Procedures**	60	8.4
E	**Patient Care**	30	8.3

MEAN SCALED SCORE FOR TOTAL TEST	85.3	PERCENT OF EXAMINEES PASSING	100	NUMBER OF EXAMINEES	9

NOTES

These summary statistics are based on program graduates taking the test for the first time (refer to NUMBER OF EXAMINEES box in the table).

Total scaled scores are reported on a scale of 1 to 99. These are not percentage scores. A total scaled score of 75 or greater is required to pass.

Section scores are reported on a scale of 1 to 10. Pass/Fail status is not determined from section scores. Section scores are for advisory purposes only. They provide a general indication of test performance in each content area.

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III. Curricular offerings:

A. New, deleted, "banked" and "unbanked" in the past two years (check all that apply)

RADT	475	SPECIALIZED TECHNIQUES: PRINICPLES OF COMPUTED TOMOGRAPHY									

B. All current offerings except those previously identified in section A (check all that apply; attach a separate table as necessary)

Course Prefix	Course Number	Course Title	General Education	IGETC	AS/AA	Basic Skills	Workforce	Date of last revision
RADT	400	ORIENTATION TO RADIOLOGIC TECHNOLOGY			X			
RADT	408	PERSPECTIVES IN RADIOLOGY			X			
RADT	410	RADIOGRAPHIC POSITIONING			X			
PHYS	405	APPLIED RADIOGRAPHIC PHYSICS			X			
RADT	415	RADIATION PROTECTION AND BIOLOGY			X			
RADT	418	CLINICAL EDUCATION I			X			
RADT	420	RADIOGRAPHIC POSITIONING II			X			
RADT	428	CLINICAL EDUCATION II			X			
RADT	430	PRINICPLES OF RADIOGRAPHIC FILM PRODUCTION			X			
RADT	435	IMAGING EQUIPMENT AND QUALITY CONTROL			X			
RADT	438	CLINICAL EDUCATION III			X			
RADT	440	ADVANCED IMAGING MODALITIES AND SPECIALIZED PROCEDURES			X			
RADT	441	SECTIONAL ANATOMY			X			
RADT	442	RADIOGRAPHIC PATHOLOGY			X			
RADT	448	CLINICAL EDUCATION IV			X			
RADT	450	REGISTRY REVIEW			X			
RADT	458	CLINICAL EDCUATION V			X			
RADT	450	REGISTRY REVIEW			X			
RADT	468	CLINICAL EDCUATION VI			X			
RADT	470	SPECIALIZED TECHNIQUES: MAMMOGRAPHY			X			
RADT	471	SPECIALIZED TECHNIQUES: FLUOROSCOPY			X			
RADT	474	VENIPUNCTURE AND CONTRAST MEDIA ADMINISTRATION			X			

C. Recommended areas of curricular need based on current offerings (check all that apply; attach a separate table as necessary)

Brief Description of Course Proposed	General Ed	IGETC	AS/AA	Basic Skills	Workforce
Course sequence change for Fall and Spring semesters of the second year.					
RADT 408 – expand clinical education observation and portfolio from 12 hours to 16 hours			X		
RADT 418 – expand orientation section in clinical education from 256 clinical education to include an additional 12 hours of laboratory assignments			X		
SPECIAL TOPICS FOR CLINICAL INSTRUCTORS; EVALUATING CLINICAL COMPETENCIES; STUDENT DIVERSITY;			X		
SPECIAL TOPICS FOR STAFF TECHNOLOGISTS; TEACHING AND EVALUATING CLINICAL COMPETENCIES; STUDENT DIVERSITY; CURRENT TECHNOLOGIES			X		
SPECIALIZED TECHNIQUES: MAGNETIC RESONENCE IMAGING			X		

IV. Enrollment data:

A. Weekly Student Contact Hours – WSCH /FTES
Report the 2 previous Fall semesters with the most recent on the right.

Year	2005	2006
WSCH	1086	1065
FTES	2.48	2.58*

* Generally all students have completed BIO 260 Human Physiology. Due to the intensity of the courses, students are encouraged to complete all general education courses prior to beginning the program. Therefore, the course load in the Fall is 11.5 units for first year students and 12.0 units for second year students. With the exception of the Spring semester of the second year, full-time for radiologic technology is 12 units.

B. Full time equivalent faculty count FTE and WSCH/FTE – LOAD
Report the 2 previous Fall semesters with the most recent on the right.

Year	2005	2006
FTE	4.48	2.58
LOAD	438	413

C. Retention and Success (If applicable) Report data on program retention and success rate for the past 2 Fall semesters with the most recent on the right.

Year	2005	2006
Retention	96.9%	1.0%**
Success	95.9%	88.9%

**No students were lost during this period. This value most likely represents an error.

D. Certificate, degree, and transfer status (If applicable) Report data on certificate, degree, and transfer status for the past 2 years with the most recent on the right.

Year	2005	2006
Certificates	17	19
Degrees	17	19
Transfer	2	

E. **Please comment on any trends that you see in the programs WSCH, FTES, LOAD, success and retention rates. Include factors that affect the rates and how college services are used to provide multiple avenues for student success. Include an indication of the other goals that your students have in taking your courses and how they may be meeting multiple educational goals i.e., job out, promotion, retraining etc.**

The trend we have seen in the last few years is that many people from the computer industry came to health care and specifically to diagnostic radiography. And for the most part these individuals were male, in their mid thirties or early forties. However, the trend seems to be changing back to the more traditional Radiologic technology student, the female student in their twenties or early thirties. This includes single parents who often have child care challenges and approximately 40% for whom English is their second language.
At this point in time we can not document the demographic trends; however, the documentation was requested and we are expecting to receive it soon.
Probably the biggest challenge we have faced is having groups of student of very different ages. Each group learns a little differently, so we have had to adapt our teaching strategies and methodologies.

The Radiologic Technology students have full access to all the services available at Cañada College., which provide additional support to facilitate their success. These resources include the following:

1. Library. The library provides three service areas. *The circulation/Reserve* desk contains restricted loan materials as well as college catalogs. The *Reference/Periodical* area services the research needs of our students. A general collection of some 46,000 volumes is arranged on open shelves for easy access. *Reading Room.* Table and carrel seating for students is provided in this room, which affords a panoramic view of the wooded slopes of Skyline Ridge and is an inviting place for quiet study

2. Financial Aid. Scholarship and financial aid information is available. Furthermore, they provide jobs on campus for students in financial need.

3. EOPS (Extended Opportunity Program and Services). Financial aid and counseling for educationally disadvantage students.

4. Media Learning Center. Computers for independent learning and tutorial services are available.

5. Student health center. Medical tests, over the counter medication, emergency aid, health information, pregnancy counseling and low cost health insurance.

6. Career Center. Job postings, job search workshops, and career counseling

7. Transfer Center. Transfer information to public and private colleges and universities

8. Counseling Center. Even thought, the college has designated one counselor to work with the Radiologic Technology Students. The Counseling Center can advice our students when the designated counselor is nor available.

9. Housing. The office of student life maintains a housing file for use by Cañada Students. Most of these listings are rooms in private homes.

10. Veterans Affairs. Cañada College is approved to certify veterans as students who are enrolled in pursuit of an associate degree under Chapter 35 (veterans dependents), Chapter 31 (rehabilitation), Chapter 30, and VEAP.

Student's services are review by the program once a year, at the beginning of the fall semester during the first Science and Technology Division Meeting. In addition, any changes to student services are always published on the college catalog.
The evaluation of student services is gathered by the reports we get from our students. For the most part their responses are positive. For instance, many of our students benefit from the services and guidance provided by the financial aid office. Many of these students could not afford to go through the Radiologic Technology Program if it was not by the financial aid they received with the help of this office.
With the education and support received our students are found to have a 100% employment rate after three months.

V. Faculty and staff hiring recommendations:

A. List full-time faculty requests and attach formal justification

Position	Areas of expertise needed
N/A	
N/A	

B. List adjunct faculty requests and attach formal justification

Position	Areas of expertise needed
N/A	
N/A	

C. List staff requests and attach formal justification

Position	Areas of expertise needed
Clerical	Word processing, Phone skills

D. List professional development needs:

Continue to attend and research for conferences and workshops appropriate for the profession.
Please look at section D-2 of the Comprehensive Program Self Study Document

VI. Equipment and facilities recommendations:

Please look at section E-2 of the Comprehensive Program Self Study Document

A. List equipment, technology, materials needed in the coming year:

Item	Cost per unit
3 x-ray tubes	Donations
3 x-ray table	Donations
2 upright buckys	Donations

B. List facilities needs:

New	Maintenance

No new facilities will be needed after the completion of the new classroom. The Radiologic Technology classroom will be relocating to a new larger room after the refurbishing of building 18.

III. C

1. COURSE SEQUENCE CHANGES

The current course sequence has the heaviest load on the second semester. This is the time students are reviewing for examinations in July and August. RADT 440 includes advanced imaging that creates sectional anatomy imaging that is taught in RADT 441. Additionally, RADT 442 Pathology utilizes sectional anatomy and advanced imaging techniques.

RADT 435 laboratory component requires the use of on-site hospital equipment. Over the last several years the majority of our affiliate hospitals have converted to computed and digital imaging and their patient loads have increased. Currently only two facilities have suitable darkrooms and processors for laboratory. This has made it difficult to perform experiments in small or large groups.

Information taught in RADT 471 Fluoroscopy is used for the experiments. Both courses are suitable for continuing education, therefore RADT 435 should be moved to an evening course.

The following course sequence change is recommended for Fall 2007:

- Move RADT 441 and RADT 442 to the Fall semester of the second year.
- RADT 441 first 8 weeks of semester and RADT 442 to follow.
- Move RADT 435 to the Spring semester of the second year.

Current course offering sequence for Spring Semester second year:

Fall Second Year			**Spring Second Year**	
RADT 435	Imaging Equipment	1.5 units	RADT 441 Sectional Anatomy	1.5 units
RADT 440	Advanced Imaging	4.0	RADT 442 Pathology	1.5
RADT 448	Clinical Education	6.5 units	RADT 450 Registry Review	1.5
		12.0 units	RADT 458 Clinical Education	7.5
			RADT 471 Fluoroscopy	2.0 units
				14 units

RADT 470 Mammography is optional and therefore not included.

Recommended course offering sequence for Spring Semester second year:

Fall Second Year			**Spring Second Year**	
RADT 440	Advanced Imaging	4.0 units	RADT 435 Imaging Equipment	1.5 units
RADT 441	Sectional Anatomy	1.5	RADT 450 Registry Review	1.5
RADT 442	Pathology	1.5	RADT 458 Clinical Education	7.5

RADT 448 Clinical Education	6.5 units 13.5 units	RADT 471 Fluoroscopy	2.0 units 12.5 units

2. EXPAND RADT 408

3. EXPAND RADT 418

4. COURSE OFFERINGS FOR CLINICAL INSTRUCTORS

5. COURSE OFFERINGS FOR STAFF TECHNOLOGISTS

RADIOLOGIC TECHNOLOGY PROGRAM

CAÑADA COLLEGE
COMPREHENSIVE PROGRAM REVIEW EXECUTIVE SUMMARY
(2 page maximum)

Short Summary of Findings

Type your summary here:

With the completion of the Program Review, we have a clear method in place for reviewing our program, which is in addition to the program accreditation process. This allows us to provide high quality instruction and support services for our students with our limited resources.
Program review provides assurance that the educational program will offer students with the requisite knowledge, skills, and values to competently perform the range of professional responsibilities expected by potential employers locally and nationwide. It also assures students they will have the foundation knowledge to continue to develop as professionals in the various fields of the radiation sciences.
Through the process of program review, faculty have a system that ensures that they are keeping pace with the profession and with standards developed through state and national consensus.
Program review also helps us recognize the many resources and programs available on campus that provides support to all students.

Three Strengths of the Program

1. **Completion rates**

2. **ARRT national examination results**

3. **Support from our hospital affiliates**

Three Suggestions for Improvement

1. **We need to develop more continuing education courses (MRI, Bone Densitometry) that will attract the working radiographer.**

2. **The creation of WebPages for all faculty, therefore students will have access to documents and information regarding courses**

3. **To provide seminars and workshops for Clinical Instructors and staff radiographers who provide the clinical education experience to Cañada College students**

CAÑADA COLLEGE
EVALUATION OF THE
COMPREHENSIVE PROGRAM REVIEW PROCESS

To improve the Program Review process your help and suggestions are instrumental. We ask that all parties responsible for preparation of this review have input into the evaluation. After completion of the Program Review process, please take a few moments to complete and return this evaluation to the chair of the Curriculum Committee.

Program Name: Radiologic Technology Program

Estimate the total number of hours to complete your Program Review: ~75 hours.

Was the time frame for completion of Program Review adequate? If not, explain.
No, it was not. In our opinion this is **at least** a one semester project. We were told of this report 5 weeks ago, and we felt we were rushed.

Was the instrument clear and understandable? Was it easy to use? If not, explain and offer suggestions for improvement.
Yes; however, there are some sections that from our point of view are redundant. For example; on the Comprehensive Program Review Parts E and F, some of the questions are repeated.

Were the questions relevant? If not, please explain and offer specific suggestions.
Yes, they were.

Did you find the Program Review process to have value? If not, please explain and offer suggestions.
Yes, the process has a great value. It helps us recognize areas were we can improve as a program.

Was the data you received from administration complete and presented in a clear format? Would you like additional data?
The information was very clear.

Please offer any comments that could improve and/or streamline Program Review!
We would like to have more information (details) on the oral presentation.

CAÑADA COLLEGE
EVALUATION OF THE
COMPREHENSIVE PROGRAM REVIEW PROCESS

To improve the Program Review process your help and suggestions are instrumental. We ask that all parties responsible for preparation of this review have input into the evaluation. After completion of the Program Review process, please take a few moments to complete and return this evaluation to the chair of the Curriculum Committee.

Program Name: Radiologic Technology Program

Estimate the total number of hours to complete your Program Review: ~75 hours.

Was the time frame for completion of Program Review adequate? If not, explain.
No, it was not. In our opinion this is **at least** a one semester project. We were told of this report 5 weeks ago, and we felt we were rushed.

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Yes; however, there are some sections that from our point of view are redundant. For example; on the Comprehensive Program Review Parts E and F, some of the questions are repeated.

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Yes, they were.

Did you find the Program Review process to have value? If not, please explain and offer suggestions.
Yes, the process has a great value. It helps us recognize areas were we can improve as a program.

Was the data you received from administration complete and presented in a clear format? Would you like additional data?
The information was very clear.

Please offer any comments that could improve and/or streamline Program Review!
We would like to have more information (details, format) on the oral presentation.

RADIOLOGIC TECHNOLOGY PROGRAM (A.S. DEGREE)
CURRICULUM REQUIREMENTS

PREREQUISITES (Recommended preparation)		**UNITS**	
High school graduation or equivalent			
CPR for Health Care Professionals (must be current while in the program)			
Edibility for English 100 (Reading and Composition)			
Elementary Algebra (Math 110 or Math 111/112)		**5.0**	
Elementary Chemistry (Chem 192)		**4.0**	
Biology 250 (human anatomy with cadaver dissection)		**4.0**	
	Total		**13.0**
General Education requirements for AS degree	**Total**		**14.0**

PROGRAM REQUIREMENTS

SUMMER INTERCESSION				
RADT 400	Orientation		**2.0**	
RADT 408	Perspectives in Radiology (12 hrs clinical observation)		**0.5**	
		Total		**2.5**
SEMERSTER I FALL				
BIOL 260	Human Physiology*		**5.0**	
RADT 410	Radiographic Positioning I		**4.0**	
RADT 405	Radiation Physics		**3.0**	
RADT 418	Clinical Education I		**4.5**	
		Total		**16.5**
SEMESTER II SPRING				
RADT 415	Radiation Protection & Biology	**3.0**		
RADT 420	Radiographic Positioning II		**3.5**	
RADT 428	Clinical Education II		**5.0**	
RADT 430	Principles of Radiation Exposure		**3.5**	
		Total		**15.0**
SUMMER INTERCESSION				
RADT 438	Clinical Education III		**2.5**	
RADT 471	Venipuncture		**1.0**	
		Total		**3.5**
SUMMER III FALL				
RADT 435	Imaging Equipment & Q.C.		**1.5**	
RADT 440	Advance Imaging		**4.0**	
RADT 448	Clinical Education IV		**6.5**	
		Total		**12.0**
SEMESTER IV SPRING				
RADT 441	Sectional Anatomy		**1.5**	
RADT 442	Radiographic Pathology	**1.5**		
RADT 450	Registry Review		**1.5**	
RADT 458	Clinical Education V		**7.5**	
		Total		**12.0**
SUMMER INTERCESSION				
RADT 468	Clinical Education		**5.5**	
		Total		**5.5**

PROGRAM TOTAL	**67.0**
DEGREE TOTAL	**81.0**
GRAND TOTAL	**94.0**

**During the past 4 years, all students have completed BIO 260 prior to entering the program.*

RADIOGRAPHY
DIDACTIC AND CLINICAL
COMPETENCY REQUIREMENTS

Eligibility Requirements Effective January 2005*

Candidates for certification are required to meet the Professional Requirements specified in Section 2.02 of the *ARRT Rules and Regulations*. This document identifies the minimum didactic and clinical competency requirements for certification referenced in the *Rules and Regulations*. Candidates who complete a formal educational program accredited by a mechanism acceptable to the ARRT will have obtained education and experience beyond the requirements specified here.

Didactic Requirements

Candidates must successfully complete coursework addressing the topics listed in the *ARRT Content Specifications for the Examination in Radiography*. These topics are presented in a format suitable for instructional planning in the *ASRT Radiography Curriculum* (2002).

Clinical Requirements

As part of their educational program, candidates must demonstrate competence in the clinical activities identified in this document. Demonstration of clinical competence means that the program director or designee has observed the candidate performing the procedure, and that the candidate performed the procedure independently, consistently, and effectively. Candidates must demonstrate competence in the areas listed below.

- Six mandatory general patient care activities.
- Thirty-six mandatory radiologic procedures.
- Fifteen elective radiologic procedures to be selected from a list of 30 procedures.

Documentation

The following pages identify specific clinical competency requirements. Candidates may wish to use these pages, or their equivalent, to record completion of the requirements. The pages do NOT need to be sent to the ARRT.

To document that the didactic and clinical requirements have been satisfied, candidates must have the program director (and authorized faculty member if required) sign the ENDORSEMENT SECTION of the **Application for Certification** included in the *Certification Handbook*.

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* *Note: Candidates who complete their educational program during 2005 or 2006 may use either the previous requirements (effective 2001) or the current requirements (effective 2005). Candidates who graduate after December 2006 may no longer use the previous competency requirements.*

Radiography
Clinical Competency Requirements

The clinical competency requirements include the six general patient care activities listed below and a subset of the 66 radiologic procedures identified on subsequent pages. Demonstration of competence should include variations in patient characteristics (e.g., age, gender, medical condition).

1. General Patient Care

Requirement: Candidates must demonstrate competence in all six patient care activities listed below. The activities should be performed on patients; however, simulation is acceptable (see endnote) if state or institutional regulations prohibit candidates from performing the procedures on patients.

General Patient Care	Date Completed	Competence Verified By
CPR		
Vital signs (blood pressure, pulse, respiration, temperature)		
Sterile and aseptic technique		
Venipuncture		
Transfer of patient		
Care of patient medical equipment (e.g., oxygen tank, IV tubing)		

Radiography
Clinical Competency Requirements (cont.)

2. Radiologic Procedures

Requirement: Candidates must demonstrate competence in all 36 procedures identified as mandatory (M). Procedures should be performed on patients; however, up to eight mandatory procedures may be simulated (see endnote) if demonstration on patients is not feasible.

Candidates must demonstrate competence in 15 of the 30 elective (E) procedures. Elective procedures should be performed on patients; however, electives may be simulated (see endnote) if demonstration on patients is not feasible.

Institutional protocol will determine the positions or projections used for each procedure.

Demonstration of competence includes requisition evaluation, patient assessment, room preparation, patient management, equipment operation, technique selection, positioning skills, radiation safety, image processing, and image evaluation.

Radiologic Procedure	Mandatory or Elective	Date Completed	Patient or Simulated	Competence Verified By
Chest and Thorax				
Chest Routine	M			
Chest AP (Wheelchair or Stretcher)	M			
Ribs	M			
Chest Lateral Decubitus	E			
Sternum	E			
Upper Airway (Soft-Tissue Neck)	E			
Upper Extremity				
Thumb or Finger	M			
Hand	M			
Wrist	M			
Forearm	M			
Elbow	M			
Humerus	M			
Shoulder	M			
Trauma: Shoulder (Scapular Y, Transthoracic or Axillary)*	M			
Clavicle	E			
Scapula	E			
AC Joints	E			
Trauma: Upper Extremity (Nonshoulder)*	M			

Radiography
Clinical Competency Requirements (cont.)

Radiologic Procedure	Mandatory or Elective	Date Completed	Patient or Simulated	Competence Verified By
Lower Extremity				
Foot	M			
Ankle	M			
Knee	M			
Tibia-Fibula	M			
Femur	M			
Trauma: Lower Extremity *	M			
Patella	E			
Calcaneus (Os Calcis)	E			
Toe	E			
Cranium				
Skull	M			
Paranasal Sinuses	M			
Facial Bones	E			
Orbits	E			
Zygomatic Arches	E			
Nasal Bones	E			
Mandible (Panorex acceptable)	E			
Spine and Pelvis				
Cervical Spine	M			
Trauma: Cervical Spine (Cross Table Lateral)*	M			
Thoracic Spine	M			
Lumbosacral Spine	M			
Pelvis	M			
Hip	M			
Cross Table Lateral Hip	M			
Sacrum and/or Coccyx	E			
Scoliosis Series	E			
Sacroiliac Joints	E			
Abdomen				
Abdomen Supine (KUB)	M			
Abdomen Decubitus or Upright	M			
Intravenous Urography	E			

Radiography
Clinical Competency Requirements (cont.)

Radiologic Procedure	Mandatory or Elective	Date Completed	Patient or Simulated	Competence Verified By
Fluoroscopy Studies				
Upper GI Series (Single or Double Contrast)	M			
Barium Enema (Single or Double Contrast)	M			
Small Bowel Series	E			
Esophagus	E			
Cystography/Cystourethrography	E			
ERCP	E			
Myelography	E			
Arthrography	E			
Surgical Studies				
C-Arm Procedure	M			
Surgical Cholangiography	E			
Retrograde Pyelography	E			
Mobile Studies				
Chest	M			
Abdomen	M			
Orthopedic	M			
Pediatrics (age 6 or younger)				
Chest Routine	M			
Upper Extremity	E			
Lower Extremity	E			
Abdomen	E			
Mobile Study	E			

* Trauma is considered a serious injury or shock to the body. Modifications may include variations in positioning, minimal movement of the body part, etc.

Note: The ARRT requirements specify that certain clinical procedures may be simulated. Simulations must meet the following criteria: (a) the student is required to competently demonstrate skills as similar as circumstances permit to the cognitive, psychomotor, and affective skills required in the clinical setting; (b) the program director is confident that the skills required to competently perform the simulated task will generalize or transfer to the clinical setting. Examples of acceptable simulation include: demonstrating CPR on a mannequin; positioning a fellow student for a projection without actually activating the x-ray beam, and evaluating an image from a teaching file; performing venipuncture by demonstrating aseptic technique on another person, but then inserting the needle into an artificial forearm or grapefruit.

CONTENT SPECIFICATIONS FOR THE EXAMINATION IN RADIOGRAPHY

Publication Date: July 2004
Implementation Date: January 2005

The purpose of the ARRT Examination in Radiography is to assess the knowledge and cognitive skills underlying the intelligent performance of the tasks typically required of the staff technologist at entry into the profession. To identify the knowledge and skills covered by the examination, the ARRT periodically conducts practice analysis studies involving a nationwide sample of staff technologists[1]. The results of the most recent practice analysis are reflected in this document. The complete task inventory, which serves as the basis for these content specifications, is available from our website *www.arrt.org*.

The table below presents the five major content categories, along with the number and percentage of test questions appearing in each category. The remaining pages provide a detailed listing of topics addressed within each major content category.

This document is not intended to serve as a curriculum guide. Although certification programs and educational programs may have related purposes, their functions are clearly different. Educational programs are generally broader in scope and address subject matter not included in these content specifications.

CONTENT CATEGORY		PERCENT OF TEST	NUMBER OF QUESTIONS [2]
A.	Radiation Protection	20%	40
B.	Equipment Operation and Quality Control	12%	24
C.	Image Production and Evaluation	25%	50
D.	Radiographic Procedures	30%	60
E.	Patient Care and Education*	13%	26
		100%	200

*Section E now consists of a new test item format called the situation judgment test (SJT). Refer to attachment C of these content specifications for details.

1. A special debt of gratitude is due to the hundreds of professionals participating in this project as committee members, survey respondents, and reviewers.

2. Each exam includes an additional 20 unscored (pilot) questions. On the pages that follow, the approximate number of test questions allocated to each content category appears in parentheses.

A. RADIATION PROTECTION (cont.)

III. Personnel Protection (9)

A. Sources of Radiation Exposure
   1. primary x-ray beam
   2. secondary radiation
      a. scatter
      b. leakage
   3. patient as source

B. Basic Methods of Protection
   1. time
   2. distance
   3. shielding

C. Protective Devices
   1. types
   2. attenuation properties
   3. minimum lead equivalent (NCRP #102)

D. Special Considerations
   1. portable (mobile) units
   2. fluoroscopy
      a. protective drapes
      b. protective Bucky slot cover
      c. cumulative timer
   3. guidelines for fluoroscopy and portable units (NCRP #102, CFR-21)
      a. fluoroscopy exposure rates
      b. exposure switch guidelines

IV. Radiation Exposure and Monitoring (9)

A. Units of Measurement*
   1. absorbed dose (rad)
   2. dose equivalent (rem)
   3. exposure (Roentgen)

B. Dosimeters
   1. types
   2. proper use

C. NCRP Recommendations for Personnel Monitoring (NCRP #116)
   1. occupational exposure
   2. public exposure
   3. embryo/fetus exposure
   4. ALARA and dose equivalent limits
   5. evaluation and maintenance of personnel dosimetry records

*Conventional units are generally used. However, questions referenced to specific reports (e.g., NCRP) will use SI units to be consistent with such reports.

C. IMAGE PRODUCTION AND EVALUATION (50)

I. Selection of Technical Factors (30)

A. Factors Affecting Radiographic Quality (X indicates topics covered on the examination)

	1. Radiographic Density	2. Radiographic Contrast	3. Recorded Detail	4. Distortion
a. mAs	X			
b. kVp	X	X		
c. OID		X (air gap)	X	X
d. SID	X		X	X
e. focal spot size			X	
f. grids*	X	X		
g. filtration	X	X		
h. film-screen combinations	X		X	
i. beam restriction	X	X		
j. motion			X	
k. anode heel effect	X			
l. patient factors (e.g., size, pathology)	X	X	X	X
m. angle (tube, part or receptor)			X	X

* Includes conversion factors for grids

B. Technique Charts
   1. caliper measurement
   2. fixed versus variable kVp
   3. special considerations
      a. casts
      b. anatomic and pathologic factors
      c. pediatrics
      d. contrast media

C. Automatic Exposure Control (AEC)
   1. effects of changing exposure factors on radiographic quality
   2. detector selection
   3. anatomic alignment
   4. density control (+1 or -1)

D. Image Receptors
   1. film-screen combinations
      a. film characteristics
         1. film contrast
         2. film latitude
         3. exposure latitude
      b. screen characteristics
         1. phosphor type
         2. relative screen speed
         3. single versus double film/screen system
   2. digital radiography
      a. computed radiography (photostimulable phosphor – PSP)
      b. direct digital radiography (solid state detectors)
      c. exposure indication (e.g., S-number, EI, log-mean)

(Section C continues on the following page)

D. RADIOGRAPHIC PROCEDURES (60)

This section addresses radiographic procedures for the anatomic regions listed below (I through VII). Questions will cover the following topics:

- Positioning (topographic landmarks, body positions, path of central ray, etc.).
- Anatomy (including physiology, basic pathology, and related medical terminology).
- Technical factors (including adjustments for circumstances such as body habitus, trauma, pathology, breathing techniques, etc.).

The specific positions and projections within each anatomic region that may be covered on the examination are listed in Attachment A. A guide to positioning terminology appears in Attachment B.

I. Thorax (6)

A. Chest
B. Ribs
C. Sternum
D. Soft Tissue Neck

II. Abdomen and GI Studies (9)

A. Abdomen
B. Esophagus
C. Swallowing Dysfunction Study
D. Upper GI Series, Single or Double Contrast
E. Small Bowel Series
F. Barium Enema, Single or Double Contrast
G. Surgical Cholangiography
H. ERCP

III. Urological Studies (4)

A. Cystography
B. Cystourethrography
C. Intravenous Urography
D. Retrograde Pyelography

IV. Spine and Pelvis (10)

A. Cervical Spine
B. Thoracic Spine
C. Scoliosis Series
D. Lumbosacral Spine
E. Sacrum and Coccyx
F. Sacroiliac Joints
G. Pelvis And Hip

V. Cranium (7)

A. Skull
B. Facial Bones
C. Mandible
D. Zygomatic Arch
E. Temporomandibular Joints
F. Nasal Bones
G. Orbits
H. Paranasal Sinuses

VI. Extremities (22)

A. Toes
B. Foot
C. Calcaneus (Os Calcis)
D. Ankle

VI. Extremities (cont.)

E. Tibia, Fibula
F. Knee
G. Patella
H. Femur
I. Fingers
J. Hand
K. Wrist
L. Forearm
M. Elbow
N. Humerus
O. Shoulder
P. Scapula
Q. Clavicle
R. Acromioclavicular Joints
S. Bone Survey
T. Long Bone Measurement
U. Bone Age
V. Soft Tissue/Foreign Bodies

VII. Other (2)

A. Arthrography
B. Myelography
C. Venography

E. PATIENT CARE AND EDUCATION (cont.)

IV. Physical Assistance and Transfer (2)

A. Patient Transfer and Movement
   1. body mechanics (balance, alignment, movement)
   2. patient transfer

B. Assisting Patients with Medical Equipment
   1. infusion catheters and pumps
   2. oxygen delivery systems
   3. other (e.g., nasogastric tubes, urinary catheters, tracheostomy tubes)

C. Routine Monitoring
   1. equipment (e.g., stethoscope, sphygmomanometer)
   2. vital signs (e.g., blood pressure, pulse, respiration, temperature)
   3. physical signs and symptoms (e.g., motor control, severity of injury)
   4. documentation

V. Medical Emergencies (2)

A. Allergic Reactions (e.g., contrast media, latex)

B. Cardiac or Respiratory Arrest (e.g., CPR)

C. Physical Injury or Trauma

D. Other Medical Disorders (e.g., seizures, diabetic reactions)

VI. Contrast Media (6)

A. Types and Properties (e.g., iodinated, water soluble, barium, ionic versus non-ionic)

B. Appropriateness of Contrast Media to Exam and Patient Condition (e.g., perforated bowel, patient age, patient weight, laboratory values)

C. Patient History
   1. premedications
   2. contraindications
   3. scheduling and sequencing examinations

D. Patient Education
   1. verify informed consent
   2. instructions regarding preparation, diet, and medications
   3. post-examination instructions

E. Venipuncture
   1. venous anatomy
   2. supplies
   3. procedural technique

F. Administration
   1. routes (e.g., IV, oral)
   2. supplies (e.g., enema kits, needles)

G. Complications/Reactions
   1. local effects (e.g., extravasation/ infiltration, phlebitis)
   2. systemic effects
      a. mild (e.g., flushing, hives, nausea)
      b. severe (e.g., shock, hypotension)
   3. radiographer's response and documentation

VI. Extremities

A. Toes
   1. AP, entire foot
   2. oblique toe
   3. lateral toe

B. Foot
   1. AP angle toward heel
   2. medial oblique
   3. lateral oblique
   4. mediolateral
   5. lateromedial
   6. sesamoids, tangential
   7. AP weight bearing
   8. lateral weight bearing

C. Calcaneus (Os Calcis)
   1. lateral
   2. plantodorsal, axial
   3. dorsoplantar, axial

D. Ankle
   1. AP
   2. AP mortise
   3. mediolateral
   4. oblique, 45° internal
   5. lateromedial
   6. AP stress views

E. Tibia, Fibula
   1. AP
   2. lateral
   3. oblique

F. Knee
   1. AP
   2. lateral
   3. AP weight bearing
   4. lateral oblique 45°
   5. medial oblique 45°
   6. PA
   7. PA axial – intercondylar fossa (tunnel)

G. Patella
   1. lateral
   2. supine flexion 45° (Merchant)
   3. PA
   4. prone flexion 90° (Settegast)
   5. prone flexion 55° (Hughston)

H. Femur
   1. AP
   2. mediolateral

I. Fingers
   1. PA entire hand
   2. PA finger only
   3. lateral
   4. oblique
   5. AP thumb
   6. oblique thumb
   7. lateral thumb

J. Hand
   1. PA
   2. lateral
   3. oblique

K. Wrist
   1. PA
   2. oblique 45°
   3. lateral
   4. PA for scaphoid
   5. scaphoid (Stecher)
   6. carpal canal

L. Forearm
   1. AP
   2. lateral

M. Elbow
   1. AP
   2. lateral
   3. external oblique
   4. internal oblique
   5. AP partial flexion
   6. axial trauma (Coyle)

N. Humerus
   1. AP non-trauma
   2. lateral non-trauma
   3. AP neutral trauma
   4. scapular Y trauma
   5. transthoracic lateral trauma
   6. lateral, mid and distal, trauma

O. Shoulder
   1. AP internal and external rotation
   2. inferosuperior axial, non-trauma
   3. posterior oblique (Grashey)
   4. tangential non-trauma
   5. AP neutral trauma
   6. transthoracic lateral trauma
   7. scapular Y trauma

P. Scapula
   1. AP
   2. lateral, anterior oblique
   3. lateral, posterior oblique

Q. Clavicle
   1. AP
   2. AP angle 15-30° cephalad
   3. PA angle 15-30° caudad

R. Acromioclavicular joints
   1. AP bilateral with and without weights

S. Bone Survey

T. Long Bone Measurement

U. Bone Age

V. Soft Tissue/Foreign Body

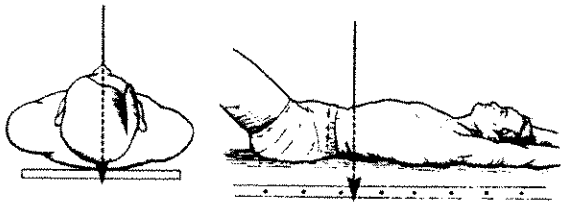
VII. Other Procedures

A. Arthrography

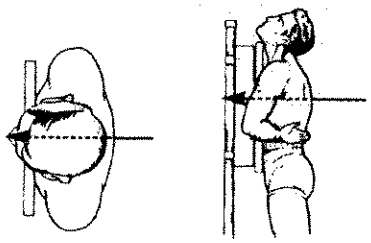
B. Myelography

C. Venography

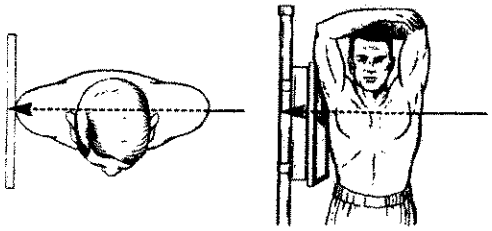
Anteroposterior Projection



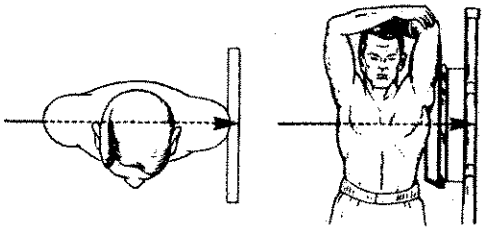
Posteroanterior Projection



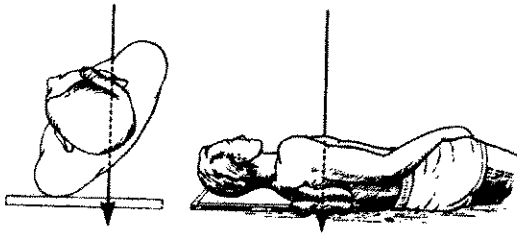
Right Lateral Position



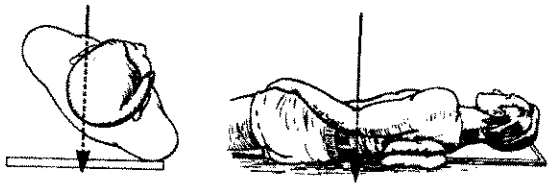
Left Lateral Position



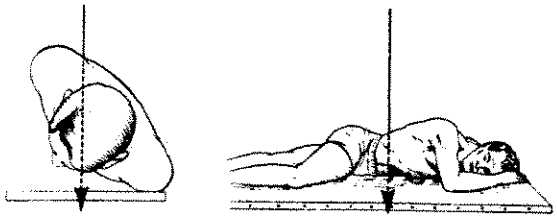
Left Posterior Oblique Position



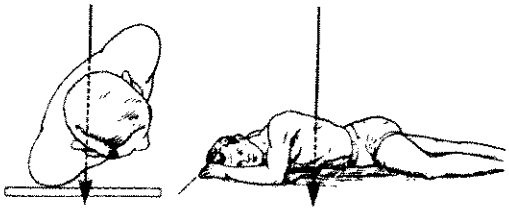
Right Posterior Oblique Position



Left Anterior Oblique Position



Right Anterior Oblique Position



Program #: _____

Date: _____

Radiography Curriculum Analysis

DIRECTIONS: Determine the course(s) in which each of the following content areas is covered and enter the course number(s) and/or title(s) into the appropriate column. For guidance in what should be covered for each content area, please refer to the Radiography Curriculum (2002) published by the American Society of Radiologic Technologists.

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Fundamentals of Radiologic Science and Health Care		
Health Science Professions		
Health Care Environment		
Hospital Organization		
Radiology Organization		
Accreditation		
Professional Credentialing		
Professional Organizations		
Professional Development		
Ethics and Law in the Radiologic Sciences		
Historical and Philosophical Context		
Ethics and Moral Behavior		
Ethical Issues in Health Care		
Legal Responsibilities		
Patient Consent		
Medical Terminology		
Word Building Process		
Medical Abbreviations and Symbols		
Radiologic Technology Procedures and Terminology		
Orders, Requests, and Diagnostic Reports		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Patient Care in Radiologic Sciences		
Radiographer and Health Care Team		
Attitudes and Communication in Patient Care		
Patient/Technologist Interactions		
Safety and Transfer Positioning		
Evaluating Physical Needs		
Infection Control		
Medical Emergencies		
Unique Situations and Trauma		
Barium Studies		
Tubes, Catheters, Lines, and Collection Devices		
Care of Patients During Myelography and Urography		
Mobile and Surgical Radiography		
Human Structure and Function		
Anatomical Nomenclature		
Chemical Composition		
Cell Structure and Genetic Control		
Metabolism		
Tissues		
Skeletal System		
Muscular System		
Nervous System		
Sensory System		
Endocrine System		
Digestive System		
Cardiovascular System		
Lymphatic System and Immunity		
Respiratory System		
Urinary System		
Reproductive System		
Topography		
Sectional Anatomy		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Radiographic Procedures		
Standard Terminology for Positioning and Projections		
General Considerations		
Positioning Considerations for Routine Radiographic Procedures		
Procedural Considerations for Contrast Studies		
Patient Education		
Imaging and Processing		
Imaging Quality Standards		
Radiographic Density		
Radiographic Contrast		
Recorded Detail		
Distortion		
Exposure Latitude		
Beam Limiting Devices		
Beam Filtration		
Scattered and Secondary Radiation		
Control of Exit Radiation		
Technique Formulation		
Exposure Calculations		
Image Receptor Handling and Storage		
Characteristics of Image Receptors		
Image Receptor Holders and Intensifying Screens		
Processing Area Considerations		
Processing of Images		
Digital Processing		
Artifacts		
Silver Recovery		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Imaging Equipment		
X-ray Circuit		
Radiographic Equipment		
Diagnostic X-ray Tubes		
Image Intensified Fluoroscopy		
Conventional Tomography		
Magnification Radiography		
Electronic Imaging		
Quality Control		
Image Analysis		
Imaging Standards		
Image Quality Factors		
Procedural Factors		
Corrective Action		
Radiation Production and Characteristics		
Structure of the Atom		
Nature of Radiation		
X-ray Production		
Interactions of Photons with Matter		
Radiation Protection		
Introduction		
Justification for radiation protection		
Biologic damage potential of ionizing radiation		
Objectives of a radiation protection program		
Sources of radiation		
Legal and ethical responsibilities		
Units, Detection, and Measurement		
Surveys, Regulatory/Advisory Agencies and Regulations		
Personnel Monitoring		
Application		
Patient Protection		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Radiation Biology		
Introduction		
Molecular bonds		
Cell biology		
Types of ionizing radiation		
Sources of medical radiation exposure		
Biophysical Events		
Radiation Effects		
Radiosensitivity and Response		
Radiographic Pathology		
Definitions/Terminology		
Classifications (Definition, Examples, Sites, Complications, Prognosis)		
Trauma Diagnosis		
Causes of Disease (Process, Examples)		
Radiologic Pathology (Definitions, Etiology, Examples, Sites, Complications, Prognosis, Radiographic Appearance, Procedural and Technique Considerations)		
Computers in Radiologic Sciences		
Fundamentals		
Components		
Operations		
Radiology Applications		
Internet		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Pharmacology and Drug Classification		
Drug Nomenclature		
Methods of Drug Classification		
General Pharmacologic Principles		
Five Rights of Drug Safety		
Drug Categories of Relevance to Radiography (Side Effects, Uses, and Impacts on Medical Imaging)		
Classifications of Contrast Agents		
Routes of Drug Administration		
Intravenous Drug Therapy		
Current Practice Status		
Informed Consent		
Human Diversity		
Values		
Culture, Ethnicity, and Diversity		
Clinical Practice		
Clinical Practice		
Code of ethics/professional behavior		
Professional communication		
Role of health care team members		
Scheduling and sequencing of exams		

Program #: _____

Date: _____

Educational programs in radiography are **encouraged rather than required** to incorporate the following general education elements in their curricula. Each program is required, however, to submit information regarding which, if any, of the elements are included in its curriculum. This data will NOT be maintained for individual programs but will be used to track the degree to which the population of accredited programs is incorporating the listed general education courses.

Professional Curriculum **Recommended Post-secondary General Education**	**Prerequisite Course(s)**	**Program Course(s)**
Mathematical/Logical Reasoning		
Communication		
Arts and Humanities		
Information Systems		
Social/Behavioral Sciences		

Radiography Curriculum

Sponsored by the American Society of Radiologic Technologists, 15000 Central Ave. SE, Albuquerque, NM 87123-3917.

Radiography Curriculum *was produced by the ASRT Radiography Curriculum Revision Project Group.*

Recommended General Education

General education is an integral part of the development of the professional radiographer. The content is designed to assist in the development of communication, human diversity, scientific inquiry, critical thinking and judgment skills required to perform the responsibilities of an entry-level radiographer. Knowledge gained from general education serves to enhance the content and application of the radiography curriculum.

An additional goal of general education is to provide students with opportunities to explore broad areas of commonly held knowledge and to prepare them to contribute to society through personal, social and professional interactions with others. General education provides intellectual flexibility and knowledge to support lifelong learning that will prepare students for success in a rapidly changing world.

Recommended Post-Secondary General Education:

- Mathematical/Logical Reasoning
  - Develop skills in analysis, quantification and synthesis
  - Apply problem-solving or modeling strategies
- Communication
  - Write, read, speak and listen critically
  - Develop the ability to perceive, gather, organize and present information
  - Locate, evaluate and synthesize material from diverse sources and points of view
- Arts and Humanities
  - Develop knowledge and understanding of the human condition
  - Demonstrate respect for diverse populations
  - Develop an understanding of ethics and the role they play in personal and professional lives
  - Recognize and critically examine attitudes and values
- Information Systems
  - Develop knowledge base for use of computerized systems
  - Use technology to retrieve, evaluate and apply information
- Social/Behavioral Sciences
  - Assist in adapting interactions to meet cultural/psychological needs of people
  - Develop an understanding of individual and collective behavior
  - Promote the development of leadership skills
  - Develop capacity to exercise responsible and productive citizenship
  - Function as a public-minded individual

Radiography Curriculum

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d. Intern
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b. Chief/senior technologist
c. Staff technologist
d. Quality control/assurance officer/technologist
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B. Support personnel
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