

Radiography

APRC 1996-1997

Section 1 of 2

FERRIS STATE UNIVERSITY
COLLEGE OF ALLIED HEALTH AND SCIENCES

Program Review

of the

Associate in Applied Science in Radiography

1996

Program Review Panel

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January 17, 1997

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Curricula Vita for Program Faculty

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SECTION I RADIOGRAPHY PROGRAM OVERVIEW

The Radiography program, College of Allied Health Sciences, was initiated in September, 1966, as a 33-month, Associate Degree program in response to a need voiced by the medical imaging community in the State of Michigan. At that time, a considerable number of individuals who were working in the field of radiography did not meet minimum standards of education and experience. Data obtained from the American Hospital of Association's 1966 survey of hospital personnel revealed that there was indeed a need for a college-based program in West Michigan.

When the program was activated, it did not enjoy the traditional benefits of any near-by hospitals as clinical education centers. Instead, it affiliated with 13 hospitals scattered throughout the State of Michigan. The type of program that evolved in response to the needs of 13 different hospitals - separated from each other and the college - was unique for its time.

The uniqueness of the program when it was launched 30 years ago, is found in its structure and the way it is/was managed. The program is and always was a two-phase program. Phase one of the program is the didactic portion; phase two is the practicum; each separate in time and location. The strengths of the program are found in its structure and coordination of events, so that all of the terminal objectives of the program are met by all successful students at about the same point in time.

Phase one of the program begins for the students when they enter the program in the Fall semester. They then spend the first three semesters at Ferris, studying in the sequentially structured curriculum. The professional course work in phase one includes ample laboratory periods in a simulated environment which has four complete and energized x-ray laboratories and a darkroom. The laboratory periods are structures so that the student may apply the theory and principles learned in lecture sessions which in turn stress preclinical procedural competencies.

Phase two of the program, the final three semesters (consecutive and free of the traditional quarter breaks), encompass the necessary clinical experience. Actual patient contact occurs at this time, permitting the student to apply his or her knowledge by assisting in the performance of a wide variety of radiographic examinations.

The philosophy and objectives, which guide the Radiography program in each of its phases, have as their genesis the educational philosophy and goals of Ferris State University and the College of Allied Health Sciences.

FERRIS STATE UNIVERSITY
 COLLEGE OF ALLIED HEALTH SCIENCES
 RADIOGRAPHY PROGRAM
 ASSOCIATE IN APPLIED SCIENCE DEGREE

FIRST YEAR

1st Semester

* MATH 110 Fundamentals of Algebra	0
RADI 120 Rad. Tech. I	4
RADI 130 Rad. Imaging	4
BIOL. 109 Basic Human Anat. & Phys.	4
**ISYS 105 Microcomputer Applications	<u>3</u>
	15

2nd Semester

RADI 140 Radiologic Positioning	4
RADI 150 Related Rad. Topics	4
ENGL. 150 English I	3
MRIS 102 Medical Terminology	1
Social Awareness Elective	<u>3</u>
	15

3rd Semester

RADI 160 Advanced Rad. Positioning	5
ENGL. 250 English 2	3
****HUMN 220 Biomedical Ethics	3
*** HLTH 128 First Aid for Radiographers	<u>1</u>
	12

SECOND YEAR

1st Semester

RADI 217 Clinical Educ. I	3
RADI 225 Clinical Practicum I	<u>9</u>
	12

2nd Semester

RADI 218 Clinical Educ. II	3
RADI 226 Clinical Practicum II	<u>9</u>
	12

3rd Semester

RADI 219 Clinical Educ. III	3
RADI 227 Clinical Practicum III	<u>9</u>
	12

Total Credits = 78

*MATH 110 proficiency (demonstrated by placement exam)

**ISYS 202 will be acceptable.

***HLTH 125 will be acceptable

**** HUMN 320 will be acceptable

FERRIS STATE UNIVERSITY
COLLEGE OF ALLIED HEALTH SCIENCES

RADIOGRAPHY
(Associate Degree in Applied Science)

CURRICULUM GUIDE SHEET

PRE-REQUISITES:

HIGH SCHOOL:	G.P.A.	Minimum	OR	COLLEGE:	G.P.A.	Minimum
	Algebra	2.50			Algebra	2.00
	Biology	3.00			Biology	2.00
	Chemistry				Chemistry	

FIRST YEAR	CREDITS	SECOND YEAR	CREDITS
RADI 120 Radiologic Technology I	4	RADI 217 Clinical Education 1	3
RADI 130 Radiologic Imaging	4	RADI 225 Clinical Practicum 1	9
BIOL 109 Basic Human Anatomy & Physiology	4	RADI 218 Clinical Education 2	3
*ISYS 105 Microcomputer Applications	3	RADI 226 Clinical Practicum 2	9
RADI 140 Radiologic Positioning	4	RADI 219 Clinical Education 3	3
RADI 150 Related Radiographic Topics	4	RADI 227 Clinical Practicum 3	9
ENGL 150 English 1	3		
MRIS 102 Orientation to medical Vocabulary	1		
Social Awareness Elective	3		
RADI 160 Advanced Radiologic Positioning	5		
ENGL 250 English 2	3		
HUMN 320 Biomedical Ethics	3		
HLTH 128 First Aid for Designated Fields	1		
**MATH 110 Fundamentals of Algebra	0		

CURRICULUM EVALUATION

This section contains the JRCERT (Joint Review Commission of Education on Radiologic Technology) 1991 report and recent surveys.

An Analyst Summary of this demonstrations:

1. **Radiography Program meets University requirements.** The Radiography Program meets or exceeds all requirements for Communication, Social Awareness, Radiographic Understanding. In the addition the Radiography Program exceeds the minimum required credits of 68 semester.

2. **Radiography curriculum provides courses that prepare graduates for the workplace.** The on-campus curriculum covers the fundamental topics, giving the students a sound foundation in radiography. The internship program courses build on this foundation giving the graduates "real world" experiences.

Although the Radiography Program has, since its activation in 1966 pursued a program of continual self evaluation, it perceives the Program Review, the Program's Unit Action Plan and the upcoming professional accreditation in June 1997 as an opportunity for a more formal and in-depth study.

In critiquing this report, it should be remembered and understood this program is a two phase program with personnel, materials and facilities dedicated to each of the distinctly different program phases, i.e. on campus and off-campus. As a consequence, the strengths and concerns is a summation of the total program.

A. **Strength** - The major identifiable strengths of this program include:

1. An exceptionally dedicated, competent and conscientious clinical and campus faculty.
2. A program structure that provides the student with the advantages of an essential full-time clinical education during the final phase of their education; that is 40 hours per week for 16 weeks. The clinical atmosphere provides ample opportunity to learn from mistakes in a less stressful environment than would prevail if patient care were involved.
3. The students are provided an accurate descriptions of the program and its content, including learning goals, course objectives, and competencies.
4. The availability of a series of energized laboratories in a simulated environment.

The utilization of energized laboratories in a simulated, hospital-like environment has allowed the program to develop learning experiences that could only take place in a patient free radiography setting.

Funding through the Carl Perkins Vocational Educational Act has help the Radiography Program immensely with this ability the program has been able to purchase two new general radiography rooms and one general radiography/fluoroscopy unit. Funding through this act has also helped in purchasing QA equipment, interactive CD rooms, and a multi-media computer system.

5. The program is enhance by the support of a cadre of dedicated clinical affiliates. constructively and effectively support the program despite the negative impact of current problems with the health care environment. More specifically, the clinical affiliates have not asked for reimbursement for participation in the program.

B. **Weaknesses** - The major identifiable areas of concern are:

1. Static professional exam results and low scores compared to the nation.
The majority of the graduates pass the national certification on the first try but as class it takes two more exam before the class as a whole becomes certified.

Through recent analysis the Ferris Radiography Student averages about 76 to 80% where as the national trend is at about 85%. The program believes that Ferris's open enrollment, student attitudes and poorly prepare pre-radiography students are the reason for the low scoring.

2. Static supply and expense budget

The Radiography Program has had a relatively constant supply and expense for several years. The program has had to rely on donations, Prekins grant (which will be eliminated by 1998) to maintain a supply and expense budget. It should be noted that all programs are subject to the same budget restrictions.

3. The availability of information as related to job opportunities.

Although the student are presented with information on the University Placement Office during orientation and lecture somewhere during the 24 month program the student loses an awareness of the job outlook .

4. Communication with the Clinical Sites and Advisory Committee

There is a need for better communication between the Clinical Sites, Advisory Committee and Radiography Program all parties must come to realize that communication is a two way street. Its recommended that the Clinical Sites and Advisory Committee review program content on a regular basis and their input be evaluated and used in program development.

C. Plans for Program Improvement

With a commitment on the part of the administration of the College of Allied Health Sciences, and with the support of the faculty and affiliated clinical sites, it is envisioned that the following actions will eliminate or lessen the impact of programmatic elements viewed as a weaknesses.

1. Crediatialing results - The issue of increasing the number of graduates passing the ARRT Credentialing examination will be central to the Program's concerns until that time it is resolved.

The action to be taken:

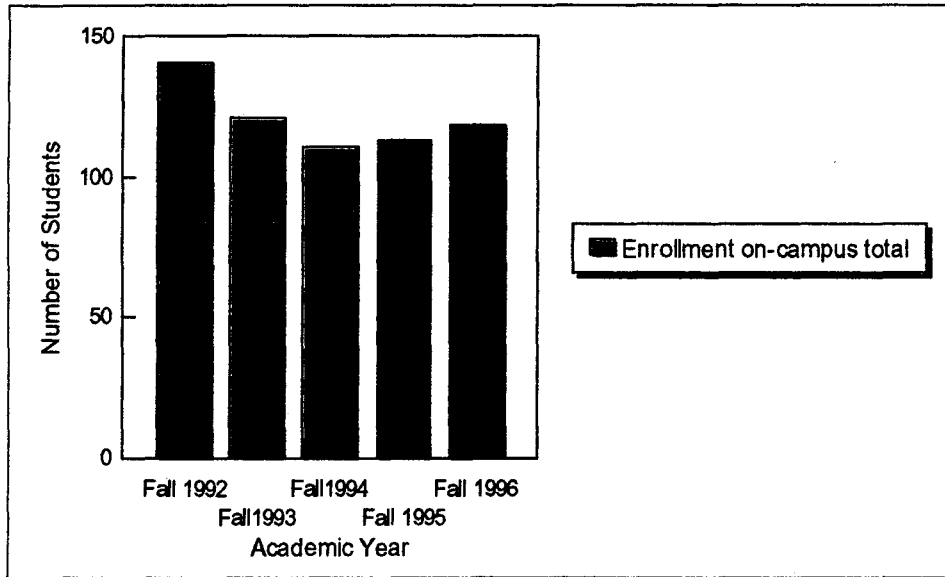
- a) Come to closure on a permanent Program Progression Policy.
- b) The activation of a formal registry review.
- c.) A study to determine the need for a first year comprehensive final examination.
- d.) An aggressive counseling program. Under this system, each student who displays academic difficulties is required to meet and talk with his/her faculty advisor at least three times a semester.

2. Static supply and expense budget - The Radiography Program, as well as all the other program at the University, as well as all the other programs at the University, have been subjected to the same budget restriction. All faculty are continually being asked to look for grants, donations and the creation of money-making seminars or to look for sources of material support outside the University.
3. Availability of job placement information - This concern will be resolved by increased utilization of the Ferris Placement Office and through the student's introduction to special publication of the professional journals.
4. Communication the Clinical Sites and Advisory - A more of a permanent Clinical Coordinator and immediate implementation of the Radiography Program Unit Action Plan.

ENROLLMENT TRENDS

The five year enrollment trends are presented below. Student numbers are based on 7- day count for semester, 5-day count for quarters.

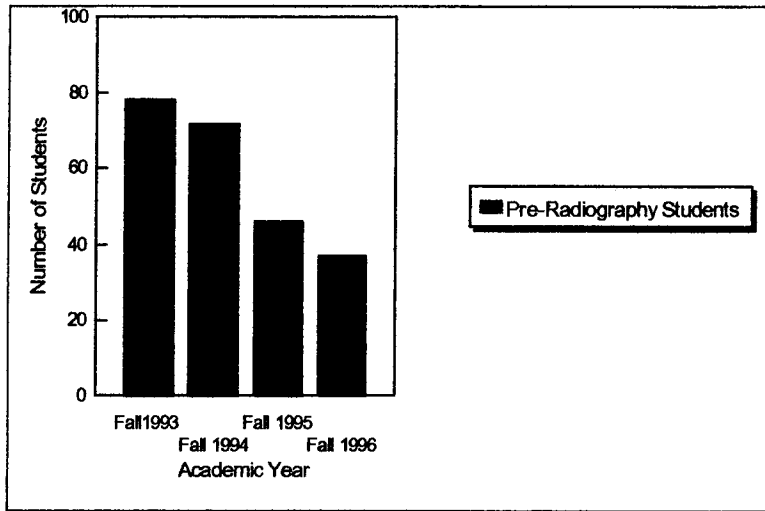
<u>Fall 1992</u>	<u>Fall 1993</u>	<u>Fall 1994</u>	<u>Fall 1995</u>	<u>Fall 1996</u>
141	121	111	113	119



The Radiography Program has good and stable enrollment

PRE-RADIOGRAPHY TRENDS

	Fall 1992	Fall 1993	Fall 1994	Fall 1995	Fall 1996
Pre-Radiography	0	78	72	46	37



LABOR MARKET ANALYSIS

The Ferris Radiography Graduate has had never a problem with employment all the graduates are employed as general radiographers, ultrasound technician, supervisors of radiology departments and further their education to become physicians assistants, and physicians.

Employment Outlook

Nationally, there were about 166,900 Radiographers employed in 1994 (the most recent statistics). Employment in this occupation is expected to grow faster than the average for occupations through the year 2005. Radiology is a dynamic field with vast potential and current as well as new uses of imaging equipment are virtually certain to increase demand for Radiographers.

The following are industry distribution statistics development by the Michigan Occupation Information System 1997

	% Employed
Hospital, Public and Private	57%
Offices of Physicians including Osteopaths.....	31.4%
Outpatient Clinics.....	5.1%
Federal Government.....	2.1%
Others	4.2%

Despite faster than average employment growth as radiation is increasingly used to diagnose and treat diseases, graduates of the Ferris Radiography Program may face competition for choice positions. As outpatient utilization (visit and surgeries) continues to rise, employment opportunities should likewise increase in such outpatient facilities as well as in HMO's. There is a shortage of Radiologic Technicians. Part-time workers will find the best opportunities in physicians' offices and clinics.

There are approximately 6,500 Radiographers employed in Michigan in 1996-most work in the urban areas. All are employed in the health service industry, primarily in hospitals. The remainder worked in out-patient clinics, HMO's, physicians' offices.

According to the MOIS 1997 employment of Radiographers in Michigan is expected to grow much faster than the average for all occupation through the year 2005. An average of 270 annual openings is expected, with 180 due to growth and 90 to replacement of those who retired or leave the labor force for other reasons. Additional openings will occur as workers change jobs or occupations.

Michigan's growing and aging population (which tends to require more diagnostic and therapeutic services), expansion of the kinds of facilities that provide radiologic services, and new imaging equipment, filmless radiography, teleradiology will result in the need of highly qualified radiographers. The decline of some hospital-based radiography programs and junior colleges, (due to Federal, State, JRCERT regulation), will led to shortage of Radiographers.

Radiographers trained in other radiologic modalities, e.g. ultrasound, radiation therapy, nuclear medicine will have the best opportunities, particularly because of the discovery of new medical procedures.

ADMINISTRATIVE DIRECTOR RADIATION ONCOLOGY

James Graham Brown Cancer Center affiliated with the University of Louisville Hospital is seeking an Administrative Director for the Department of Radiation Oncology to join its management team.

The successful candidate will supervise the clinical activities of an academic radiation oncology department, and be responsible for planning, coordinating, and directing all activities for the department. This individual will report directly to the Administrator of the Brown Cancer Center and the Chairman of Radiation Oncology.

The soon to be renovated department is being equipped to house:

- > 4 Linear Accelerators (with Multileaf collimation and on-line digital portal imaging): 2 Philips SL25, a Philips SL15, and a Philips 75/5
- > 2 Philips SLS23 Simulators
- > A dedicated Philips 6000 CT Scanner
- > An ADAC Pinnacle Treatment Planning Computer including 3D planning

The department has an active brachytherapy (including a Nucletron HDR afterloader) and a stereotactic radio-surgery programs. There is a residency program in Radiation Oncology and a certificate program in Radiation Therapy. A baccalaureate program in Radiation Therapy will be activated next year.

Requirements for this position include: A baccalaureate degree in a health care field with a minimum of 3 to 5 years of management experience and 3 years of clinical experience with radiation oncology experience preferred.

Superior organizational and communicative skills are essential. Competitive salary with a comprehensive benefit package.

Louisville, home of the Kentucky Derby, provides a variety of cultural, recreational, and educational activities. The city is situated on the Ohio River and is centrally located within a few hours from such major cities as Chicago, St. Louis, Indianapolis, Cincinnati, and Nashville.

James Graham Brown Cancer Center

University of Louisville Hospital

530 South Jackson St., Louisville, KY 40202

502-562-3156

Assistant Imaging Supervisor

St. Luke's-Roosevelt Hospital Center, a premier teaching hospital affiliated with Columbia University College of Physicians & Surgeons, is seeking a knowledgeable professional to supervise the technical and administrative functions of our Nuclear Cardiology Lab and coordinate the daily operation of the Nuclear Cardiology Section of our Nuclear Medicine Unit.

You will assign work, monitor productivity and review test results, maintain performance standards, train new employees and recommend changes in policies and procedures. Completion of an accredited nuclear medicine technology course, with AART or NMYCB registry or certification required. 1-2 years of nuclear cardiology and supervisory experience necessary. The ability to achieve with minimal supervision is essential.

We offer a highly competitive salary and comprehensive benefits program. Qualified candidates should mail or fax resume to:

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New York, NY 10019
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Personnel Dept.  
St Joseph's Hospital Health Center  
310 Prospect Ave.  
Syracuse, New York 13203  
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## B R E A S T - C A N C E R F A C T

*In 1955, the American Cancer Society introduced breast self-examination.*

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We offer an excellent opportunity with a company that over the last several years has developed an excellent reputation in the magnetic resonance imaging industry. Various MR application specialist positions are available nation-wide. You will be responsible for performing customer training along with sales and marketing support.

Candidates must have MR clinical experience, be ARRT certified in radiology and be willing to travel extensively. Training background would be a plus. A competitive salary and participation in our comprehensive benefits program are part of our compensation package.

Qualified candidates should forward their resume to MR Applications Department at:  
**Hitachi Medical Systems America, Inc.**

1963 Case Parkway  
Twinsburg, OH 44087  
FAX: (216) 425-1410

## Roper CareAlliance

**REGISTERED ULTRASOUND TECHNOLOGIST:** One full time position available to work days Monday through Friday. Candidate must be a graduate of an approved school by the Joint Review Committee on Education in Radiologic Technology. Minimum three years previous technical experience helpful. Candidate must also have the ability to perform at least one specific special modality. Must possess certificate of Education in Radiologic Technology and have current Registry by ARRT. Candidate must be a registered sonographer by the American Registry of Diagnostic Medical Sonographers.

Submit resumes to: Human Resources Department, *Roper CareAlliance*, 316 Calhoun Street, Charleston, SC 29401 or call (803) 724-2136.

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eoe

**Roper CareAlliance**

## SONOGRAPHER

### MATERNAL FETAL MEDICINE

#### Greenville Hospital System

The Greenville Hospital System, the largest multi-hospital system in South Carolina and a leader in research, medical education and critical care, has an excellent career opportunity for a full-time Maternal Fetal Medicine Sonographer. The qualified candidate should be ARDMS certified in OB/GYN. Five (5) years OB/GYN experience preferred. High risk OB experience a plus. Office hours are Monday-Friday, 8:00 a.m. to 5:00 p.m.

Located between Charlotte, N.C. and Atlanta, GA., the Greenville Hospital System offers a competitive salary and excellent benefits package. For confidential consideration, apply in person or send resume to: **Employment Department, 701 Grove Road, Greenville, SC 29605. Fax (864) 455-6218. EOE**

## South and Midwest

### THE SUNNY PALM BEACHES!!! MOBILE ULTRASOUND

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Excellent Financial Packages (commensurate with Registries and Experience), Health, Life and other Benefits!

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2237 S. CONGRESS  
WEST PALM BEACH, FL 33406  
PHONE: 561-641-8160  
FAX: 561-641-6628**

## CT Technologist

Durham Regional Hospital currently has an opening for a CT Technologist. One year of experience and ARRT certification required. Evening shift.

In addition to a stimulating collaborative teaching environment, we also offer a competitive salary and an excellent benefits package. For consideration, please send your resume to:  
**Recruitment Department, Durham Regional Hospital, 3643 North Roxboro Street, Durham, NC 27704; (800) 233-3313; or fax to: (919) 470-7376. EOE/AA.**

**Durham Regional Hospital**

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PROMINENCE

STRONG  
FAMILY VALUES

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DIVERSITY

EDUCATIONAL  
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STRENGTHS

These are the threads that form the fabric of the community in Abilene, Texas. And opportunities exist for Ultrasound Technologists and Mammography Technologists and their families to weave into that fabric under a blanket of professional excellence and strong community values.

Full-time positions are now available for Ultrasound Technologists and Mammography Technologists, all with the possibilities of job growth.

Benefits are good - full-time positions include 21 days paid time off, 403(b) annuity plan, medical & dental insurance, long-term disability plus health club access and a flexible spending account.

Professional excellence, quality healthcare, family values and a strong sense of community are all important considerations when looking to make a move. Hendrick Medical Center in Abilene, Texas, offers all of these things.

For more information, contact:

**HENDRICK MEDICAL CENTER**

Attn. Kathy Galinak  
1242 N. 19th St. - Abilene, TX 79601  
(915)670-3181 - 1-800-833-2289 Fax: (915)670-4417  
E-mail: kgalinak@hendrick.org

# Midwest and West

## ULTRASOUND TECHNOLOGISTS

\$3,000 Sign On Bonus

Butterworth Health System, a leader in advancing quality health care in West Michigan, has excellent opportunities for Ultrasound Technologists in the following positions:

\*Full time, first shift position alternating sites between our new Health Pavilion and Butterworth Hospital. Current hours are 8:00a-4:00p, Monday-Friday, no on-call. Reference # 96-1351.

\*Full time, first shift position with occasional on call weekends at Butterworth Hospital. Current hours are 7:30a-6:00p, four days per week. Reference # 96-1070

ARDMS certification in Abdomen and Obstetrics or eligibility for registration is a requisite for these positions.

We are located in Grand Rapids, MI, one of the nation's top cities in which to live, within easy driving distance of the Great Lakes. We offer a competitive salary and benefits package.

Apply or send resume to: Butterworth Hospital, 100 Michigan NE, Grand Rapids, MI 49503. Phone (616) 391-1760 or 1-800-347-5455, FAX (616) 391-2780. Please include reference numbers listed above on all correspondence. Equal Opportunity Employer. Smoke Free Environment.

# ULTRASONOGRAPHER

Progressive Radiology Department has a Full-time opening. Will perform the latest ultrasound diagnostic procedures to include: General, Vascular and Cardiac. Must be able to work independently. Experience preferred, but will consider new graduate. Registered or registry eligible. UMC offers competitive salary and a multi-benefit package and WY offers quiet living with NO STATE INCOME TAX! Please send or fax resume to:



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## Ultrasonographer

### IOWA HEALTH SYSTEM

has an opening for a FT Ultrasonographer to work in our Iowa Methodist Medical Center Radiology and Perinatal departments.

Will perform OB and abdominal ultrasound exams as well as a variety of other ultrasound exams. Requires ARDMS registry or registry eligible in abdomen and OB ultrasound. Must have flexibility to take call and some weekend coverage. We offer a competitive salary and flexible benefit package.

Submit resumes to:



IOWA HEALTH  
SYSTEM

Janna Rensch  
Human Resources Dept.  
1313 High Street Suite 111  
Des Moines, IA 50309  
(800) 843-4522  
(515) 241-5309  
Fax: 515-241-8515  
EOE/AA/M/F/D/V

## RADIOLOGY SUPERVISOR

An exciting, challenging and rewarding supervisory opportunity is available at St. Francis Hospital and Medical Center, a 378-bed tertiary facility located in Topeka, KS.

Responsibilities include overall functions of diagnostic radiology, CT, and ultrasound. Requires Baccalaureate degree in business or health related field, ARRT. 2 years supervisory experience in an imaging modality required. For consideration, FAX resume to Makeba Whitcomb, (913) 295-5584 or call 1-800-444-2954 for more information.

## St. Francis Hospital and Medical Center



1700 West 7th Street  
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## PROGRAM PRODUCTIVITY COSTS

The productivity and costs data below is derived from documentation provided by the Office of Institutional Studies and is most current data available. Data from 1992-1993 was based on academic quarters while 1993-1994 data was based on the semester system, so a comparison of data between 1992-1993 and 1993-1994 is not done, as the data is not comparable. As the enrollment and retention rates of the radiography program increase so does the number of student credit hours generated.

We as program have been concerned that all radiography students are not included in the data generated below. More recently our students are pursuing dual degrees in Health System Management, Nuclear Medicine and Applied Biology their radiography degrees. These students are not usually recognized in the computation of radiography program data even though they take our courses and utilize our resources because they are recognized as B.S. degree or later program students.

### STUDENT CREDIT HOURS

|         | SUMMER | FALL  | WINTER | F+W   |
|---------|--------|-------|--------|-------|
| 1993-94 | 0      | 1,220 | 1,168  | 2,388 |
| 1994-95 | 833    | 1,132 | 1,108  | 2,240 |

### FULL TIME EQUATED FACULTY

|         | SUMMER | FALL | WINTER | F+W  |
|---------|--------|------|--------|------|
| 1993-94 | 0      | 1.78 | 1.5    | 3.27 |
| 1994-95 | 0.6    | 1.5  | 1.5    | 3    |

### SCH/FTEF

|         | Summer   | Fall   | Winter | F+W    |
|---------|----------|--------|--------|--------|
| 1993-94 | 0        | 687.32 | 778.67 | 729.16 |
| 1994-95 | 1,376.86 | 754.67 | 738.67 | 746.67 |

### PERSONNEL

(Fall)

|                                | 1992 | 1993 | 1994 | 1995 | 1,996 |
|--------------------------------|------|------|------|------|-------|
| Tenure Track FTE               | 2    | 2    | 2    | 2    | 2     |
| Overload/Supplemental FTEF     | 1    | 1.27 | 1    | 1    |       |
| Adjunct/Clinical FTEF (unpaid) | 52   | 52   | 52   | 52   | 52    |

The program had maintain three full time tenured faculty and a program director since its conception until a retirement in 1992, since that time the replacement faculty member has been hired temporary full time. Part -time faculty are utilized for clinical instruction and in the laboratory assessment and instruction of clinical students

The combined professional experience of the faculty is approximately 50 years of which more than two-thirds is in education. All full-time faculty have B.S. degrees. To varying extents all have been involved in local, state and national professional associations.

The program has been very fortunate to have approximately 52 unpaid adjunct clinical instructors working with our students each semester. This is significant in light of the fact that all of the community colleges in Michigan that have radiography program pay anywhere between \$.50 and \$1.50 per hour per student to have a student in a clinical site at a hospital. We have been able to compete for clinical sites by preparing a more highly qualified student ready to assume some radiography duties after a brief orientation to the clinical education sites. Unfortunately this program does require some didactic and clinical instruction, but as we add new clinical sites the program is moving towards strictly clinical training.

### Financial

| Expenditures*    | FY92     | FY93     | FY94     | FY95     | FY 96    |
|------------------|----------|----------|----------|----------|----------|
| Supply & Expense | \$15,598 | \$23,930 | \$15,957 | \$18,955 | \$17,173 |
| Equipment        |          |          |          |          |          |
| Gifts and Grants | \$6185   | \$105    | \$197    | \$5,224  | \$331    |

\*Use end of fiscal year expenditures

The Radiography Program supply and expense budget has relatively static since the 1970's. The program has maintained the high quality of instruction through the utilization of donated equipment, radiographic film and supplies and funding through the Vocational Education grants and some alumni contributions

Review of instructional supply needs of the program suggests the need to continue to expand the availability of instructional and testing computer software for student use.

The current equipment list is to be completed with a high frequency, programmable console radiographic equipment.

## **Graduate Follow-up Survey**

Included in this section is graduate data. Survey conducted by the Radiography Program for 1991-1994 received insufficient response to be statistically valid. The 1995 survey is in the final stages in the Radiography Program and was not available for this report

### **Summary Results (165 surveys sent out 75 surveys returned)**

1. 95% of the returned surveys the graduates were working between 35 to 40 hours per work.
2. The starting salary range for a radiographer according to the MOIS (Michigan Occupational Information System 1997) is about \$24,00. The Ferris Graduate is earning \$24,960-\$27,000 annually
3. 100% of the returned surveys showed that all graduate hold the title Radiographer (RTR), which must be attained by a national credentialing exam.
4. 20% of graduates went on to obtain their BS

This program is getting ready to move into the 21st Century the Radiography Program must be ready to serve our graduate in the area of continuing education and advance degree work. The graduates were asked if Ferris were to offer a BS in Radiological Health 27 graduates answered yes. In the area of continuing education the largest response was in the are of Ultrasound.



**SECTION II - FURTHER EDUCATION**

IF YOU ARE ENROLLED OR HAVE BEEN ENROLLED IN SOME TYPE OF FURTHER EDUCATION PROGRAM SINCE GRADUATING FROM YOUR ALLIED HEALTH PROGRAM, PLEASE COMPLETE THIS SECTION OF THE QUESTIONNAIRE. OTHERWISE, GO DIRECTLY TO SECTION 3 - EMPLOYED.

1. What type of school or program are you/were your attending?
    1. Continued at Ferris in \_\_\_\_\_ program
    2. Community or junior college (5)
    3. Four year college or university (6)
    4. Private school (1)
    5. Apprenticeship
    6. On-the-job training (10)
    7. Specialized occupational military training
    8. Other (please specify) \_\_\_\_\_
  
  2. What is your highest degree?
    1. A.A.S. (34)
    2. B.S. (3)
    3. M.S.
  
  3. What degree do you plan to pursue?
    1. B.S. (15)
    2. M.S. (5)
    3. Other \_\_\_\_\_
  
  4. If Ferris offered a baccalaureate degree in Radiological Health Sciences, would you have pursued it when you were a student at Ferris?

|        |       |
|--------|-------|
| 1. Yes | 2. No |
| (27)   | (1)   |
  
  5. Would you be interested in a continuing education program at Ferris in any of the following:
    1. Radiation Biology and Protection (3)
    2. Digital Radiography (6)
    3. Nuclear Medicine Resonance (2)
    4. Quality Assurance & Equipment Testing (4)
    5. Ultrasound (14)
    6. Special Procedures (4)
    7. Other
-

**SECTION III - EMPLOYED**

IF YOU ARE EMPLOYED FULL OR PART-TIME, PLEASE COMPLETE THIS SECTION OF THE QUESTIONNAIRE. OTHERWISE, GO DIRECTLY TO SECTION 4 - INSTRUCTION.

1. What is your present job title? \_\_\_\_\_

2. Length of time with present employer.

- 1. Less than 1 month (2)
- 2. Less than 1 year (20)
- 3. More than 1 year (52)

3. Length of time in present position.

- 1. Less than 1 month
- 2. Less than 1 year
- 3. More than 1 year

4. Briefly describe your major tasks and responsibilities.

---

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5. How satisfied are you with your present job?

- 1. Very satisfied (30)
- 2. Satisfied (32)
- 3. Neither satisfied nor dissatisfied (8)
- 4. Dissatisfied (4)

6. Would you say that your present employment is:

- 1. What you were educated to do at Ferris State University (48)
- 2. Related to your education at Ferris State University (43)
- 3. Not related to your education at Ferris State University (3)

7. What is your current approximate salary?

|         |              |        |        |        |        |         |         |         |         |         |         |
|---------|--------------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
|         |              |        | (1)    | (1)    | (4)    | (7)     | (11)    | (22)    | (14)    | (8)     | (3)     |
| Hourly  | UNDER \$5.01 | \$6.01 | \$7.01 | \$8.01 | \$9.01 | \$10.01 | \$11.01 | \$12.01 | \$13.01 | \$14.01 | OVER    |
|         | \$5.00       | \$6.00 | \$7.00 | \$8.00 | \$9.00 | \$10.00 | \$11.00 | \$12.00 | \$13.00 | \$14.00 | \$15.00 |
| Monthly | UNDER \$868  | \$1041 | \$1214 | \$1388 | \$1561 | \$1734  | \$1907  | \$2081  | \$2237  | \$2409  |         |
| OVER    | \$867        | \$1040 | \$1213 | \$1387 | \$1560 | \$1733  | \$1906  | \$2080  | \$2236  | \$2408  | \$2581  |
|         |              |        | (1)    |        |        |         |         |         | (1)     |         |         |

**(QUESTIONS REFER TO MAJOR LABS ONLY.)**

8. The equipment at Ferris was such that:
1. I found it very easy to adapt to the equipment on the job (37)
  2. I had some problems adapting to the equipment on the job (24)
  3. I found it very difficult to adapt to the equipment on the job(5)
9. In comparison to the facilities and equipment used on your present job, how would you rate the facilities and equipment at Ferris.
1. Facilities and equipment at Ferris were superior to those on the job. (3)
  2. Facilities and equipment at Ferris were similar to those on the job. (28)
  3. Facilities and equipment at Ferris were inferior to those on the job. (34)
10. If you answered response "3" (inferior) in question #8, was your response due to:
1. Facilities and equipment at Ferris were obsolete (8)
  2. Facilities and equipment at Ferris were in need of repair (5)
  3. Facilities and equipment at Ferris were not of the quality that you use on the job (30)
  4. Facilities and equipment at Ferris were not available in sufficient quantities to allow adequate availability to students
  5. Other (please specify) \_\_\_\_\_
11. Was your internship a valuable educational experience for your present position?
1. Yes (64)
  2. To a degree (partly) (6)
  3. No
12. What employment benefits do you receive?
1. General health insurance (57)
  2. Dental insurance (47)
  3. Free dental care by employer (3)
  4. Life insurance (42)
  5. Liability insurance (20)
  6. Vacation days - number/year \_\_\_\_\_ (56)
  7. Sick days - number/year \_\_\_\_\_ (41)
  8. Profit sharing (16)
  9. Paid time off for continuing education (21)
  10. Course fees for continuing education (31)
  11. Other (describe) \_\_\_\_\_ (4)
    - a. 2 weeks paid vacation
13. Which of the following best describes your economic responsibility?
1. Support of self only (28)
  2. Sole support of self and dependents (husband, children, etc.) (5)
  3. Two income household with or without children (31)
  4. Other (describe) \_\_\_\_\_ (0)



**SECTION IV - UNEMPLOYED**

1. What resources have you tried to use for securing radiography or nuclear medicine technology employment?
  1. Ferris Placement Office (3)
  2. The National Health Professions Placement Network (2)
  3. Newspaper/journal ads (17)
  4. Family doctor (1)
  5. Other (describe) \_\_\_\_\_ (1)
  
2. What is the one most important reason why you are not employed as a technologist?
  1. Suitable technologist position not available (3)
  2. Cannot move to another city where jobs are available (1)
  3. Dislike employment as a technologist (2)
  4. Continuing education (3)
  5. Family responsibilities
  6. Poor health
  7. Other  
(describe) \_\_\_\_\_
  
3. Would you consider moving to another Michigan city if a full-time technologist position were available?
  1. Yes                      2. No  
(10)                              (8)
  
4. Would you consider moving to another state if a full-time technologist position were available?
  1. Yes                      2. No  
(7)                              (8)

**SECTION V - INSTRUCTION**

EVERYONE SHOULD COMPLETE THIS SECTION

QUESTIONS 1-4 REFER TO MAJOR ONLY

1. How would you rate the teaching quality of the instructors you had at Ferris?
  1. Most of the instructors taught very well (64)
  2. About the same number taught well as did not (13)
  3. Most of the instructors did not teach well (3)
  
2. How would you rate the knowledge of the instructors you had at Ferris?
  1. Most were very knowledgeable (65)
  2. About the same number were knowledgeable as were not (9)
  3. Most were not knowledgeable (1)

3. How would you rate the interest shown by your instructors in your work progress?
  1. Most instructors were very interested in my progress (60)
  2. About the same number were interested as not interested in my progress (13)
  3. Most instructors did not seem interested in my progress (3)
  
4. How would you rate the extent to which your instructors at Ferris were up-to-date in their field?
  1. Most instructors were up-to-date (65)
  2. About the same number were up-to-date as were not (9)
  3. Most instructors were not up-to-date (1)
  
5. How would you rate the extent to which your program at Ferris State University prepared you for employment?
  1. Very good (25)
  2. Good (25)
  3. Adequate (14)
  4. Poor (0)
  5. Very poor (0)
  
6. If you had it to do all over again, would you still choose to attend Ferris State University?
  1. Yes (66)
  2. No (7)
  
7. If you answered "yes" to the question above (number 6), would you choose the same program in which you received your degree?
  1. Yes (51)
  2. No (15)
  
8. Do you feel you need additional education in any of the following areas to improve your effectiveness as a technologist?
  1. Computer (17)
  2. Special studies (18)
  3. Other (specify) \_\_\_\_\_
  
9. List any clinical skill that you feel should have had more emphasis when you were a student.
 

|                   |                     |                  |
|-------------------|---------------------|------------------|
| a. Tech. Factors  | e. Tomograms        | i. surgery cases |
| b. Phlebotomy     | f. Portables        | j. use of real   |
| c. Drug reaction  | g. Pathology        | people in lab    |
| d. More lab. time | h. Rad. Positioning |                  |
  
10. How helpful was your faculty advisor?
  1. Very good (25)
  2. Good (26)
  3. Adequate (15)
  4. Poor (4)
  5. Very poor (0)

4. How would you rate the emphasis placed upon basic educational skills in your program at Ferris State University?

|                                | <u>Very High</u> | <u>High</u> | <u>Adequate</u> | <u>Low</u> | <u>Very Low</u> |
|--------------------------------|------------------|-------------|-----------------|------------|-----------------|
| a. Math skills                 | 1<br>(11)        | 2<br>(19)   | 3<br>(29)       | 4<br>(8)   | 5<br>(5)        |
| b. Reading skills              | 1<br>(12)        | 2<br>(17)   | 3<br>(40)       | 4<br>(3)   | 5<br>(1)        |
| c. Writing skills              | 1<br>(5)         | 2<br>(22)   | 3<br>(36)       | 4<br>(3)   | 5<br>(1)        |
| d. Verbal communication skills | 1<br>(17)        | 2<br>(34)   | 3<br>(31)       | 4<br>(1)   | 5<br>(0)        |

Comments and/or suggestions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**SECTION VII - GRADUATE SELF-EVALUATION**

INSTRUCTION: In this section, you are asked to compare your educational knowledge and skills to other radiography graduates having a similar amount of work experience at your place of employment. The information you provide will be kept confidential.

|                                                                            | <u>1<br/>Better<br/>Preparation</u> | <u>2<br/>About Same<br/>Preparation</u> | <u>3<br/>Less<br/>Preparation</u> |
|----------------------------------------------------------------------------|-------------------------------------|-----------------------------------------|-----------------------------------|
| 1. Providing radiation protection                                          | 20                                  | 47                                      | 0                                 |
| 2. Understanding radiation biology                                         | 20                                  | 48                                      | 2                                 |
| 3. Ethics, nursing procedures, patient care                                | 23                                  | 47                                      | 4                                 |
| 4. Understanding "the Health Care System"                                  | 14                                  | 46                                      | 7                                 |
| 5. Medical and radiology terminology                                       | 21                                  | 48                                      | 2                                 |
| 6. Understanding normal anatomy and physiology                             | 21                                  | 48                                      | 3                                 |
| 7. Understanding disease processes and pathology relevant to radiographers | 21                                  | 44                                      | 7                                 |
| 8. Film processing                                                         | 22                                  | 45                                      | 4                                 |
| 9. Screens, grids, filters                                                 | 18                                  | 42                                      | 4                                 |
| 10. Principles of diagnostic imaging (radiographic exposure)               | 15                                  | 55                                      | 3                                 |
| 11. Radiographic procedures (positioning)                                  | 20                                  | 43                                      | 13                                |
| 12. Film evaluation                                                        | 15                                  | 40                                      | 15                                |
| 13. Radiation physics                                                      | 19                                  | 39                                      | 9                                 |
| 14. Equipment testing                                                      | 16                                  | 45                                      | 4                                 |
| 15. Quality assurance                                                      | 16                                  | 47                                      | 4                                 |
| 16. Computing principles                                                   | 13                                  | 50                                      | 6                                 |
| 17. Special procedures                                                     | 16                                  | 39                                      | 13                                |
| 18. Mobile radiography                                                     | 19                                  | 50                                      | 3                                 |
| 19. Computer tomography, digital fluoroscopy                               | 6                                   | 49                                      | 11                                |
| 20. Mammography                                                            | 7                                   | 36                                      | 22                                |
| 21. Nuclear magnetic resonance                                             | 3                                   | 39                                      | 21                                |
| 22. Ultrasound                                                             | 4                                   | 38                                      | 21                                |

**SECTION VI - ANCILLARY SERVICES**

**EVERYONE SHOULD COMPLETE THIS SECTION**

1. How would you rate the quality of the following services as provided at Ferris State University?

|                                                             | <u>Good</u> | <u>Adequate</u> | <u>Poor</u> | <u>No<br/>Opinion</u> |
|-------------------------------------------------------------|-------------|-----------------|-------------|-----------------------|
|                                                             | 1           | 2               | 3           | 4                     |
| a. Job placement                                            | (11)        | (12)            | (16)        | (36)                  |
| b. Counseling with personal problems                        | 1           | 2               | 3           | 4                     |
|                                                             | (12)        | (14)            | (5)         | (39)                  |
| c. Help in making career decisions                          | 1           | 2               | 3           | 4                     |
|                                                             | (14)        | (14)            | (9)         | (39)                  |
| d. Help in securing part-time employment                    | 1           | 2               | 3           | 4                     |
|                                                             | (7)         | (10)            | (19)        | (37)                  |
| e. Help in obtaining financial assistance                   | 1           | 2               | 3           | 4                     |
|                                                             | (9)         | (24)            | (15)        | (15)                  |
| f. Professional organizations                               | 1           | 2               | 3           | 4                     |
|                                                             | (11)        | (24)            | (6)         | (27)                  |
| g. Study, library and other learning<br>resource facilities | 1           | 2               | 3           | 4                     |
|                                                             | (32)        | (17)            | (2)         | (7)                   |
| h. Student developmental services                           | 1           | 2               | 3           | 4                     |
|                                                             | (12)        | (19)            | (1)         | (34)                  |

2. How helpful was your faculty advisor in assisting you to plan your program?

1. Very helpful (32)
2. Somewhat helpful (35)
3. Not very helpful (5)

3. How would you rate your improvement of basic educational skills as a result of courses taken at Ferris State University?

|                                | <u>Good</u> | <u>Adequate</u> | <u>Poor</u> | <u>No<br/>Opinion</u> |
|--------------------------------|-------------|-----------------|-------------|-----------------------|
|                                | 1           | 2               | 3           | 4                     |
| a. Math skills                 | (21)        | (29)            | (7)         | (11)                  |
| b. Reading skills              | 1           | 2               | 3           | 4                     |
|                                | (25)        | (33)            | (0)         | (13)                  |
| c. Writing skills              | 1           | 2               | 3           | 4                     |
|                                | (25)        | (36)            | (2)         | (10)                  |
| d. Verbal communication skills | 1           | 2               | 3           | 4                     |
|                                | (29)        | (34)            | (1)         | (8)                   |

## **EMPLOYER FOLLOW-UP SURVEY**

The results of 1996 Employer Follow-Up Survey are attached along with the comments made by the employers. One hundred fort-three surveys (143) were mailed to employers' fifty-nine (59) responses were received. This constitutes a 41% return. No second attempt was made

### **Summary of Results**

The overall response of the employer survey demonstrates:

1. In comparing the Ferris Radiography Graduate in the areas of skills, knowledge and ability to all other other radiographers that are supervised in the department is about the same as others.
2. All employers would like the Ferris Radiography Graduate to care for their family.
3. Critical Thinking Skills, Collaborative Skills and Communication Skills are skills that will be needed to enhanced the program.

### **Random Quotes from Employers on Areas of Major Emphasis**

"You might want to look into a BS degree that incorporates basic nursing, respiratory care, etc.. The multiskilled worker is the wave of the future"

"Management"

"In this point & time more emphasis placed on everything. In my 30 plus years in this field have yet to see/work with a college trained tech really their salt. I prefer to hive (direct quote from the author) older techs hospital trained or military trained"

"CQI-TQM, Collaborative Skills"

"Technique, Gen. Radiography"

"Pathology, Communication Skills, Quality Assurance, Minimize Pt Exposure"

"There is a move for multidisciplinary personnel . Refer to patient focus care theory & sel-directed work groups"

**FERRIS STATE UNIVERSITY  
RADIOGRAPHY PROGRAM  
EMPLOYER SURVEY OF GRADUATE RADIOGRAPHERS**

**Purpose**

The graduate survey is one mechanism to obtain information about the graduates of the Ferris State University Radiography Program. The observations you make regarding the graduate's adaptation, radiography skills, and knowledge will be helpful in our ongoing program development.

The contents will be confidential. A return-reply envelope is included for your convenience.

**General Directions**

Please complete all sections that apply by filling in the blank, or placing an "X" in the appropriate box.

**Section I - Agency Data**

Following the completion of Section I, please forward the form to the graduate's immediate supervisor.

Name of Agency  
(optional) \_\_\_\_\_

- Type of Agency
1. Medical-Surgical Hospital
  2. Community Health Care Facility
  3. Other

Number of radiographers currently employed (2-68)

Number of radiographers needed immediately at your agency (0-5)

Projected number of radiographers needed within two years (0-7)

**Section II - Graduate Data**

Number of "Ferris Graduates" currently employed \_\_\_\_\_

Salary:

Hourly: UNDER \$5.01 \$6.01 \$7.01 \$8.01 \$ 9.01 \$10.01 \$11.01 \$12.01 \$13.01 \$14.01 OVER  
\$5.00 \$6.00 \$7.00 \$8.00 \$9.00 \$10.00 \$11.00 \$12.00 \$13.00 \$14.00 \$15.00 \$15

Monthly: UNDER \$ 868 \$1041 \$1214 \$1388 \$1561 \$1734 \$1907 \$2081 \$2237 \$2409 OVER  
\$867 \$1040 \$1213 \$1387 \$1560 \$1733 \$1906 \$2080 \$2236 \$2408 \$2580 \$2581

- Graduate's Job Title
1. Staff Radiographer
  2. Supervisor
  3. Other

Shift Worked: Day Afternoon Night

### Section III - Evaluation of Graduate Performance

Compare the skills, knowledge and ability of "Ferris State Graduates" to all other radiographers you supervise.

|                                                                                    | <u>Better than others</u> | <u>About the same as others</u> | <u>Less than others</u> |
|------------------------------------------------------------------------------------|---------------------------|---------------------------------|-------------------------|
| 1. Provides radiation protection                                                   | 4                         | 25                              | 2                       |
| 2. Maintains standards of good patient care                                        | 3                         | 25                              | 2                       |
| 3. Utilizes radiographic equipment safely and appropriately                        | 5                         | 24                              | 2                       |
| 4. Understands normal anatomy and physiology                                       | 4                         | 24                              | 2                       |
| 5. Utilizes appropriate medical and radiographic terminology                       | 2                         | 28                              |                         |
| 6. Understands disease processes and pathology relevant to radiographers           | 2                         | 26                              | 4                       |
| 7. Utilizes good film processing procedures                                        | 2                         | 29                              |                         |
| 8. Utilizes appropriate screens, grids and filters                                 | 2                         | 29                              |                         |
| 9. Demonstrates knowledge of diagnostic imaging (radiographic exposure techniques) | 5                         | 27                              | 1                       |
| 10. Utilizes appropriate radiographic procedures (positioning)                     | 6                         | 23                              | 1                       |
| 11. Problem solves via film evaluation techniques                                  | 5                         | 24                              | 2                       |
| 12. Utilizes appropriate quality assurance procedures                              | 2                         | 24                              | 4                       |
| 13. Demonstrates knowledge of special procedures                                   | 2                         | 24                              | 5                       |
| 14. Integrates and transfers theory to clinical situations                         | 3                         | 24                              | 4                       |
| 15. Takes initiative in performing tasks                                           | 6                         | 22                              | 5                       |





## **EVALUATION OF FACILITIES AND EQUIPMENT**

The laboratory facilities of the Radiography Program at Ferris State University are located on the first floor of the Victor F. Spathelf Center for Allied Health Sciences (VFS 105). Within the laboratory of the radiography program is found all of the equipment needed to introduce students to the common procedures used in radiography today. There are, for example, four ionizing radiographic rooms that emit ionizing radiation to be used for various radiation-type experiments, patient care, and patient positioning. Students spend hours practicing and learning at their own pace. Several evenings a week the laboratory is open until 8:00 or 9:00 p.m. for tutoring or procedural evaluations. The evening laboratory sessions are staffed by a student tutor or a part-time faculty member. The laboratory/classroom available to the program is modern, well lighted and presents an instructionally sound environment for student education.

A computer laboratory, containing more than 20 IBM-compatible (some equipped with "Windows 95") computers is located within the VFS building, available for student use approximately 56 hour per week. It can be scheduled for instructional use and testing as needed, although most commonly it is used for self-directed computer simulations, quizzes and tutorials. Through the mainframe, students can access the Internet, the medical databases (such as Medline and CINAHL), e-mail (each student has an e-mail address), and many other network resources (word processing, databases, and so on).

Within the radiography lab there is a complete multimedia system that can be used by faculty and students consisting of the following: 486 pentium with CD Rom capabilities, 37" monitor with a VCR, video player. This allows the student to review anatomy, radiographic positioning.

The office of the radiography program director/department head is located on the fourth floor of the VFS building. Some student and program records are kept in this office. The offices of the program faculty are located on the third and fourth floors of the VFS building. Each office is self-contained, and provides space for small meetings and confidential student advising. Each faculty member has a program owned 486 computer connected to the network and desk jet printer on their desk for their use.

A list of major items of equipment available for student use is attached. Also attached are lists of library resources available in the in the respiratory care lab, and lists of computer tutorials, simulations and videotapes available for instructional purposes. All of the texts required and recommended by the program are shelved in the radiography section of the Health Sciences Library.

**ADVISORY COMMITTEE PERCEPTIONS  
OF THE RADIOGRAPHY PROGRAM  
FERRIS STATE UNIVERSITY**

**INSTRUCTIONS:** Rate each item using the following guide

**E = EXCELLENT** means nearly ideal, top 5 to 10%

**G = GOOD** is a strong rating, top one-third

**A = ACCEPTABLE** is average, the middle-third

**BE = BELOW EXPECTATIONS** is only fair, bottom one-third

**P = POOR** is seriously inadequate, bottom 5 to 10%

**DK = DON'T KNOW**

|                                                                                                                                                              | P | BE | A | G | E | DK | COMMENTS |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|---|---|---|----|----------|
| 1. Instructional program content:<br>• Based on performance objective that represent job skills and knowledge required for successful entry level employment |   |    |   | 2 | 2 |    |          |
| • Designed to provide students with practical job application experience                                                                                     |   | 1  |   | 3 |   |    |          |
| • Periodically reviewed and revised to keep current with changing job practices and technology                                                               |   |    | 1 |   |   | 3  |          |
| 2. Instructional equipment:<br>• Current and representative of that used on the job                                                                          | 1 | 1  | 2 |   |   |    |          |
| 3. Instructional facilities:<br>• Allocate sufficient space to support quality instruction                                                                   |   |    | 2 |   | 2 |    |          |
| 4. Placement:<br>• Job opportunities exist for students completing the program or leaving with marketable skills                                             |   | 1  |   |   | 3 |    |          |

From your perspective, what are the major strengths of the Radiography Program?

From your perspective, what are the major needs for improvement in the Radiography Program?

## **SECTION XII: ADVISORY COMMITTEE SURVEY**

The Radiography Program Advisory Committee has not formally met for about five years. This is a concern that is presently being addressed by the program. Historically, the program has utilized its adjunct clinical instructors to decide issues usually reserved for an advisory committee. The adjunct clinical instructor's meetings are usually held three times per year. Ten surveys were sent to representatives of the advisory committee and adjunct clinical instructors. Five of the ten surveys were returned. Comments follow:

### **What are the major strengths of the Radiography Program?**

- The instruction at the university is very good.
- Many of the labs give practical information; much of which I have called upon in my current position.
- The Radiography Program has extremely dedicated instructors.
- Students are better prepared for the hospital environment.
- Students leave the program ready to be a tech. Most do not require another 3-6 months of training at a new job.

### **What are the areas in need of improvement in the Radiography Program?**

- The age and type of instructional equipment does not represent current hospital technology.
- There seems to be room for improvement in job placement.
- Adjunct clinical instructors should be given more say about the student's grade during internship.
- Students should be provided with a stipend during internship.
- Inconsistency in the coordination of clinical internships.
- Consistency throughout the program.
- A higher concentration on each student before, during, and after program completion.



## FACULTY PERCEPTIONS SURVEY

The Radiography Program faculty were each given a perceptions survey. The survey was completed and returned by both of the two faculty members and the data was compiled by a faculty member outside of the Radiography Program. The survey instrument and data are attached. The comments from each question are provided below:

1. Administrators and others in the radiography program are visionaries for the future. These visionaries are planning for the future of the program and the ever changing health care system. At times it may be seen as very chaotic but the vocation of being a health giver in today's atmosphere is chaotic and challenging. Revisions are always being sought from the professional community, students and graduates.  
  
Information, input and inclusion among faculty, students and clinical entities regarding program development is selective and exclusionary. There is a need for sincere team participation, consistency of word and deed, communication, accountability and effort as well as tolerance for divergent views to make this program as strong as possible.
2. There is a significant requirement for comprehensive curriculum planning, review and coordination of course objectives/lesson delivery. To insure that program instruction is current and relevant in the rapidly evolving paradigm of medical imaging skills and education, regular curriculum assessment is essential. There has not been significant program discussion of curriculum content or revision since semester conversion.
3. General radiography jobs in Michigan are down, but excitement is on the horizon. The PRP report will show the need for multi competent radiographers such as: Radiography/Nursing, Radiography/Respiratory Care, Radiography/Clinical Lab Science, Radiography/Health System Management. These are combinations Ferris can provide. Other programs that should be in development are a B.S. degree in Radiologic Health, Radiation Therapy and Ultrasound. An A.A.S. degree in Ultrasound should also be pursued.

It is my opinion that some program actions are inconsistent with current labor market trends or needs. The need for entry level general radiographers is still strong relative to other associate degree careers, but the current market for new hires is not as vigorous when compared to a few years ago. Alternatively, the movement to develop multicompetency programs and skills, such as mammography, is a good idea and should be further developed.

4. With the internal standards that the University is doing such as Unit Action Plans, Program Review goes well above any standards of the JRC. Hence, the standards of the JRC have a tendency to sit on the back burner.

Earnest effort to meet JRC standards increases as the timeline for accreditation visit draws near. Our program should continuously strive to achieve the Standards. The

lack of documentation of program operation over the past several years is a real concern and may be negatively perceived by the accreditation team.

5. This is an area that needs improvement.

The process is improving, at least the information gathering component. A systematic means of evaluating student/graduate satisfaction with the program needs to be enhanced with results accurately shared and acted upon. Program review and accreditation requirements have precipitated recent and necessary processes in this direction.

6. We have excellent support programs within CAHS but have some difficulty in getting some courses being offered elsewhere on campus.

Support courses are generally adequate, it would be beneficial to the students to have some course sections set aside for CAHS students that emphasize medical applications in the course content-ISYS for example.

7. Our clinicals sites do an excellent job in providing opportunities in Radiography. There is a need to improve communication.

There are a variety of clinical sites Available. The program would substantially benefit from the consistency of a permanent clinical coordinator and expanded support for clinical sites. Attempts to utilize clinical resources more extensively and continued effort to respond to their concerns in a timely manner is encouraged (see #12 below). If placement of interns is to be considered rather than the current matching process, a specific plan must be developed with input from those affected, if successful implementation is to be realized.

8. This program has been known to meet with students on Saturday. This program is very accommodating to all who want to enter the program.

The current system is adequate. High school students may have difficulty enrolling in the program with the current process, perhaps some seats set aside for them would promote a truly diverse student composition. As a program, we need to continue to develop convenient means of instructional delivery with acknowledgment of the special circumstances of the increasing proportion of non-traditional students.

9. Program faculty have attended diversity training sessions to ensure that the program maintains a bias free environment.

It is my perception that there is bias exhibited by some in department/program administration that can be documented involving discrepancy in the level of cooperation and communication afforded to specific faculty and clinical elements. A supportive environment that enables everyone to enjoy an equal opportunity for

constructive accomplishment is necessary if we are to achieve ambitious future program and department goals. Bias toward students by program personnel or environment does not appear to be a significant problem at this time, but we need to remain vigilant to identify and eliminate its appearance however it may be manifested.

10./11. The door is always open to students.

Students are regularly advised regarding registration for classes and other academic issues. There is inconsistent provision of information regarding program requirements when students initially enroll or in their introductory radiography course. The number of advisees (65+) assigned to radiography faculty makes it difficult to provide the complete advising students deserve when considering special requirements and documentation in preparation for internship. The assignment of pre-radiography students to the new counseling center merits investigation.

This area of student service needs to be substantially enhanced, either in the introductory course or by increasing awareness of placement services and/or the development of a professional job network. Professionally employed alumni would be a valuable resource for entry level job candidates with a system like this in place.

12. Thank goodness for Vocational Education monies.

There is potential for overcrowding in some laboratory sections on campus which may adversely affect safety and instructional effectiveness. Equipment on campus, especially radiographic, is generally good and we have received much administrative support in this area, however we will never achieve state of the art clinical standards due to expense and rapid pace of change. Is distance learning with clinical site collaboration the answer?

13. The Radiography program has completely revamped the advisory committee and is planning to meet with the committee soon.

The Radiography program has had no advisory committee meetings for approximately five years, maybe more. An advisory committee meeting was promised last year with members identified, but has since been postponed several times.

14. We have had some very good students return to Nuclear Medicine and Health Systems Management and have become very successful.

Many students are choosing this option. Dual degrees and multi competency should be encouraged.

# **Radiography Program Review Student Evaluation of Program**

## **Unit 1: Intern Survey**

**Background:** Radiography is a two year (six continuous semesters) associate degree program. The first year involves campus instruction emphasizing professional theory, procedures and laboratory activities in preparation for clinical practice. The second year is designed to integrate the application of theory and current practice in a structured and supervised clinical environment. Clinical sites are numerous and distributed statewide. Each site has an adjunct clinical instructor responsible for program education and administrative duties related to the clinical educational experience. The program clinical coordinator, in conjunction with the program coordinator, is responsible for maintaining communication and continuity between clinical and campus operations. A national professional registry test is administered following graduation. Our educational responsibility within the program is to prepare our graduates for entry level employment as well as to successfully pass the registry test. It is important, in this era of accountability, to emphasize student expectations in regard to their learning and college life. They are our customers and the reason we are here. The next step is to act upon valid concerns to improve this aspect of program quality as intended by the Program Review Process.

**Method:** The survey instrument was developed and designed based upon models provided from previous program reviews and other educational references. The instrument was further refined to address the unique aspects of the radiography program and internship experience. The line of questioning within the survey was patterned to elicit responses from the intern's perspective consistent with the important issues specified in the program review panel evaluation form. The panel will hopefully discover this format provides the information required to facilitate the accurate completion of the evaluation form.

The survey target population consisted of all internship students currently at clinical affiliate sites for Academic Year 1996-97. The survey instrument was sent and returned by mail with confidentiality assured to promote candid responses by means of a respondent identifier code (A#). The subjects were encouraged to be specific with responses so as not to obscure program strengths and deficiencies behind program or survey question generalities. Of the 55 interns in the target population, 35 returned survey responses with 28 of those providing significant supplemental comments. At the time of the survey (mid November, 1996) the interns had completed one year of on campus instruction and had almost finished the first semester of clinical internship.

# Radiography

APRC 1996-1997

Section 2 of 2



TOPS No. 3436 LITHO IN U.S.A.

|    | UOC ED 1996-97 |                                            |  |  | ALLOCATION          | EXPEND.             | TOTAL EXPEND.       |
|----|----------------|--------------------------------------------|--|--|---------------------|---------------------|---------------------|
| 1  |                |                                            |  |  |                     |                     |                     |
| 2  |                | NUCLEAR MED                                |  |  | 23195 <sup>37</sup> |                     | 24996 <sup>88</sup> |
| 3  |                | Micro-ace w/ Maestro for DOS (5)           |  |  |                     | 9310 <sup>15</sup>  |                     |
| 4  |                | Pre amplifier & high voltage supply (5)    |  |  |                     | 5082 <sup>50</sup>  |                     |
| 5  |                | NAI detectors (5)                          |  |  |                     | 7638 <sup>75</sup>  |                     |
| 6  |                | Computer -                                 |  |  |                     | 2965 <sup>45</sup>  |                     |
| 7  |                |                                            |  |  |                     |                     |                     |
| 8  |                | RESPIRATORY CARE                           |  |  | 17531 <sup>96</sup> |                     | 23690 <sup>00</sup> |
| 9  |                | 97-98 Ventilator rental                    |  |  |                     | 4800 <sup>00</sup>  |                     |
| 10 |                | Material and clinical simulation - med/sim |  |  |                     | 10000 <sup>00</sup> |                     |
| 11 |                | Resp Care clinical simulation series       |  |  |                     | 1500 <sup>00</sup>  |                     |
| 12 |                | Electric bed w/accessories (2)             |  |  |                     | 5476 <sup>00</sup>  |                     |
| 13 |                | Mattresses (2)                             |  |  |                     | 404 <sup>00</sup>   |                     |
| 14 |                | Arterial arms (2)                          |  |  |                     | 700 <sup>00</sup>   |                     |
| 15 |                | Replacement Kit (2)                        |  |  |                     | 160 <sup>00</sup>   |                     |
| 16 |                | Neonatal arterial arm (2) w/shipping       |  |  |                     | 650 <sup>00</sup>   |                     |
| 17 |                |                                            |  |  |                     |                     |                     |
| 18 |                | RADIOGRAPHY                                |  |  | 36490 <sup>27</sup> |                     | 30965 <sup>45</sup> |
| 19 |                | Continental "Rad Pro Special" TM-30        |  |  |                     |                     |                     |
| 20 |                | High frequency rad system                  |  |  |                     | 2800 <sup>00</sup>  |                     |
| 21 |                | Computer -                                 |  |  |                     | 2965 <sup>45</sup>  |                     |
| 22 |                |                                            |  |  |                     |                     |                     |
| 23 |                |                                            |  |  |                     |                     |                     |
| 24 |                |                                            |  |  |                     |                     |                     |
| 25 |                |                                            |  |  |                     |                     |                     |
| 26 |                |                                            |  |  |                     |                     |                     |
| 27 |                |                                            |  |  |                     |                     |                     |
| 28 |                |                                            |  |  |                     |                     |                     |
| 29 |                |                                            |  |  |                     |                     |                     |
| 30 |                |                                            |  |  |                     |                     |                     |
| 31 |                |                                            |  |  |                     |                     |                     |
| 32 |                |                                            |  |  |                     |                     |                     |
| 33 |                |                                            |  |  |                     |                     |                     |
| 34 |                |                                            |  |  |                     |                     |                     |
| 35 |                |                                            |  |  |                     |                     |                     |
| 36 |                |                                            |  |  |                     |                     |                     |
| 37 |                |                                            |  |  |                     |                     |                     |
| 38 |                |                                            |  |  |                     |                     |                     |

TOPS NO. 3436 LITHO IN U. S. A.

|    | VOC ED 1995-96                                                     | ALLOCATION          | EXPEND              | TOTAL EXPEND          |
|----|--------------------------------------------------------------------|---------------------|---------------------|-----------------------|
| 1  |                                                                    |                     |                     |                       |
| 2  | NUCLEAR MED                                                        | 14599 <sup>60</sup> |                     | 10,460. <sup>50</sup> |
| 3  | Marker set w/shipping                                              |                     | 1100-               |                       |
| 4  | Medisplay - Imaging, Analysis & reconstruction                     |                     | 35-                 |                       |
| 5  |                                                                    |                     | 1212. <sup>50</sup> |                       |
| 6  | Scanning cot                                                       |                     | 1150-               |                       |
| 7  | w/accessories                                                      |                     | 1551-               |                       |
| 8  | Syringe carrier (3)                                                |                     | 369-                |                       |
| 9  | Stepstool w/handrail                                               |                     | 69-                 |                       |
| 10 | Mayo instrument stand                                              |                     | 107-                |                       |
| 11 | Pinpoint marker w/NRC license copy                                 |                     | 265-                |                       |
| 12 | Cassette / film cart                                               |                     | 301-                |                       |
| 13 | Accusyn model 4m ECG monitor                                       |                     | 1850-               |                       |
| 14 | Microcomputer, pentium                                             |                     | 2451-               |                       |
| 15 |                                                                    |                     |                     |                       |
| 16 | RESPIRATORY CARE                                                   | 11364 <sup>02</sup> |                     | 11492.05              |
| 17 | Wright respirometer                                                |                     | 868 <sup>75</sup>   |                       |
| 18 | Chemtron oxygen (2)                                                |                     | 272-                |                       |
| 19 | Oxygen flowmeter (4)                                               |                     | 101 <sup>60</sup>   |                       |
| 20 | OHS air connectors (4) w/shipping                                  |                     | 89 <sup>80</sup>    |                       |
| 21 | Hemodynamic monitoring software, I & II                            |                     | 315 <sup>90</sup>   |                       |
| 22 | Baumanometer wall mount                                            |                     | 133-                |                       |
| 23 | Baumanometer standby BP unit.                                      |                     | 282-                |                       |
| 24 | Infant manual resuscitator w/shipping                              |                     | 182-                |                       |
| 25 | Infant TTL w/pneu view software pkg, interface module, accessories |                     | 6625 <sup>00</sup>  |                       |
| 26 |                                                                    |                     |                     |                       |
| 27 | Microcomputer, pentium                                             |                     | 2622-               |                       |
| 28 |                                                                    |                     |                     |                       |
| 29 | RADIOGRAPHY                                                        | 30067 <sup>29</sup> |                     | 24051 <sup>03</sup>   |
| 30 | Bennett Mammography System                                         |                     | 1495 <sup>00</sup>  |                       |
| 31 | Data Video multi media projector w/case                            |                     | 6807 <sup>00</sup>  |                       |
| 32 |                                                                    |                     |                     |                       |
| 33 | Mobile Radiographic Unit (used)                                    |                     | 3000-               |                       |
| 34 | VCR player w/tripod + video camera                                 |                     | 1075-               |                       |
| 35 | Color monitor                                                      |                     | 1300-               |                       |
| 36 | Video cart                                                         |                     | 99-                 |                       |
| 37 | Adult injectable training arm kit (2)                              |                     | 650-                |                       |
| 38 | Sphygmomanometer (4)                                               |                     | 210-                |                       |

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|    | UOC ED 1994-95                          |  |  |  | ALLOCATION | EXPEND           | TOTAL EXPEND        |
|----|-----------------------------------------|--|--|--|------------|------------------|---------------------|
| 1  |                                         |  |  |  |            |                  |                     |
| 2  | NUCLEAR MED                             |  |  |  | 11500-     |                  | 9914-               |
| 3  | Vanderbilt Cardia Phantom (2)           |  |  |  |            | 6590-            |                     |
| 4  | Ludlum scaler 2200                      |  |  |  |            | 1450-            |                     |
| 5  | Well                                    |  |  |  |            | 1450-            |                     |
| 6  | Stethoscope (5)                         |  |  |  |            | 100-             |                     |
| 7  | Pipet filler (12)                       |  |  |  |            | 324-             |                     |
| 8  |                                         |  |  |  |            |                  |                     |
| 9  | RESPIRATORY CARE                        |  |  |  | 16500-     |                  | 16586 <sup>19</sup> |
| 10 | Difficult Airway Management Trainer (2) |  |  |  |            | 2390-            |                     |
| 11 | w/ shipping                             |  |  |  |            | 46 <sup>19</sup> |                     |
| 12 | Pneuvue Model 2600I dual adult system   |  |  |  |            | 5650-            |                     |
| 13 | Pneuvue Model 2600I adult system        |  |  |  |            | 8500-            |                     |
| 14 | w/ data acquisition package             |  |  |  |            |                  |                     |
| 15 |                                         |  |  |  |            |                  |                     |
| 16 | RADIOGRAPHY                             |  |  |  | 30000-     |                  | 28000-              |
| 17 | Radiographic / Fluoroscopic unit        |  |  |  |            | 28000-           |                     |
| 18 |                                         |  |  |  |            |                  |                     |
| 19 |                                         |  |  |  |            |                  |                     |
| 20 |                                         |  |  |  |            |                  |                     |
| 21 |                                         |  |  |  |            |                  |                     |
| 22 |                                         |  |  |  |            |                  |                     |
| 23 |                                         |  |  |  |            |                  |                     |
| 24 |                                         |  |  |  |            |                  |                     |
| 25 |                                         |  |  |  |            |                  |                     |
| 26 |                                         |  |  |  |            |                  |                     |
| 27 |                                         |  |  |  |            |                  |                     |
| 28 |                                         |  |  |  |            |                  |                     |
| 29 |                                         |  |  |  |            |                  |                     |
| 30 |                                         |  |  |  |            |                  |                     |
| 31 |                                         |  |  |  |            |                  |                     |
| 32 |                                         |  |  |  |            |                  |                     |
| 33 |                                         |  |  |  |            |                  |                     |
| 34 |                                         |  |  |  |            |                  |                     |
| 35 |                                         |  |  |  |            |                  |                     |
| 36 |                                         |  |  |  |            |                  |                     |
| 37 |                                         |  |  |  |            |                  |                     |
| 38 |                                         |  |  |  |            |                  |                     |

TOPS No. 3436 LITHO IN U.S.A.

|    | VOC ED 1993-94                      | ALLOCATION | EXPEND             | TOTAL EXPEND.       |
|----|-------------------------------------|------------|--------------------|---------------------|
| 1  |                                     |            |                    |                     |
| 2  | NUCLEAR MED                         | 19250 -    |                    | 20339 <sup>75</sup> |
| 3  | Automaster Chromatography Assayer   |            | 3180 -             |                     |
| 4  | Dose Calibrator lineator            |            | 427 <sup>75</sup>  |                     |
| 5  | Sodium Iodide Crystal Detector      |            | 1098 <sup>50</sup> |                     |
| 6  | and Cable                           |            | 33 <sup>50</sup>   |                     |
| 7  | Captus 2000 - Thyroid uptake system |            |                    |                     |
| 8  | w/ well detector                    |            | 15600 -            |                     |
| 9  |                                     |            |                    |                     |
| 10 | RESPIRATORY CARE                    | 0          |                    |                     |
| 11 |                                     |            |                    |                     |
| 12 | RADIOGRAPHY                         | 19564 -    |                    | 17735 <sup>90</sup> |
| 13 | Rad positioning aids for patients   |            | 715 -              |                     |
| 14 | Imaging quality assurance           |            |                    |                     |
| 15 | video disc set                      |            | 2650 -             |                     |
| 16 | Process monitor system              |            |                    |                     |
| 17 | w/ qualink system                   |            | 2947 <sup>36</sup> |                     |
| 18 | RMI timer                           |            | 661 <sup>60</sup>  |                     |
| 19 | RMI digital kVp meter               |            | 1437 <sup>19</sup> |                     |
| 20 | RMI mammo phantom                   |            | 495 <sup>00</sup>  |                     |
| 21 | RMI .5 star test pattern            |            | 357 <sup>75</sup>  |                     |
| 22 | Printers                            |            |                    |                     |
| 23 | 3@ \$264 ea                         |            | 792 -              |                     |
| 24 | 2@ \$267 ea                         |            | 534 -              |                     |
| 25 | Gene computers                      |            |                    |                     |
| 26 | 4@ \$1749 ea                        |            | 6996 -             |                     |
| 27 | shipping                            |            | 150 -              |                     |
| 28 |                                     |            |                    |                     |
| 29 |                                     |            |                    |                     |
| 30 |                                     |            |                    |                     |
| 31 |                                     |            |                    |                     |
| 32 |                                     |            |                    |                     |
| 33 |                                     |            |                    |                     |
| 34 |                                     |            |                    |                     |
| 35 |                                     |            |                    |                     |
| 36 |                                     |            |                    |                     |
| 37 |                                     |            |                    |                     |
| 38 |                                     |            |                    |                     |

## ADMINISTRATIVE PROGRAM REVIEW

**Program/Department:** Radiography/Hospital Related

**Date Submitted:** October 18, 1996 **Dean:** Isabel J. Barnes

Please provide the following information:

### Enrollment/Personnel

|                                | Fall 1992 | Fall 1993 | Fall 1994 | Fall 1995 | Fall 1996 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|
| Tenure Track FTE               | 2         | 2         | 2         | 2         | 2         |
| Overload/Supplemental FTEF     | 1         | 1.27      | 1         | 1         |           |
| Adjunct/Clinical FTEF (unpaid) | 52        | 52        | 52        | 52        | 52        |
| Enrollment on-campus*          | 141       | 121       | 111       | 113       | 119       |
| Freshman                       |           | 16        | 15        | 13        | 18        |
| Sophomore                      |           | 63        | 38        | 43        | 34        |
| Junior                         |           | 30        | 46        | 37        | 36        |
| Senior                         |           | 12        | 12        | 20        | 11        |
| Pre-radiography                |           | 78        | 72        | 46        | 37        |
| TBD                            |           |           |           |           | 20        |
| Enrollment off-campus*         | 0         | 0         | 0         | 0         | 0         |

\*Use official count (7-day count for semesters, 5-day count for quarters).

### Financial

| Expenditures*             | FY92     | FY93               | FY94             | FY95             | FY96                                          |
|---------------------------|----------|--------------------|------------------|------------------|-----------------------------------------------|
| Supply & Expense          | \$15,598 | \$23,930           | \$15,957         | \$18,955         | \$17,173                                      |
| Equipment** <i>VOC EP</i> |          | 17.7 (2 not spent) | 28 (2 not spent) | 29 (6 not spent) | <del>29 (6 not spent)</del> 30K (6 not spent) |
| Gifts & Grants            | 6,185    | 105                | 197              | 5,224            | 331                                           |

\*Use end of fiscal year expenditures.

\*\*Does not include Voc-Ed and General Fund dollars.

### Other

|                                      | AY 91-92** | AY 92-93** | AY93-94  | AY 94-95 | AY 95-96 |
|--------------------------------------|------------|------------|----------|----------|----------|
| Number of Graduates * - Total        | 46         | 47         | 50       | 48       | 46       |
| - On campus                          | 46         | 47         | 50       | 48       | 46       |
| - Off campus                         | 0          | 0          | 0        | 0        | 0        |
| Placement of Graduates               | 100%       | 96%        | 94%      | 60%      | N/A      |
| Average Salary                       | \$22,412   | \$21,404   | \$22,509 | \$23,315 | N/A      |
| Productivity - Academic Year Average | 1,172      | 1,294      | 729      | 746      | 740      |
| - Summer                             | 555        | 579        | 0        | 302      | 423      |
| Summer Enrollment                    | 96         | 111        | 95       | 95       | 98       |

\* Use total for academic year (F, W, S)

\*\*Represents productivity on quarter system.

The data was compiled according to evaluation categories identified in the review panel evaluation form. Positive and negative responses were expressed as a percentage of the total responses. Some questions contained two responses, often at the extremes of the response scale. Responses of this nature were tallied separately, so in some cases, the number of responses for particular questions may exceed the survey population number. The response "somewhat agree" was considered a neutral response for the purposes of analysis in order to balance an equal number of possible positive and negative responses. In retrospect, the term "neutral" would have been more appropriate response option. This analytical modification does not appear to diminish the findings or validity of the survey process. Please refer to the data section of this report for more detailed information.

**Data:** The data section at the end of this unit contains the survey instrument and summary of responses, graphs, intern comments, survey instrument development models and relevant report documents.

**Analysis:** Survey feedback from interns associated with the Ferris Radiography program is an excellent indicator of quality because they have had the opportunity to compare various instructors, courses and clinical environments. They are aware of the degree of relevance of professional preparation with respect to competencies required to secure employment and promote professional growth. Evaluation of the internship survey data reveal strong opinions and perceptions articulated by the interns. There was a general satisfaction with most aspects of the program, but a significant level of dissatisfaction with some elements were expressed by many interns, especially within the comments section of the survey instrument. Intern comments accompanying the survey responses are extensive and enlightening. They have been compiled in their entirety and included within this report to corroborate the analysis of survey data and provide first hand intern testimony of perceptions pertaining to the Ferris Radiography Program.

Within the *Intern Perception of Instruction* section of the survey, 65% of respondents strongly agree or agree that educational expectations have been met. 17% disagree or strongly disagree. In the comments, there was a pronounced polarity of opinion regarding the instructional effectiveness and commitment of faculty. Question #48 is very revealing of this perception by interns. It appears that the "averaging" of all instruction within the program tends to obscure the individual efforts of faculty. True instructional quality requires accountability and effective instruction by all members of the radiography program.

*Student Satisfaction with Program* category findings are consistent with perceptions of instruction (64% positive, 16% negative). Negative comments focus upon the lack of consistent clinical coordination and the appointment of a permanent faculty in this role. Recent resolution of this staffing problem will hopefully begin to diminish intern concerns

and their feeling of being forgotten, but this is not the only cause or solution. It must be stated here that Ms. Tammy Cingano performed adequately in her role as temporary clinical coordinator during Fall Semester, AY 1996. She assumed this responsibility on short notice and with the knowledge that many clinical issues had been left previously unresolved.

Although full time employment and professional growth options are still strong when compared to other associate degree occupations, the interns are well aware that the *Demand for Graduates* has diminished in the past few years. Current entry level employment is generally via part time within Michigan. Many interns have stressed the need to reduce the number of students enrolled within the program to relieve the competition for jobs available. Other interns have suggested the development of multicompetent professional educational options, such as mammography, to provide employment advantages and job security. Interns also noted that the job outlook and career specific information provided early in their professional track was inconsistent or lacking. This must be accurately provided so the students can make the most informed of career decisions. The survey responses indicate 43% of the interns negatively perceive questions associated with *Demand for Graduates* and information regarding career opportunities.

*Use of Follow Up Information* elicited comments that reflect the sense of abandonment and that intern views are not actively solicited, listened to or acted upon. The question was frequently posed, "For what am I paying tuition during this internship year?" More communication and representation of intern views, with program actions consistent with their best interests would do much in terms of constructive engagement. There were 8% positive and 24% negative responses from this category.

The *Relevance of Courses* was generally favorable, with 45% positive and only 3% negative responses.

The *Qualifications of Administrators and Supervisors* once again reflect the polarity of intern opinion. 48% of responses were favorable in this category, with 27% negatives. Further analysis indicates that clinical site administrators are highly regarded (only two negative responses to question #34). Positive impressions were lower when issues of program administrative response to intern needs (#29) or adequate communication and cooperation among program personnel (#33) were posed.

*Instructional Staffing and Clinical/Campus Facilities* were perceived to be adequate by a clear majority of interns. The same can be stated for professional equipment and scheduling of instructional facilities. Some pointed out the need for expanded open laboratory time and multidisciplinary training, which may require supplemental faculty. This intern group was taught by campus faculty before program enrollment was temporarily increased.

The key area of *Adaption of Instruction* elicited a majority of favorable responses regarding the application of relevant instructional strategies, use of instructional technology and the accommodation of student diversity (63% positive, 7% negative).

The issues addressed in *Other* reflect diverse opinions of several important elements of student satisfaction. Most responses are generally favorable (please refer accompanying data table). Question #58 indicates strong opinions of instructional effectiveness pertaining to RADI courses and their respective instructors.

**Conclusion:** There are apparent program strengths and deficiencies evident from the survey data. Although some discomfort was experienced when the interns so frankly expressed their views, it is imperative that we face concerns squarely if we are to address them and improve as a program. With this principle in mind, we are obligated to truthfully convey the views of those surveyed. The perceptions expressed by these interns in conjunction with the comprehensive scope of information in the Ferris Radiography Program Review Report will enable the review panel to objectively assess current status, validate data, provide guidance and recommend actions necessary to make our program as educationally effective as possible.



20

|                                                          | <i>strongly agree</i> | <i>agree</i> | <i>somewhat agree</i> | <i>disagree</i> | <i>strongly disagree</i> |
|----------------------------------------------------------|-----------------------|--------------|-----------------------|-----------------|--------------------------|
|                                                          | <b>1</b>              | <b>2</b>     | <b>3</b>              | <b>4</b>        | <b>5</b>                 |
| <b>Intern Perception of Instruction</b>                  |                       |              |                       |                 |                          |
| 1. Information is accurate and consistent . . .          | 10                    | 16           | 7                     | 1               | 2                        |
| 2. Instructors are well organized . . .                  | 12                    | 14           | 7                     | 2               | 3                        |
| 3. Instructors use class management skills . . .         | 13                    | 16           | 3                     | 4               | 2                        |
| 4. Instructors show leadership . . .                     | 15                    | 10           | 8                     | 1               | 3                        |
| 5. Available during office hrs. for questions . . .      | 17                    | 8            | 3                     | 3               | 6                        |
| 6. Instruction prepares students for employment . . .    | 5                     | 17           | 7                     | 3               | 0                        |
| 7. Instruction prepares students for registry exam . . . | 4                     | 12           | 8                     | 2               | 1                        |
| 8. Promotes self-teaching and lifelong teaching . . .    | 8                     | 16           | 6                     | 0               | 1                        |
| 9. Campus prepares for clinical . . .                    | 6                     | 16           | 10                    | 3               | 2                        |
| 10. Clinical instruction is relevant . . .               | 13                    | 14           | 4                     | 3               | 0                        |
| 11. Clinical practical experiences . . .                 | 22                    | 10           | 0                     | 0               | 1                        |
| 12. Classes meet regularly . . .                         | 22                    | 4            | 3                     | 1               | 3                        |
| 13. Instructor provides support to perform . . .         | 8                     | 10           | 5                     | 8               | 3                        |
| 14. Coordination is effective to needs . . .             | 8                     | 6            | 4                     | 8               | 9                        |
| 15. Coordinator communicates . . .                       | 3                     | 5            | 8                     | 6               | 13                       |
| 16. Reference materials are adequate . . .               | 6                     | 16           | 9                     | 1               | 2                        |
| <i>Total</i>                                             | <b>172</b>            | <b>190</b>   | <b>92</b>             | <b>46</b>       | <b>51</b>                |
| <i>percent</i>                                           | <b>31%</b>            | <b>34%</b>   | <b>17%</b>            | <b>8%</b>       | <b>9.00%</b>             |

|                                                     |            |            |            |           |              |
|-----------------------------------------------------|------------|------------|------------|-----------|--------------|
| <b>Student Satisfaction with Program</b>            |            |            |            |           |              |
| 17. Program faculty . . .                           | 6          | 8          | 9          | 6         | 9            |
| 18. Program equipment . . .                         | 8          | 18         | 6          | 2         | 1            |
| 19. Program facilities . . .                        | 7          | 22         | 4          | 1         | 1            |
| 20. Program curriculum . . .                        | 4          | 20         | 8          | 2         | 0            |
| 21. Program administration . . .                    | 4          | 5          | 8          | 9         | 8            |
| 22. Clinical experience . . .                       | 18         | 13         | 2          | 2         | 0            |
| 23. My education and experiences with program . . . | 4          | 21         | 9          | 1         | 0            |
| 24. My education and experiences with FSU . . .     | 4          | 18         | 11         | 2         | 0            |
| <i>Total</i>                                        | <b>55</b>  | <b>125</b> | <b>57</b>  | <b>25</b> | <b>19</b>    |
| <i>Percent</i>                                      | <b>20%</b> | <b>44%</b> | <b>20%</b> | <b>9%</b> | <b>7.00%</b> |

**Demand for Graduates**

|                                                      |    |     |     |     |     |
|------------------------------------------------------|----|-----|-----|-----|-----|
| 25. Employment opportunities . . .                   | 1  | 2   | 16  | 9   | 6   |
| 26. Information regarding career opportunities . . . | 5  | 7   | 7   | 8   | 6   |
| <i>Total</i>                                         | 6  | 9   | 23  | 17  | 12  |
| <i>Percent</i>                                       | 9% | 13% | 34% | 25% | 18% |

**Use of Student Follow Up Information**

|                                            |    |    |     |     |     |
|--------------------------------------------|----|----|-----|-----|-----|
| 27. Feedback and input from students . . . | 2  | 8  | 15  | 4   | 4   |
| <i>Percent</i>                             | 6% | 2% | 45% | 12% | 12% |

**Relevance of Supportive Courses**

|                                                         |     |     |     |    |    |
|---------------------------------------------------------|-----|-----|-----|----|----|
| 28. Support courses are relevant to program goals . . . | 3   | 11  | 16  | 1  | 0  |
| <i>Percent</i>                                          | 10% | 35% | 52% | 3% | 0% |

**Qualifications of Administrators and Supervisors**

|                                                             |     |     |     |     |        |
|-------------------------------------------------------------|-----|-----|-----|-----|--------|
| 29. Response to intern issues and needs . . .               | 1   | 11  | 10  | 5   | 7      |
| 30. Helpful and available . . .                             | 3   | 8   | 10  | 4   | 7      |
| 31. High level of administrative ability & leadership . . . | 5   | 11  | 9   | 5   | 5      |
| 32. Program operations are organized . . .                  | 1   | 13  | 13  | 5   | 1      |
| 33. Communication & cooperation . . .                       | 2   | 12  | 6   | 9   | 6      |
| 34. Clinical site is helpful & supportive . . .             | 18  | 13  | 3   | 1   | 1      |
| <i>Total</i>                                                | 30  | 68  | 51  | 29  | 27     |
| <i>Percent</i>                                              | 15% | 33% | 25% | 14% | 13.00% |

**Instructional Staffing**

|                                                        |     |     |     |    |    |
|--------------------------------------------------------|-----|-----|-----|----|----|
| 35. Adequate clinical staff . . .                      | 14  | 16  | 2   | 2  | 1  |
| 36. Campus faculty support effective instruction . . . | 3   | 14  | 10  | 4  | 2  |
| 37. Campus faculty provide flexible scheduling . . .   | 2   | 13  | 13  | 2  | 5  |
| <i>Total</i>                                           | 19  | 43  | 25  | 8  | 8  |
| <i>Percent</i>                                         | 18% | 42% | 24% | 8% | 8% |

**Facilities**

|                                              |    |     |     |    |    |
|----------------------------------------------|----|-----|-----|----|----|
| 38. Campus facilities are sufficient . . .   | 2  | 20  | 10  | 2  | 1  |
| 39. Clinical facilities are sufficient . . . | 12 | 18  | 3   | 0  | 2  |
| <i>Total</i>                                 | 14 | 38  | 13  | 2  | 3  |
| <i>Percent</i>                               | 2% | 54% | 19% | 3% | 4% |

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**Scheduling of Instructional Facilities**

|                                                 |            |            |            |           |            |
|-------------------------------------------------|------------|------------|------------|-----------|------------|
| 40. Courses accommodate student schedules . . . | 5          | 13         | 8          | 4         | 5          |
| 41. Facilities are available . . .              | 8          | 16         | 7          | 1         | 3          |
| 42. Open labs were available . . .              | 22         | 9          | 2          | 0         | 2          |
| <i>Total</i>                                    | <b>35</b>  | <b>38</b>  | <b>17</b>  | <b>5</b>  | <b>10</b>  |
| <i>Percent</i>                                  | <b>33%</b> | <b>36%</b> | <b>16%</b> | <b>5%</b> | <b>10%</b> |

**Equipment**

|                                            |            |            |            |           |           |
|--------------------------------------------|------------|------------|------------|-----------|-----------|
| 43. Campus equipment is sufficient . . .   | 2          | 20         | 9          | 3         | 1         |
| 44. Clinical equipment is sufficient . . . | 16         | 15         | 2          | 1         | 2         |
| <i>Total</i>                               | <b>18</b>  | <b>35</b>  | <b>11</b>  | <b>4</b>  | <b>3</b>  |
| <i>Percent</i>                             | <b>25%</b> | <b>49%</b> | <b>15%</b> | <b>6%</b> | <b>4%</b> |

**Adaption of Instruction**

|                                                    |            |            |            |              |           |
|----------------------------------------------------|------------|------------|------------|--------------|-----------|
| 45. Program applies instructional strategies . . . | 8          | 17         | 7          | 1            | 1         |
| 46. Program incorporates computers . . .           | 5          | 12         | 14         | 2            | 2         |
| 47. Program accommodates student diversity . . .   | 8          | 15         | 10         | 0            | 1         |
| <i>Total</i>                                       | <b>21</b>  | <b>44</b>  | <b>31</b>  | <b>3</b>     | <b>4</b>  |
| <i>Percent</i>                                     | <b>20%</b> | <b>43%</b> | <b>30%</b> | <b>3.00%</b> | <b>4%</b> |

**Other**

|                                                    |            |            |            |            |           |
|----------------------------------------------------|------------|------------|------------|------------|-----------|
| 48. Advisors are available & helpful . . .         | 11         | 16         | 3          | 3          | 3         |
| 49. Faculty treat students with respect . . .      | 10         | 12         | 6          | 5          | 0         |
| 50. Program provides quality education . . .       | 4          | 21         | 8          | 3          | 0         |
| 51. Student center focus at FSU . . .              | 3          | 8          | 12         | 7          | 5         |
| 52. Support staff & services are adequate . . .    | 5          | 14         | 5          | 6          | 5         |
| 53. Career planning & job placement services . . . | 3          | 4          | 14         | 4          | 4         |
| 54. I would recommend FSU to others . . .          | 3          | 9          | 16         | 4          | 3         |
| 55. The Ferris Mission has been met . . .          | 2          | 12         | 15         | 5          | 1         |
| 56. Evaluation, testing & grading are fair . . .   | 2          | 8          | 14         | 9          | 2         |
| 57. Costs are reasonable . . .                     | 2          | 4          | 11         | 11         | 7         |
| <i>Total</i>                                       | <b>45</b>  | <b>108</b> | <b>104</b> | <b>57</b>  | <b>30</b> |
| <i>Percent</i>                                     | <b>13%</b> | <b>31%</b> | <b>30%</b> | <b>17%</b> | <b>9%</b> |

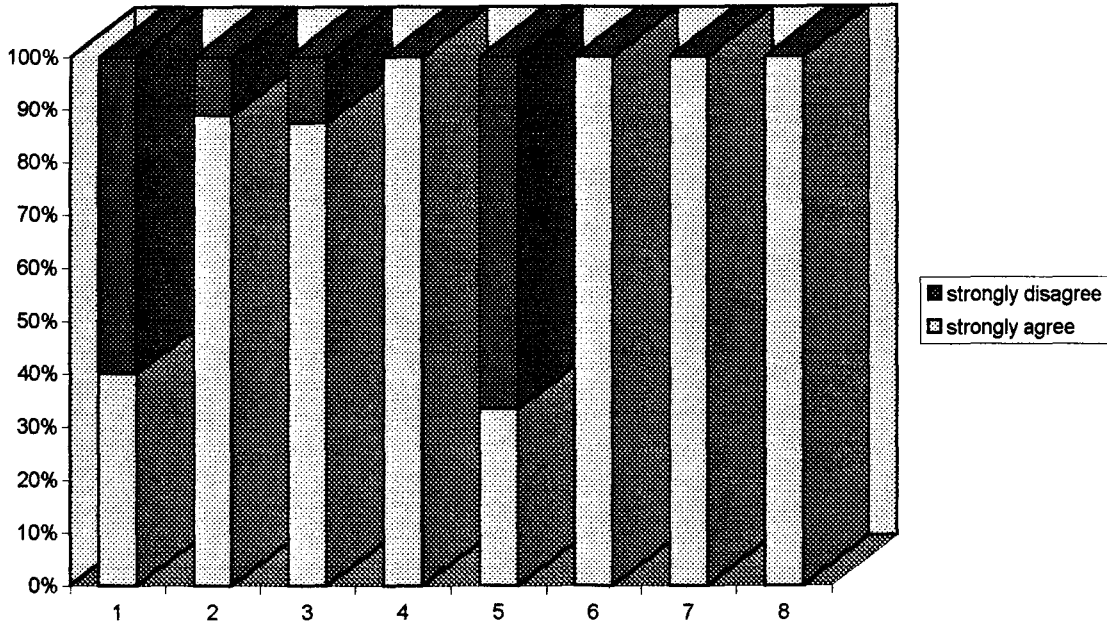
22

|                                                                                                                 | RADI<br>120 | RADI<br>130 | RADI<br>140 | RADI<br>150 | RADI<br>160 | No<br>Response |
|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 58. This course <u>did not</u> meet my expectations regarding quality instruction and professional preparation. | 0           | 0           | 0           | 0           | 25          | 10             |
| Percent                                                                                                         | 0%          | 0%          | 0%          | 0%          | 71%         |                |

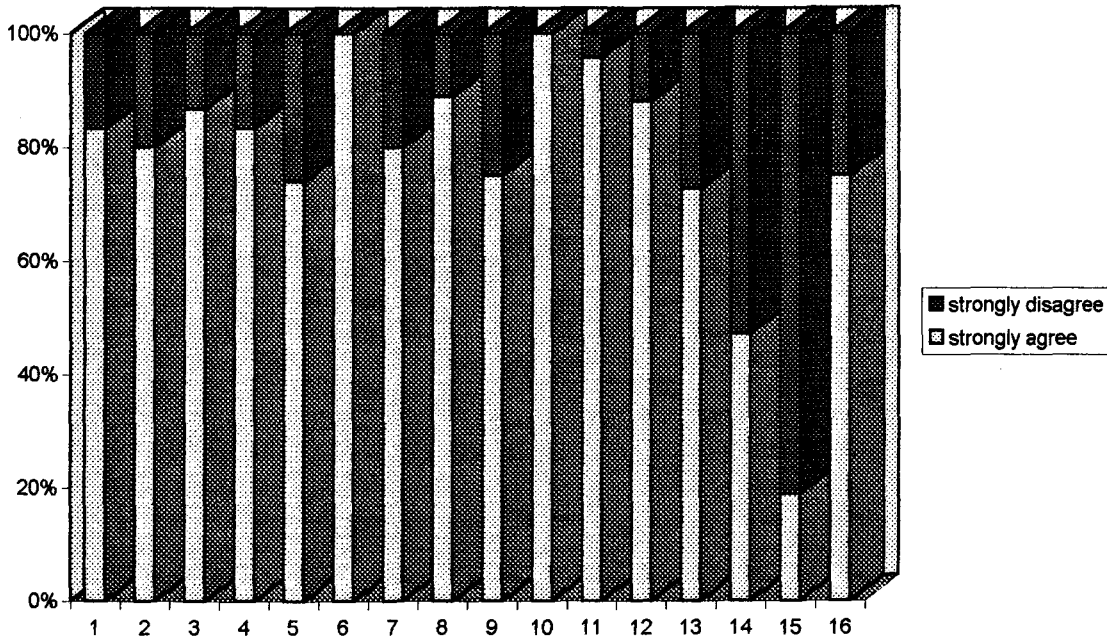
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Total Number of Students surveyed: 35

Student Satisfaction with Program



Intern Perception of Instruction



# **Radiography Program Review**

## **Student Evaluation of Program**

### **Unit 2: Campus Student Survey**

Please refer to Section 4, Unit 1 for a background of the program as it relates to student surveys and general survey methodology.

The students enrolled in the radiography program on campus are in their first year of the curriculum. This first year on campus emphasizes textbook theory coordinated with laboratory activities. Student awareness of the clinical environment and performance expectations are somewhat limited in this early phase (first 10 weeks) of professional training. The survey population for Unit 2 consisted of students on campus enrolled in RADI 120 and 130 as of November 15, 1996. The survey instrument was administered in a RADI class lecture with confidentiality mechanisms in place to insure candid responses. The respondents were encouraged to be specific with input so as not to obscure program strengths and deficiencies behind survey question or program generalities. The survey instrument is identical to the model described in Unit 1, except that question references pertaining to clinical experiences were deleted. Of the 66 students enrolled in RADI 130 when the survey was administered, 57 provided responses.

**Data:** The data was compiled according to evaluation categories identified in the review panel evaluation form. Positive and negative responses were expressed as a percentage of the total survey population (please refer to the corresponding data tables). Comments accompanying the survey responses are extensive and enlightening. Representative comments have been compiled and included at the end of Unit 2 for reference.

**Analysis:** Although campus radiography students lack the experience to make comparisons of relevance between didactic instruction and clinical application, they can provide valuable input about other aspects of university life, both general and program specific. The campus students are significantly satisfied with all category concepts investigated by the questions in the survey. Although it is encouraging to know that their overall level of satisfaction is high, some areas of campus student concern are still evident. Manifested in survey question responses and elaborative comments, many students expressed the need for more thorough information about job opportunities, radiographer duties and the clinical environment. They requested more flexible scheduling of classes and availability of resources. This was especially important to the growing population of non-traditional students within the program. Students also articulated their expectation of organized, consistent quality instruction. Once again there was a significant discrepancy between professional course presentations and student expectations.

Comparison of campus survey data with clinical intern data indicate that attitudes of program students change substantially in a negative direction between the time they leave campus and the end of the first year internship experience. This disturbing finding merits further detailed investigation.

**Conclusion:** Radiography students on campus by and large are satisfied with most aspects of program operation. There is still room for improvement in areas of instructional coordination and flexible methods of delivery or availability of resources. The trend of diminishing satisfaction with Ferris once the students have had the opportunity for clinical experience and the application of acquired knowledge merits further investigation to clarify the cause.

*strongly agree*    *agree*    *somewhat agree*    *disagree*    *strongly disagree*

**Student Perception of Instruction**

|                                                          | <b>1</b>   | <b>2</b>   | <b>3</b>   | <b>4</b>  | <b>5</b>     |
|----------------------------------------------------------|------------|------------|------------|-----------|--------------|
| 1. Information is accurate and consistent . . .          | 21         | 28         | 3          | 0         | 0            |
| 2. Instructors are well organized . . .                  | 15         | 29         | 11         | 2         | 1            |
| 3. Instructors use class management skills . . .         | 23         | 28         | 6          | 0         | 0            |
| 4. Instructors show leadership . . .                     | 22         | 31         | 4          | 0         | 0            |
| 5. Available during office hrs. for questions . . .      | 27         | 24         | 4          | 1         | 0            |
| 6. Instruction prepares students for employment . . .    | 9          | 30         | 7          | 0         | 0            |
| 7. Instruction prepares students for registry exam . . . | 9          | 26         | 7          | 1         | 0            |
| 8. Promotes self-teaching and lifelong teaching . . .    | 14         | 34         | 8          | 1         | 1            |
| 9. Campus prepares for clinical . . .                    | 9          | 28         | 4          | 0         | 0            |
| 10. Reference materials are adequate . . .               | 17         | 31         | 5          | 2         | 1            |
| <i>Total</i>                                             | <b>166</b> | <b>289</b> | <b>59</b>  | <b>7</b>  | <b>3</b>     |
| <i>percent</i>                                           | <b>32%</b> | <b>55%</b> | <b>11%</b> | <b>1%</b> | <b>0.60%</b> |

**Student Satisfaction with Program**

|                                                     |            |            |            |           |              |
|-----------------------------------------------------|------------|------------|------------|-----------|--------------|
| 11. Program faculty . . .                           | 16         | 31         | 8          | 1         | 1            |
| 12. Program equipment . . .                         | 11         | 36         | 10         | 1         | 0            |
| 13. Program facilities . . .                        | 13         | 36         | 7          | 1         | 0            |
| 14. Program curriculum . . .                        | 8          | 33         | 13         | 2         | 0            |
| 15. Program administration . . .                    | 11         | 33         | 10         | 1         | 1            |
| 16. My education and experiences with program . . . | 13         | 31         | 12         | 1         | 0            |
| 17. My education and experiences with FSU . . .     | 10         | 34         | 8          | 4         | 0            |
| <i>Total</i>                                        | <b>82</b>  | <b>234</b> | <b>68</b>  | <b>11</b> | <b>2</b>     |
| <i>Percent</i>                                      | <b>21%</b> | <b>59%</b> | <b>17%</b> | <b>3%</b> | <b>0.50%</b> |

**Demand for Graduates**

|                                                      |            |            |            |            |           |
|------------------------------------------------------|------------|------------|------------|------------|-----------|
| 18. Employment opportunities . . .                   | 10         | 13         | 20         | 8          | 3         |
| 19. Information regarding career opportunities . . . | 3          | 25         | 16         | 6          | 3         |
| <i>Total</i>                                         | <b>13</b>  | <b>38</b>  | <b>36</b>  | <b>14</b>  | <b>6</b>  |
| <i>Percent</i>                                       | <b>12%</b> | <b>36%</b> | <b>34%</b> | <b>13%</b> | <b>6%</b> |

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**Use of Student Follow Up Information**

|                                            |    |     |     |     |    |
|--------------------------------------------|----|-----|-----|-----|----|
| 20. Feedback and input from students . . . | 4  | 25  | 15  | 9   | 0  |
| <i>Percent</i>                             | 8% | 47% | 28% | 17% | 0% |

**Relevance of Supportive Courses**

|                                                         |     |     |     |    |    |
|---------------------------------------------------------|-----|-----|-----|----|----|
| 21. Support courses are relevant to program goals . . . | 10  | 26  | 14  | 5  | 1  |
| <i>Percent</i>                                          | 18% | 46% | 25% | 9% | 2% |

**Qualifications of Administrators and Supervisors**

|                                                             |     |     |     |    |       |
|-------------------------------------------------------------|-----|-----|-----|----|-------|
| 22. Response to student issues and needs . . .              | 8   | 26  | 16  | 6  | 0     |
| 23. Helpful and available . . .                             | 14  | 26  | 14  | 3  | 0     |
| 24. High level of administrative ability & leadership . . . | 12  | 31  | 9   | 5  | 0     |
| 25. Program operations are organized . . .                  | 10  | 34  | 11  | 1  | 0     |
| 26. Communication & cooperation . . .                       | 9   | 27  | 16  | 2  | 1     |
| <i>Total</i>                                                | 53  | 144 | 66  | 17 | 1     |
| <i>Percent</i>                                              | 19% | 51% | 23% | 6% | 0.40% |

**Instructional Staffing**

|                                                 |     |     |     |     |    |
|-------------------------------------------------|-----|-----|-----|-----|----|
| 27. Faculty support effective instruction . . . | 8   | 25  | 14  | 7   | 1  |
| 28. Faculty provide flexible scheduling . . .   | 9   | 17  | 13  | 11  | 7  |
| <i>Total</i>                                    | 17  | 42  | 27  | 18  | 8  |
| <i>Percent</i>                                  | 15% | 38% | 24% | 16% | 7% |

**Facilities**

|                                     |     |     |     |    |    |
|-------------------------------------|-----|-----|-----|----|----|
| 29. Facilities are sufficient . . . | 11  | 34  | 10  | 1  | 0  |
| <i>Percent</i>                      | 20% | 61% | 18% | 2% | 0% |

**Scheduling of Instructional Facilities**

|                                                 |     |     |     |     |    |
|-------------------------------------------------|-----|-----|-----|-----|----|
| 30. Courses accommodate student schedules . . . | 6   | 15  | 20  | 10  | 6  |
| 31. Facilities are available . . .              | 7   | 33  | 10  | 5   | 1  |
| 32. Open labs are available . . .               | 25  | 22  | 9   | 1   | 0  |
| <i>Total</i>                                    | 38  | 37  | 39  | 16  | 7  |
| <i>Percent</i>                                  | 28% | 27% | 28% | 12% | 5% |

**Equipment**

|                                   |     |     |     |    |    |
|-----------------------------------|-----|-----|-----|----|----|
| 33. Equipment is sufficient . . . | 13  | 31  | 14  | 0  | 0  |
| <i>Percent</i>                    | 22% | 53% | 24% | 0% | 0% |

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**Adaption of Instruction**

|                                                    |           |           |           |          |          |
|----------------------------------------------------|-----------|-----------|-----------|----------|----------|
| 34. Program applies instructional strategies . . . | 25        | 30        | 2         | 0        | 0        |
| 35. Program incorporates computers . . .           | 16        | 31        | 10        | 0        | 0        |
| 36. Program accommodates student diversity . . .   | 12        | 35        | 10        | 1        | 0        |
| <i>Total</i>                                       | <u>53</u> | <u>96</u> | <u>22</u> | <u>1</u> | <u>0</u> |
| <i>Percent</i>                                     | 31%       | 56%       | 13%       | 0.60%    | 0%       |

**Other**

|                                                    |            |            |            |           |           |
|----------------------------------------------------|------------|------------|------------|-----------|-----------|
| 37. Advisors are available & helpful . . .         | 16         | 34         | 6          | 1         | 0         |
| 38. Faculty treat students with respect . . .      | 18         | 34         | 4          | 1         | 1         |
| 39. Program provides quality education . . .       | 20         | 34         | 4          | 0         | 0         |
| 40. Student center focus at FSU . . .              | 11         | 28         | 13         | 2         | 2         |
| 41. Support staff & services are adequate . . .    | 8          | 27         | 17         | 2         | 0         |
| 42. Career planning & job placement services . . . | 6          | 31         | 6          | 4         | 2         |
| 43. I would recommend FSU to others . . .          | 13         | 33         | 10         | 0         | 1         |
| 44. The Ferris Mission has been met . . .          | 7          | 35         | 11         | 0         | 1         |
| 45. Evaluation, testing & grading are fair . . .   | 9          | 31         | 14         | 2         | 2         |
| 46. Costs are reasonable . . .                     | 4          | 26         | 16         | 8         | 2         |
| 47. Information on internship is provided . . .    | 12         | 17         | 18         | 6         | 2         |
| <i>Total</i>                                       | <u>124</u> | <u>330</u> | <u>119</u> | <u>26</u> | <u>13</u> |
| <i>Percent</i>                                     | 20%        | 54%        | 19%        | 4%        | 2%        |

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Total Number of Students surveyed: 57

RADIOGRAPHY PROGRAM REVIEW  
CAMPUS STUDENT SURVEY  
FALL 1996

Circle the appropriate response to each question. Apply the following key for your responses.

- 1=Strongly Agree
- 2=Agree
- 3=Somewhat Agree
- 4=Disagree
- 5=Strongly Disagree
- No Response=Does not apply or no opinion.

Intern (Student) Perception of Instruction:

1. The information delivered by radiography instructors is factually accurate and consistent with current professional practice. 1 2 3 4 5
2. Program instructors are well organized and skillfully facilitate learning by using creative, interesting and understandable teaching methods. 1 2 3 4 5
3. Program instructors exhibit classroom management skills that encourage questions, mutual respect and tolerance for divergent opinion. 1 2 3 4 5
4. Program instructors set a good example of leadership and professionalism. 1 2 3 4 5
5. Program instructors were/are available to respond to student concerns or questions, especially during office hours. 1 2 3 4 5
6. Program instruction adequately prepares students with the skills and competence necessary for professional entry level employment. 1 2 3 4 5
7. Program instruction adequately prepares students for professional registry examinations. 1 2 3 4 5
8. Program instruction emphasizes understanding and application of fundamental concepts to promote self teaching and lifelong learning. 1 2 3 4 5
9. Campus instruction and courses prepare me well for clinical internship. 1 2 3 4 5
10. Instructional reference materials (textbooks, software) are adequate for effective instruction. 1 2 3 4 5

Student Satisfaction with Program:

11. I am satisfied with program faculty. 1 2 3 4 5
12. I am satisfied with program equipment. 1 2 3 4 5
13. I am satisfied with program facilities. 1 2 3 4 5

14. I am satisfied with program curriculum. 1 2 3 4 5
15. I am satisfied with program administration. 1 2 3 4 5
16. I am satisfied with my education and overall experiences involving the radiography program. 1 2 3 4 5
17. I am satisfied with my education and overall experiences involving Ferris State University. 1 2 3 4 5

Demand for Graduates:

18. It is my perception that radiography employment opportunities are numerous and easy to obtain after graduation. 1 2 3 4 5
19. Accurate and timely information regarding career opportunities, duties and employment data (salary, jobs) was provided to students. 1 2 3 4 5

Use of Student Follow Up Information:

20. Feedback and input regarding program operation (surveys, interviews or other mechanisms) are often solicited from students. 1 2 3 4 5

Relevance of Supportive Courses:

21. Support courses required for a radiography degree are relevant and connected to program goals and student needs. 1 2 3 4 5

Qualifications of Administrators and Supervisors:

22. There is adequate administrative response to student issues and needs. 1 2 3 4 5
23. On campus program and department administrators are helpful and available. 1 2 3 4 5
24. Persons responsible for supervising and coordinating the radiography program demonstrate a high level of administrative ability and leadership. 1 2 3 4 5
25. Program operations and curriculum are well coordinated and organized. 1 2 3 4 5
26. There is adequate communication and cooperation among program personnel. 1 2 3 4 5

Instructional Staffing:

27. There is an adequate number of campus faculty to support effective radiography instruction. 1 2 3 4 5
28. There is an adequate number of campus faculty to provide flexible course scheduling consistent with student need. 1 2 3 4 5

Facilities:

29. Campus instructional facilities are sufficient to support a high quality program. 1 2 3 4 5

Scheduling of Instructional Facilities:

30. Program courses and curriculum accommodate student schedules and lifestyle. 1 2 3 4 5

31. Instructional facilities, (such as the radiography and computer labs) are reasonably available according to student need and schedule. 1 2 3 4 5

32. Open radiography labs were arranged and available to promote expanded learning. 1 2 3 4 5

Equipment:

33. Existing on campus program equipment (especially radiography laboratory) is sufficient to support quality instruction 1 2 3 4 5

Adaption of Instruction:

34. The program applies instructional strategies that promote critical thinking, collaboration, "hands on" learning and individualized learning. 1 2 3 4 5

35. The program incorporates computers and modern instructional technology within the curriculum. 1 2 3 4 5

36. The program accommodates student diversity, special needs, multiple learning styles and individual student interests. 1 2 3 4 5

Other:

37. Program advisors are available and provided appropriate, pertinent advice. 1 2 3 4 5

38. Program faculty and administration treat students with respect and courtesy. 1 2 3 4 5

39. Overall the radiography program provides quality education. 1 2 3 4 5

40. There is an appropriate student centered focus at Ferris State University. 1 2 3 4 5

41. Support staff and services (secretaries, student development services, academic affairs, financial aid, library) are adequate. 1 2 3 4 5

42. Career planning and job placement services are helpful. 1 2 3 4 5

43. I would recommend Ferris State University to others seeking post secondary education. 1 2 3 4 5

- 44. The Ferris Mission "...providing the opportunity for all students to reach their highest potential in developing careers and life skills that will be of value to them and employers.." has been met. 1 2 3 4 5
- 45. Program evaluation, testing and grading procedures (campus and clinical) are fair and appropriate. 1 2 3 4 5
- 46. Program costs are reasonable and represent value for services and acquired skills. 1 2 3 4 5
- 47. Adequate information about the clinical internship experience (sites, environment, intern process) has been provided. 1 2 3 4 5
- 48. Please circle specific radiography courses on campus that did not meet your expectations regarding quality instruction and professional preparation. RADI 120  
RADI 130

COMMENTS: Your comments elaborating upon specific program issues or suggestions for program improvement would be greatly appreciated. It would be helpful to indicate the question number(s) of the concept(s) to which you are referring along the left margin of this page. Please be encouraged to discuss any additional topics important to you that were not addressed in the survey instrument. Use the back of this page if necessary.

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# **Radiography Program Review Student Evaluation of Program**

## **Unit 3: Intern Survey, AY 95-96**

Please refer to Section 4, Unit 1 for a background of the program as it relates to student surveys and general survey methodology.

**Method:** The survey instrument utilized for this internship class substantially deviates from the tools previously described. This survey was implemented out of necessity to capture the input of interns just prior to graduation. I became aware of my role as the surveyor of students for the program review process toward the end of Summer Semester, 1996. There was not adequate time to construct a survey instrument, send it out and receive responses before the interns graduated. As a result, an existing survey form in the internship manual (available to all interns) was utilized to collect relevant information. Interns were contacted by telephone via adjunct clinical instructors, and requested to complete the survey and forward it to campus. Examples of the survey instrument entitled "Intern Final Evaluation of the Radiography Program" are provided at the end of this unit. The design of the survey instrument made it difficult to quantify the data, but an attempt was put forth. Elaborative comments expressed by the interns were also extensive. Seven representative surveys (names removed for confidentiality) are included with the data at the end of this unit, while other comments have been reviewed and summarized in the analysis of data. A total of 28 surveys were completed and returned from an intern class of 52.

**Data:** The data has been compiled when possible to include all quantifiable responses to questions. Many of the questions solicited comment only and are in that case addressed as general intern impressions or added to the representative surveys at the end of this unit.

**Analysis:** Almost all interns expressed the need for more extensive instruction in electrical circuitry and radiographic physics. Interns uniformly asked for more organization, support and participation from the clinical coordinator. Many liked the idea of a mock accident lab on campus during Summer Semester. They wanted applied radiographic skills emphasized more on campus and to be made aware of the variety of responsibilities assumed by the competent radiographer. Interns were satisfied with the quality of adjunct clinical instruction. With these interns ready to graduate, many requested additional help with job placement information and employment strategies.

### **Conclusion:**

Seven completed and representative evaluation forms have been included at the end of this unit from which the evaluation panel may draw their own conclusions.

## Intern Evaluation of Clinical Instruction

This is an overall survey of the intern's clinical instructor based upon perceptions of ability, skill, teaching practices and personal characteristics. The responses for all surveys have been totaled in the following table. It is apparent that the interns were very satisfied with the quality of instruction delivered by the adjunct clinical instructors.



|                                                                                                                              | A<br>L<br>W<br>A<br>Y<br>S | M<br>O<br>S<br>T<br>L<br>Y | H<br>A<br>R<br>D<br>L<br>Y<br><br>E<br>V<br>E<br>R | N<br>E<br>V<br>E<br>R | N<br>/<br>A |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|----------------------------------------------------|-----------------------|-------------|
| <b>1. Demonstrates ability as a professional and "teacher" by:</b>                                                           |                            |                            |                                                    |                       |             |
| a. making objectives clear.                                                                                                  | 16                         | 7                          | 0                                                  | 0                     | 1           |
| b. making students aware of professional responsibility.                                                                     | 18                         | 5                          | 0                                                  | 0                     | 0           |
| c. being well informed and able to communicate knowledge to interns.                                                         | 15                         | 10                         | 0                                                  | 0                     | 0           |
| d. being a good role model in behavior, appearance, participation with patients, awareness of both intern and patient needs. | 14                         | 7                          | 2                                                  | 0                     | 1           |
| <b>2. Shows skill in interpersonal relationships by:</b>                                                                     |                            |                            |                                                    |                       |             |
| a. alleviating intern anxieties.                                                                                             | 14                         | 7                          | 3                                                  | 0                     | 0           |
| b. conveying confidence in the respect for the intern.                                                                       | 15                         | 8                          | 0                                                  | 1                     | 0           |
| c. correcting intern tactfully without devaluing the intern.                                                                 | 16                         | 6                          | 1                                                  | 0                     | 1           |
| d. being sensitive to interns needs and feelings.                                                                            | 15                         | 4                          | 4                                                  | 0                     | 0           |
| e. permitting freedom of discussion and expression of feelings.                                                              | 18                         | 3                          | 2                                                  | 0                     | 0           |
| f. conveying interest in interns; showing genuine interest in what they have to say.                                         | 17                         | 5                          | 1                                                  | 0                     | 1           |
| g. making interns feel free to ask questions or ask for help.                                                                | 21                         | 3                          | 0                                                  | 0                     | 0           |
| h. making interns think and motivating them.                                                                                 | 16                         | 7                          | 1                                                  | 0                     | 0           |
| i. interacting well with interns, patients, and staff.                                                                       | 17                         | 7                          | 0                                                  | 0                     | 0           |
| j. showing genuine interest in patients and their care.                                                                      | 21                         | 3                          | 0                                                  | 0                     | 0           |
| <b>3. Uses these teaching practices:</b>                                                                                     |                            |                            |                                                    |                       |             |
| a. demonstrates manual skills followed by opportunity for interns to practice.                                               | 15                         | 5                          | 1                                                  | 0                     | 3           |
| b. has a sense of timing, knowing when intern is ready to proceed.                                                           | 11                         | 11                         | 1                                                  | 0                     | 1           |
| c. creates a casual, relaxed atmosphere, making learning enjoyable.                                                          | 18                         | 4                          | 2                                                  | 0                     | 0           |
| d. supervises and helps in new experiences without taking over.                                                              | 13                         | 7                          | 2                                                  | 0                     | 2           |

|                                                                                                                                 |    |   |   |   |   |
|---------------------------------------------------------------------------------------------------------------------------------|----|---|---|---|---|
| c. creates a casual, relaxed atmosphere, making learning enjoyable.                                                             | 18 | 4 | 2 | 0 | 0 |
| d. supervises and helps in new experiences without taking over.                                                                 | 13 | 7 | 2 | 0 | 2 |
| e. gives guidance and support in new and/or difficult situations.                                                               | 16 | 8 | 0 | 0 | 0 |
| f. refers intern to additional resource person and material.                                                                    | 20 | 2 | 1 | 0 | 1 |
| g. when the work load is low, the instructor uses the clinical time to advantage in learning activities and discussion periods. | 10 | 5 | 4 | 2 | 3 |
| <b>4. Has the following personal characteristics:</b>                                                                           |    |   |   |   |   |
| a. is honest and direct with students.                                                                                          | 17 | 4 | 2 | 0 | 1 |
| b. an interest and enthusiasm that is "catching," making students interested.                                                   | 14 | 5 | 3 | 0 | 1 |
| c. is patient, consistent, predictable.                                                                                         | 17 | 3 | 4 | 0 | 1 |
| d. is willing to admit a mistake.                                                                                               |    |   |   |   |   |
| e. controls feeling when situation provokes anger.                                                                              | 15 | 5 | 3 | 0 | 1 |
| <b>5. Uses these practices when evaluating students:</b>                                                                        |    |   |   |   |   |
| a. is "fair."                                                                                                                   | 17 | 6 | 1 | 0 | 0 |
| b. tells student when he/she has done well.                                                                                     | 15 | 7 | 1 | 0 | 1 |
| c. reviews performance with student consistently.                                                                               | 16 | 4 | 1 | 0 | 3 |
| d. holds high expectations for students performance.                                                                            | 19 | 3 | 1 | 0 | 1 |
| e. is concerned with learning rather than testing.                                                                              | 15 | 8 | 1 | 0 | 0 |
| f. corrects student at the time the error occurs or as close to that time as possible.                                          | 15 | 5 | 1 | 0 | 3 |
| g. conducts constructive evaluation conference.                                                                                 | 16 | 6 | 1 | 0 | 1 |
| h. is realistic in expectations of students.                                                                                    | 19 | 4 | 1 | 0 | 0 |
| i. gives student credit for special achievements.                                                                               | 17 | 4 | 2 | 0 | 1 |

## Final Self Evaluation

This survey component explores the intern's self evaluation of competence. Responses from all surveys submitted are totaled. Column 1 represents competencies the intern felt competent in performing, column 2 indicates competencies requiring reinforcement during the academic phase of training and column 3 represents competencies requiring reinforcement during the clinical phase of training.

|                                                                                                                                                     | confident | academic | clinical | netrual |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|----------|---------|
| 1. Use oral and written medical communication;                                                                                                      | 19        | 9        | 7        |         |
| 2. Demonstrate knowledge of human structure, function and pathology;                                                                                | 17        | 7        | 8        |         |
| 3. Anticipate principles of body mechanics;                                                                                                         | 17        | 7        | 5        | 1       |
| 4. Apply principles of body mechanics;                                                                                                              | 19        | 5        | 4        | 1       |
| 5. Perofrm basic mathematical functions;                                                                                                            | 21        | 6        | 2        | 1       |
| 6. Operate radiographic imaging equipment and accessory devices;                                                                                    | 22        | 6        | 4        |         |
| 7. Position the patient and imaging system to perform radiographic examinations and procedures;                                                     | 23        | 5        | 3        |         |
| 8. Modify standard procedures to accomodate for patient condition and other variables;                                                              | 20        | 10       | 4        | 1       |
| 9. Process radiographs;                                                                                                                             | 23        | 1        |          | 1       |
| 10. Determine exposure factors to obtain diagnostic quality radiographs with minimum radiation exposure;                                            | 22        | 11       | 4        |         |
| 11. Adapt exposure factors for various patient conditions, equipment, accessories and contrast media to maintain appropriate radiographic quality;  | 21        | 7        | 3        |         |
| 12. Practice radiation protection for the patient, self, and others;                                                                                | 25        | 1        | 2        |         |
| 13. Recognize emergency patient conditions and initiate first aid and basic life-support procedures;                                                | 18        | 7        | 8        | 1       |
| 14. Evaluate radiographic images for appropriate positioning and image quality;                                                                     | 20        | 6        | 7        |         |
| 15. Evaluate the performance of radiographic systems, know the safe limits of equipment operation, and report malfunctions to the proper authority; | 20        | 7        | 2        | 1       |
| 16. Demonstrate knowledge and skills relating to quality assurance;                                                                                 | 17        | 5        | 9        | 1       |
| 17. Exercise independent judgement and discretion in the technical performance of medical imaging procedures.                                       | 22        | 3        | 3        |         |

*Student Totals:*

*Column #1 represents a level of confidence in performance.*

*Column #2 represents a need to be strengthened in the academic portion of our program.*

*Column #3 represents a need to be strengthened in the education portion of our program.*

Clinical Coordination.

1. Are additional educational material needed to enhance the clinical internship (additional tests, quizzes, self study materials, etc.)? 15 Yes, 13 No.
2. Was the clinical internship portion of the program what you expected it to be? 20 Yes, 8 No.

Academics.

The clinical internship is to provide the student with knowledge and understanding to become an entry level radiographer.

1. Has this been successful? 18 Yes, 8 No.

Employment Survey.

1. Have you interviewed for a job as a radiographer? 13 Yes, 12 No.
2. If yes, did you receive employment because of these interviews? 10 Yes, 3 No.
3. Have you secured employment because of these interviews? 8 Yes, 5 No.
4. If answer to question #1 is no, are you seeking employment as a radiographer? 9 Yes, 2 No, 1 NA.
5. Are you returning to college? 5 Yes, 14 No.
6. Are you seeking other employment? 9 Yes, 9 No.

- Set up distance learning ~~~~~ Computer capacity exists at Ferris

- non-film radiography

- need for multi-skilled, multi-talented caregivers

- also new advances in radiography itself

- equip. changed,

- managed care

- new duties

new CE Req.

Curriculum choices

class-training vs. more adv. skill

↓  
critical thinking + basics

they need to make more informed choices

## Recommendations

The Radiography Program would like to propose the following recommendations:

1. The Radiography Program need to implement and maintain a system for surveying our graduates and employers of graduates ✓
2. The Radiography Programs needs to use the new Advisory Committee as a for program planning ✓
3. The curriculum needs to be revise to reflect the changing role of the Radiographer. Revisions should be submitted for approval no later than fall of 1997. Guidance for these revisions will be the Program Unit Action Plan and this PRP report. *Cent. Talk abt. this more*
4. The program needs to implement programs in Ultrasound, Mammography, Cross-Sectional Anatomy. Bachelor Science Degrees in Radiology Administration, Imaging Services, Radiological Health. *needs assessment? not yet.*
5. "Piggy-back" BS Radiography degrees in the following areas such as Nursing, Respiratory Care, Marketing/Sales, Electronic Repair ?
6. Develop a clinical internship program that will include out-of-state clinical affiliation
7. Develop a program in the clinic where the clinical internship may graduate in the first session of the summer this would allow our intern to take the national exam in July rather than October this also would allow the Ferris interns to compete much earlier for jobs. *Why?*
8. Develop an accelerated internship of eight months allowing the intern to graduate in May. *Why?*
9. Develop a CT, MRI, QA, Mammo program. *Why? What?*
10. The program needs to monitor employment trends and keep records of these trends. Enrollment should reflect trends. ✓
11. The Radiography program faculty should continue to update skills and knowledge of current practice in the field of the radiography. ✓
12. Plan for another PRP in the year 2001.

## CONCLUSION

The result of the survey of the employers of graduates, students, faculty, and graduates have provide useful information that can be used by the Radiography Program. The following conclusions have been reached:

### Curriculum

1. The curriculum needs some revision particularly adding Bio 205 (Anatomy and Physiology), multicompetency in other vocations and modalities. Computer courses and Bio Medical courses needs to evaluated. *will eliminate waiting list*
2. Graduates and students surveyed feel that the curriculum should include more simulated clinical procedures.

### Program Faculty

1. Students of the program agree that faculty is helpful and understanding of their needs. Updating of skills and being more understandable were several comments, however, that were made by interns.
2. Program faculty feel that the use of student follow-up information is below expectations.
3. Program faculty recognize that current data on labor market needs and emerging trends in the job market need to be used to develop and evaluate the program.

### Facilities and Equipment

1. Surveys of the student and graduates express concern regarding the equipment on-campus. The equipment is not, of course, as state-of-the-art as equipment used at our clinical affiliates and is not expected to be. As we received Voc. Edu. monies for our radiographic equipment and ancillary equipment we are gradually becoming state-of-the-art.
2. Lack of space is becoming a gradual concern as we receive mammography, ultrasound equipment.

### Students

1. Enrollment is currently strong. There are, however, concerns regarding pre-radiography students on the wait list. This is being quickly remedied by taking the pre-radiography student, who are qualified, placing them in the radiography program.
2. Employers of graduates reflect they would like to see a reduction of number of students enrolled in the program. As this program progresses towards multicompetency this will be a vital part of in changing the attitudes of employers



### **Advisors**

1. The advisory committee sees the instructions as being very good, they also see the radiography student as being well prepared for the hospital.
2. The concerns of the advisory committee is the consistency in the internship program and job placement.

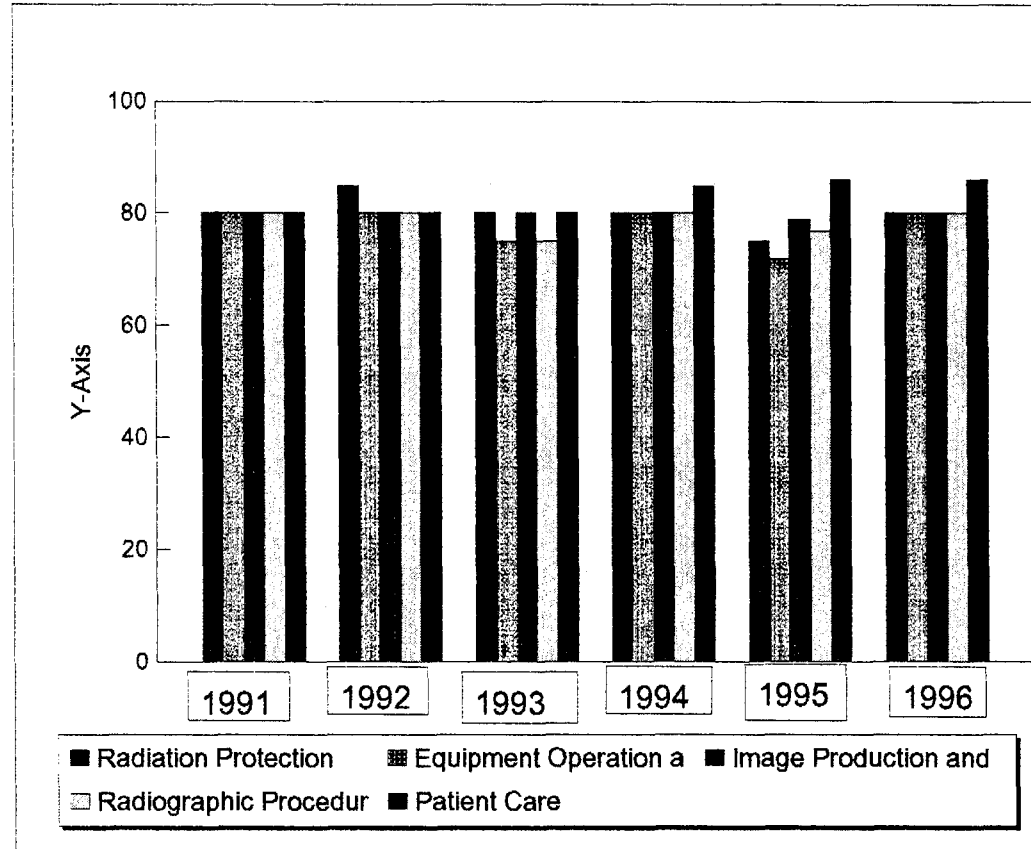
### **Conclusions**

The Radiography Program is very stable program that meets the mission of the university. There is plenty of opportunity within this program to meet health care needs of the industry and to develop other courses or programs.

# APPENDICES

### ARRT RESULTS 1991-1996

| Years                                | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|--------------------------------------|------|------|------|------|------|------|
| Radiation Protection                 | 80   | 85   | 80   | 80   | 75   | 80   |
| Equipment Operation and Manintenance | 80   | 80   | 75   | 80   | 72   | 80   |
| Image Production and Evaluation      | 80   | 80   | 80   | 80   | 79   | 80   |
| Radiographic Procedure               | 80   | 80   | 75   | 80   | 77   | 80   |
| Patient Care                         | 80   | 80   | 80   | 85   | 86   | 86   |



National average for the ARRT Exam is about 83.5 for 1991 - 1996

JULIAN F. EASTER  
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Big Rapids, MI 49307

Home (616) 796-1650  
Work (616) 592-2312

SUMMARY: Over 15 years of progressively responsible positions in health care. Enjoy patient care and didactic duties. Good combination of practical and theoretical experience. Motivated. Hard working. Well organized.

EDUCATION: Western Michigan University, Kalamazoo, Michigan  
Doctoral Degree Program, Winter, 1994 - anticipated graduation, January, 1998  
Education Administration and Supervision - Higher Education

Pittsburgh State University, Pittsburgh, Kansas  
Master of Science Degree: 1986  
Major: Community College Teaching

Biosystems Institute, Tempe, Arizona 1980-1981  
Graduate AMA accredited Respiratory Therapist Program

University of Notre Dame, Notre Dame, Indiana 1970-1974  
Bachelor of Arts Degree in Music Education

Lorain Catholic High School, Lorain, Ohio 1966-1970  
Graduate

PROFESSIONAL CERTIFICATION: Registered Respiratory Therapist (RRT) - June, 1983  
Certified Respiratory Therapy Technician (CRTT) - June, 1982  
Advanced Cardiac Life Support Instructor (ACLS)  
Basic Cardiac Life Support Instructor

PROFESSIONAL AFFILIATIONS: American Association for Respiratory Care  
National Board for Respiratory Care  
Michigan Society for Respiratory Care  
American Heart Association

PROFESSIONAL EXPERIENCE: Ferris State University, Big Rapids, Michigan  
Department Head, Hospital Related Programs, May 1992 - Present  
Responsible for the administrative management of the Respiratory Care, Radiography and Nuclear Medicine programs  
  
Program Director, Respiratory Care, August, 1991-Present  
  
Responsible for the management of the Respiratory Care program. Duties include supervising of personnel and program/curriculum development.

JULIAN F. EASTER, (Continued)

PROFESSIONAL  
EXPERIENCE:  
(Continued)

Firelands College, Huron, Ohio

Director of Clinical Education, August, 1988-July 1991

Responsible for supervising the clinical instruction of the Respiratory Care students. Assist in didactic/lab instruction. Assist the Program Director with program and curriculum development.

Labette County Medical Center, Parsons, Kansas

Director of Respiratory Care, July 1985 - August, 1988

Responsible for managing the Respiratory Care Department and formal training programs for students, nursing personnel and medical staff.

Labette Community College, Parsons, Kansas

Didactic/Clinical Instructor, July 1983 - July 1985

Primary Instructor of the technician program. Assisted in teaching advanced respiratory therapy theory in the therapist program. Extensive involvement in program and curriculum development for the Joint Review Committee for Respiratory Therapy Education Accreditation.

Biosystems Institute, Tempe, Arizona

Didactic/Clinical Instructor, February 1981-June 1983

Served as didactic instructor teaching the basic sciences, math, pharmacology, EKG, basic and advanced theory in the technician and therapist program.

Primary instructor of five month accelerated therapist program.

As a clinical instructor, worked with students supervising and instructing them on practical applications of RT techniques. Served as a clinical evaluator of students in the external technician and therapist programs. Assisted in program development.

St. Joseph Hospital of Phoenix Arizona

Staff technician (part-time) November 1980 - February 1981

Performed general and critical care duties.

Central Michigan Community Hospital, Mt. Pleasant,

MI

Staff Technician, January 1978 - September 1980  
Responsibilities in general and critical care. Performed basic pulmonary function testing, basic cardiography and a full range of respiratory technician procedures.

JULIAN F. EASTER, (Continued)

RELATED  
PROFESSIONAL  
EXPERIENCE:

American Heart Association of Michigan, Mecosta  
County Division  
Board Member - 1992-Present  
Michigan Society for Respiratory Care  
Chairman - Awards and Scholarships Committee -  
1995-1996  
Sandusky/Medical College of Ohio Health Education  
Committee Advisory Board Member - 1990-91  
Easter Seal Society of Northwest Ohio - Board of  
Trustees - 1989-91  
American Lung Association of Ohio's South Shore  
Board of Trustees - 1990-91  
Ohio Consortium for Blacks in Higher Education  
State Treasurer - 1989-91  
President, Kansas Respiratory Care Society  
(Section VIII) - 1986-1987  
Chairman of Advisory Board for the Labette Commu-  
nity College Respiratory Care Program - 1985-1988  
National Board of Respiratory Care Entry Level and  
Advanced Practitioner Examinations Item Writer -  
1985-Present  
Clinical Facilitator for "Freedom From Smoking"  
clinics sponsored by the American Lung Association

PERSONAL:

Birth Date: November 28, 1952 - Lorain, Ohio  
Health: Excellent  
Marital Status: Married  
Children: Four

REFERENCES:

Available on request.

## **BIOGRAPHICAL DATA**

1. **NAME:** Robert T. Holihan
2. **DEPARTMENT:** Hospital Related Programs/ Radiography
3. **AGE:** 49
4. **ACADEMIC RANK:** Technical Instructor/Program Coordinator
5. **DEGREES** BS Radiography  
    Ferris State College  
    1978  
  
    AAS Allied Health Education  
    Ferris State College  
    1974
6. **CREDENTIALS:** American Registry of Radiologic Technology
7. **FERRIS EMPLOYMENT:** 16 years
8. **FULL-TIME HOSPITAL EXPERIENCE**  
    1975-1979 - Mecosta County General Hospital  
    Big Rapids, Mich.  
  
    1974-1975 - Munson Medical Center  
    Traverse City, Mich.  
  
    1973-1974 - St. Mary Hospital  
    Grand Rapids, Mich.
8. **PROFESSIONAL RECOGNITION**  
    President of the Lakeshore X-ray Society  
    Sept. 1981-May 1983
9. **PUBLICATION**  
    "OTC Silicates Residues" Co-Author W. Neuman, Ph.D.  
    March 1983
10. **PROGRAM DEVELOPMENT**  
    Ultrasound Spring Seminar  
    Ferris State University  
    May 18, 1996

**Joel R. Rescoe**  
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(616) 592-2322 - Work

### **Objective**

To participate as a member of a radiography teaching team that emphasizes student learning, cooperation and creativity.

### **Education**

Currently pursuing a Master's Degree in Occupational Administration/Education at Ferris State University, Big Rapids, Michigan (17 credit hours to date).

1981 Western Michigan University, Kalamazoo Michigan  
Baccalaureate Degree, Health Studies

1977 Ferris State University, Big Rapids, Michigan  
Associate In Applied Science Degree, Radiography

1972 Tawas Area High School, Tawas City, Michigan

### **Work Experience**

1982-96 Instructor within the Radiography Program at Ferris State University. Principal duties include the design and delivery of lecture and laboratory instruction, learning evaluation, student advising, equipment maintenance/quality assurance coordination, curriculum planning, and participation in college/university committees.

1994-95 Radiography Program Coordinator and Technical Instructor, Ferris State University. In addition to the duties of technical instructor described above, the duties of program coordinator involved: Activities related to accreditation compliance at the program level, program planning and evaluation, coordination of clinical and campus components of the program, resolution of student or personnel concerns and the development and implementation of program policies/procedures. The program coordinator role was voluntarily assumed to assist the program during personnel restructuring. I withdrew as coordinator at the end of the academic year to refocus on student instruction and advising.

1977-82 Staff Radiographer, Butterworth Hospital Radiology Department, Grand Rapids, Michigan. Responsibilities can be best described by duties assumed: General radiographer, assistant clinical instructor, unit supervisor, quality assurance coordinator.

1971-77 Quality Assurance Technician, United States Gypsum Company, Tawas City, Michigan. Responsible for testing, documenting and insuring compliance with quality standards related to the purity of raw gypsum products prior to market distribution.



1976-77 Orientation Leader, Ferris State University, Big Rapids, Michigan. While a student in the radiography program, I acted as an orientation leader and resource peer for incoming Ferris freshmen. Skills applied include peer advising, course registration assistance and general surrogate big brother.

### Additional Relevant Skills

- Participation in critical and creative thinking strategies in education workshops, Chicago, Illinois.
- Training in radiographic quality assurance methods at Kodak Park, Rochester, New York.
- Training in scientific research methods at the University of Iowa, Iowa City, Iowa.
- Attended seminars in holistic health and behavioral medicine.
- Training in computer assisted learning and applications, also computer networking and database utilization at Ferris State University.
- Training in aspects of clinical coordination, accreditation processes and documentation for radiography programs, Phoenix, Arizona.

### Professional Contributions and Accomplishments

- Passed the national radiography certification test in 1977 with a scaled score of 99 (highest possible scaled score).
- Member, American Registry of Radiologic Technologists.
- Member, American Society of Radiologic Technologists.
- Member, Michigan Society of Radiologic Technologists. 2/18
- Publication: "At the Crossroads," Wolverine Contact, 1984.
- Publication: "Radioiodinated Serum Albumin as an Internal Radiation Dosimeter," University of Iowa Press, 1971.
- Research studies (not published) at Ferris State University involving radiation dose reduction protocols for dental clinic patients and staff.
- Chair, Michigan Society of Radiologic Technologists (M.S.R.T.) Essay Competition, 1986.
- Chair, M.S.R.T. Essay Competition, 1988.
- Chair, M.S.R.T. Educational Program, 1992.

### Personal

Birthdate: 20 November 1953

Family Status: Married, Ann M. Rescoe, 1979. Two Children: Sarah, age 10, and Daniel, age 7.

Interests: Travel, photography, softball, hockey, current events, family.