

Ferris State University
Diagnostic Medical Sonography Program
Academic Program Review 2012

Program Review Panel

PRP Chair: Michelle Weemaes, DMS Program Coordinator

Department Head: Theresa Raglin

Program Faculty: Sonya Knoll, DMS Program Coordinator

Interested Faculty Member: Lisa Wall, Radiography Program Coordinator

College of Business Faculty Member: John Vermeer

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Section 1: Overview of the Diagnostic Medical Sonography (DMS) program

A. Program Goals

1) State the goals of the program.

The mission of the Diagnostic Medical Sonography program is to prepare graduates with the knowledge, skills, and professional behaviors needed to function effectively as sonographers. In congruence with the University Planning Process, program-level planning and assessment occurs within the context of the specific discipline of Diagnostic Medical Sonography. Toward that end, there are five foundational program goals/outcomes that are used as the framework for the ongoing program assessment and planning process while upholding the standards of specialized accreditation.

Goals/Outcomes:

1. Graduates will utilize knowledge & clinical competencies to provide current, comprehensive diagnostic medical sonography.
2. Graduates will be competent entry level practicing sonographers.
3. Graduates will communicate effectively to acquire, develop and convey ideas in diagnostic medical sonography.
4. Graduates will practice adhering to the ethical, legal and professional standards of a diagnostic medical sonographer.
5. Graduates will evaluate and interpret ultrasound images using critical thinking skills.

2) Explain how and by whom each of the goals were established.

The Program goals were established by a cooperative effort involving the program coordinator, program faculty, and advisory board members by looking at national standards for entry level sonographers using SDMS (Society of Diagnostic Medical Sonography) guidelines, and industry standards set forth by the American Registry for Diagnostic Medical Sonography (ARDMS).

3) How do the goals apply to preparing students for careers in and meeting employer needs in the community/region/marketplace?

The mission and goals of the program prepare students to be entry level sonographers in the local and global ultrasound employment market. We ensure this employability by a continual dialogue with employers, clinical associates and the advisory board members.

4) Have the goals changed since the last program review?

The entry level sonographer requirements have not changed so the goals have not changed, however, continued conversations about the program direction occurs regularly with advisory board members and clinical associates.

5) Describe the relationship of the program goals to the University's mission, and the departmental, college and divisional strategic plans.

The Diagnostic Medical Sonography program fits well into the overall mission of Ferris State University and the College of Health Professions.

The Ferris State University mission is to prepare students for successful careers, responsible citizenship, and lifelong learning. Through its many partnerships and its career-oriented, and broad-based education, Ferris serves our rapidly changing global economy and society.

The College of Health Professions' mission is to prepare students for successful careers in the programs contained therein, to foster responsible citizenship, and to promote lifelong learning. The college will partner with healthcare providers, and facilities to prepare students for rapidly changing careers.

To fulfill its vision, the College of Health Professions embraces the core values of the university by fostering opportunities for collaboration, respect for diversity, demand for excellence, and opportunity for students to learn to practice in an ethical community.

The mission of the Diagnostic Medical Sonography program is to prepare graduates with the knowledge, skills, and professional behaviors needed to function effectively as a sonographer.

The programs goals/outcomes are established to provide the student with the highest quality of education, and to prepare them to enter the workforce as a highly skilled sonographer. The students are trained to provide excellent patient care, communication, and ethical decision making skills. Students are able to adapt, and meet the changing needs of the medical field to be successful in the future. These goals/outcomes provide the foundation for all program specific assessment, and are at the core to be considered and addressed even at the University planning process level.

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The following table demonstrates how the University and College goals, mission, vision, and core values relate to the DMS Program Goals/Outcomes.

<i>University Goals</i>	<i>College Mission</i>	<i>Related Diagnostic Medical Sonography Program Goals/Outcome</i>
<ul style="list-style-type: none"> • become a demonstrable center of excellence in educational quality, and student learning • provide a state-of-the-art, sustainable, and safe learning, living, and working environment • develop a university community where all are valued, welcomed, and informed. • foster collaborative internal, and external working relationships. 	<ul style="list-style-type: none"> • prepare students for successful careers in the programs contained therein, to foster responsible citizenship, and to promote lifelong learning. 	<ul style="list-style-type: none"> • Graduates will utilize knowledge, and clinical competencies to provide current comprehensive diagnostic medical sonography. • Graduates will be competent entry level practicing sonographers.
<i>University Core Values</i>	<i>College Vision</i>	<i>Related Diagnostic Medical Sonography Program Goals/Outcome</i>
<ul style="list-style-type: none"> • value education that is career-oriented, balances theory and practice, develops critical thinking, emphasizes active learning, and fosters responsibility, and the desire for the lifelong pursuit of knowledge. • focus on developing career skills and knowledge, provides opportunities for civic engagement, leadership development, advancement, & success. 	<ul style="list-style-type: none"> • foster opportunities for collaboration, respect for diversity, demand for excellence, and opportunity for students to learn to practice in an ethical community. 	<ul style="list-style-type: none"> • Graduates will practice adhering to the ethical, legal, and professional standards of a diagnostic medical sonographer. • Graduates will evaluate, and interpret ultrasound images using critical thinking skills. • Graduates will communicate effectively to acquire, develop, and convey ideas in diagnostic medical sonography.

B. Program Visibility and Distinctiveness

1) Describe any unique features or components of the program.

There are two features of the FSU DMS program that are distinctive compared to other ultrasound education programs. The first feature is that we are not a competitive entrance program. Of the 9 accredited DMS programs in the state, we are the only non-competitive entrance program. This policy is deliberate, and gives the Ferris program a unique market niche. Although not every DMS applicant has a 4.0 GPA or previous medical background, the entrance requirements do ensure a quality student. Embracing Woodbridge Ferris' philosophy to provide career focused education, the FSU DMS program allows a student meeting pre-determined qualifications with established minimum competency the opportunity to learn ultrasound. The non-competitive entrance requirement also eases the admission of displaced workers or returning adult students.

The second feature unique to the FSU DMS program is the educational model we offer with the on campus lab setting. Ferris has the distinction of being the only program in the state to require an entire year on campus with ultrasound scanning experience prior to a hospital-based internship. This model affords the student a more meaningful internship experience because they have solid scanning skills and can identify anatomy on their first day at their hospital or clinic. Hospitals have responded very positively to this model as they spend less time training or explaining basic concepts. Ferris students also practice and develop professionalism, ergonomics, and develop critical thinking skills in the lab before entering the clinical site. Prior to 2009, our accreditation agency required an integrated internship model combining didactic and internship together each semester of the program. In response to the demonstrated effectiveness of our nonintegrated curriculum model, we were granted accreditation in 2009. As testament to our visibility and distinctiveness, the JRC DMS has since changed their accreditation model to include the FSU model and structure.

2) Describe and assess the program's ability to attract quality students.

The following qualifiers have been identified as indicators of student preparedness and have ensured a quality student for the program:

- 2.5 College GPA
- ACT 24 math subscore of 24 or higher or a "C" or better in math 115
- "C" or better in BIOL 109
- "C" or better in MRIS 102 or competency
- "C" or better in Physics 130
- "C" or better in English 150 or competency

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The program also recruits students through the following activities:

- Recruiting students in high schools and career technical centers
- DAWG Days, Educator's Academy and Health Science Camp
- Lab Activities for community interest groups such as after school programs, and local Boy Scout/Girl Scout groups.

In the 2012 application process, the DMS program received 90 qualified student applications for the 24 seats available in the program. We continue to attract quality students.

3) Identify the institutions that are the main competitors for prospective students in this program.

The main competitors for the Sonography program are: Grand Valley State University, Jackson Community College, Lansing Community College, Oakland Community College, Henry Ford Hospital, Providence Hospital, Delta College, and Baker Colleges.

a. How are these programs similar and different from the FSU program?

Similarities:
Seven of the competitor programs offer an Associate Degree in general DMS
All competitor programs are accredited

Differences:
FSU is a non-competitive entrance program
FSU offers a University experience to students wishing to participate in sports and campus activities.
FSU's internship experience is different than any other program in the state.
FSU offers internship opportunities in a larger range of area and specialty areas in comparison to programs.
GVSU offers a BS degree in general, cardiac and vascular DMS

b. What can be learned from them that would improve the program at

Ferris?

A Ferris faculty member currently visits the clinical sites twice during each Fall and Spring Semester, and once during the summer semester. This makes it difficult to compete with community colleges that visit the sites more often. Methods of communication between Ferris and the sites could be strengthened. Stipends for clinical sites would be helpful when competing or soliciting for additional clinical site placements for interns.

Basic coverage of supplies, and the adjunct clinical instructor's time would be appreciated by the sites to offset the training of our students. To ensure students will take their board exams during the program, some colleges collect or charge a board exam fee up front that students can utilize later to pay for credentialing exams. Currently the FSU program cannot charge fees or require students to take board exams within the program.

C. Program Relevance

1) Provide a labor market demand analysis:

Per the Department of Labor website: Employment of diagnostic medical sonographers is expected to increase by about 18 percent through 2018. This will be faster than the average for all occupations. As the population continues to age, there will be an increasing demand for diagnostic imaging. Additional job growth is expected as healthcare providers increasingly utilize ultrasound imaging as a safer and more cost-effective alternative to radiological procedures. Ultrasound imaging technology is expected to evolve rapidly and spawn many new sonography procedures, enabling sonographers to scan and image areas of the body where ultrasound has not traditionally been used.

Hospitals will remain the principal employer of diagnostic medical sonographers. However, employment is expected to grow more rapidly in offices of physicians and in medical and diagnostic laboratories. Health care facilities such as these are expected to increase in number because of the strong shift toward outpatient care, encouraged by third-party payers and made possible by technological advances and less expensive ultrasound equipment that permit more procedures to be performed outside of hospitals.

Job Prospects

Job opportunities should be favorable. In addition to job openings from growth, some openings will arise from the need to replace sonographers who retire or leave the occupation permanently. However, job opportunities will vary by geographic area. Sonographers willing to relocate will have the best job opportunities. Sonographers with multiple specialties or multiple credentials also will have good prospects.

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- 2) Describe and assess how the program responds to emerging issues in the discipline, changes in the labor force, changes in employer needs, change in student needs, and other forces of change.**

The Sonography program assesses emerging issues by using the following resources: employer needs, graduate needs, advisory board advice, student needs, and national workforce issues by staying current in professional organizations.

- 3) Assess why students come to FSU for the program. Summarize the results of the graduate exit survey and student program evaluation.**

We do not directly ask this question on our surveys. An informal survey of first and second year students (class of 2012 and 2013), identified the following reasons for attending the FSU DMS program:

- Reputation and word of mouth
- Small classroom size
- University environment
- Lab scanning model

- a. How does the program meet student expectations? How is student sentiment measured?**

We measure these items in the student and graduate surveys.

On a 5.0 Likert scale students rated their satisfaction with the program at:

Year	Score on 5.0 Likert scale
2008	4.8
2009	4.7
2010	4.8
2011	4.6

D. Program Value

- 1) Describe the benefit of the program, facilities, and personnel to the University.**

The Sonography Program benefits the University by offering a unique program. The on-campus lab is equipped with five state of the art ultrasound imagers, and a PACS system which is an incentive for students to enroll at FSU. The university benefits from two extremely dedicated faculty who put their heart and soul into the sonography program. Faculty hold membership in multiple University committees and actively support the Ferris mission. The value of the Ferris ultrasound program is also to provide employees for a national shortage of sonographers. Although the

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Michigan sonography market is not in shortage, there is a documented national shortage for this profession, and this shortage is projected to increase over the next ten years.

2) Describe the benefit of the program facilities, and personnel to the students enrolled in the program.

The facilities are an enormous benefit to the student on campus. FSU DMS students get one full year of lab experience before entering their internship year. This lab experience permits students to scan full abdomen, and OB/GYN studies from the first day of their internship. This lab model is unique to Ferris. Many of our clinical sites state that this level of student preparation is the reason they choose to take interns from the program. Students enjoy the benefit of a diversified background and credentials of their program faculty. Students benefit from the combined 30 plus years of clinical experience of the two program faculty who hold specialty credentials in Abdominal, OB/GYN, Vascular, and Breast ultrasound.

3) What is the assessment of program personnel of the value of the program to employers?

The value of the FSU Sonography Program is to provide future sonographers to meet the national shortage. This shortage is projected to increase over the next ten years.

4) Describe the benefit of the program, faculty, staff and facilities to entities external to the University.

DMS staff have given presentations at the Society for Diagnostic Medical Sonographers Society (SDMS) annual conference, Michigan Sonographer Society (MSS), Lilly North, Symposium on Teaching and Learning (SOTL), and consulted with local hospitals and out of state programs. Program faculty are active in their professional organizations, and regularly give back to their ultrasound community with time and money.

5) What services for extra-University general public groups have faculty, staff or students provided.

Demonstrations of ultrasound technique are presented to several area schools and afterschool programs to help the public understand the field of ultrasound. The purpose of these events is to increase public awareness of ultrasound, and the program offered here at Ferris.

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The program participates in the following extra-University services:

- DAWG Days
- High School lab tours
- Lab activities and demonstrations for:
 - Tots place after school program
 - Traverse City MOISD
 - Mecosta MOISD
 - Girl Scouts
 - Boy Scouts

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SECTION 2: Collection of Perceptions

A. Graduate Survey

Type of survey	Year of survey	Domain	Score on a 1-5 Likert scale (5 is high)
Graduate	2008	cognitive	4.24
	2008	psychomotor	4.80
	2008	affective	4.65
	2009	cognitive	4.65
	2009	psychomotor	4.85
	2009	affective	4.82
	2010	cognitive	4.28
	2010	psychomotor	4.47
	2010	affective	4.52
	2011	cognitive	4.70
	2011	psychomotor	4.65
	2011	affective	4.74

The response rate in this category has been challenging, the DMS program typically receives between a 30% and 50% return rate to survey requests. The program has started to reach out with social media (Facebook) to help improve the return rate. The graduate survey has been developed by the Joint Review Commission (JRC) for DMS. The survey is extensive, and required for continuing accreditation of the FSU DMS program. Graduates are very satisfied with the program. In 2008, one particular question was scored low in the cognitive domain. The item in question pertained to critical thinking. The program responded by implementing a redirection, and special emphasis in this area. Consequently, the level of critical thinking has improved for the program graduates.

B. Employer Survey

Type of survey	Year of survey	Domain	Score on a 1-5 Likert scale (5 is high)
Employer	2008	cognitive	4.95
	2008	psychomotor	5.0
	2008	affective	5.0
	2009	cognitive	4.8
	2009	psychomotor	4.8
	2009	affective	4.8
	2010	cognitive	5.0

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	2010	psychomotor	5.0
	2010	affective	5.0
	2011	cognitive	4.9
	2011	psychomotor	5.0
	2011	affective	5.0

Employer responses are very favorable for the DMS program. Of the employers identified by graduates, the return percentage is very high. It is typically in the 85-95% range. It is fair to note that many of the same employers hire DMS graduates year after year and so the variation in responses varies little. Many of the employers are also the same hospitals that train our interns for one full year. Adjunct Clinical Instructors often feel we are judging their preparation of our students in these categories; consequently these responses are very high. It is a nice validation that many facilities request only Ferris graduates and feel we are giving the employee exactly what they want.

C. Graduating Student Exit Survey

Type of survey	Year of survey	Domain	Score on a 1-5 Likert scale (5 is high)
At Graduation	2008	cognitive	4.62
	2008	psychomotor	4.82
	2008	affective	4.9
	2009	cognitive	4.5
	2009	psychomotor	4.75
	2009	affective	4.83
	2010	cognitive	4.5
	2010	psychomotor	4.80
	2010	affective	4.75
	2011	cognitive	4.45
	2011	psychomotor	4.54
	2011	affective	4.75

The DMS program enjoys a 100% return rate for graduate exit surveys. Graduates are given the graduate survey directly after their last final exams. The 2011 responses were lower than usual do to some unhappiness during the final exam day and I believe this extended into the survey results. In general, the graduate exit surveys are consistently lower than the graduate surveys given a year after graduation. This can be attributed to time away from a very intense program and the opportunity to apply all the information actually learned in the program while working.

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D. Student Program Evaluation

Type of survey	Year of survey	Domain	Score on a 1-5 Likert scale (5 is high)
Student	2008	cognitive	4.9
	2008	psychomotor	5.0
	2008	affective	4.9
	2009	cognitive	5.0
	2009	psychomotor	5.0
	2009	affective	5.0
	2010	cognitive	4.9
	2010	psychomotor	4.9
	2010	affective	4.9
	2011	cognitive	4.80
	2011	psychomotor	5.0
	2011	affective	5.0

The response rate for the student survey is 100%. We present the survey face to face in class since it is required by JRC DMS each year. We generally give this survey out spring semester before students know their internship placement for the following fall. Students do not yet recognize how useful their on campus preparation has been but are generally very excited about their skills in the on campus lab.

E. Faculty Perceptions

The following faculty perceptions were compiled in 2009 for the 2010 JRC DMS self-study. The categories and questions were created by JRC DMS. The program faculty, as well as, the Medical Director participated in this survey.

Faculty perception of:	Score on a 1-5 Likert scale (5 is high)
Personnel Resources	4.8
Facilities	4.67
Learning Resources	4.75
Program Support Personnel	4.3
Financial Resources	3.99
Clinical Resources	4.93
Physician Interaction	3.53

A few different issues are reflected in the numbers for faculty perceptions. Financial resources were scored low by everyone responding to the survey. One of the issues occurring during that time was the loss of faculty enrichment money within the College of

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Health Professions. This was predominantly noted by a faculty member who was selected to speak at a national ultrasound conference and there was no financial support from the college to attend the event. I am happy to report that in 2010, the faculty enrichment grant was reinstated.

Another low result was the physician interaction. This is a problem systemic to the medical industry. Our accreditation board encourages ultrasound students to review their images and results with the staff radiologist on duty. This is exacerbated by the emergence of tele-radiography. The radiologist today read the images over the internet and at a distance, consequently limiting the feedback to the technologist. To combat this lack of feedback, our Medical Director has been providing seminars on campus for students to provide access and firsthand experience with a reading physician.

F. Advisory Board Perceptions

Advisory Board perception of:	Score on a 1-5 Likert scale (5 is high)
Personnel Resources	5.0
Facilities	4.8
Learning Resources	5.0
Program Support Personnel	5.0
Financial Resources	5.0
Clinical Resources	5.0
Physician Interaction	4.6

The DMS advisory board is comprised of a first and second year student, an Adjunct Clinical Instructor from each of the following specialties areas: Abdomen, OB/GYN and Breast, a graduate, the Medical Director and all program faculty. In addition to the required survey, the advisory board has been very helpful in developing future trends in the program. Recently, the advisory board voted unanimously to change the process in which we place students into the internship and provided vital input into adding course content to keep the curriculum current. Looking at future trends, the advisory board has helped identify the need to add a vascular certificate to our course offerings. The DMS faculty depend on our advisory board to keep us current in our field and make sure we are responding to the current employer needs.

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SECTION 3: Program Profile

A. PROFILE OF STUDENTS

1) Student Demographic Profile

a. Gender race ethnicity, age

Term	Male	Female	Black	White	Hispanic	Native	Asian	Hawaiian	Multi
Fall 2007	2	24	0	26	0	0	0	0	0
Fall 2008	0	19	0	17	1	1	0	0	0
Fall 2009	0	23	1	20	1	1	0	0	0
Fall 2010	1	27	0	26	1	0	0	0	0
Fall 2011	0	19	0	18	0	0	0	0	0

b. In State out of State

During the 2007-2011 time period, all but two DMS students were in state residents.

c. Full Time and Part Time

Fall term	Full Time	Part time
2007	19	7
2008	11	8
2009	12	11
2010	19	9
2011	13	6

d. Attend classes during the day, weekend, and evenings

All FSU DMS courses are currently offered Monday through Friday 8-6pm.

e. and f. Enrolled in classes on and off campus, Enrolled in 100% on-line and mixed delivery courses:

During the first year of the program, all DMS classes are only offered face to face on the Big Rapids campus. During the second year, 100% of DMS students take 6 online courses concurrent with their internship.

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g. Discuss how the information presented in (a) through (f) impacts the curriculum, scheduling, and/or delivery methods in the program.

First year professional sequence sonography students have all of their courses supplemented through Web Connect so they can access lecture materials, grade book, program policies, and practice materials from home. DMS students have the choice to attend core curriculum courses of CCHS 101, CCHS 102, and MRIS 102 either on-line, in person, or at an off campus location. Second year professional sequence students attend their didactic courses 100% on-line while they attend internship. The use of Web Connect has improved how the program can deliver and prepare the students for daily lecture. The DMS program has been able to cover material more thoroughly using Web Connect enhancement and students are able to receive immediate remediation of difficult material. The curriculum format is primarily driven because we only have two faculty in the program. The Program Coordinator primarily teaches most of the face to face courses while the Clinical Coordinator, who conducts 56 site visits a semester, teaches the on-line courses.

2) Quality of Students

a. What is the range and average GPA of all students currently enrolled in the program? ACT?

Fall of:	Avg. GPA	Min. GPA	Max. GPA	Avg. ACT	Min. ACT	Max. ACT
2007	3.36	2.4	3.95	21.27	14	29
2008	3.44	2.66	4	21.75	19	26
2009	3.35	2.71	4	20.67	15	26
2010	3.33	2.77	3.98	20.85	15	26
2011	3.25	2.58	3.92	19.19	15	23

We are currently looking at entrance requirements for the DMS program. We do have some attrition each year. Looking at this data, the majority of our classes have a solid average GPA and ACT scores with just a few lower minimums. Increasing the minimum GPA or ACT score may improve the attrition in the program.

b. What are the range and average GPA's of students graduating from the program? ACT?

The GPA range over the last five years is 2.4 – 4.0 while the ACT range is 14-29. Average GPA is between 3.25 and 3.36, and the average ACT is 19.19 – 21.75. DMS students are well prepared for the program. A strong entrance requirement of five didactic courses with the grade of C or better assures good preparation to

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start the program. Examination of the minimum GPA and ACT scores, and reevaluating our entrance requirements to improve attrition may be appropriate at this time for the program.

c. In addition to ACT and GPA, identify measures that are used to assess the quality of students entering the program.

Entrance into the program includes a C or better in the following courses:

- English 150
- MRIS 102, Medical Terminology
- Math 115
- Physics 130
- Bio 109

These five courses are required as prerequisites per accreditation standards. If a student is successful in these courses within two attempts, they are adequately qualified to start the program.

d. Identify academic awards students in the program have earned.

Although we know students who have earned awards, the program does not currently track this information.

e. What scholarly/creative activities have students participated in?

DMS students have participated in public health week activities explaining the benefits of ultrasound to the Ferris community. DMS students have also hosted Girl Scout career fair tours and provided informational sessions at local Relay for Life events.

f. What are other accomplishments of students in the program?

The DMS program has many honors students. Students participate in Relay for Life, adopt a local family in need each Christmas, The BIG Event, donate money to WISE, and participate in various academic service learning projects on campus like Public Health Week.

3) Employability

a. How many graduates have become employed full-time in the field within one year of receiving their degree?

2008 graduating class	82%
2009 graduating class	88%
2010 graduating class	86%

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Many DMS students choose to finish their HCSA Bachelor of Science degree immediately after they earn their AAS DMS degree. About 15% of each class, continue their ultrasound education at GVSU earning a Bachelor of Science degree in DMS.

b. What is the average starting salary of graduates who become employed full time? Compare to state and nationwide trends.

Ferris DMS graduates average \$53,000 per year. This salary is right on target for entry level sonographers.

According to the Bureau of Labor Statistics, the average annual Michigan ultrasound technician salary is \$56,700.00 and the hourly rate is \$27.20. As of 2008, the average salaries for sonographers in major metro areas in Michigan are listed below

(<http://www.citytowninfo.com/employment/sonographers/michigan>):

Ann Arbor Ultrasound Technician \$59,160.00
Muskegon Ultrasound Technician: \$63,740.00
Saginaw Ultrasound Technician: \$56,606.00
Kalamazoo Ultrasound Technician: \$61,120.00
Flint Ultrasound Technician: \$55,290.00
Lansing Ultrasound Technician: \$50,160.00
Warren Ultrasound Technician: \$58,140.00
Detroit Ultrasound Technician: \$59,520.00
Grand Rapids Ultrasound Technician: \$61,970.00

The Bureau of labor and Statistics also reports the following average nationally:

Quick Facts: Diagnostic Medical Sonographers

<u>2010 Median Pay</u>	\$64,380 per year \$30.95 per hour
<u>Entry-Level Education</u>	Associate's degree
<u>Work Experience in a Related Occupation</u>	None
<u>On-the-job Training</u>	None
<u>Number of Jobs, 2010</u>	53,700

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Quick Facts: Diagnostic Medical Sonographers

<u>Job Outlook, 2010-20</u>	44% (Much faster than average)
<u>Employment Change, 2010-20</u>	23,400

c. How many graduates have become employed as part time or temporary workers in the field after one year of receiving their degree?

About 20% of DMS graduates are employed part time or as contingent sonographers. During the 2010 – 2011 time periods, many hospitals had hiring freezes for full time employees. Many students reported working full time by combining several part time positions together. This practice of many contingent jobs is not uncommon in the healthcare setting. Some students reported having both a full time job and a side contingent job.

d. Describe the career assistance available to students. What is the student perception of career assistance?

Career assistance is provided by the sonography program. Both faculty members have a solid career with many community ties that keep them apprised of job openings. Many of the graduates are hired at their clinical affiliates before their internship ends. Ferris sonography graduates are currently working throughout the state and across the nation. Ferris students attend university sponsored career fairs and use the employment office for resources such as interviewing techniques and resume writing.

Only 1% of students indicated they used career services on campus. 70% of students indicated they were hired by their internship sites. 20% of the respondents were able to find jobs through friends, family, and instructors.

e. How many graduates continue to be employed in the field?

The overall employment rate of the recent DMS graduates is about 72%. This percentage is not shocking considering how many students decide to get married and start a family after college.

f. Describe and comment on the geographic distribution of employed graduates.

Although the majority of students are employed in Michigan, the DMS program enjoys graduate placements around the country including: Hawaii, Florida, Colorado, Georgia, Virginia, Iowa, and Texas, in addition to, the Midwest. The FSU DMS program qualifies graduates to write the national board registry exam which allows employment in any state and most countries.

g. How many students and/ or graduates go on for additional educational training?

About 25% of all DMS graduates are also earning a Bachelor degree in HCSA (Health Care Systems Administration) or in DMS.

h. Where do most students and / or graduates obtain their additional educational training?

DMS graduates finish their HCSA degree through Ferris State University. Students completing the Bachelor degree in DMS are doing so at Grand Valley State University. We are seeing a growing trend for our DMS graduates to continue to obtain additional education after graduation. The HCSA degree is a good fit for imaging science majors, and is growing in popularity since many students start the degree before they get into the DMS program. Looking at current enrollment trends, we anticipate more DMS graduates earning the HCSA BS degree in the future.

B. ENROLLMENT

1) What is the anticipated fall enrollment for her program?

The anticipated fall 2012 enrollment is 24 first year students and 21 second year interns.

2) Have enrollment and student credit hour production SCH increased or decreased since the last program review?

Enrollment has stayed pretty flat during the last five years in the DMS program with one year of decreased enrollment due to a shortage of clinical placements. F+Sp SCH have been slowly increasing for the program.

2006-2007	584.00
2007-2008	640.00
2008-2009	634.00
2008-2009	752.00
2010-2011	778.00

3) Since the last program review, how many students applied to the program annually?

During the last five years the applications have varied from 90-107 each spring.

4) Of those who apply, how many and what percentage are admitted?

The DMS program typically accepts 24 students per year. This number is based on the number of internship sites and placements. Approximately 25% of students who apply will get into the program. However, about 75% of these students who are applying for the DMS program are also pursuing a BS degree in either HCSA or the new Allied Health Science Bachelor degree.

5) Of those who are admitted, how many and what percentage enroll.

Typically 100% of students who are accepted into the program each year, enroll in the program.

6) What are the program's current enrollment goals, strategy, and efforts to maintain/increase/decrease the number of students in the program?

The DMS program would like to increase our enrollment. During the 2011-2012 AY, we piloted a clinical internship in Florida to try and grow our clinical site base. Although successful, it did create some barriers or challenges. The most practical way of increasing a cohort size is to find more internship sites. Barriers to this include visiting the intern twice a semester or finding a Clinical Coordinator to take on the site visits for us in that region. The second growth model we are pursuing is to add a post graduate vascular certificate to the DMS offering.

C. PROGRAM CAPACITY

1) What is the appropriate program enrollment capacity, given the available facility, physical resources, funding accreditation requirements, state and federal regulations, and other factors?

Current enrollment in the professional sequence of the DMS program is twenty four students. Twenty four students is also the capacity of the program.

The following are reasons why the capacity is set at twenty four and cannot be increased at this time:

- Limited lab size and equipment available.
- Faculty to student ratio necessary to teach detailed scanning techniques.
- A limited number of internship sites.
- JRC-DMS accreditation recommendations.

D. RETENTION AND GRADUATION

1) Give the annual attrition rate in the program.

Graduating class of 2008	17/20	15%
Graduating class of 2009	14/20	30%
Graduating class of 2010	20/24	17%
Graduating class of 2011	21/24	12%
*Anticipated Graduating class of 2012	20/22	10%

2) What are the program's current goals, strategies, and efforts to retain students in the program?

Attrition in the DMS program has been a top concern for the program. Per accreditation, the program must keep attrition rates below 15% each year. This is the current goal for the program. The DMS program has had attrition due to rigorous academic standards, as well as, students quitting the program for personal reasons. During the 2011-2012 AY, 4 of 41 students were pregnant. We have had students leave the program due to lack of federal funding, and deployment in the military. A pre-program orientation was introduced in the Spring semester to inform students of the rigors and demands of the program prior to the fall semester start of the professional courses. The use of student tutors in the 2010 and 2011 labs has shown to be helpful in the laboratory courses. Faculty have also implemented more student centered learning approaches such as concept mapping and case studies to measure outcomes in more constructive ways and improve student assessments.

3) Describe and assess trends in number of degrees awarded in the program.

Currently, the program students graduate with an Associate of Applied Science Degree in Sonography. The program should investigate the addition of a Bachelor's Degree with a 2 + 2 concentration in Vascular Technology, Management or Education. Nationwide, very few programs strictly graduate students with a Bachelor of Science Degree. The only competitor in the state of Michigan is Grand Valley State University which offers a B.S. degree in a 2 + 2 model.

4) How many students who enroll in the program graduate from it within the prescribed time?

Graduating class of 2008	17/20	15%
Graduating class of 2009	14/20	30%
Graduating class of 2010	20/24	17%
Graduating class of 2011	21/24	12%
*Anticipated Graduating class of 2012	20/22	10%

Graduation rates are very important to the DMS program. Since 2009, the DMS program has worked hard to improve the attrition rate in the program. Faculty work closely together to support and reinforce difficult material. Open labs where students can practice skills and meet with a tutor were implemented in 2010. Faculty feel the attrition rate will continue to improve.

5) On average, how long does it take a student to graduate from the program?

The DMS program is a lock step program so most students who start the professional sequence of courses in the program will finish the program in the two year period. 100% of students enrolled in the Sonography program graduate in 2 years as long as they successfully pass all of their classes. Students must complete all sonography courses in sequence in order to complete internship and due to limited space internship must be completed in one year.

Any student that does not pass a professional course must wait one year until course is offered again and restart the program at that time. This will add a year to their timeline. It is very important for students to stay on track with their courses in order to graduate within the two year time frame. This is typical of all sonography programs across the country. Students may also work on a Bachelor degree if they are not initially accepted into the program or are waiting to return to the program.

E. ACCESS

1) Describe and assess the program's actions to make itself accessible to students.

Lab sections are offered at various times to accommodate different student schedules. Face to face courses are offered three days a week for most of the program to allow students to work and commute. During the internship year, didactic courses are offered online to allow students to live in and work in communities without returning to campus for class. In the event a student needs to repeat a course, reentry into the program at the next available course offering is acceptable.

2) Discuss what effects the actions described in (1) have had on the program.

The internship model allows the Sonography program to recruit students from all over the Midwest. Although students must attend classes on the Big Rapids campus the first year of the program, many students return home to do the second year internship in their hometowns. This option is very preferable to our students and sets us apart from community colleges that only place students in their local community. The down side to this internship model is the faculty travel load. Sonography faculty visit each intern twice a semester. The faculty are often on the road and not on campus since this can add up to 40 site visits a semester.

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3) How do the actions described in (1) advance or hinder program goals and priorities?

The 100% online internship model is a unique configuration for sonography programs. The model allows for one full year of on campus scanning which is unique and very preferable to our clinical affiliates. However, this structure also hinders growth in the program because of the distance required to visit interns.

F. CURRICULUM *See Appendix A for the Program Checksheet and Sample Syllabi

1) Program Requirements. Describe and assess the program-related courses required for graduation.

Course	Rationale
SONO 100	A foundation course this class introduces the students to the sonography profession, scope of practice, and standards of practice.
SONO 102	Another foundation course this course introduces sonography terms, scan planes, layered anatomy, and imaging concepts.
SONO 104	The first of two sonography physics courses, the class prepares students to take their sonography physics board exam through ARDMS.
SONO 105	The physics lab reinforces the physics concepts taught in Sono. 104.
SONO 111	This course covers pathology of the abdominal organs.
SONO 112	Students learn to scan with ultrasound the abdominal organs in this lab course.
SONO 115	Cross sectional anatomy of the abdominal organs are taught in this course.
SONO 117	A critical thinking course, students learn how to interpret sonographic images and learn how to write preliminary reports based on sonographic findings and patient history.
SONO 121	Normal female and fetal anatomy in taught in this course.
SONO 122	Students learn to scan normal female and fetal anatomy with ultrasound.
SONO 131	Hemodynamics and Doppler principles are introduced in this second physics course. Students are prepared to write their ARDMS Physics board exam after completion of this course.
SONO 132	Hemodynamics and Doppler principles are demonstrated and reinforced in this lab course.
SONO 280	Students work 32 hours per week as student sonographers during this internship course.
SONO 281	Normal anatomy and pathology of small parts and invasive procedures are taught in this online course.

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SONO 282	Students work 32 hours per week as student sonographers during this internship course.
SONO 283	Pathology of fetal anomalies are taught in this online course.
SONO 284	Students work 32 hours per week as student sonographers during this internship course.
SONO 285	The capstone course for the DMS program, students synthesize their learning in graduate projects and critical thinking exercises.
SONO 287	A management course for Sonography professionals, quality assurance, and lab management techniques are introduced to students.

a. As part of the graduation requirements of the current program, list directed electives and General Education courses.

Course	Rationale
Bio 109	Anatomy and Physiology is essential background for all ultrasound courses
Phys 130	An introductory physics class is required by accreditation standards before starting the professional sequence DMS courses.
MRIS 102 or proficiency	An introductory Medical terminology course is required by accreditation standards before starting the professional sequence DMS courses.
Eng 150	An introductory English course is required by accreditation standards before starting the professional sequence DMS courses.
CCHS 101	Orientation to Health Care is a required core curriculum course for all COHP majors.
CCHS 102	Safety issues in Health Care is a required core curriculum course for all COHP majors
PSYC 150	A psychology class is required by accreditation standards before starting the professional sequence DMS courses
ENG 250	Research and professional writing is an essential skill for all sonographers.
COMM 105 or 221	Interpersonal communication and small group decision making skills are essential skill for all Sonography professionals. COMM121 will also be accepted but not recommended.
PHIL 220 or 320	Per accreditation standards a medical ethics course is required for graduation.

b. Indicate any hidden prerequisites.

There are no hidden prerequisites to the DMS program. The math entry point is variable however depending on the students ACT Math score. Some students will enter the program with a Math ACT score better than a 24 and have the math requirement fulfilled while other students may have to complete Math 010 or Math 110 first.

2) Has the program been significantly revised since the last review?

No the program has not had a significant revision.

3) Are there any curricular or program revisions currently in the review process?

No there is not any ongoing revisions sin progress.

4) Are there any plans to revise the current program within the next three to five years?

Yes a re-arrangement of class offerings is currently being discussed with program faculty. Offering the two sonographic physics classes back to back could improve physics board exam pass rates.

G. QUALITY OF INTRUCTION

1) Discuss student and alumni perceptions on the quality of instruction.

Student Perspectives of Instruction

Below are the student questionnaire results regarding quality of instruction on a 1-5 Likert scale.

1= strongly disagree, 2=generally disagree, 3= neutral;
4= generally agree, and 5 =strongly agree

The average score for each are were:

Question	Average Score
Faculty:	
Teach effectively in the classroom	4.5
Teach effectively in the laboratory	4.6
Teach effectively in the clinical area	4.6
Faculty members are willing to help students with academic needs	4.8

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Discussion

Students rate the quality of instruction in the DMS program very high. As program faculty continue to improve their teaching skills, better scores are projected in the future.

Graduate/Alumni Assessment of instruction

Below are graduate/alumni results regarding instruction on campus are from a 1-5 Likert scale.

1= strongly disagree, 2=generally disagree, 3= neutral;
4= generally agree, and 5 = strongly agree

Question	Average Score
Faculty: Helped me acquire the sonography care knowledge necessary to function in a healthcare setting.	4.78
Helped me acquire the general knowledge base necessary to function in the healthcare setting.	4.8
Prepared me to interpret data.	4.3
Prepared me to evaluate diagnostic findings in order to perform appropriate diagnostic procedures.	4.9
Trained me to use sound judgment while functioning in a healthcare setting.	5.0

Discussion

Graduates report favorable scores for the assessment of teaching. Faculty were particularly concerned with item 3 on the assessment “prepared to interpret data” in past surveys. The implementation of Sonography Interpretation I and II has addressed those skills much more thoroughly and the scores have dramatically improved.

2) Discuss advisory board and employer perceptions of the quality of instruction.

The hospitals and clinics that employ Ferris DMS graduates are very pleased with the DMS program. One hundred percent of employers surveyed noted that Ferris graduates were very well prepared for the entry level sonographer position.

3) What departmental and individual efforts have been made to improve the learning environment, add and use appropriate technology?

The Sonography lab was updated in 2010. Both the space and the equipment has been updated for a better learning experience. A multi-program PACS room was also implemented so students can practice using an electronic medical image retrieval system before internship. All of the classrooms in the building are smart classrooms. New equipment added to the program include: pocket Doppler for OBGYN work, ABI units for summer physics labs, and breast, thyroid and pelvic scanning phantoms.

4) Describe the types of professional development faculty have participated in.

Both program faculty, Michelle Weemaes and Sonya Knoll, have attended multiple Faculty Center for Teaching and Learning sessions. Both faculty regularly attend and present at the Lilly North conference every fall. Faculty have attended both National and State Ultrasound conferences including the teaching tracks provided at each. Both faculty completed the COAT (Certificate for Online Adjunct Teaching) course through Maryland University. Both faculty will complete Quality Matters online instruction by the end of summer 2012.

5) What efforts have been made to increase the interaction of students with faculty and peers? The Sonography students and staff attend and work together as a Relay for Life team every spring. Faculty offer open labs for students to meet and work one on one with students. Every spring, the first year students provide a luncheon for the second year interns to meet and ask them questions about internship. Honors students attend the annual symposium and often invite DMS faculty to attend.

6) Discuss the extent to which current research and practice regarding inclusive pedagogy and curriculum infuse teaching and learning in this program.

Faculty members subscribe to the outcomes based learning model for teaching courses. Students have to know the material, use and interpret the material, and demonstrate the knowledge learned through mastery based exams. The DMS program is also mindful of the different types of learners. Every spring during orientation to the program students are given a Meyers Briggs test. The majority of students this program are visual and tactile learners. Faculty will offer different lecture styles based on the results of the class each year.

7) What efforts have actions described in (5) & (6) had on the quality of teaching and learning in the program?

Students find the faculty very approachable and willing to work them in different environments. Faculty often check how activities worked or did not work with the class and adjust the curriculum accordingly. This mutual respect between faculty and student has provided an excellent learning environment. SAI results tend to very high for DMS (SONO) courses.

H. COMPOSITION AND QUALITY OF FACULTY

1) List the names of all tenured and tenured-track faculty by rank:

Michelle Weemaes MS TQM RDMS, RVT Assistant professor (tenured)
Sonya Knoll MS RDMS Instructor (tenured)

Michelle Wemaes MS TQM RDMS RVT

- Lilly North poster presentation 2008, 2009,2010
- SOTL conference presentation 2009
- ARDMS Annual Conference presentation 2009 (National level)
- MSS State Conference 2008,2009,
- Leading Edge in Diagnostic Ultrasound Conference, Educators track 2011
- International Foundation of Sonography Educators conference 2012
- Quality Matters
- COAT online teaching certification course

Sonya Knoll MS RDMS

- Lilly North poster presentation 2008, 2009, 2011
- MSS State Conference 2008, 2009, 2010, 2011, 2012
- Quality Matters
- COAT online teaching certification course

2) Workload

a. What is the normal annualized workload in the program or department? Indicate the basis of what determines a “normal” load. On a semester by semester basis, how many faculty accept overload assignments.

The normal annualized workload for the DMS program is 36 contacts. Normal load is based on 18 contact hours per semester due to the lab intensive curriculum. On an average semester, both faculty have chosen to take overload by teaching service classes in the core curriculum.

b. List activities for which faculty receive release time.

Release time is given for both Program and Clinical Coordination. Additional release time is given for writing accreditation self study reports, as well as, the Academic Program Review.

3) RECRUITMENT

a. What is the normal recruiting process for new faculty.

When a faculty member is needed an inter-department hiring team is formed. Applicants are chosen through phone interviews and follow-up on campus interviews.

b. What qualifications are typically required for new faculty?

- 5 years of experience in the field
- Appropriate ARDMS credentials
- Minimum of a BS degree
- Master degree within 5 years to apply for tenure
- Preferred teaching experience

c. What are the program's diversity goals for both gender and race ethnicity in the faculty.

A diverse workforce is always optimal; however, the best qualified applicant who meets the hiring standard will be employed.

d. Not applicable

4) ORIENTATION

a. Describe and assess the orientation process for new faculty.

The department head will assign each new faculty a mentor who will work closely with the new faculty member during their first year of teaching. New faculty also required to attend the new faculty orientation program through the Faculty Center for Teaching and Learning.

5) REWARD STRUCTURE

a. Describe the reward structure in the program/department/college as it relates program faculty.

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In addition to salary, College of Health Professions faculty are eligible for a faculty enrichment grant of either \$400.00 or \$800.00 a year to pursue activities that will enhance teaching and learning. The Faculty Center for Teaching and Learning also has TIMME grants available for faculty enrichment and development opportunities. Faculty also have ability to earn Professional Development Incentives (PDI) for participation in FCTL in activities.

b. Does the existing salary structure have an impact on the programs ability to recruit and retain faculty.

Yes it does. The qualifications and experience needed for an applicant to be eligible to teach will place them in the high end of the pay structure at a healthcare facility. Searches in 2003, 204 and 2005 yielded only one applicant because sonographers who have advanced degrees (beyond an associate in the field of DMS) and sonographers holding more than one credential earn considerably more in the healthcare facility.

c. Is the reward structure currently in place adequate to support faculty productivity in teaching, research, and service.

The reward structure to support faculty productivity in teaching, service, and research is in place. Promotion and Merit is based on these items as well as the ability to earn overload pay.

d. Is enhancing diversity and inclusion a component of the reward structure?

It not part of the reward structure. Faculty recruit guest speakers to [provide a diverse audience for the students.

6) GRADUATE INSTRUCTION

a. This section is not applicable to the DMS program.

7) NON-TENURE TRACK AND ADJUNCT FACULTY

a. This section is not applicable to the DMS program

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I. ASSESMENT AND EVALUATION

- 1) **Course Level Assessment is found in Appendix B**
- 2) **Program Level Assessment is found in Appendix C**
- 3) **Curriculum Map is found in Appendix D**
- 4) **Identify how learning outcomes at the course level are measured.**

The initial decision for the minimum acceptable or “cut rate” for meeting course level assessment was based on our maximum allowable attrition rate per our accreditation agency. The faculty chose that 80% of students would meet each individual outcome so 80% of the class should be successful. Of course we always want the entire class to be successful but 80% seemed like a good place to start and we can adjust those numbers as needed.

- 5) **Identify how learning outcomes at the program level are measured.**

The following is a form created to track program outcomes each year:

Class of 2010 Assessment

1 year after graduation (August 2011 results)

Attrition Rates

Cohort or Class Size	Actual Graduates	Attrition Rate	JRCDMS “cut rate” or maximum allowable
24	20	17%	20%

Survey Response Rate

Number of Surveys Sent	Responses Received	Survey Return Rate	JRCDMS “cut rate” or preferred rate
20	10	50%	50%

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Employment Rates

Number of responses(includes survey, social media and personal conversation)	Actual Working	% Employed in Field	Actual reported FSU employment rate must also include non-responders per JRCDS	JRCDS “cut rate” for employment
16	13 * 3 continuing education	81%	13/20 or 65%	80%

ARDMS Board Passing Rates

ARDMS Board Credential	Pass Rate	JRCDS “cut rate” or pass rate
Abdomen	8/11 or 73%	60%
OB/GYN	4/5 or 80%	60%
SPI	17/21 or 81%	60%
Class of 2010 Registered in either AB or OB	12/20 or 60%	

Graduate Survey Results after 1 year

Cognitive Domain- Knowledge Base	4.28 using a 5.0 Likert scale
Psychomotor Domain- Clinical Proficiency	4.47 using a 5.0 Likert scale
Affective Domain- Behavior skills	4.5 using a 5.0 Likert scale

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Employer Surveys

Cognitive Domain- Knowledge Base	5.0 using a 5.0 Likert scale
Psychomotor Domain- Clinical Proficiency	5.0 using a 5.0 Likert scale
Affective Domain- Behavior skills	5.0 using a 5.0 Likert scale

Program outcomes are assessed through a combination of tracking attrition and board pass rates, in addition to, survey results. A new type of assessment we are experimenting with is having students identify how they met each program outcome and where or in which course did they learn the outcome. This assessment has been very interesting for faculty to evaluate. Students report learning skills in classes where specific outcomes were intended but also learn the same skills in courses where it was not an intended outcome. It is very interesting to see which courses are mentioned frequently and which are not mentioned at all. This assessment has provided a good platform for discussion among faculty about what is intended and what is perceived from students.

6) Describe how assessment results at the course and program levels have assisted in making decisions in pedagogy, learning outcomes, and other course and program level actions.

Program assessment data revealed that not all of the Sonography students had access to working with a Radiologist during their internship, due to the increased use of Tele-radiographers in Northern Michigan. With this data we have had our Medical Director conduct some guest lectures for students to gain more access to a Physician. Another program outcome change was the implementation of Sono 117. Assessment data in the graduate and employer survey revealed there was disconnect between didactic learning and utilization of this information in the internship setting. Sono 117 is an interpretation course design to allow students time to use and apply didactic knowledge learned in Sono 104, Sono 115 and Sono 111. The survey results in this area increased from unsatisfactory to above average after the first cohort completed this course. The most recent program assessment measure we are anxious about is our retention and attrition rate. The sonography program has implemented an open lab option staffed by student tutors to assist struggling students. Although the rate is improving, we are monitoring it and discussing a potential change to our admission criteria. Course level outcomes have been refined since we started using TracDat. The DMS program is lock step with courses only offered once a year so many course outcomes are just starting to show trends that are actionable.

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7) List and describe what variables are tracked and why when assessing the effectiveness of the program.

Program Assessment

Mission: The mission of the Diagnostic Medical Sonography program is to prepare graduates with the knowledge, skills, and professional behaviors needed to function effectively as a sonographer.

Vision: The mission of the Diagnostic Medical Sonography program is to provide didactic, laboratory and internship experience that prepare students to succeed after graduation.

The Diagnostic Medical Sonography Program Goals/Assessment Plan and Assessment Results developed from the university required assessment database reflect when and how the program outcomes are assessed, evaluated and revised. This plan is reviewed each year by the faculty to determine the currency and relevance of the planned assessment activities for the program. Modifications are made as appropriate in response to changes within the discipline or identified trends within the program outcomes. The outcomes for each goal are designed to be empirically measurable for the purpose of ongoing assessment.

Diagnostic Medical Sonography Program

DMS Goals/Outcomes	Assessment tool	Criterion for success	Results (reported)
1. Produce graduates who will be able to utilize the knowledge and clinical competencies required to provide current, comprehensive diagnostic medical sonography	Graduate surveys	4.0 score on Likert scale	Annually
	Employer surveys	4.0 score on Likert scale	Annually
	Skill Masteries	All graduates Pass at 90% or better	Annually
2. Produce competent entry-level practicing sonographers	Graduate surveys	4.0 score on Likert scale 90% of graduates will be employed using their DMS degree within 1 year after graduation.	Annually

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	Employer surveys	4.0 score on Likert scale	Annually
	Skill Masteries	All graduates Pass at 90% or better	Annually
3. Produce graduates who will be able to communicate effectively to acquire, develop, and convey ideas in diagnostic medical sonography.	Skill masteries	All graduates Pass at 90% or better	Annually
	Publishable case study	100% of students	Annually
	Employer surveys	4.0 score on Likert scale	Annually
	ACI surveys	4.0 score on Likert scale	Annually
	Final competencies	All graduates Pass at 75% or better.	Annually
4. Produce graduates who will practice their profession adhering to the ethical, legal, and professional standards expected of a diagnostic medical sonographer.	ARDMS credentials	80% of students will take 2 of 3 ARDMS board tests, within 1 year after graduation.	Annually
		65% ARDMS pass rate 1 year after graduation.	Annually
	Employer surveys	4.0 score on Likert scale	Annually
5. Produce graduates who can evaluate and interpret ultrasound images using critical thinking skills.	ACI surveys	4.0 score on Likert scale	Annually
	Final competencies	All graduates Pass at 75% or better.	Annually
	Employer surveys	4.0 score on Likert scale	Annually

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8) Provide trend data for the variables listed in 1 (Course assessment)

Course data is found in appendix B. Currently accreditation standards do not dictate the level at which content is passed only that it is provided in the curriculum. Courses are only offered once a year in the sonography program and the 2011/2012 AY results are only the third year/set of data we have to track trends. Although some trends have been easy to track such as 100% of a class passing a task or assignment, much of the assessment data needs time to correlate to specific curriculum trends. Faculty want to be purposeful and thoughtful in making curriculum changes so much of the initial actions are “monitoring” until we can clearly see trends emerging.

9) Describe how the trend data in 2 (program assessment) is used to assess the rigor, breadth, and currency of the degree requirements and curriculum.

Activity	How trend is used
Graduation rate (ability to learn and use material)	Currency – What worth is the DMS program to the community and employers? Rigor and Breadth- If graduation rates fall; the program will update the curriculum to meet the student’s needs.
Survey graduates (are graduates successful)	Rigor and breadth – Did we provide correct skill level and curriculum needed for graduates to be successful? If graduates are not successful, the program will change the curriculum to meet the graduate’s needs. Currency – Are graduates demonstrating terminal outcomes? Are graduates entry level Radiographers?
Survey employers (are graduates employable)	Rigor and breadth – Did we provide correct skill level and curriculum needed for graduates to be successful? If we are not meeting the employers need, the program will change the curriculum to be more relevant for the community. Currency – Are graduates demonstrating terminal outcomes? Are graduates entry level radiographers?
Clinical faculty evaluate student’s preparation (are graduates employable)	Rigor and breadth – Did we provide correct skill level and curriculum needed for graduates to be successful in the clinical rotation? Currency – Are graduates demonstrating terminal outcomes? Are graduates entry level radiographers?
Students evaluate clinical experience (are students effective sonographers)	Currency – Are students learning course stated outcomes? Do students recognize they are learning the outcomes? Can they demonstrate the skills? Rigor and Breadth- We can assess if the equipment and resources provided are satisfactory for teaching new sonographers. The program will change the curriculum to

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	meet the need if the students demonstrate the clinical experience is not effective.
Certification exam evaluation (are students able to use the information taught)	Rigor – How accurately can our student demonstrate skills? Breadth – How many skills can the students demonstrate? How much material can be used critically by the student? Currency – We can measure if the program is providing the skills necessary to fulfill terminal and course outcome goals.
Survey current students (are students' needs being met)	Currency – Are students learning course stated outcomes? Do they recognize they are learning the outcomes? Can they demonstrate the skills?
Adjunct instructor survey (are students developing the mastery skills they need)	Rigor and breadth – Did we provide correct skills level and curriculum needed for graduates to be successful? Currency – Are graduates demonstrating terminal outcomes? Are graduates entry level radiographers? Do graduates demonstrate professional and ethical behaviors?
Advisory committee meeting (is the program meeting the need of the community)	Rigor and breadth – Did we provide correct skills level and curriculum needed for graduates to be successful? Currency – are graduates demonstrating terminal outcomes? Are graduates entry level radiographers?
Monitor program attrition (leavers) (Is the program meeting the needs of the students)	Is the program serving the needs of the student population?

10) Describe how the trend data in 2 is used to assess the extent to which program goals are being met.

Each program outcome measures a specific program goal. The program outcomes were specifically created to measure program goals. If any of the assessment numbers drop or show a negative trend immediate action will be made with the direction of the advisory board and ACI input.

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DMS Goals/ Outcomes	Assessment tool
1. Produce graduates who will be able to utilize the knowledge and clinical competencies required to provide current, comprehensive diagnostic medical sonography	Graduate surveys Employer surveys Skill Masteries
2. Produce competent entry-level practicing sonographers	Graduate surveys Employer surveys Skill Masteries
3. Produce graduates who will be able to communicate effectively to acquire, develop, and convey ideas in diagnostic medical sonography.	Skill masteries Publishable case study Employer surveys ACI surveys Final competencies
4. Produce graduates who will practice their profession adhering to the ethical, legal, and professional standards expected of a diagnostic medical sonographer.	ARDMS credentials Employer surveys
5. Produce graduates who can evaluate and interpret ultrasound images using critical thinking skills.	ACI surveys Final competencies Employer surveys

J. SERVICE TO NON MAJORS

- a. The sonography program does not provide General Education service courses to the university. All sonography courses are designated for DMS students only.
- b. The sonography program does not provide non-General Education service courses to the university. All sonography courses are designated for DMS students only.
- c. Does not apply.
- d. Does not apply.

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K. DEGREE PROGRAM COST AND PRODUCTIVITY DATA

Student Credit Hours

Year	Summer	Fall	Spring	F+Sp
2006-07	0.0	304	280	584
2007--08	243	324	316	640
2008-09	288	312	322	634
2009-10	289	384	368	752
2010-11	343	366	412	778

Full Time equated Faculty

Year	Summer	Fall	Spring	F+Sp
2006-07	0	1.67	1.55	1.61
2007--08	1.29	1.65	1.88	1.77
2008-09	1.49	1.22	2.0	1.61
2009-10	1.56	1.63	2.0	1.81
2010-11	1.35	1.56	2.13	1.85

SCH/FTE

Year	Summer	Fall	Spring	F + Sp
2006-07	0	182.07	180.76	362.88
2007--08	187.89	195.82	167.88	361.90
2008-09	193.84	255.18	161.00	393.46
2009-10	185.65	135.79	184.00	414.49
2010-11	254.07	233.88	193.43	421.12

DISCUSION

The degree program costing is relative to the equipment intensive labs, required instructor to student ratio and required lab/class size. SCH/FTE will not change significantly for the DMS program due to the limited class size and number of internship sites.

L . ADMINISTRATION EFFECTIVENESS

1) Discuss the adequacy of administrative and clerical support for the program.

The administrative and clerical support for the sonography program is excellent. The program has a dedicated department head and secretary for the Dental Hygiene and Imaging Programs. The dean has been open to many ideas and demonstrates a willingness to work with the department on meeting its needs.

2) How does the condition of the current facilities impact program delivery.

The facilities in the building are excellent. The recently remodeled classrooms have state of the art technology that enhances the learning environment. The sonography lab was recently remodeled which helps in the recruitment of new students. Funds for new pieces of equipment have been secured by through Perkins funding and a new PACS reading room has been set up to aid in the students understanding of multiple imaging modalities.

3) Are the teaching and class schedules effectively and efficiently prepared?

Yes. The labs and lectures meet the needs of the student and faculty members.

4) Are students able to take the courses they need in a timely manner?

The professional sequences of courses are sequential and offered once a year. All sonography students are able to take the courses they need in a timely manner.

SECTION 4: Facilities and Equipment

A. INSTRUCTIONAL ENVIRONMENT

1) Are current classrooms, labs, and technology (both on-campus and at off-site locations) adequate?

All Classrooms have been updated and now have “smart stations”. This has been a wonderful addition to the classroom allowing many new functions to be used with teaching. The lab was recently remodeled and has new paint, carpet, desk and chairs. The addition of the PACS room will also be great in allowing students to be trained on equipment prior to leaving the campus.

2) How does the condition of current facilities impact program delivery?

Current conditions in the classrooms are excellent are enhancing program delivery.

3) Describe the program’s projected needs with respect to instructional facilities.

Instructional facilities in the college meet the needs of the program.

4) Describe current plans for facilities improvements and indicate their status.

Currently the program has no plans for facilities improvements.

5) Describe how proposed changes or improvements to facilities would enhance program delivery.

There are no new plans to change the facility.

B. Computer Access and Availability

1) Identify the computing resources that are allocated to this program.

The Sonography lab has one PC that may be used by students for looking at images obtained during lab. The College no longer offers a computer lab for student use so students must use the Flite library for personal computing needs such as research or homework. The college does offer two classrooms with 24 computers for class instruction or testing.

2) Discuss how these resources are used.

The Allied Health computer labs may be used by students during a class in session or for testing as needed by faculty.

3) Discuss the adequacy of these resources.

Students did not use the computer lab enough to warrant its staffing. The current computer offering seems adequate.

4) Does and acquisition plan currently exist?

There are no plans to obtain more computer resources for students.

5) Discuss the efficacy of online services available to the program.

Both program faculty uses Ferris Connect to enhance all face to face courses as well as to teach online. Training for new platforms seems adequate.

6) Discuss the adequacy of computer support, including the support of online instruction if applicable.

TAC does an outstanding job of addressing issues with computer issues in a timely manner. Faculty support for Ferris Connect is okay, it is sometimes hard to get an answer to simple questions in a timely manner.

C. OTHER INSTRUCTIONAL TECHNOLOGY

1) Identify other types of instructional resources that are allocated or available to the program.

The sonography program enjoys a state of the art sonography lab with up to date imagers and many instructional aids. The following is a list of those assets:

Imagers and probes:

- 4 GE Logiq p5 imagers
 - 4 3-5 Mhz curvilinear probes
 - 4 7-9 Mhz linear probes
 - 4 4 Mhz EC probes
 - 1 3D-4D 4Mhz curvilinear probe
 - 1 3D-4D Mhz EC probe

- 1 Acuson Aspen imager
 - 1 4 Mhz Curvilinear
 - 1 4Mhz Vector

FSU Diagnostic Medical Sonography APR 2012

- 1 5 Mhz linear
- 1 7 Mhz linear
- 1 EC 7 Mhz
- 3 summit ABI Doppler units
- 1 First beat Meda Sonic handheld Doppler

Phantoms:

- 3 Blue Phantom EC scanning phantoms
- 3 breast scanning phantoms
- 3 anatomy non scanning anatomy models
- 1 thyroid scanning model
- 1, 18 week fetal scanning phantom
- 1, 36 week fetal scanning phantom
- 1, 3D fetal face phantom

Instructional videos:

- Scanning, Liver, Gallbladder and spleen by Cocky Hecht
- Scanning pancreas, by Corky Hecht
- EV scanning by Gulfcoast Ultrasound
- Doppler and physics by Gulfcoast Ultrasound
- Nursing assessment video
- Normal uterine bleeding
- Ultrasound contrast media and IV placement

2) Discuss how these resources are used.

Students practice ultrasound imaging on each other in a supervised lab setting. Students are able to scan full abdominal and gynecological protocols before they leave for their internship year. For exams that are more invasive or personal in nature the program has state of the art scanning phantoms students may practice on to acquire the skills they need. The program also uses instructional videos and computer models to enhance student learning. Lastly the PACS room allows students to learn how to use the archival system before they enter their internship year.

3) Discuss the adequacy of these resources and identify needed additional resources.

The resources available are state of the art and very adequate.

4) Does an acquisition plan to address these needs currently exist?

The acquisition plan has allowed the program to obtain every resource needed to effectively teach sonography.

5) Discuss the impact of adequacy of other types of instructional technology resources and support of these resources on the program.

The impact the new sonography lab and imagers has had on the program has been very beneficial. Students are able to enter the internship with a high level of experience and skill.

D. LIBRARY RESOURCES

1) Discuss the impact of adequacy of other types of instructional technology resources and support of these resources on the program.

The allied health librarian is always researching new ultrasound books for the program to add to the library collection. Due to the newness of the program, resources are slowly being collected. The DMS program has a nice collection of resource materials at the library. The ability to access professional journals on the database is a very big asset to the program.

2) Discuss the service and instruction availability provided by the Library faculty and staff with respect to the needs of the program.

The services of the library on the Big Rapids Campus are wonderful. Library Staff provide in-services for 1st year students in both FSUS 100 and SONO 100. The staff member explains the services, resources and expensive periodicals that are available at no cost to students.

3) Discuss the impact of the budget allocation provided by FLITE to your program. Is the budget allocation adequate?

The budget and resources at FLITE have been excellent for the DMS program.

SECTION 5: Conclusions

A. RELATIONSHIP TO MISSION

The FSU DMS program strives to use the most innovative teaching and learning techniques available. The FSU on campus model is unique and provides a hands on approach to preparing the students for a skill oriented career. The DMS program continues to enhance the mission of Ferris State University and the College of Health Professions.

B. PROGRAM VISIBILITY AND DISTINCTIVENESS

The Ferris DMS provides more on campus preparation than any other sonography program in the state. The on-campus learning model also provides the opportunity for students to gain knowledge and experience with professional behavior and ethical decision making in a controlled lab setting prior to internship. Thus the student scanning experience in their internship year is considerably more meaningful because of this preparation on campus during the first year of the program. Ferris graduates are sought after because of their demonstrated skill level upon graduation, as well as, their level of professionalism when compared to other program graduates in the state.

The Ferris DMS program is becoming a leader in education. The Ferris model of instruction was the first of its kind to earn accreditation which subsequently contributed in a change in the national accreditation standards by JRC DMS. Program faculty have presented at national meetings and are recognized as education leaders.

C. PROGRAM VALUE

The value of the Ferris Ultrasound Program is to provide high quality ultrasound technologists for a national shortage of sonographers. Employer surveys reflect that Ferris DMS graduates are filling the needs of their community. An overall ranking of the graduate's knowledge of ultrasound was 4.9 on a 1-5 Likert type scale as reported in employer surveys in 2011. Faculty are leaders and mentors who encourage students to become active in their community and profession. The Ferris DMS program is the Northern most program in the state to offer Diagnostic Medical Sonography. Students from the Upper Peninsula and Northern Michigan are provided the opportunity to study sonography closer to home by attending Ferris State University.

D. ENROLLMENT

Enrollment and interest in the DMS program continues to rise. The Diagnostic Medical Sonography Program has a 3-4 times the number of applicants for seats available in the professional sequence. Professional sequence classes enroll twenty four students per year. Advising lists calculate about 90-100 Pre-DMS and DMS students working toward their degree each year.

E. CHARACTERISTICS, QUALITY AND EMPLOYMENT OF STUDENTS

Ferris graduates are very well prepared. This is evidenced by our high placement rates in a state where ultrasound jobs are becoming harder to find. Ferris graduates fair very well against graduates from other programs.

Adjunct clinical instructors and employers each rate Ferris DMS students as very well prepared for the job market. One hundred percent of employers responding are very happy with the FSU graduate they have employed.

Ferris State University DMS graduates are placing above the national average in national board exams. The professionalism and affective behavioral measures were the highest characteristics reported by employers and adjunct clinical instructors.

The FSU DMS students and graduates:

- Display ethical and professional behavior.
- Demonstrate the psychomotor skills of a sonographer.
- Use critical thinking skills to interpret films.
- Connect to their university and community through a service major and community service.
- Practice around the country as diagnostic medical sonographers.

F. QUALITY OF CURRICULUM AND INSTRUCTION

The program has a continuous course assessment and improvement plan in place that is essential to maintain the high standards of specialized accreditation. Their curriculum model and instruction provides a unique and emerging model in sonography education.

G. COMPOSITION AND QUALITY OF THE FACULTY

The Ferris State University DMS program employs two dedicated diagnostic medical sonographers with a combined 30 years of ultrasound experience. Each is appropriately credentialed in the basics of ultrasound, as well as, several additional specialty registries. Each faculty member came to the Ferris DMS program with teaching experience in other ultrasound programs. Both of the faculty members have a vision to make this program a national leader in ultrasound education. Program instruction ratings on student, graduate, and employer surveys have all increased favorably.

Appendix A

FERRIS STATE UNIVERSITY
COLLEGE OF ALLIED HEALTH SCIENCES
Diagnostic Medical Sonography – Associate in Applied Science
Proposed CURRICULUM PLAN / CHECKSHEET

Prerequisites:

BIOL 109 Basic Human Anatomy & Physiology 4 _____
 PHYS 130 Concepts of Physics 4 _____

Required competencies:

Medical Vocabulary Proficiency (C or better in MRIS 102 or proficiency test) _____
 Math Competency (Math ACT score of 24 or "C" or better in Math 115) _____
 English Competency ("C" or better in ENGL 150) _____

FIRST YEAR

Fall Semester

CCHS 101 Orientation to Health Care 3 _____
 PSYC 150 Introduction to Psychology 3 _____

 SONO 100 Introduction to DMS 1 _____
 SONO 102 Introduction to Sono. Imaging 1 _____
 SONO 104 Introduction to Sono. Physics 3 _____
 SONO 105 Sonography physics lab 1 _____
 12

Winter Semester

CHCS 102 Safety Issues in Health Care 1 _____
 CCHS 103 Clinical Skills 1 _____
 SONO 111 Sono. Pathophys. of Abdominal Organs 4 _____
 SONO 112 Abdominal Imaging Lab 1 _____
 SONO 115 Sono. Cross Sectional Anatomy 1 _____
 SONO 117 Introduction to Sono. Interpretation 2 _____
 ENGL 250 English 2 3 _____
 13

Summer Semester

*COMM 105 Interpersonal Communication

OR

COMM 221 Small Group Decision Making 3 _____
 HUMN 220 Ethics in Healthcare
OR
 HUMN 320 Biomedical Ethics 3 _____

SONO 121 Introduction to OB/GYN Imaging 3 _____
 SONO 122 OB/GYN Imaging Lab 1 _____
 SONO 131 Hemodynamics and Doppler Principles 1 _____
 SONO 132 Hemodynamics and Doppler Lab 1 _____
 12

SECOND YEAR

Fall semester

SONO 280 Clinical Internship I 8 _____
 SONO 281 Small Parts and Invasive Procedures 4 _____
 12

Winter Semester

SONO 282 Clinical Internship II 8 _____
 SONO 283 OB/GYN Imaging II 4 _____
 12

Summer Semester

SONO 284 Clinical Internship III 8 _____
 SONO 285 Sono Interpretation II 3 _____

81 hours needed for graduation _____

A grade of C or better is required for all courses on the Checksheet and FSUS 100.

An overall GPA of 2.0 or better is required for graduation.

BIOL 109, PHYS 130, MRIS 102, MATH 115, and ENGL 150 with a grade of C or better or equivalency/proficiency are required prerequisites to the professional sequence.

All general education courses must be completed with a grade of C or better before entering SONO 280.

Computer competency is demonstrated through program coursework.

In order to progress in the professional sequence of the program, a grade of C or better is required in all program courses. If a student does not pass a program course with a grade of C or better, they may re-apply to the program. Students may not re-take more than one professional sequence course.

FERRIS STATE UNIVERSITY
COLLEGE OF ALLIED HEALTH SCIENCES
Diagnostic Medical Sonography – Associate in Applied Science
Advising Checksheet – for students entering Spring 2010

Name: _____ Student ID #: _____

REQUIRED		COURSE TITLE – PREREQUISITES IN ()	CRED	GRADE	REQ. MET
DMS MAJOR: 55 CREDITS REQUIRED					
SONO	100	Introduction to DMS (PHYS 130, BIOL 109, MRIS 102)	1		
SONO	102	Intro. to Sono. Imaging (admission to professional sequence)	1		
SONO	104	Intro. to Ultrasound Physics (admission to prof. sequence)	3		
SONO	105	Sono. Physics lab (admission to professional sequence)	1		
SONO	111	Sonographic Pathophysiology of Abdominal Organs(SONO 100, 102, 104, 105)	4		
SONO	112	Abdominal Imaging lab (SONO 100, 102, 104, 105)	1		
SONO	115	Sono Cross Sectional Anatomy (SONO 100, 102, 104, 105)	1		
SONO	117	Intro. to Sono. Interpretation (SONO 100, 102, 104, 105)	2		
SONO	121	Intro. to OB/GYN Imaging (SONO 111, 112, 115, 117)	3		
SONO	122	OB/GYN Imaging Lab (SONO 111, 112, 115, 117)	1		
SONO	131	Hemo. and Doppler Principles (SONO 111, 112, 115, 117)	1		
SONO	132	Hemo. and Doppler Lab (SONO 111, 112, 115, 117)	1		
SONO	280	Clinical Internship 1 (SONO 121, 122, 131, 132)	8		
SONO	281	Small Parts and Invasive procedures (SONO 121,122,131,132)	4		
SONO	282	Clinical Internship II (SONO 280, 281)	8		
SONO	283	OB/GYN Imaging II (SONO 280,281)	4		
SONO	284	Clinical Internship III (SONO 282,283)	8		
SONO	285	Sonographic Interpretation II (SONO 282, 283)	3		
SONO	287	Management in DMS (SONO 282, 283)	1		
COMMUNICATION COMPETENCE: 6 CREDITS REQUIRED					
ENGL	250	English 2 (Engl 150 grade C or higher)	3		
COMM	105	Interpersonal communication (none) OR	3		
	221	Small group decision making (none)			
SCIENTIFIC UNDERSTANDING: 8 CREDITS REQUIRED					
BIOL	109	Basic Human Anatomy & Physiology (none)	4		
PHYS	130	Concepts of Physics (Math 110 C- or 19 ACT or 460 SAT)	4		
QUANTITATIVE SKILLS: PROFICIENCY OR COURSE REQUIRED					
		ACT – Math subscore of 24 or higher or MATH 115 grade of C			
		ENGL 150 grade of C or competency			
SOCIAL AWARENESS: 3 CREDITS REQUIRED					
ELEC		Social Awareness Elective – 200 level or higher	3		
CULTURAL ENRICHMENT: 3 CREDITS REQUIRED					
ELEC		Cultural Enrichment Elective	3		
CAHS CORE REQUIREMENTS: 5 CREDITS REQUIRED					
CCHS	101	Orientation to Health Care (none)	3		
CCHS	102	Safety Issues in Health Care (none)	1		

CCHS	103	Clinical Skills (none)	1		
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OTHER REQUIREMENTS					
		Computer Competency – Course or proficiency.			
		A grade of C or better is required for all courses on the Checksheet and FSUS 100.			
		An overall GPA of 2.0 or better is required for graduation.			
		BIOL 109, PHYS 130, MRIS 102, MATH 115, and ENGL 150 with a grade of C or better or equivalency/proficiency are required prerequisites to the professional sequence.			
		All general education courses must be completed with a grade of C or better before entering SONO 280.			
		In order to progress in the professional sequence of the program, a grade of C or better is required in all program courses. If a student does not pass a program course with a grade of C or better, they may re-apply to the program. Students may not re-take more than one professional sequence course.			
		TOTAL PROGRAM CREDITS	81		
Students who return to the University after an interrupted enrollment (not including summer semester) must meet the requirements which were in effect when they were originally admitted.					
Academic Advisor: _____ Date of Initial Evaluation: _____					
Student Signature: _____ Date: _____					
Graduation Clearance Form Complete: _____ Date: _____					

**FERRIS STATE UNIVERSITY
COLLEGE OF ALLIED HEALTH SCIENCES
DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM**

**SONO 104
SONOGRAPHIC PRINCIPLES AND INSTRUMENTATION
FALL SEMESTER, 2011**

GENERAL OBJECTIVES: By the end of the semester the student will be able to demonstrate an understanding of:

1. Wave properties and propagation principles
2. Recognition and compensation for acoustical artifacts
3. Acoustical physics
4. Sound production and propagation
5. Interaction of sound and matter
6. Instrument options and transducer selection
7. Principles of ultrasound instruments and models of operation
8. Operator control options
9. Application of ALARA principles
10. Quality control procedures
11. Elements of quality assurance program
12. Identify record maintenance

CLASS SCHEDULE: **LECTURE:** Tuesday and Thursdays 1:30 – 2:45
VFS 325

INSTRUCTOR: Michelle Weemaes MS RDMS RVT
Diagnostic Medical Sonography Program Coordinator
Phone: (231) 591-3071 Fax: (231) 591-3788
weemaesm@ferris.edu VFS 300 B

OFFICE HOURS: Tuesdays 12:00 – 1:30 and Wednesday 12:00 – 1:00 pm

REQUIRED TEXT: Understanding Ultrasound Principles, Edelman.

ATTENDANCE: Each student will be **expected** to attend **every** scheduled lecture and lab session. There will be a “**ZERO TOLERANCE**” policy for **unexcused absences**. Documentation is **required** for an absence to be excused. The documentation must be provided to the instructor by no later than before the start of the class session, upon your return. Late documentation will NOT be accepted.

Starting with the 2nd unexcused absence you will receive a 1% grade reduction. Sleeping or not participating in class is considered an absence. If you are asked to leave the classroom you are considered absent for that entire day.

Example:

1st unexcused absence = warning

2nd unexcused absence = 1% grade reduction

3rd unexcused absence = an additional 1% grade reduction etc.

Tardies will be handled the same way as unexcused absences with the grade reduction starting with the 3rd unexcused tardy. Example:

1st tardy = warning

2nd tardy = 1 % grade reduction

3rd tardy = additional 1 % grade reduction

4th tardy additional 1% grade reduction

etc. * Tardy is defined by 5 minutes after the posted class time.

GRADING AND EVALUATION:

Final grades for SONO 104 will be based on the student's performance. Make-up tests/quizzes **may** be given at the instructor's discretion, but **only** with a fully documented excuse. Individual test and quizzes must be made up **before the start of the next class session**. Late assignments or other work (papers, etc.) will **NOT** be accepted.

Your grade will be based on the following assignments:

Quizzes worth 25 points x 8	200 points
Test 1	100 points
Test 2	100 points
Final exam	200 points
<hr/>	
Total possible points	600 points

GRADING SCALE:

100-95%	A	78.9-77%	C
94.9-91%	A-	76.9-73%	C-
91.9-88%	B+	72.9-70%	D+
87.9-85%	B	69.9-63%	D
84.9-82%	B-	65.9-62%	D-
81.9-79%	C+	< 61.9%	F

***** A "C" or better is required to progress within the DMS program. Non progression in any sono course program equals a dismissal from the program.**

CLASS PARTICIPATION:

You will be expected to be attentive and participatory during the class sessions. Students who do not participate in class will be asked to leave and receive an absence for that day. You will be expected to act professionally in class. This includes no swearing or disrespect in class. If I see a phone in class I will take it until the end of the hour this is your one warning. If you are expecting a call tell me before class.

ACADEMIC DISHONESTY:

Refer to the Academic Dishonesty Policy found in the student's University Handbook. Cheating and disciplinary problem will be dealt with through the student judicial services.

Professional and ethical behavior: see Merit / Demerit policy in policy manual

*****THE SYLLABUS, LECTURE OUTLINE AND LAB OUTLINE ARE SUBJECT TO CHANGE AT ANY TIME BY THE INSTRUCTOR.**

Sono 104 assessment plan

GENERAL OBJECTIVES: By the end of the semester the student will be able to demonstrate an understanding of:

1. Wave properties and propagation principles
2. Recognition and compensation for acoustical artifacts
3. Acoustical physics
4. Sound production and propagation
5. Interaction of sound and matter
6. Instrument options and transducer selection
7. Principles of ultrasound instruments and models of operation
8. Operator control options
9. Application of ALARA principles
10. Quality control procedures
11. Elements of quality assurance program
12. Identify record maintenance

Outcome: At the end of the semester the students will be able to explain and discuss:	Assessment tool
Wave properties and propagation principles	Quiz 1, concept map, midterm, final
Recognition and compensation for acoustical artifacts	Quiz 7, concept map, midterm, final
Acoustical physics	Quiz 2, concept map, midterm, final
Sound production and propagation	Quiz 1, concept map, midterm, final
Interaction of sound and matter	Quiz 3, concept map, midterm, final
Principles of ultrasound instruments and models of operation	Quiz 4, in class worksheet, final
Operator control options	Quiz 6, final, sono 105 lab
Application of ALARA principles	Quiz 5, final
Quality control procedures	Quiz 8, Chi square example, final
Elements of quality assurance program	Quiz 7, final
Patient records management	Quiz 8, final
Instrument options and transducer selection	Quiz 4, in class worksheet, final

**FERRIS STATE UNIVERSITY
COLLEGE OF ALLIED HEALTH SCIENCES
DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM**

**SONO 117
Introduction to Sonography Interpretation**

SPRING SEMESTER, 2011

GENERAL OBJECTIVES:

Upon completion of this course, the student will be able to:

- Identify differential diagnosis of abdominal pathologies based on clinical signs
- Use critical thinking strategies to formulate a preliminary diagnosis based on ultrasound images using etiology, artifacts, and echotexture information
- Write a preliminary ultrasound report
- Interpret ultrasound images
- Use critical thinking to identify what to evaluate and take images of in different pathology models.

CLASS SCHEDULE:

LECTURE:

Monday 2:00 – 2:50 pm Wednesdays 2:00-2:50 VFS 326A
VFS 420

INSTRUCTOR:

Michelle Weemaes MS, RDMS, RVT
VFS 300 B
231-591-3071

OFFICE

Monday 12:00 – 2:00 pm
Wednesday 11:00 – 12: 00 pm

REQUIRED TEXT: text is required by January 11TH
Clinical Sonography a Practical Guide, Sandrers/Winter ISBN: 13: 978-0-7817-4869-8

CLASS ROOM ATTENDANCE:

Each student will be expected to attend every scheduled lecture session. There will be a “ZERO TOLERANCE” policy for unexcused absences. Documentation is required for an absence to be

excused. (see the Ferris handbook and the DMS policy book for acceptable excused absences) The documentation must be provided to the instructor by **no later than before the start of the class session upon which you return**. Late documentation will not be accepted. Reminder; Birkham Health Center slips are not acceptable excused absence excuses per the University policy.

- 1 unexcused absence = warning
- 2 unexcused absences = a 5% grade reduction
- 3 unexcused absences = failure in the course

It is your responsibility to provide documentation of your absences. Sleeping in class will be considered an absence. Students who arrive more than ten (10) minutes late for class will be marked tardy. Tardiness in excess of two (2) will be handled in the same manner as excessive absenteeism.

- 1 tardy = warning
- 2 tardies = warning
- 3 tardies = 5% grade reduction
- 4 tardies = failure in the course

If you miss a lecture session, **you** are responsible for obtaining the missed material.

- Missed assignments will not be accepted for any absence.
- Missed quizzes will not be allowed to be made up for unexcused absences.
- Missed quizzes with an excused absence may be made up **if** taken **before** the start of the next class period.
- Tests that are missed must be made up, as soon as possible, before the next scheduled class time for reduced credit. (10%)
- The final exam must be taken on the final exam scheduled day; which could be any day during exam week. There will be no make-ups for the final exam.

*An Attendance sheet will be passed around at every class session; **it is your responsibility to sign the attendance sheet.**

GRADING AND EVALUATION:

Final grades for SONO 117 will be based upon the student’s performance. Your final grade will consist of assignments, quiz, test, and case study grades. Tests that are missed must be made up, as soon as possible, before the next scheduled class time for reduced credit. Individual quizzes may be made up for excused absences only and assignments may not be made up. Papers will be accepted late with excused absence documentation for reduced credit (10% per day late). The classroom grade will be calculated as follows:

GRADING SYSTEM:

FINAL EXAM	200POINTS
2 TESTS	200 POINTS (100 POINTS EACH)
QUIZZES x 6	150 (25 POINTS EACH)
CASE STUDY	<u>50 POINTS</u>
TOTAL POSSIBLE POINTS	600 POINTS

GRADING SCALE:

100-95%	A	78.9-77%	C
94.9-91%	A-	76.9-73%	C-
91.9-87%	B+	72.9-70%	D+
86.9-84%	B	66.9-63%	D
83.9-82%	B-	65.9-62%	D-
81.9-79%	C+	< 61.9%	F

* 462 points = 77% needed to progress in the program

“C” or better is required to advance to SONO 121,122, 131, 132.

Professional behavior professional behavior will be assessed daily within the program

1st unprofessional behavior = warning

2nd unprofessional behavior = 10% grade reduction

3rd unprofessional behavior = dismissal from The DMS program

This includes participating daily in class. You will be expected to be attentive and participatory during class sessions. You will be expected to act professionally and respectably in class. This includes no swearing or disrespect of anyone in or out of the classroom. Unprofessional behavior can extend into any comments or behavior observed by any faculty in any FSU course or facility.

ACADEMIC DISHONESTY:

Refer to the Academic Dishonesty Policy found in the Student’s University Handbook.

THE SYLLABUS, LECTURE OUTLINE, AND LAB OUTLINE ARE SUBJECT TO CHANGE AT ANY TIME BY THE INSTRUCTOR. (rev. 12.13.07)

Sono 117 Goals and objectives

Upon completion of this course, the student will be able to:

1. Identify differential diagnosis of abdominal pathologies based on clinical signs
2. Use critical thinking strategies to formulate a preliminary diagnosis based on ultrasound images using etiology, artifacts, and echotexture information
3. Write a preliminary ultrasound report
4. Interpret ultrasound images
5. Use critical thinking to identify what to evaluate and take images of in different pathology models.

Learning objectives Sono 117	Class activity
1, 4	quizzes
2, 3,	Preliminary diagnosis creation
1, 2, 3, 4, 5	Tests, essay questions
2,4, 5	Case study practice

FERRIS STATE UNIVERSITY
DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM
SONO 281: Small Parts and Invasive Procedures
Fall Semester

GENERAL OBJECTIVES:

Upon completion of this course the student will be able to:

- Identify ultrasound protocols, procedures, normal anatomy, pathologies, and limitations of imaging breast, thyroid, scrotum, and prostate.
- Identify ultrasound protocols, procedures and limitations of imaging breast, thyroid, scrotum, and prostate during ultrasound guided interventional procedures.

CLASS SCHEDULE:

Students will receive assignments, assessment and complete a case study suitable for publication. Students are expected to log on to FerrisCONNECT a minimum of three (3) times per week. Failure to log in three (3) times weekly will result in an unexcused absence.

Clinical Study Time

Interns shall be provided **four hours** of release time on site within the clinical work week for the opportunity to independently study, complete computer based program assignments, take tests, work on case studies, or perform other program related activities. During these designated times, the interns shall not be expected to perform clinical procedures.

INSTRUCTOR:

Sonya Knoll, MS, RDMS, Clinical Coordinator
Diagnostic Medical Sonography
Office: VFS 408
(231) 591-2725 Office / (231) 598-1112 Cell
knolls@ferris.edu

For emergencies contact Tina Smith, DHMI Administrative assistant at 231-591-2261.

OFFICE HOURS: Posted each semester

REQUIRED MATERIALS:

- 1) E-mail address and computer access
- 2) Positive attitude

REQUIRED TEXTS:

Textbook of Diagnostic Ultrasonography Volume One (Hardcover, 2006)

Author: Sandra L. Hagen-Ansert **ISBN-10:** 0323028039 **ISBN-13:** 9780323028035 **Publisher:** Mosby Inc.

Workbook for Textbook of Diagnostic Ultrasonography (Paperback, 2006)

Author: Sandra L. Hagen-Ansert **ISBN-10:** 0323042023 **ISBN-13:** 9780323042024

Oct 2006 **Publisher:** Mosby Inc 665 pages Workbook

ULTRASONOGRAPHY: An Introduction to Normal Structure and Functional Anatomy. Reva Arnez Curry and Betty Bates Tempkin, **ISBN:** 978-0-7216-9780-2.

EXERCISES IN ULTRASONOGRAPHY: An Introduction to Normal Structure and Functional Anatomy. Reva Arnez Curry and Betty Bates Tempkin, **ISBN:** 0-7216-9781-X.

RECOMMENDED TEXTS:

Clinical Sonography: A Practical Guide 4th edition. Roger C. Sanders and Tom Winters. Lippincott Williams and Wilkins, 2007. **ISBN-10:** 0781748690, **ISBN-13:** 9780781748698.

Ultrasound Scanning Principles and Protocols Betty Bates Tempkins 2nd edition. Saunders an imprint of Elsevier, 1999. **ISBN-10:** 0721606369, **ISBN-13:** 9780721606361.

ATTENDANCE

Students are required to log into FerrisCONNECT a minimum of **three (3) times per week**. Failure to log in is considered an unexcused absence. Failure to complete an assignment is considered an unexcused absence. There will be “**ZERO TOLERANCE**” for missed assignments or failing to log in a minimum of three (3) times each week. There is a “**ZERO TOLERANCE**” policy for **unexcused absences**. Documentation is required for each absence and will be reviewed by the instructor to determine if the absence is excused. The instructor must receive documentation before the start of the class session upon the students return. Late documentation will **NOT** be accepted. Starting with the 2nd unexcused absence you will receive a 5% grade reduction.

Example:

1st unexcused absence = warning

2nd unexcused absence = 1% grade reduction

3rd unexcused absence = an additional 1% grade reduction etc.

GRADING AND EVALUATION:

Final grades for SONO 281 will be based upon the student’s performance and total points earned this semester after completing chapter outlines, work book assignments, review questions, FerrisCONNECT assessments, a case study paper, and a cumulative final examination.

Chapter Outlines

Chapter outlines will correlate with required course curriculum. The chapter outlines must be completed using the rubric provided. Click on link and use this website as your guide.

<http://www.docstoc.com/docs/2539013/HOW-TO-OUTLINE-A-CHAPTER-IN-OUR-TEXTBOOK> .

Submit chapter outlines via the assignment tool by the scheduled due date.

Work Book Assignments

Work book assignments will correlate with required course curriculum. The work book must be completed and available for the clinical coordinator to review at each site visit and during the final exam.

Review Questions

Review questions will correlate with reading assignments. The review question must be answered in complete sentences and submitted via the assignment tool by the scheduled due date.

FerrisCONNECT Quizzes

The quizzes are **NOT** open note or open book. You are prohibited from printing or copying any portion of the quizzes. You are expected to complete the quiz without the assistance. If it is determined that a student or students have violated the rules, all parties involved will receive a “0” grade and be reported to Judicial Services and may be dismissed from the FSU DMS program.

Case Study Paper

Case study paper topic must correlate with course curriculum. The case study paper must be completed using the rubric provided. Click on links and use this website as your guide.

<http://www.sdms.org/pdf/jdmsauthor.pdf> and <http://www.sdms.org/jdms/authors.asp>

Submit the case study paper via the assignment tool by the scheduled due date.

Final Exam

The final examination is cumulative and will correlate with required course curriculum.

POINTS AVAILABLE IN COURSE

Chapter Outlines	50 points
Work Book Assignments	50 points
Review Questions	50 points
FerrisCONNECT Quizzes	100 points
Case Study Paper	100 points
<u>Final exam</u>	<u>200 points</u>
Total points available	550 points

GRADING SCALE:

100- 95.0%	A	78.9-77.0%	C
94.9-91.0%	A-	76.9-73.0%	C-
90.9-88.0%	B+	72.9-70.0%	D+
87.9-85.0%	B	69.9-66.0%	D
84.9-82.0%	B-	65.9-62.0%	D-
81.9-79.0%	C +	< 61.9%	F

NOTE: 424 points = 77%

PROGRESSION POLICY

An Intern must receive a grade of “C” or better and maintain a cumulative GPA of 2.0 and complete the required masteries to progress and graduate.

CLASS PARTICIPATION:

Students are required to log into FerrisCONNECT a minimum of **three (3) times per week**. Failure to log in is considered an unexcused absence. Failure to complete an assignment is considered an unexcused absence. There will be “**ZERO TOLERANCE**” for missed assignments or failing to log in a minimum of three (3) times each week.

Professional and ethical behavior will be assessed daily within the program

- 1st unprofessional behavior = warning
- 2nd unprofessional behavior = 10% grade reduction
- 3rd unprofessional behavior = dismissal from The DMS program

This includes participating daily in class. You will be expected to be attentive and participatory during class sessions. You will be expected to act professionally and respectably in class. This includes no swearing or disrespect of anyone in or out of the classroom. Unprofessional behavior can extend into any comments or behavior observed by any faculty in any FSU course or facility. **Refer to Merit /Demerit policy**

ACADEMIC DISHONESTY:

Any assignment falsified by the student will constitute cheating and will result in the failure of the class. Refer to the Academic Dishonesty Policy found in the Student’s University Handbook.

Professional and ethical behavior will be assessed daily within the program

- 1st unprofessional behavior = warning
- 2nd unprofessional behavior = 10% grade reduction
- 3rd unprofessional behavior = dismissal from The DMS program

This includes participating daily in class. You will be expected to be attentive and participatory during class sessions. You will be expected to act professionally and respectably in class. This includes no swearing or disrespect of anyone in or out of the classroom. Unprofessional behavior can extend into any comments or behavior observed by any faculty in any FSU course or facility. **Refer to Merit /Demerit policy**

THE SYLLABUS, ASSIGNMENT OUTLINE, ASSESSMENT OUTLINE AND DISCUSSION OUTLINE ARE SUBJECT TO CHANGE

Unit Course Assessment Report - Four Column

Ferris State University

Program - Diagnostic Medical Sonography (A.A.S.)

Mission Statement: To prepare graduates with the knowledge, skills and professional behaviors needed to function effectively as entry-level sonographers

Advisory Board/Committee Meetings: Twice per year

Next FSU Academic Program Review: 2012-2013

Accreditation Body: Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS)

Academic Year of Next Accreditation Review: 2012-2013

College: CAHS

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>Z - CCHS Courses - CCHS 101 - Orientation -Health Care - Knowledge & Professional Competencies 1 - At the conclusion of this course, students will demonstrate knowledge of the structure for the healthcare system. (Created By Z - CCHS Courses)</p> <p>Start Date: 03/01/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Designated objective test questions.</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 75% of the students will answer the designated questions related to the struture for the healthcare system correctly.</p>	<p>05/04/2012 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>05/04/2012 - Will continue to monitor and revise as necessary</p> <hr/>
		<p>12/16/2011 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>12/16/2011 - Will continue to monitor and revise as necessary</p> <hr/>
		<p>06/03/2011 - 72% of the students answered the designated questions correctly</p> <p>Classification: Criterion Not Met</p> <p>Action: 2 - Pending Action</p>	<p>06/03/2011 - This outcome Was achieved at 72%. Will continue monitoring</p> <hr/>
		<p>01/25/2011 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/>
		<p>09/30/2010 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/>
		<p>05/24/2010 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification:</p>	<p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		Criterion Met Action: 3 - Action Completed	
		03/03/2010 - Greater than 75% of the students answered the designated questions correctly. Classification: Criterion Met Action: 1 - No Action Required	03/08/2011 - Will continue to monitor and revise as necessary
Z - CCHS Courses - CCHS 101 - Orientation -Health Care - Knowledge & Professional Competencies 2 - At the conclusion of this course, students will demonstrate knowledge of the roles for healthcare professionals (Created By Z - CCHS Courses) Start Date: 03/01/2010 Course Outcome Status: Active	Assessment Method: Designated objective test questions. Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 75% of the students will answer the designated questions related to the roles for healthcare professionals correctly.	05/04/2012 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required 12/16/2011 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required	05/04/2012 - Will continue to monitor and revise as necessary 12/16/2011 - Will continue to monitor and revise as necessary
		06/03/2011 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required	06/03/2011 - Will continue to monitor and revise as necessary
		01/25/2011 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required	03/08/2011 - Will continue to monitor and revise as necessary
		09/30/2010 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required	03/08/2011 - Will continue to monitor and revise as necessary
		05/24/2010 - Greater than 75% of the students answered the designated questions correctly. Classification: Criterion Met Action:	03/08/2011 - Will continue to monitor and revise as necessary

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		3 - Action Completed 03/03/2010 - Greater than 75% of the students answered the designated questions correctly. Classification: Criterion Met Action: 1 - No Action Required	03/08/2011 - Will continue to monitor and revise as necessary _____
Z - CCHS Courses - CCHS 101 - Orientation -Health Care - Knowledge & Professional Competencies 3 - At the conclusion of this course, students will demonstrate knowledge of issues pertaining to healthcare quality. (Created By Z - CCHS Courses) Start Date: 03/01/2010 Course Outcome Status: Active	Assessment Method: Designated objective test questions. Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 75% of the students will answer the designated questions related to issues pertaining to healthcare quality correctly.	05/04/2012 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required 12/16/2011 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required 06/03/2011 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required 01/25/2011 - Less than 75% of the students answered the designated questions correctly Classification: Criterion Not Met Action: 2 - Pending Action 09/30/2010 - Less than 75% of the students answered the designated questions correctly Classification: Criterion Not Met Action: 2 - Pending Action 05/24/2010 - Less than 75% of the students answered the designated questions correctly. Classification: Criterion Not Met Action: 2 - Pending Action	05/04/2012 - Will continue to monitor and revise as necessary _____ 12/16/2011 - Will continue to monitor and revise as necessary _____ 06/03/2011 - Will continue to monitor and revise as necessary _____ 01/25/2011 - This outcome Was achieved at 71%. It is a high discriminating question. _____ 09/30/2010 - This outcome is being examined to see if it is the question or training materials. This is an online course. _____ 09/08/2010 - The course is being monitored on a semester basis for results of this outcome. _____

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
			09/08/2010 - The course is being monitored on a semester basis for results of this outcome.
<p>Z - CCHS Courses - CCHS 101 - Orientation -Health Care - Knowledge & Professional Competencies 4 - At the conclusion of this course, students will demonstrate knowledge of service settings for healthcare. (Created By Z - CCHS Courses)</p> <p>Start Date: 03/01/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Designated objective test questions.</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 75% of the students will answer the designated quations related to service settings for healthcare correctly.</p>	<p>05/04/2012 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>12/16/2011 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>06/03/2011 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>01/25/2011 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/30/2010 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>05/24/2010 - Greater than 75% of the students answered the designated questions correctly.</p> <p>Classification: Criterion Met</p> <p>Action: 3 - Action Completed</p>	<p>05/04/2012 - Will continue to monitor and revise as necessary</p> <hr/> <p>12/16/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>06/03/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/>
<p>Z - CCHS Courses - CCHS 101 - Orientation -Health Care - Knowledge & Professional</p>	<p>Assessment Method: Designated objective test questions.</p>	<p>05/04/2012 - Greater than 75% of the students answered the designated questions correctly</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>Competencies 5 - At the conclusion of this course, students will demonstrate knowledge of ethical-legal patient rights and responsibilities. (Created By Z - CCHS Courses)</p> <p>Start Date: 03/01/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 75% of the students will answer the designated questions related to ethical-legal patient rights and responsibilities correctly.</p>	<p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>12/16/2011 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>06/03/2011 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>01/25/2011 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/30/2010 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>05/24/2010 - Greater than 75% of the students answered the designated questions correctly.</p> <p>Classification: Criterion Met</p> <p>Action: 3 - Action Completed</p>	<p>05/04/2012 - Will continue to monitor and revise as necessary</p> <hr/> <p>12/16/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>06/03/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/>
<p>Z - CCHS Courses - CCHS 102 - Safety Issues-Health Care - Knowledge & Professional Competencies 1 - At the conclusion of this course, students will demonstrate knowledge of Employer and Employee rights and responsibilities for OSHA. (Created By Z - CCHS Courses)</p> <p>Start Date: 03/01/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Designated objective test questions.</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 75% of the students will answer the designated questions related to Employer & Employee rights and responsibilities for OSHA correctly.</p>	<p>05/04/2012 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>06/03/2011 - Greater than 75% of the students answered the designated questions correctly</p> <p>Classification: Criterion Met</p>	<p>05/04/2012 - Will continue to monitor and revise as necessary</p> <hr/> <p>06/03/2011 - Will continue to monitor and revise as necessary</p> <hr/>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		<p>Action: 1 - No Action Required</p> <hr/> <p>01/25/2011 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>05/24/2010 - Greater than 75% of the students answered the designated questions correctly. Classification: Criterion Met Action: 3 - Action Completed</p> <hr/> <p>04/15/2010 - Greater than 75% of the students answered the designated questions correctly. Classification: Criterion Met Action: 1 - No Action Required</p>	<p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p>
<p>Z - CCHS Courses - CCHS 102 - Safety Issues-Health Care - Knowledge & Professional Competencies 2 - At the conclusion of this course, students will demonstrate knowledge of physical and health hazards for the healthcare workplace. (Created By Z - CCHS Courses)</p> <p>Start Date: 03/01/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Designated objective test questions.</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 75% of the students will answer the designated questions related to physical and health hazards for the healthcare workplace correctly.</p>	<p>05/04/2012 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>06/03/2011 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>01/25/2011 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required</p>	<p>05/04/2012 - Will continue to monitor and revise as necessary</p> <hr/> <p>06/03/2011 - Will continue to monitor and revise as necessary</p> <hr/> <p>03/08/2011 - Will continue to monitor and revise as necessary</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		09/16/2010 - Greater than 75% of the students answered the designated questions correctly Classification: Criterion Met Action: 1 - No Action Required	03/08/2011 - Will continue to monitor and revise as necessary <hr/>
		05/24/2010 - Greater than 75% of the students answered the designated questions correctly. Classification: Criterion Met Action: 3 - Action Completed	03/08/2011 - Will continue to monitor and revise as necessary <hr/>
Z - CCHS Courses - CCHS 103 - CI Skills-Health Care Provider - Knowledge & Professional Competencies - At the conclusion of this course, students will demonstrate competency in selective healthcare clinical skills. (Created By Z - CCHS Courses)	Assessment Method: Selected performance evaluations. Assessment Method Category: Performance (e.g. Music, Theatre) Criterion for Success: 75% of the students will achieve 90% or better on selected evaluations.		
Start Date: 03/01/2010 Course Outcome Status: Active			
Z - SONO Courses - SONO 100 - Introduction to DMS - Knowledge 1 - Identify legal issues in the DMS profession. (Created By Z - SONO Courses)	Assessment Method: Legal issues paper (the paper asked the student to outline legal issue in the profession) Assessment Method Category: Written Product (essay, research paper, journal, newsletter, etc.) Criterion for Success: 80% of students will score 80% or better	12/16/2011 - 20/22 (90.9%) of the students earned 80% or higher on Legal issues paper Classification: Criterion Met Action: 1 - No Action Required	
Start Date: 11/23/2009 Course Outcome Status: Active			
		12/17/2010 - 80% of students scored 80% or better Classification: Criterion Met Action: 1 - No Action Required	
		09/16/2010 - 80% of students earned 80% or higher Classification: Criterion Met Action: 1 - No Action Required	

Z - SONO Courses - SONO 100 - Introduction to DMS - Critical Thinking 1 -

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>contrast the uses of current imaging modalities. (Created By Z - SONO Courses)</p> <p>Start Date: 12/17/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam test questions: 14-20</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 80% of students will score 80% of better</p>	<p>12/16/2011 - 18/22 (81.8%) of the students earned 80% or higher on Final exam test questions: 14-20</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>12/17/2010 - 80% of students scored 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 80% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 100 - Introduction to DMS - Critical Thinking 2 - Demonstrate knowledge of HIPAA policy as it relates to DMS. (Created By Z - SONO)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: HIPAA test</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will score 80% or better</p>	<p>12/16/2011 - 18/22 (81.8%) of the students earned 80% or higher on Final exam test questions: 14-20</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>12/17/2010 - 90% of students scored 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 80% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 100 - Introduction to DMS - Knowledge 2 - Identify the professional and ethical behaviors of a sonographer. (Created By Z - SONO)</p>	<p>Assessment Method: Quiz 2 questions (presented in a case study format)</p> <p>Assessment Method Category:</p>	<p>12/16/2011 - 20/22 (90.9%) of the students earned 80% or higher on their case study project</p> <p>Classification: Criterion Met</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
Start Date: 12/17/2009 Course Outcome Status: Active	Test - Internally Developed - Pre/Post or Post Criterion for Success: 80% of students will score 80% or better	Action: 1 - No Action Required 12/17/2010 - 80% of students scored 80% or better Classification: Criterion Met Action: 1 - No Action Required 09/16/2010 - 80% of students earned 80% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 100 - Introduction to DMS - Knowledge 3 - Identify patient care techniques for various patient populations (Created By Z - SONO Courses) Start Date: 11/23/2009 Course Outcome Status: Active	Assessment Method: Demonstration of skills using patient scenarios Assessment Method Category: Observations (e.g. Clinical or Field) Criterion for Success: 80% of students will score 80% or better	12/16/2011 - 20/22 (90.9%) of the students earned 80% or higher on demonstration of skills Classification: Criterion Met Action: 1 - No Action Required 12/17/2010 - 80% of students scored 80% or better Classification: Criterion Met Action: 1 - No Action Required 09/16/2010 - 80% of students earned 80% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 102 - Intro to Sonographic Imaging - Knowledge 1 - Identify the organs in the peritoneum, retroperitoneum including potential spaces (Created By Z - SONO Courses) Start Date: 09/10/2010 Course Outcome Status: Active	Assessment Method: Final exam 20 questions Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher	12/16/2011 - 20/22 (90.8%) of the students earned 100 % on 17 of the 20 questions. 21/22 (95.4%) of the students earned 80 % or higher on question 8. 15/22(68.2%) of the students earned 80 % or higher on question 37. 10/22 (45.5%) students earned 80% or higher on question 44; Classification: Criterion Not Met Action:	12/16/2011 - 1. New activities were implemented to address the areas of weakness noted some improvement in student scores. (positional sonographic scanning and relational anatomy) 2. Additional class time discussion sonographic anatomical appearance, location and relational anatomy improved student scores on question 8.

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		2 - Pending Action	3. Revising group or in class discussions and review sessions to address areas still needing improvement noted in questions 37 & 44. To improve question results to 20/22.
		<p>09/14/2010 - 17/23 73% of the students earned 80% or higher on questions 8 & 37.</p> <p>Classification: Criterion Not Met</p> <p>Action: 2 - Pending Action</p>	<p>09/14/2010 - 1. Spend more class time discussion anatomical location and relational anatomy.</p> <p>2. Create more activities to address the areas of weakness.</p> <p>3. More group or in class discussions and review sessions.</p> <p>4. Create self tests to assist students in identifying areas of strength and weakness prior to taking a quiz.</p>
		<p>09/14/2010 - 8/23 34% of the students earned 80% or higher on question 44.</p> <p>Classification: Criterion Not Met</p> <p>Action: 2 - Pending Action</p>	<p>09/14/2010 - 1. Spend more class time discussion anatomical location and relational anatomy.</p> <p>2. Create more activities to address the areas of weakness.</p> <p>3. More group or in class discussions and review sessions.</p> <p>4. Create self tests to assist students in identifying areas of strength and weakness prior to taking a quiz.</p>
		<p>09/14/2010 - 21/23 91% of the students earned 100% on 17 of the 20 questions.</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>Z - SONO Courses - SONO 102 - Intro to Sonographic Imaging - Knowledge 2 - Identify multiple scan planes and appropriate ultrasound windows (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam 10 questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>12/16/2011 - 20/22 (90.9%) of the students earned 100 % on 9 of the 10 questions.</p> <p>21/22 (95.4%) student?s earned 80% or higher on question 47.</p> <p>19/22 (86.3%) of the students earned 80% or higher on question 48</p> <p>20/22 (90.9%) students earned 80% or higher on question 49</p> <p>Classification: Criterion Not Met</p> <p>Action: 2 - Pending Action</p>	<p>12/16/2011 - 1. New activities addressed the areas of weakness. (positional sonographic scanning and relational anatomy)</p> <p>2. Additional class time discussion sonographic anatomical appearance, location and relational anatomy improved student learning.</p> <p>3. Group and in class discussions and improved review sessions and addressed areas that needed improvement in on questions 47 and 49 noted on 2010 assessment. Still need to modify and spend additional time on material linked with question 48 to improve student learning.</p> <p>4. New image for Question 49. Resolved issue identified in 2010 exam.</p>
	<p>Assessment Method: Final exam 10 questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>09/14/2010 - 15/23 65% of the students earned 80% or higher on questions 48 & 49.</p> <p>Classification: Criterion Not Met</p> <p>Action: 2 - Pending Action</p>	<p>09/14/2010 - 1. Create more activities to address the areas of weakness (positional sonographic scanning and relational anatomy).</p> <p>2. Spend more class time discussion sonographic anatomical appearance, location and relational anatomy.</p> <p>3. More group or in class discussions and review sessions.</p> <p>4. Create self tests to assist students in identifying areas of strength and weakness prior to taking a quiz.</p>
	<p>Assessment Method: Final exam 10 questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>09/14/2010 - 18/23 78% of the students earned 80% or higher on questions 47.</p> <p>Classification: Criterion Not Met</p>	<p>09/14/2010 - 1. Create more activities to address the areas of weakness. (positional sonographic scanning and relational anatomy)</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		<p>Criterion Not Met Action: 2 - Pending Action</p> <hr/> <p>09/14/2010 - 21/23 91% of the students earned 100% on 6 of the 10 questions.</p> <p>Classification: Criterion Met Action: 1 - No Action Required</p>	<p>2. Spend more class time discussion sonographic anatomical appearance, location and relational anatomy.</p> <p>3. More group or in class discussions and review sessions.</p> <p>4. Create self tests to assist students in identifying areas of strength and weakness prior to taking a quiz.</p> <hr/>
<p>Z - SONO Courses - SONO 102 - Intro to Sonographic Imaging - Knowledge 3 - Identify beginning landmark structures of abdominal imaging on ultrasound images (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam 20 questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>12/16/2011 - 20/22 (90.9%) of the students earned 80% or higher on 20 out of 20 questions.</p> <p>Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>09/14/2010 - 21/23 91% of the students earned 80% or higher on 20 out of 20 questions</p> <p>Classification: Criterion Met Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 102 - Intro to Sonographic Imaging - Knowledge 5 - Understand the safety and practical applications limitations of ultrasound acquisition in safety and practical applications (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status:</p>	<p>Assessment Method: Final exam 3 questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>12/16/2011 - 20/22 (90.9%) of the students earned 80% or higher on 3 of the 3 questions.</p> <p>Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>09/14/2010 - 21/23 91% of the students earned 80% of higher on 3 of the 3 questions.</p> <p>Classification:</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
Active		Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 104 - Intro to Ultrasound Physics - Knowledge & Competency 1 - Identify the principles of sound transmission through matter (Created By Z - SONO Courses) Start Date: 11/23/2009 Course Outcome Status: Active	Assessment Method: Final exam questions 1-10 Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% will earn 80% or better	12/16/2011 - 84% earned 80% or better Classification: Criterion Not Met Action: 1 - No Action Required 09/16/2010 - 80% of students earned 80% or higher Classification: Criterion Not Met Action: 2 - Pending Action	09/16/2010 - Change outcome to 80% of the class
Z - SONO Courses - SONO 104 - Intro to Ultrasound Physics - Knowledge & Competency 2 - Demonstrate knowledge of transducer frequencies, steering, and focusing theories. (Created By Z - SONO Courses) Start Date: 12/17/2009 Course Outcome Status: Active	Assessment Method: Transducer worksheet with concept map or illustration. Assessment Method Category: Visual Displays (e.g. webpage, film, Concept maps, graphics, etc.) Criterion for Success: 80% will earn 80% or better	12/16/2011 - 80% earned 80% or better Classification: Criterion Not Met Action: 1 - No Action Required 12/17/2010 - 80% of students earned 80% or better Classification: Criterion Met Action: 1 - No Action Required 12/16/2011 - All students earned 100% delete this criteria Classification: Criterion Met Action: 1 - No Action Required	09/16/2010 - 80% of students earned 80% or higher Classification: Criterion Not Met Action:

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		3 - Action Completed	
<p>Z - SONO Courses - SONO 104 - Intro to Ultrasound Physics - Knowledge & Competency 3 - Identify direct and indirect relationships with pulsed and non-pulsed ultrasound theories. (Created By Z - SONO Courses)</p> <p>Start Date: 12/17/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Pulsed wave concept map</p> <p>Assessment Method Category: Visual Displays (e.g. webpage, film, Concept maps, graphics, etc.)</p> <p>Criterion for Success: 90% will earn 80% or better</p> <hr/> <p>Assessment Method: Pulsed wave concept map</p> <p>Assessment Method Category: Visual Displays (e.g. webpage, film, Concept maps, graphics, etc.)</p> <p>Criterion for Success: 80% of students will earn 80% or higher</p>	<p>12/16/2011 - 91% earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 80% of students earned 80% or higher</p> <p>Classification: Criterion Not Met</p> <p>Action: 3 - Action Completed</p> <hr/> <p>12/17/2010 - 80% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>09/16/2010 - Change outcome to 80% of the class</p> <hr/> <p>12/17/2010 - Add a worksheet to aid in this learning</p>
<p>Z - SONO Courses - SONO 104 - Intro to Ultrasound Physics - Knowledge & Competency 4 - Identify how and why artifacts occur. (Created By Z - SONO Courses)</p> <p>Start Date: 12/17/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam questions 58-71</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% will earn 80% or better</p> <hr/> <p>Assessment Method: Final exam questions 58-71</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 80% of students will earn 80% or better</p>	<p>12/16/2011 - 92% earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 80% of students earned 80% or higher</p> <p>Classification: Criterion Not Met</p> <p>Action: 3 - Action Completed</p> <hr/> <p>12/17/2010 - 70% of students earned 80% or better</p> <p>Classification: Criterion Not Met</p> <p>Action: 3 - Action Completed</p>	<p>09/16/2010 - Change outcome to 80% of the class</p> <hr/> <p>12/17/2010 - Add a worksheet to aid in this learning</p>
<p>Z - SONO Courses - SONO 104 - Intro to Ultrasound Physics - Knowledge & Competency 5 - Identify transducer, construction, and beam formation (Created</p>	<p>Assessment Method: Creation of transducer model</p> <p>Assessment Method Category: Project/Model/Invention</p>	<p>12/16/2011 - 100% earned 80% or better</p> <p>Classification:</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
By Z - SONO Courses) Start Date: 12/17/2009 Course Outcome Status: Active	Criterion for Success: 90% will earn 80% or better	Criterion Met Action: 1 - No Action Required	
		09/16/2010 - 80% of students earned 80% or higher Classification: Criterion Not Met Action: 2 - Pending Action	09/16/2010 - Change outcome to 80% of the class _____
	Assessment Method: Creation transducer model Assessment Method Category: Project/Model/Invention Criterion for Success: 80% of students will earn 80 % or higher	12/17/2010 - 80% of students earned an 80% or better Classification: Criterion Met Action: 3 - Action Completed	03/11/2011 - Change the means of assessment to the sensitivity and specificity assignment _____
	Assessment Method: Sensitivity Specificity assignment Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 80% of students will score 80% or higher		
Z - SONO Courses - SONO 104 - Intro to Ultrasound Physics - Communication/Critical Thinking - Demonstrate quality assurance standards and strategies (Created By Z - SONO Courses) Start Date: 11/23/2009 Course Outcome Status: Active	Assessment Method: Lab management case study project Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% will earn 80% or better	12/16/2011 - This content moved to sono 287, Action: change criteria to sensitivity specificity assignment keep same criteria 90% achieved 80% fall of 2010 on this new assignment Classification: Inconclusive Action: 1 - No Action Required	
		09/16/2010 - 80% of students earned 80% or higher Classification: Criterion Not Met Action: 3 - Action Completed	09/16/2010 - Change outcome to 80% of class _____
	Assessment Method: Lab management case study project Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 80% of students will earn 80% or higher	12/17/2010 - 100% of students earned 80% or higher Classification: Criterion Met Action: 1 - No Action Required	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>Z - SONO Courses - SONO 105 - Sonography Physics Prin Lab - Knowledge & Professional Competency 1 - Demonstrate ultrasound scan plans anatomically. (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Scan plane demonstration on lab practical exam - lab evaluation form</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>12/16/2011 - 94% earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>12/17/2010 - 90% earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 90% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 105 - Sonography Physics Prin Lab - Knowledge & Professional Competency 2 - Demonstrate artifact production and elimination techniques. (Created By Z - SONO Courses)</p> <p>Start Date: 12/17/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Artifact demonstration lab. Lab evaluation form</p> <p>Assessment Method Category: Visual Displays (e.g. webpage, film, Concept maps, graphics, etc.)</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>12/16/2011 - 91% earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>12/17/2010 - 90% earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 90% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 105 - Sonography Physics Prin Lab - Knowledge & Professional Competency 3 - Produce homogenous echotexture ultrasound images. (Created By Z - SONO Courses)</p> <p>Start Date: 12/17/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Production of images in lab #12. Lab evaluation form.</p> <p>Assessment Method Category: Visual Displays (e.g. webpage, film, Concept maps, graphics, etc.)</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>12/16/2011 - 90% earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>12/17/2010 - 90% earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action:</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		1 - No Action Required 09/16/2010 - 90% of students earned 80% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 105 - Sonography Physics Prin Lab - Knowledge & Professional Competency 4 - Demonstrate correct use of ultrasound technology. (Created By Z - SONO Courses) Start Date: 12/17/2009 Course Outcome Status: Active	Assessment Method: Knobology skill lab. Lab evaluation form Assessment Method Category: Visual Displays (e.g. webpage, film, Concept maps, graphics, etc.) Criterion for Success: 90% will earn 80% or better	12/16/2011 - 100% earned 80% or better Classification: Criterion Met Action: 1 - No Action Required 12/17/2010 - 90% earned 80% or better Classification: Criterion Met Action: 1 - No Action Required 09/16/2010 - 90% of students earned 80% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 105 - Sonography Physics Prin Lab - Critical Thinking - Predict common ultrasound interactions with matter (Created By Z -) Start Date: 11/23/2009 Course Outcome Status: Active	Assessment Method: Final exam questions 4-12 Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% will earn 80% or better	12/16/2011 - 98% earned 80% or better Classification: Criterion Met Action: 1 - No Action Required 12/17/2010 - 90% earned 80% or better Classification: Criterion Met Action: 1 - No Action Required 09/16/2010 - 90% of students earned 80% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 111 - Pathophys of Abdominal Organs - Knowledge 1 -	Assessment Method: Test 1 - ten questions; Test 2 - ten	08/30/2011 - 21/23 (92%) of students earned earn 80% or better	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>the pathologies of the abdominal organ systems (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status: Active</p>	<p>questions; Final exam - ten questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/15/2010 - 18/19 (94%) of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 111 - Pathophys of Abdominal Organs - Critical Thinking 1 - Interpret a sonogram given only echotexture, artifacts, and patient demographics (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Test 1 - ten questions; Test 2 - ten questions; Final exam - ten questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 21/23 (92%) of students earned earn 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/15/2010 - 18/19 (94%) of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 111 - Pathophys of Abdominal Organs - Knowledge 2 - Identify the anatomical anomalies of the abdominal organs (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Test 1 - ten questions; Test 2 - ten questions; Final exam - ten questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 21/23 (92%) of students earned earn 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/15/2010 - 18/19 (94%) of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 111 - Pathophys of Abdominal Organs - Critical Thinking 2 - Characterize abdominal organ pathology</p>	<p>Assessment Method: Test 1 - ten questions; Test 2 - ten</p>	<p>08/30/2011 - 21/23 (92%) of students earned earn 80% or better</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>and anomalies using lab values, etiology, and patient demographics (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status: Active</p>	<p>questions; Final exam - ten questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/15/2010 - 18/19 (94%) of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 111 - Pathophys of Abdominal Organs - Knowledge 3 - Write a preliminary diagnosis using correct medical terminology (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Test 1 - bonus question; Test 2 - bonus question, critical thinking question. Chapter critical thinking review activities.</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 21/23 (92%) of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/15/2010 - 18/19 (94%) of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 111 - Pathophys of Abdominal Organs - Critical Thinking 3 - Explain the physiology of the abdominal organs (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Chapter review questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 21/23 (92%) of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/15/2010 - 18/19 (94%) of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action:</p>	<p>08/30/2011 - Continue to use and modify the following:</p> <ol style="list-style-type: none"> 1. Created activities to challenge student critical thinking skills. 2. Created opportunities for students to improve their critical thinking skills. 3. Created self tests, discussion group activities or a combination of both to engage all students <hr/> <p>09/15/2010 - While the outcomes were met, student scores on designated critical thinking questions on the final exam imply they were unsuccessful in applying</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		1 - No Action Required	<p>the information.</p> <ol style="list-style-type: none"> 1. Create activities to challenge student critical thinking skills. 2. Create opportunities for students to improve their critical thinking skills. 3. Create self tests, discussion group activities or a combination of both to engage all students.
<p>Z - SONO Courses - SONO 111 - Pathophys of Abdominal Organs - Critical Thinking 4 - Explain normal embryology of abdominal organs (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Chapter review questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 21/23 (92%) of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>08/30/2011 - Continue to use and modify the following:</p> <ol style="list-style-type: none"> 1. Created activities to challenge student critical thing skills. 2. Created opportunities for students to improve their critical thinking skills. 3. Created self tests, discussion group activities or a combination of both to engage all students
		<p>09/15/2010 - 18/19 (94%) of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>09/15/2010 - While the outcomes were met, student scores on designated critical thinking questions on the final exam imply they were unsuccessful in applying the information.</p> <ol style="list-style-type: none"> 1. Create activities to challenge student critical thinking skills. 2. Create opportunities for students to improve their critical thinking skills. 3. Create self tests, discussion group activities or a combination of both to engage all students.
<p>Z - SONO Courses - SONO 112 - Abdominal Imaging Lab - Knowledge & Professional Competency 1 - Demonstrate the ability to</p>	<p>Assessment Method: Anatomy scanning proficiency tests of:</p>	<p>05/04/2012 - 100% of students had a scanning proficiency score of 90% or better</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>produce full protocols of abdominal ultrasound studies with diagnostic images. (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>liver, pancreas, gallbladder, kidney, and spleen</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>08/30/2011 - 100% of students had a scanning proficiency score of 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/13/2010 - 100% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 112 - Abdominal Imaging Lab - Knowledge & Professional Competency 2 - Identify indications, contraindications and "billable" protocols for abdominal ultrasounds. (Created By Z - SONO Courses)</p> <p>Start Date: 12/17/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Quiz 4</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>05/04/2012 - 84% of students scored 85% or better on quiz 4</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>08/30/2011 - 90% of students scored 85% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/13/2010 - 90% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 112 - Abdominal Imaging Lab - Knowledge & Professional Competency 3 - Identify normal anatomic structures of the abdomen in multiple scan planes. (Created By Z - SONO Courses)</p> <p>Start Date: 12/17/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: 30 anatomy identification final exam questions</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of the class will score 80% or higher</p>	<p>05/04/2012 - 92% of the students scored 85% or better on these final exam questions</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>08/30/2011 - 100% of the students scored 85% or better</p> <p>Classification:</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		Criterion Met Action: 1 - No Action Required <hr/> 09/13/2010 - 85% of the students earned 80% or higher Classification: Criterion Not Met Action: 2 - Pending Action	09/13/2010 - Change criterion to 85% of class. <hr/>
Z - SONO Courses - SONO 112 - Abdominal Imaging Lab - Professional & Ethical Behavior - Demonstrate professional behavioral traits (Created By Z - SONO Courses) Start Date: 11/23/2009 Course Outcome Status: Active	Assessment Method: Professional behavioral grade, cumulative score of daily behavioral trait rubric Assessment Method Category: Observations (e.g. Clinical or Field) Criterion for Success: 100% of students will earn 90% or higher	05/04/2012 - 100% of students had a behavioral trait score of 95% or better Classification: Criterion Met Action: 1 - No Action Required <hr/> 08/30/2011 - 100% of students had a behavioral trait score of 95% or better Classification: Criterion Met Action: 1 - No Action Required <hr/> 09/13/2010 - 100% of students earned 90% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 115 - Sono Cross Sectional Anatomy - Knowledge & Professional Competency 1 - Recognize normal anatomy, and normal relationships within the abdomen. (Created By Z - SONO Courses) Start Date: 11/23/2009 Course Outcome Status: Active	Assessment Method: 20 questions on the final exam Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher	05/04/2012 - 86% of the class scored 82% or better on the anatomy questions on the final exam Classification: Criterion Met Action: 1 - No Action Required <hr/> 08/30/2011 - 90% of the class scored 82% or better Classification: Criterion Met Action: 1 - No Action Required <hr/> 09/13/2010 - 90% of students earned 80% or	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 115 - Sono Cross Sectional Anatomy - Knowledge & Professional Competency 2 - The student will be able to recognize normal cross sectional anatomy in the body. (Created By Z - SONO Courses) Start Date: 12/17/2009 Course Outcome Status: Active	Assessment Method: 5 anatomy image questions on final Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher	05/04/2012 - 95% of the class scored 100% on the normal cross sectional anatomy questions on the final exam Classification: Criterion Met Action: 1 - No Action Required 08/30/2011 - 100% of the class scored 100% Classification: Criterion Met Action: 1 - No Action Required 09/13/2010 - 90% of students earned 80% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 115 - Sono Cross Sectional Anatomy - Critical Thinking - Describe the anatomic and physiologic relationships of body systems relative to Sonography (Created By Z - SONO) Start Date: 11/23/2009 Course Outcome Status: Active	Assessment Method: 20 questions on the final exam Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher	05/04/2012 - 94% of the class scored 84% or better on the selected questions Classification: Criterion Met Action: 1 - No Action Required 08/30/2011 - 90% of the class scored 84% or better Classification: Criterion Met Action: 1 - No Action Required 09/13/2010 - 85% of students earned 80% or higher Classification: Criterion Not Met Action:	09/13/2010 - Incorporate additional study material

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		2 - Pending Action	
<p>Z - SONO Courses - SONO 115 - Sono Cross Sectional Anatomy - Communication - Describe normal Sonographic appearance of individual organs using sonographic terms (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Preliminary reports 4 and 5</p> <p>Assessment Method Category: Written Product (essay, research paper, journal, newsletter, etc.)</p> <p>Criterion for Success: 90% of students will earn 80% or higher (average on both reports)</p>	<p>05/04/2012 - 100% of the class scored at least 90% on the preliminary report assignments</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>08/30/2011 - 100% of the class scored at least 90%</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/13/2010 - 100% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 117 - Intro to Sonographic Interpret - Knowledge, Professional Competency and Critical Thinking - Identify differential diagnosis of abdominal pathologies base on clinical signs. (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: 9 questions on the final exam</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>05/04/2012 - 100% of the class earned 90% on the 9 selected questions</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>08/30/2011 - 90% of the class earned at least 82%</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/13/2010 - 90% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 117 - Intro to</p>			

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>Sonographic Interpret - Critical thinking - Use critical thinking strategies to formulate a preliminary diagnosis based on ultrasound images using etiology, artifacts, and echotexture information. (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: 11 case study questions on the final exam</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>05/04/2012 - 100% of the class earned 85% or better on the case study questions</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>08/30/2011 - 100% of the class earned 85% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/13/2010 - 80% of students earned 80% or higher</p> <p>Classification: Criterion Not Met</p> <p>Action: 2 - Pending Action</p>	<p>09/13/2010 - Additional case studies will be assigned</p> <hr/>
<p>Z - SONO Courses - SONO 117 - Intro to Sonographic Interpret - Communication - Write a preliminary ultrasound report (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Case study project/presentation</p> <p>Assessment Method Category: Case Studies/Problem-based Assignments</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>05/04/2012 - 100% of the class scored 95% or better on the case study presentation</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>08/30/2011 - 100% of the class scored 95% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/13/2010 - 100% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 117 - Intro to Sonographic Interpret - Knowledge & Professional Competency - Interpret</p>	<p>Assessment Method: 15 mid-term case study questions</p> <p>Assessment Method Category:</p>	<p>05/04/2012 - 90% of the class scored 90% on the midterm case study questions</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
ultrasound images (Created By Z - SONO Courses) Start Date: 01/07/2010 Course Outcome Status: Active	Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher	Classification: Criterion Met Action: 1 - No Action Required <hr/> 08/30/2011 - 90% of the class scored 84% Classification: Criterion Met Action: 1 - No Action Required <hr/> 09/17/2010 - 90% of students earned 90% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 121 - Introduction to OB/GYN Imaging - Knowledge 1 - Identify normal fetal anatomy development through all stages of development (Created By Z - SONO) Start Date: 12/17/2009 Course Outcome Status: Active	Assessment Method: Final exam-15 questions with sonographic image review activity Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% will earn 80% or better	08/30/2011 - 19/22 (86.3%) earned 80% or better Classification: Criterion Not Met Action: 2 - Pending Action <hr/> 09/16/2010 - 18/19 (94%) earned 80% or better Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 121 - Introduction to OB/GYN Imaging - Knowledge 2 - Identify normal fetal measurements during all stages of development (Created By Z - SONO) Start Date: 12/17/2009 Course Outcome Status: Active	Assessment Method: Final exam-15 questions with sonographic image review activity Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% will earn 80% or better	08/30/2011 - 16/22 (72%) earned 80% or better Classification: Criterion Not Met Action: 2 - Pending Action <hr/> 09/16/2010 - 18/19 (94%) earned 80% or better Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 121 - Introduction to OB/GYN Imaging - Knowledge 3 - Identify normal and abnormal maternal ultrasound anatomy (Created By Z) Start Date:	Assessment Method: Final exam-14 questions Assessment Method Category: Test - Internally Developed - Pre/Post or Post	08/30/2011 - 18/22 (81%) earned 80% or better Classification: Criterion Not Met Action: 2 - Pending Action	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
12/17/2009 Course Outcome Status: Active	Criterion for Success: 90% will earn 80% or better	09/16/2010 - 18/19 (94%) earned 80% or better Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 121 - Introduction to OB/GYN Imaging - Knowledge 4 - Identify the maternal pathologies associated with pregnancy Start Date: 12/17/2009 Course Outcome Status: Active	Assessment Method: Final exam-20 questions with sonographic image review activity Assessment Method Category: Test - Internally Developed - Pre/Post or Post	08/30/2011 - 17/22 (77%) earned 80% or better Classification: Criterion Not Met Action: 2 - Pending Action	
Course Outcome Status: Active	Criterion for Success: 90% will earn 80% or better	09/16/2010 - 18/19 (94%) earned 80% or better Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 121 - Introduction to OB/GYN Imaging - Knowledge 5 - Identify the fetal pathologies and anomalies possible during fetal development (Created By Z - SONO) Start Date: 12/17/2009 Course Outcome Status: Active	Assessment Method: Final exam-20 questions with sonographic image review activity Assessment Method Category: Test - Internally Developed - Pre/Post or Post	08/30/2011 - 12/22 (54%) earned 80% or better Classification: Criterion Not Met Action: 2 - Pending Action	
Course Outcome Status: Active	Criterion for Success: 90% will earn 80% or better	09/16/2010 - 18/19 (94%) earned 80% or better Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 122 - OB/GYN Imaging Lab - Professional Competency 1 - Perform a trans-abdominal gynecological ultrasound exam with full protocol (Created By Z - SONO Courses) Start Date: 01/07/2010 Course Outcome Status: Active	Assessment Method: Final exam - live scanning of female pelvis using full protocols including complete patient history sheets with sonographic impressions. Assessment Method Category: Case Studies/Problem-based Assignments	08/30/2011 - 23/23 (100%) of the students earned 90% or better Classification: Criterion Met Action: 1 - No Action Required	
Course Outcome Status: Active	Criterion for Success: 90% will earn 80% or better	09/15/2010 - 100% of students earned 80% or better Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 122 - OB/GYN Imaging Lab - Professional Competency 2 - Perform a trans-vaginal gynecological	Assessment Method: Lab scanning assignments on trans-vaginal phantoms using full protocols including	08/30/2011 - 23/23 (100%) of the students earned 90% or better	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>ultrasound exam with full protocol (Created By Z - SONO Courses)</p> <p>Start Date: 01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>complete patient history sheets with sonographic impressions.</p> <p>Assessment Method Category: Case Studies/Problem-based Assignments</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/15/2010 - 100% of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 122 - OB/GYN Imaging Lab - Professional Competency 3 - Demonstrate fetal survey measurements on 1st, 2nd, and 3rd trimester pregnancies. (Created By Z - SONO Courses)</p> <p>Start Date: 01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Lab scanning assignments on scanning phantoms using full protocols including complete patient history sheets with sonographic impressions.</p> <p>Assessment Method Category: Case Studies/Problem-based Assignments</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>08/30/2011 - 23/23 (100%) of the students earned 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/15/2010 - 100% of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 122 - OB/GYN Imaging Lab - Knowledge 1 - Identify normal female reproductive anatomy (Created By Z - SONO Courses)</p> <p>Start Date: 01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam - six image recognition questions.</p> <p>Assessment Method Category: Case Studies/Problem-based Assignments</p> <p>Criterion for Success: 90% will earn 80% or better.</p>	<p>08/30/2011 - 23/23 (100%) of the students earned 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/15/2010 - 100% of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 122 - OB/GYN Imaging Lab - Knowledge 2 - Identify normal fetal anatomy in all stages of development. (Created By Z - SONO Courses)</p> <p>Start Date: 01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam - ten image recognition questions.</p> <p>Assessment Method Category: Case Studies/Problem-based Assignments</p> <p>Criterion for Success: 90% will earn 80% or better.</p>	<p>08/30/2011 - 18/23 (78.2%) of the students earned 90% or better</p> <p>5/23 (21.7%) of the students earned 80% or better</p> <p>Classification: Criterion Not Met</p> <p>Action:</p>	<p>08/30/2011 - 1. Create lab activities that involve image review. 2. Create scanning opportunities with more live patients whenever possible. 3. Created self tests and work sheets. It helped several students</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		<p>2 - Pending Action</p> <hr/> <p>09/15/2010 - 17/19 (89.4%) of the students earned 80% or better. Classification: Criterion Not Met Action: 2 - Pending Action</p>	<p>identify areas of weakness and they were able to improve their abilities in sonographic image recognition.</p> <hr/> <p>09/15/2010 - 1. Create lab activities that involve image review. 2. Create scanning opportunities with more live patients whenever possible. 3. Create self tests or work sheets to help students identify areas of weakness so they can improve their sonographic images.</p>
<p>Z - SONO Courses - SONO 131 - Hemo and Doppler Prin of Sono - Knowledge and Professional Competency 1 - Identify the principles of hemodynamics and doppler within the vascular system. (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: quiz 1 Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 90% of the class scored 85% or better Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>09/08/2010 - 80% of students earned 80% or better Classification: Criterion Not Met Action: 2 - Pending Action</p>	<p>09/08/2010 - Additional assignments are needed to improve the class pass rate to 90% of the class passing at 80%.</p>
<p>Z - SONO Courses - SONO 131 - Hemo and Doppler Prin of Sono - Knowledge & Professional Competency 2 - Identify the vasculature of the extremities and cerebrovascular system. (Created By Z - SONO Courses)</p> <p>Start Date: 01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: quiz 6 Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 100% of the class scored 81% or better Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>09/08/2010 - 90% of students earned 80% or higher. Classification: Criterion Met Action: 1 - No Action Required</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>Z - SONO Courses - SONO 131 - Hemo and Doppler Prin of Sono - Knowledge & Professional Competency 3 - Explain and identify the normal doppler signals and hemodynamics in the human circulatory system. (Created By Z - SONO Courses)</p> <p>Start Date: 01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam questions 8-15</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 100% of the students scored 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/08/2010 - 90% of students earned 80% or higher.</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 131 - Hemo and Doppler Prin of Sono - Critical Thinking - Infer disease states based on hemodynamic and doppler signals (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam questions 15-26</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 100% of the students scored 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/08/2010 - 90% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 131 - Hemo and Doppler Prin of Sono - Communications - Identify and explain the role of doppler and hemodynamics in interventional procedure evaluation (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Research report</p> <p>Assessment Method Category: Written Product (essay, research paper, journal, newsletter, etc.)</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 100% of the students earned 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/08/2010 - No data</p> <p>Classification: Inconclusive</p> <p>Action: 2 - Pending Action</p>	<p>09/08/2010 - This material must be taught in another sono section before Summer of 2011. Next years course must demonstrate this material.</p>
<p>Z - SONO Courses - SONO 132 - Hemodynamics - Doppler Lab - Knowledge & Professional Competency 1 -</p>	<p>Assessment Method: Doppler signals lab, evaluated with a rubric.</p>	<p>08/30/2011 - 100% of the students scored 95% or better</p> <p>Classification:</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>normal doppler signals in the abdominal, carotid, and peripheral extremities. (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method Category: Observations (e.g. Clinical or Field)</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/08/2010 - 100% of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 132 - Hemodynamics - Doppler Lab - Knowledge & Professional Competency 2 - Demonstrate correct use of color flow technology. (Created By Z - SONO Courses)</p> <p>Start Date: 01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Color flow lab, evaluated with a rubric</p> <p>Assessment Method Category: Observations (e.g. Clinical or Field)</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 100% of the students scored 95% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/08/2010 - 100% of students earned 100%</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 132 - Hemodynamics - Doppler Lab - Knowledge & Professional Competency 3 - Perform complete full abdominal protocols including doppler evaluation. (Created By Z - SONO Courses)</p> <p>Start Date: 01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Full abdomen check off, skills 7-42</p> <p>Assessment Method Category: Observations (e.g. Clinical or Field)</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 100% of the students scored 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/08/2010 - 100% of students earned 90% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 132 - Hemodynamics - Doppler Lab - Professional & Ethical Behavior 1 - Demonstrate professional attitudes and behaviors, including universal precautions and infection control techniques. (Created By Z - SONO Courses)</p> <p>Start Date: 11/23/2009</p> <p>Course Outcome Status:</p>	<p>Assessment Method: Professional traits lab grade, cumulative score from daily behavioral traits grade.</p> <p>Assessment Method Category: Observations (e.g. Clinical or Field)</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 100% of the students scored 100% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/08/2010 - 100% of students earned 100%</p> <p>Classification: Criterion Met</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
Active		Action: 1 - No Action Required	
Z - SONO Courses - SONO 132 - Hemodynamics - Doppler Lab - Professional & Ethical Behavior 2 - Demonstrate correct use of ultrasound technology using ALARA standards. (Created By Z - SONO Courses) Start Date: 01/07/2010 Course Outcome Status: Active	Assessment Method: Full abdomen check off, skills 1-6. Assessment Method Category: Observations (e.g. Clinical or Field) Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 100% of the students scored 100% or better Classification: Criterion Met Action: 1 - No Action Required 09/08/2010 - 100% of students earned 80% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 280 - Clinical Internship 1 - Professional Competency 1 - Demonstrate professional work behaviors (Created By Z - SONO Courses) Start Date: 01/07/2010 Course Outcome Status: Active	Assessment Method: Professional qualities #2 from SMDS "SCAN" book. Assessment Method Category: Observations (e.g. Clinical or Field) Criterion for Success: 90% of students will earn 80% or higher	12/16/2011 - 22/22 (100%) of students earned 90% or better on designated SDMS ?SCAN? book Professional Qualities #2 mastery. Classification: Criterion Met Action: 1 - No Action Required 12/17/2010 - 19/19 (100%) of students earned 90% or better on designated SDMS ?SCAN? book Professional Qualities #2 mastery. Classification: Criterion Met Action: 1 - No Action Required 09/14/2010 - 20/20 (100%) of students earned 90% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 280 - Clinical Internship 1 - Professional & Ethical Behavior 1 - Demonstrate the safe use of ultrasound equipment (Created By Z - SONO Courses) Start Date:	Assessment Method: Professional qualities #3 from SDMS "SCAN" book Assessment Method Category: Observations (e.g. Clinical or Field) Criterion for Success:	12/16/2011 - 22/22 (100%) of students earned 90% or better on designated SDMS ?SCAN? book Professional Qualities #3 mastery. Classification: Criterion Met Action:	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
01/07/2010 Course Outcome Status: Active	90% will earn 80% or better	1 - No Action Required 12/17/2010 - 19/19 (100%) of students earned 90% or better on designated SDMS ?SCAN? book Professional Qualities #3 mastery. Classification: Criterion Met Action: 1 - No Action Required 09/14/2010 - 20/20 (100%) of students earned 90% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 280 - Clinical Internship 1 - Professional & Ethical Behavior 2 - Demonstrate correct "knobology" using the "ALARA" principles (Created By Z - SONO Courses) Start Date: 01/07/2010 Course Outcome Status: Active	Assessment Method: Professional qualities from #1 from SDMS "SCAN" book Assessment Method Category: Observations (e.g. Clinical or Field) Criterion for Success: 90% will earn 80% or better	12/16/2011 - 22/22 (100%) of students earned 90% or better on designated SDMS ?SCAN? book Professional Qualities #1 mastery. Classification: Criterion Met Action: 1 - No Action Required 12/17/2010 - 19/19 (100%) of students earned 90% or better on designated SDMS ?SCAN? book Professional Qualities #1 mastery. Classification: Criterion Met Action: 1 - No Action Required 09/14/2010 - 20/20 (100%) of students earned 90% or higher Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 280 - Clinical Internship 1 - Professional Competency 2 - Complete 3 SDMS "SCAN" book designated abdominal organ masteries at mastery level. (Created By Z - SONO Courses) Start Date:	Assessment Method: Complete 3 SDMS "SCAN" book abdominal masteries from the required list Assessment Method Category: Observations (e.g. Clinical or Field) Criterion for Success:	12/16/2011 - 21*/22(94.5%) of students earned 80% or better on designated SDMS SCAN book abdominal masteries Classification: Criterion Met Action:	12/16/2011 - One student did not have six check offs on the abdominal vessels mastery

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>90% of students will earn 80% or higher</p>	<p>1 - No Action Required</p> <p>12/17/2010 - 19/19 (100%) of students earned 80% or better on designated SDMS ?SCAN? book abdominal masteries</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <p>09/14/2010 - 20/20 (100%) of students earned 80% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 280 - Clinical Internship 1 - Professional Competency 3 - Complete 3 SDMS "SCAN" book obstetrical masteries at mastery level (Created By Z - SONO Courses)</p> <p>Start Date: 01/07/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Complete 3 SDMS "SCAN" book obstetrical masteries from the required list.</p> <p>Assessment Method Category: Observations (e.g. Clinical or Field)</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>12/16/2011 - 22/22 (100%) of students earned 80% or better on designated SDMS SCAN book obstetrical masteries</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <p>12/17/2010 - 19/19 (100%) of students earned 80% or better on designated SDMS ?SCAN? book obstetrical masteries</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <p>09/14/2010 - 20/20 (100%) of students earned 90% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 281 - Small Parts and Invasive Proc - Knowledge 1 - Identify normal structure of the small parts (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status:</p>	<p>Assessment Method: Final exam questions: Scrotum - 5 questions; Thyroid - 5 questions; Breast - 5 questions; Prostate - 5 questions.</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p>	<p>12/16/2011 - 20/22 (90.9%) of students earned 80% or better on 18 out of the 20 designated final exam questions for normal structure of the breast, prostate, scrotum, and thyroid.</p> <p>Classification:</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
Active	<p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>Criterion Met Action: 1 - No Action Required</p> <hr/> <p>12/17/2010 - 18/19 (94%) of students earned 80% or better on 17 out of the 20 designated final exam questions for normal structure of the breast, prostate, scrotum, and thyroid. Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>09/14/2010 - 18/20 (90%) of students earned 80% or higher on 16 out of the 20 designated final exam questions for normal structure of the breast, prostate, scrotum and thyroid. Classification: Criterion Met Action: 1 - No Action Required</p>	<p>09/14/2010 - While course outcomes were met, students scored below the goal on Final exam questions 5, 12, 31 & 41. Plan to add additional online activities, self-tests or assignments to bring scores up to 80% or higher goal.</p>
<p>Z - SONO Courses - SONO 281 - Small Parts and Invasive Proc - Knowledge 2 - Identify the pathologies of the small part organs (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam questions: Scrotum - 5 questions; Thyroid - 5 questions; Breast - 5 questions; Prostate - 5 questions. Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher</p>	<p>12/16/2011 - 18/22 (81.2%) of students earned 80% or better on 16 out of the 20 designated final exam questions for pathologies of the of the breast, prostate, scrotum, and thyroid. Classification: Criterion Met Action: 1 - No Action Required</p> <hr/> <p>12/17/2010 - 17/20 (89%) of students earned 80% or better on 15 out of the 20 designated final exam questions for pathologies of the of the breast, prostate, scrotum, and thyroid. Classification: Criterion Not Met Action: 2 - Pending Action</p>	<p>12/16/2011 - 1. Additional on-line activities or assignments to bring number of student scores up to 90% or higher goal did not appear to change student learning. 2. Lowering criterion for success to determine if setting bar to high for students to reach. Change to 80% will earn 80% or higher on designated Final exam questions. 3. Students learning declined in overall assessment as one area of learning was not achieved by group.</p> <hr/> <p>12/17/2010 - 1. Add additional on-line activities or assignments to bring number of student scores up to 90% or higher goal. 2. Reevaluate criterion for success to determine if setting bar to high for students to reach. Change to 80% will earn 80% or higher on</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
			designated Final exam questions.
		09/14/2010 - 18/20 (90%) of students earned 80% or higher out of the 20 designated final exam questions for pathologies of the breast, prostate, scrotum and thyroid. Classification: Criterion Met Action: 1 - No Action Required	09/14/2010 - 1. Plan to add additional online activities, self-test or assignments to bring scores up to 80% or higher goal. 2. Revise learning modules to provide more detail on weak areas revealed by the assessment.
<p>Z - SONO Courses - SONO 281 - Small Parts and Invasive Proc - Critical Thinking 1 - Explain full protocols of the small parts organs ultrasound scans, including indications and limitations. (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam short answer questions: Scrotum - 1 question; Thyroid - 1 question; Breast - 2 questions; Breast Pathology - 1 question; Prostate - 1 question.</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>12/16/2011 - 22/22 (100%) of students earned 80% or better on 6 out of the 6 designated multiple choice final exam questions. Students were able to identify protocols, indications, and limitations by answering short answer/paragraph questions that were incorporated into the final exam to assess students' ability to explain full protocols of small parts sonographically.</p> <p>Classification: Criterion Met Action: 1 - No Action Required</p> <p>12/17/2010 - 19/19 (100%) of students earned 80% or better on 6 out of the 6 designated multiple choice final exam questions. Students were able to identify protocols, indications, and limitations by answering short answer/paragraph questions that were incorporated into the final exam to assess students' ability to explain full protocols of small parts sonographically.</p> <p>Classification: Criterion Met Action: 1 - No Action Required</p> <p>09/14/2010 - 20/20 (100%) of students earned 80% or higher on 6 out of the 6 designated multiple choice final exam questions. Students were able to identify protocols, indications, and limitations by answering questions correctly; however, no short answer questions were incorporated into the final exam to assess</p>	<p>09/14/2010 - Create and include final exam short answer questions to assess students' ability to explain full protocols of small parts sonographically: Scrotum - 1 question; Thyroid - 1 question; Breast - 2 questions; Breast</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		<p>students' ability to explain full protocols of small parts sonographically.</p> <p>Classification: Inconclusive</p> <p>Action: 2 - Pending Action</p>	<p>Pathology - 1 question; Prostate - 1 question.</p> <hr/>
<p>Z - SONO Courses - SONO 281 - Small Parts and Invasive Proc - Critical Thinking 2 - Explain how and why to do ultrasound guided interventional procedures of the small parts organs (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam short answer questions: Scrotum - 1 question; Thyroid - 1 question; Breast - 2 questions; Breast Pathology - 1 question; Prostate - 1 question.</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>12/16/2011 - 22/22 (100%) of students earned 80% or better on 6 out of the 6 designated multiple choice final exam questions.</p> <p>10/22 (45.4%) students were able to identify protocols, indications, and limitations by answering short answer/paragraph questions that were incorporated into the final exam to assess students ability to Explain how and why to do ultrasound guided interventional procedures of the small parts organs</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>12/16/2011 - Students did not answer paragraph question completely for each of the individual anatomical structures as directed in the question. Plan is to stress prior to and during the final examination that students verify that they answer paragraphed answers in their entirety before submitting final exam.</p> <hr/>
		<p>12/17/2010 - 19/19 (100%) of students earned 80% or better on 6 out of the 6 designated multiple choice final exam questions. Students were able to identify protocols, indications, and limitations by answering short answer/paragraph questions that were incorporated into the final exam to assess students ability to Explain how and why to do ultrasound guided interventional procedures of the small parts organs</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
		<p>09/14/2010 - 20/20 (100%) of students earned 80% of higher on 6 out of the 6 designated multiple choice final exam questions. Students were able to identify protocols, indications, and limitations by answering questions correctly; however, no short answer questions were incorporated into the final exam to assess students' ability to explain how and why to do ultrasound guided interventional procedures of the small parts organs.</p> <p>Classification: Inconclusive</p>	<p>09/14/2010 - Create and include final exam short answer questions. Explain how and why to do ultrasound guided interventional procedures of the small parts organs: Scrotum - 1 question; Thyroid - 1 question; Breast - 2 questions; Breast Pathology - 1 question; Prostate - 1 question.</p> <hr/>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		Action: 2 - Pending Action	
Z - SONO Courses - SONO 282 - Clinical Internship 2 - Professional Competency 1 - Demonstrate professional work behaviors (Created By Z - SONO Courses) Start Date: 02/02/2010 Course Outcome Status: Active	Assessment Method: Maintains daily scan log, attendance sheet. Assessment Method Category: Portfolio/E-Portfolio Criterion for Success: 100% will compile and submit a complete clinical portfolio	08/30/2011 - 19/19 (100%) Classification: Criterion Met Action: 1 - No Action Required 09/14/2010 - 19/19 (100%) students compiled and submitted a complete clinical portfolio Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 282 - Clinical Internship 2 - Professional Competency 2 - Demonstrate the safe use of ultrasound equipment (Created By Z - SONO Courses) Start Date: 02/02/2010 Course Outcome Status: Active	Assessment Method: Keeps work area clean and orderly Assessment Method Category: Observations (e.g. Clinical or Field) Criterion for Success: 90% will receive satisfactory clinical evaluation from adjunct clinical instructors	08/30/2011 - 19/19 (100%) Classification: Criterion Met Action: 1 - No Action Required 09/14/2010 - 18/19 (94%) of the students earned a satisfactory evaluation Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 282 - Clinical Internship 2 - Professional Competency 3 - Demonstrate correct knobology using the "ALARA" standard (Created By Z - SONO Courses) Start Date: 02/02/2010 Course Outcome Status: Active	Assessment Method: Follows policies and procedures. Participates in "Live" on campus Scanning Skills Assessment Assessment Method Category: Observations (e.g. Clinical or Field) Criterion for Success: 100% will successfully follow policy & procedures	08/30/2011 - 18/19 (94%) Classification: Criterion Met Action: 1 - No Action Required 09/14/2010 - 0/19 (0%) Live scanning event cancelled due to faculty family funeral Classification: Criterion Not Met Action:	08/30/2011 - 1/19 (.5%) was ill and did not attend event ?Live? Case Study Presentation on campus replaced ?Live? on campus Scanning Skills Assessment . 1. Created an alternate event to replace on-campus activity. Student presented case study to Adjunct Clinical Instructor at clinical site. 09/14/2010 - 1. Create an alternate event to replace on-campus activity. 2. Schedule two dates in the event of necessary last

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		2 - Pending Action	minute cancellation are necessary.
<p>Z - SONO Courses - SONO 282 - Clinical Internship 2 - Professional Competency 4 - Demonstrate a mastery level complete abdominal ultrasound exam independently in a prescribed time period (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Complete abdominal scanning skills sheet</p> <p>Assessment Method Category: Written Product (essay, research paper, journal, newsletter, etc.)</p> <p>Criterion for Success: 90% of students will earn 77% or higher</p>	<p>08/30/2011 - 19/19 (100%)</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/14/2010 - 18/19 (94%) of students earned 77% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 282 - Clinical Internship 2 - Professional Compentency 5 - Demonstrate mastery level complete OB level 1 and 2 exam in a prescribed time period both transabdominally and transvaginally (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Complete second trimester obstetrical scanning skills sheets</p> <p>Assessment Method Category: Written Product (essay, research paper, journal, newsletter, etc.)</p> <p>Criterion for Success: 90% of students will earn 77% or higher</p>	<p>08/30/2011 - 19/19 (100%)</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/14/2010 - 18/19 (94%) of the students earned 77% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 282 - Clinical Internship 2 - Professional Competency 6 - Complete 5 SDMS "SCAN" book designated abdominal organ masteries at mastery level (Created By Z - SONO Courses)</p> <p>Start Date: 09/14/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Complete 5 SDMS "SCAN" book designated abdominal organ masteries at mastery level from the required list</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% of the students will earn 90% or higher</p>	<p>08/30/2011 - 19/19 (100%)</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/14/2010 - 18/19 (94%) of the students earned 90% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 282 - Clinical Internship 2 - Professional Competency 7 - Complete 6 SDMS "SCAN" book obstetrical masteries at mastery level (Created By Z -</p>	<p>Assessment Method: Complete 6 SDMS "SCAN" book designated obstetrical masteries at mastery level from</p>	<p>08/30/2011 - 17/19 (89%)</p> <p>Classification: Criterion Not Met</p>	<p>08/30/2011 - 2/19 (10%) had limited exposure to obstetrical examinations. Abdominal masteries</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>SONO Courses)</p> <p>Start Date: 09/14/2010</p> <p>Course Outcome Status: Active</p>	<p>the required list</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% of the students will earn 90% or higher</p>	<p>Action: 2 - Pending Action</p> <hr/> <p>09/14/2010 - 18/19 (94%) of the students earned 90% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>were substituted to demonstrate continued student scanning mastery progression.</p> <ol style="list-style-type: none"> 1. Create a clinical mastery score/tally sheet. 2. Require students to report clinical mastery completion bi-weekly. 3. Locate and identify alternate sites to help supplement clinical sites not meeting student mastery examination needs <hr/>
<p>Z - SONO Courses - SONO 283 - Obstetrical - Gynecolog Imag 2 - Knowledge 1 - Identify the risks and pathologies advanced maternal age has on the patient and the fetus (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam questions: 1st Trimester obstetrical exam-5; 2nd & 3rd Trimester measurement and analysis-10; 2nd & 3rd Trimester fetal head and thorax anatomy-10; 2nd & 3rd Trimester abdomen and extremity anatonmy-10; 2nd & 3rd Trimester fetal environment-10</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>08/30/2011 - 18/19 (94%) students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 17/18 (94%) of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 283 - Obstetrical - Gynecolog Imag 2 - Knowledge 2 - Identify and explain how and why we do interventional procedures on a pregnant patient. (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam questions: Multiple choice - 9; short answer - 5</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>08/30/2011 - 18/19 (94%) students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 17/18 (94%) of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action:</p>	<p>09/16/2010 - No short answer questions were on the final exam. Create and include final exam short answer questions.</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		1 - No Action Required	
<p>Z - SONO Courses - SONO 283 - Obstetrical - Gynecolog Imag 2 - Knowledge 3 - Identify the risks and procedures of doing interventional procedures of doing interventional procedures to a fetus (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam questions: Multiple choice - 9; short answer - 5</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>08/30/2011 - 18/19 (94%) students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 17/18 (94%) of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>09/16/2010 - No short answer questions were on the final exam. Create and include final exam short answer questions.</p>
<p>Z - SONO Courses - SONO 283 - Obstetrical - Gynecolog Imag 2 - Knowledge 4 - Identify normal and abnormal fetal chromosomal markers (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam questions: Multiple choice - 7; short answer - 2</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>08/30/2011 - 18/19 (94%) students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 17/18 (94%) of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>09/16/2010 - No short answer questions were on the final exam. Create and include final exam short answer questions.</p>
<p>Z - SONO Courses - SONO 283 - Obstetrical - Gynecolog Imag 2 - Knowledge 5 - Identify and explain neonatal ultrasound procedures, including protocols, risks and limitations. (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Final exam questions: 1st Trimester obstetrical exam-5; 2nd & 3rd Trimester measurement and analysis-10; 2nd & 3rd Trimester fetal head and thorax anatomy-10; 2nd & 3rd Trimester abdomen and extremity anatomy-10; 2nd & 3rd Trimester fetal environment-10</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% will earn 80% or better</p>	<p>08/30/2011 - 18/19 (94%) students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 17/18 (94%) of students earned 80% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>Z - SONO Courses - SONO 284 - Clinical Internship 3 - Professional Competency 1 - Demonstrate mastery level obstetrical ultrasound exams (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Complete remaining obstetrical ultrasound SDMS "SCAN" book exams at 90% or higher. Complete Employment readiness</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% will earn 90% or better</p>	<p>08/30/2011 - 19/19 (100%) of students earned 90 % or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
		<p>09/16/2010 - 100% of students earned 90% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>09/16/2010 - 0/19 (0%) completed employment readiness suvey.</p> <p>0/19 (0%) completed employment ready plan.</p> <p>1. Guide ACI in creating an obstetrical ultrasound employment ready survey for a graduating sonography intern..</p> <p>2. Guide ACI and student in creating an individualized obstetrical ultrasound employment ready plan for a graduating sonography intern..</p> <p>3. Create checks and balances system to periodically evaluate for growth and add challenges when necessary on obstetrical ultrasound exam for a graduating sonography intern.</p>
<p>Z - SONO Courses - SONO 284 - Clinical Internship 3 - Professional Competency 2 - Demonstrate mastery level abdominal organ ultrasound exams (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Complete remaining abdominal organ ultrasound SDMS "SCAN" book exams at 90% or higher. Complete Employment readiness survey</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% will earn 90% or better</p>	<p>08/30/2011 - 19/19 (100%) of students earned 90 % or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>09/16/2010 - 0/19 (0%) completed employment readiness suvey.</p> <p>0/19 (0%) completed employment ready plan.</p> <p>1. Guide ACI in creating an</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
			<p>obstetrical ultrasound employment ready survey for a graduating sonography intern..</p> <p>2. Guide ACI and student in creating an individualized obstetrical ultrasound employment ready plan for a graduating sonography intern..</p> <p>3. Create checks and balances system to periodically evaluate for growth and add challenges when necessary on obstetrical ultrasound exam for a graduating sonography intern.</p>
<p>Z - SONO Courses - SONO 284 - Clinical Internship 3 - Professional Competency 3 - Demonstrate mastery level small parts ultrasound exams (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Complete remaining small parts ultrasound SDMS "SCAN" book exams at 90% or higher. Complete Employment readiness</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% will earn 90% or better</p>	<p>08/30/2011 - 19/19 (100%) of students earned 90 % or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
		<p>09/16/2010 - 100% of students earned 90% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	<p>09/16/2010 - 0/19 (0%) completed employment readiness suvey.</p> <p>0/19 (0%) completed employment ready plan.</p> <p>1. Guide ACI in creating an obstetrical ultrasound employment ready survey for a graduating sonography intern..</p> <p>2. Guide ACI and student in creating an individualized obstetrical ultrasound employment ready plan for a graduating sonography intern..</p> <p>3. Create checks and balances system to periodically evaluate for growth and add challenges when necessary on obstetrical ultrasound exam for a graduating sonography</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
			intern.
<p>Z - SONO Courses - SONO 284 - Clinical Internship 3 - Professional Competency 4 - Demonstrate professional behavioral traits (Created By Z - SONO Courses)</p> <p>Start Date: 02/02/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Complete Employment readiness survey</p> <p>Assessment Method Category: Test - External - Post or Pre/Post</p> <p>Criterion for Success: 90% will earn 90% or better</p>	<p>08/30/2011 - 19/19 (100%) of students earned 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 0/19 (0%) completed employment readiness survey.</p> <p>0/19 (0%) created an employment ready plan</p> <p>Classification: Criterion Not Met</p> <p>Action: 2 - Pending Action</p>	<p>09/16/2010 - 1. Guide ACI in creating an obstetrical ultrasound employment ready survey for a graduating sonography intern..</p> <p>2. Guide ACI and student in creating an individualized obstetrical ultrasound employment ready plan for a graduating sonography intern..</p> <p>3. Create checks and balances system to periodically evaluate for growth and add challenges when necessary on obstetrical ultrasound exam for a graduating sonography intern.</p>
<p>Z - SONO Courses - SONO 285 - Sonographic Interpretation 2 - Knowledge, Communication, Critical Thinking & Professional Competency 1 - Correlate clinical evidence to formulate a preliminary diagnosis (Created By Z - SONO Courses)</p> <p>Start Date: 09/16/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Case study paper, postings, discussion board, sonographic impressions and peer review</p> <p>Assessment Method Category: Written Product (essay, research paper, journal, newsletter, etc.)</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 90% of the class scored 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 100% of students earned 85% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
<p>Z - SONO Courses - SONO 285 - Sonographic Interpretation 2 - Knowledge, Communication, Critical Thinking & Professional Competency 2 - Write a professional case study review based on actual ultrasound studies (Created By Z - SONO Courses)</p> <p>Start Date: 09/16/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Case study paper</p> <p>Assessment Method Category: Written Product (essay, research paper, journal, newsletter, etc.)</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>09/16/2010 - 100% of students earned 95% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 285 - Sonographic Interpretation 2 - Knowledge, Communication, Critical Thinking & Professional Competency 3 - Professionally present a case study to a panel of experts (Created By Z - SONO Courses)</p> <p>Start Date: 09/16/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Case study presentation</p> <p>Assessment Method Category: Presentation(Oral)</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>09/16/2010 - 100% of students earned 95% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 285 - Sonographic Interpretation 2 - Knowledge, Communication, Critical Thinking & Professional Competency 4 - Use critical thinking skills to independently make clinical decisions (Created By Z - SONO Courses)</p> <p>Start Date: 09/16/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Case study paper, postings, discussion board, sonographic impressions and peer review</p> <p>Assessment Method Category: Written Product (essay, research paper, journal, newsletter, etc.)</p> <p>Criterion for Success: 98% of students will earn 80% or higher</p>	<p>08/30/2011 - 100% of the class scored 90% or better</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p> <hr/> <p>09/16/2010 - 100% of students earned 85% or higher</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 285 - Sonographic Interpretation 2 - Knowledge, Communication, Critical Thinking & Professional Competency 5 - Take and pass a Physics, Abdominal and Obstetrical/gynecological mock registry examination (Created By Z - SONO Courses)</p> <p>Start Date: 09/16/2010</p> <p>Course Outcome Status: Active</p>	<p>Assessment Method: Complete in detail Physics, Abdominal and Obstetrical/gynecological outlines provided by instructor, pas a Physics, Abdominal and Obstetrical/gynecological mock registry examination</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 85% of students will earn 77% or higher</p>	<p>08/30/2011 - Mock registry exam scored were below the 90% of the class scoring 80% or better</p> <p>Classification: Criterion Not Met</p> <p>Action: 2 - Pending Action</p> <hr/> <p>09/16/2010 - Course assessment 18/19 (94%) of students earned 95 % or higher by completing in detail Physics, Abdominal and Obstetrical/ gynecological outlines provided by</p>	<p>08/30/2011 - A 1 credit exam review course will be implemented</p> <hr/> <p>09/16/2010 - 1 Reevaluate assignments and point system in course. Note: students commented that</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		<p>instructor.</p> <p>Physics Registry 13/19 (68%) took and passed the ARDMS SPI Physics registry exam.</p> <p>2/19 (10%) took and did not pass the ARDMS SPI Physics registry exam.</p> <p>6/19 (32%) took FSU Physics mock registry and did not pass. Highest score 68% and lowest 50%.</p> <p>Abdominal Registry 2/19 (10%) students took and passed the FSU Abdominal Mock registry exam with a score of 78% or higher.</p> <p>17/19 (89%) students took and did not pass the FSU Abdominal Mock registry exam. Highest score of 76% and lowest 42%.</p> <p>OB/GYN Registry 15/19 (78%) of the students took and passed the FSU Obstetrical /gynecological Mock registry exam with a score of 80 % or higher.</p> <p>4/19 (21%) students took and did not pass the FSU Obstetrical /gynecological Mock registry exam. Highest score of 74% and lowest 62%.</p> <p>Classification: Criterion Met Action: 1 - No Action Required</p>	<p>they did not apply themselves or study as usual since prior earned points in the course did not require them to score high to make a passing grade in the course.</p> <p>2. Create alternate assignment in place of detailed outlines.</p> <p>3. Create and post self test quizzes and activities to better prepare student for mock registry.</p> <p>4. Create activities that help students identify topical areas of strengths and weakness.</p> <p>5. Modify syllabus with a note that will require students to keep taking mock registry exams until they score a passing grade of 77% or higher to progress in the course.</p>
<p>Z - SONO Courses - SONO 287 - Management in DMS - Professional Competency 1 - Student will create statistic designs for quantitative lab measurements (Created By Z - SONO Courses)</p> <p>Start Date: 09/10/2010</p>	<p>Assessment Method: Assignment 3 - Quality Assurance Survey</p> <p>Assessment Method Category: Case Studies/Problem-based Assignments</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 19/19(100%) students earned 100% on Assn. 3</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	
<p>Course Outcome Status: Active</p>	<p>Assessment Method: Quiz 3</p> <p>Assessment Method Category: Test - Internally Developed - Pre/Post or Post</p> <p>Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 19/19(100%) students earned 84% or higher Quiz 3</p> <p>Classification: Criterion Met</p> <p>Action: 1 - No Action Required</p>	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		09/10/2010 - 17/19 (89%) of students earned 80% Classification: Criterion Not Met Action: 2 - Pending Action	09/10/2010 - Create more interactive or worksheet type of activities to improve level of student understanding and application of knowledge.
	Assessment Method: Assignment 4 - Quality Assurance Survey Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 12/19(100%) students earned 100% on Assn. 4 7/19 (37%) did not complete Assn. 4 completely or by the due date. Classification: Criterion Met Action: 1 - No Action Required	08/30/2011 - Modify Assignment 4
		09/10/2010 - 19/19 (100%) of students earned 100% on Assn 3 & 4 Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 287 - Management in DMS - Critical Thinking 1 - Students will create and interpret statistical data (Created By Z - SONO Courses) Start Date: 09/10/2010 Course Outcome Status: Active	Assessment Method: Article review of case studies, create data display Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 19/19 (100%) students earned 100 % on the Article Review assignment. Classification: Criterion Met Action: 1 - No Action Required 09/10/2010 - 19/19 (100%) students earned 85% Quiz 4 Classification: Criterion Met Action: 1 - No Action Required 08/30/2011 - 19/19 (100%) students earned 85% or higher on Quiz 4 Classification: Criterion Met Action: 1 - No Action Required 09/10/2010 - 19/19 (100%) of students earned 85% or higher on Article Review Classification: Criterion Met	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		Action: 1 - No Action Required	
Z - SONO Courses - SONO 287 - Management in DMS - Communication - Students will make management decisions using medical law facts (Created By Z - Start Date: 09/10/2010 Course Outcome Status: Active	Assessment Method: Assignment 1 - Article discussion boards Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 19/19 (100%) students earned 100 % on Assn. 1 & discussion board activity Classification: Criterion Met Action: 1 - No Action Required <hr/> 09/10/2010 - 19/19 (100%) of students earned 100% on Assn. 1 & discussion boards Classification: Criterion Met Action: 1 - No Action Required	
	Assessment Method: Assignment 6 - Article discussion boards Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 17/19 (89%) students earned 100 % on Assn. 6 Classification: Criterion Not Met Action: 2 - Pending Action	08/30/2011 - Overall objectives were met. In areas of lower activity, students opted not to complete the assignments. 1. Increase percentage value of assignments to require all work completed to pass course.
		09/10/2010 - 18/19 (94%) of students earned 100% on Assn 6. Classification: Criterion Met Action: 1 - No Action Required	
	Assessment Method: Assignment 7 - Article discussion boards Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 17/19(89%) students earned 100 % on Assn. 7 Classification: Criterion Not Met Action: 2 - Pending Action	08/30/2011 - Overall objectives were met. In areas of lower activity, students opted not to complete the assignments. 1. Increase percentage value of assignments to require all work completed to pass course.
		09/10/2010 - 17/19 (89%) of students earned 100% or higher Assn 7. Classification: Criterion Not Met	09/10/2010 - Overall objectives were met. In areas of lower activity, students opted not to complete the assignments.

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		Action: 2 - Pending Action	09/10/2010 - Increase percentage value of assignments to require all work completed to pass course. 09/10/2010 - Develop different activity or assignments to meet course objectives.
	Assessment Method: Quiz 1 Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 19/19(100%) students earned 80% or higher on Quiz 1. Classification: Criterion Met Action: 1 - No Action Required 09/10/2010 - 19/19 (100%) of students earned 100% on Quiz 1 Classification: Criterion Met Action: 1 - No Action Required	
Z - SONO Courses - SONO 287 - Management in DMS - Critical Thinking 2 - Students will identify medical laws that impact DMS (Created By Z - SONO Start Date: 09/10/2010 Course Outcome Status: Active	Assessment Method: Assignment 2 - Medical ethics outline Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 14/19(74%) students earned 100 % on Assn.2 Classification: Criterion Not Met Action: 2 - Pending Action 09/10/2010 - 19/19 (100%) of students earned 100% Classification: Criterion Met Action: 1 - No Action Required 08/30/2011 - 17/19 (89%) students earned 100 % on Assn. 6 Classification: Criterion Not Met Action: 2 - Pending Action	08/30/2011 - Students did not score well. Assignments were modified but did not seem to aid student in understanding concepts and definitions. 08/30/2011 - Students did not score well. Assignments were modified but did not seem to aid student in understanding concepts and definitions

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		09/10/2010 - 18/19 (94%) of students earned 100% on Assn. 6 & 8 Classification: Criterion Met Action: 1 - No Action Required	
	Assessment Method: Assignment 8 - Medical ethics outline Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 17/19 (89%) students earned 100 % on Assn. 8 Classification: Criterion Not Met Action: 2 - Pending Action	08/30/2011 - Students did not score well. Assignments were modified but did not seem to aid student in understanding concepts and definitions
	Assessment Method: Quiz 2 Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 15/19(75%) students scored 84% or higher on Quiz 2 Classification: Criterion Not Met Action: 2 - Pending Action	08/30/2011 - Quiz 2 assessment was a matching activity. 1. Allow more time to complete. 2. Break activity into smaller groups and add multiple choice questions. 3. Create worksheets, interactive activities and different type of testing format.
		09/10/2010 - 13/19% (68%) of students scored 84% or higher Classification: Criterion Met Action: 1 - No Action Required	09/10/2010 - Students did not score well. Assignments did not seem to aid student in understanding concepts and definitions. Quiz 2 was a matching activity. Create worksheets, interactive activities and different type of testing format.
Z - SONO Courses - SONO 287 - Management in DMS - Professional Competency 2 - Students will identify accurate billing and coding of DMS procedures (Created By Z - SONO Courses) Start Date: 09/10/2010 Course Outcome Status: Active	Assessment Method: Assignment 5 Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 19/19 (100%) students earned 100 % on Assn.5 Classification: Criterion Met Action: 1 - No Action Required 09/10/2010 - 19/19 (100%) of students earned 100% Classification:	

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
		<p>Criterion Met Action: 1 - No Action Required</p> <hr/> <p>Assessment Method: Quiz 5 Assessment Method Category: Test - Internally Developed - Pre/Post or Post Criterion for Success: 90% of students will earn 80% or higher</p>	
		<p>08/30/2011 - 18/19 (94%) students scored 80% or higher on Quiz 5 questions 5 & 8. Classification: Criterion Met Action: 1 - No Action Required</p>	
		<p>09/14/2010 - 4/19 (21%) of the students earned 77% or higher on Quiz 5, question 3. Overall 100% of the student scoring of this assessment objective is 88%. Classification: Criterion Met Action: 1 - No Action Required</p>	
		<p>09/10/2010 - 15/19 (78.9%) of students scored 82% or higher Classification: Criterion Met Action: 1 - No Action Required</p>	
<p>Z - SONO Courses - SONO 287 - Management in DMS - Professional Competency 3 - Students will be able to create a DMS quality assurance program (Created By Z - SONO Courses) Start Date: 09/10/2010 Course Outcome Status: Active</p>	<p>Assessment Method: Assignment 2 - Management model successful completion Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - ASN 2 18/19(94%) Classification: Criterion Met Action: 1 - No Action Required</p>	
	<p>Assessment Method: Assignment 3 - Management model successful completion Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - 19/19 (100%) students earned 100% on ASN 3 Classification: Criterion Met Action: 1 - No Action Required</p>	
	<p>Assessment Method: Assignment 4 - Management model successful completion Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher</p>	<p>08/30/2011 - ASN 4 15/19(78.9%) Classification: Criterion Not Met Action: 2 - Pending Action</p>	<p>08/30/2011 - Modify Assignments 4</p>

Course Outcomes	Means of Assessment & Criteria for Success / Tasks	Results	Action & Follow-Up
	Assessment Method: Assignment 5 - Management model successful completion Assessment Method Category: Case Studies/Problem-based Assignments Criterion for Success: 90% of students will earn 80% or higher	08/30/2011 - 19/19 (100%) students earned 100% on ASN 5. Classification: Criterion Met Action: 1 - No Action Required	
		09/10/2010 - 19/19 (100%) of students successfully earned 82% or higher on Assn: 2, 3, 4, & 5 Classification: Criterion Met Action: 1 - No Action Required	

Assessment Plan

Ferris State University

Program - Diagnostic Medical Sonography (A.A.S.)

Program - Diagnostic Medical Sonography (A.A.S.)

Mission Statement: To prepare graduates with the knowledge, skills and professional behaviors needed to function effectively as entry-level sonographers

Advisory Board/Committee Twice per year

Meetings:

Next FSU Academic 2012-2013

Program Review:

Accreditation Body: Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS)

Academic Year of Next 2012-2013

Accreditation Review:

College: CAHS

Outcome: Graduates will utilize knowledge & clinical competencies to provide current, comprehensive diag. medical sono.

CAHS Category: Knowledge and Clinical Competencies

Outcome Type: Learning
Outcome Status: Active

	Means of Assessment		
Cognitive and psychomotor skills assesment Assessment Method Category: Survey - Graduate (Current Year)	90% will score a 4.0 on Likert scale.	Annually	Yes
Cognitive and psychomotor skills assessment Assessment Method Category: Survey - Employer	90% will score a 4.0 on Likert scale.	Annually	Yes
Clinical skill masteries Assessment Method Category: External review (e.g. employer or expert)	100% will score a 90% or better	Annually	Yes

Related Courses

- SONO 104 - Intro to Ultrasound Physics
- SONO 105 - Sonography Physics Prin Lab
- SONO 111 - Pathophys of Abdominal Organs
- SONO 112 - Abdominal Imaging Lab
- SONO 115 - Sono Cross Sectional Anatomy
- SONO 117 - Intro to Sonographic Interpret
- SONO 121 - Introduction to OB/GYN Imaging
- SONO 122 - OB/GYN Imaging Lab

- SONO 131 - Hemo and Doppler Prin of Sono
- SONO 132 - Hemodynamics - Doppler Lab
- SONO 280 - Clinical Internship 1
- SONO 281 - Small Parts and Invasive Proc
- SONO 282 - Clinical Internship 2
- SONO 283 - Obstetrical - Gynecolog Imag 2
- SONO 284 - Clinical Internship 3
- SONO 285 - Sonographic Interpretation 2
- SONO 287 - Management in DMS

Outcome: Graduates will be competent entry level practicing sonographers.

CAHS Category: Entry Level Professionals

Outcome Type: Learning

Outcome Status: Active

Means of Assessment			
Cognitive and psychomotor assessment Assessment Method Category: Survey - Graduate (Current Year)	4.0 on Likert scale.	Annually	Yes
Cognitive and psychomotor skill assessment Assessment Method Category: Survey - Alumni (after one year)	80% will be employed within 6 months of graduation.	Annually	Yes
Cognitive and psychomotor skills assessment Assessment Method Category: Survey - Employer	4.0 on Likert scale.	Annually	Yes
Clinical Skill Masteries Assessment Method Category: Observations (e.g. Clinical or Field)	90% or better	Annually	Yes

Related Courses

- CCHS 101 - Orientation-Health Care
- CCHS 102 - Safety Issues-Health Care
- MRIS 102 - Orientation to Med Vocabulary
- SONO 100 - Introduction to DMS
- SONO 102 - Intro to Sonographic Imaging
- SONO 104 - Intro to Ultrasound Physics
- SONO 105 - Sonography Physics Prin Lab

- SONO 111 - Pathophys of Abdominal Organs
- SONO 112 - Abdominal Imaging Lab
- SONO 115 - Sono Cross Sectional Anatomy
- SONO 117 - Intro to Sonographic Interpret
- SONO 121 - Introduction to OB/GYN Imaging
- SONO 122 - OB/GYN Imaging Lab
- SONO 131 - Hemo and Doppler Prin of Sono
- SONO 132 - Hemodynamics - Doppler Lab
- SONO 280 - Clinical Internship 1
- SONO 281 - Small Parts and Invasive Proc
- SONO 282 - Clinical Internship 2
- SONO 283 - Obstetrical - Gynecolog Imag 2
- SONO 284 - Clinical Internship 3
- SONO 285 - Sonographic Interpretation 2
- SONO 287 - Management in DMS

Outcome: Graduates will communicate effectively to acquire, develop and convey ideas in diagnostic medical sonography.

CAHS Category: Communication

Outcome Type: Learning

Outcome Status: Active

Means of Assessment			
Clinical Skills Masteries Assessment Method Category: Observations (e.g. Clinical or Field)	90% of students will score a 90% or better	Annually	Yes
Case Study Assessment Method Category: Case Studies/Problem-based Assignments	90% of students wil learn an 80% or better	Annually	Yes
Communication Questions Assessment Method Category: Survey - Employer	90% of graduates will earn a 4.0 on a 5.0 Likert scale.	Annually	Yes
Adjunct Clinical Instructor Survey Assessment Method Category: External review (e.g. employer or expert)	90% of graduates will earn a 4.0 on a 5.0 Likert scale.	Annually	Yes

Related Courses

- MRIS 102 - Orientation to Med Vocabulary

- SONO 100 - Introduction to DMS
- SONO 102 - Intro to Sonographic Imaging
- SONO 105 - Sonography Physics Prin Lab
- SONO 111 - Pathophys of Abdominal Organs
- SONO 117 - Intro to Sonographic Interpret
- SONO 122 - OB/GYN Imaging Lab
- SONO 132 - Hemodynamics - Doppler Lab
- SONO 280 - Clinical Internship 1
- SONO 281 - Small Parts and Invasive Proc
- SONO 282 - Clinical Internship 2
- SONO 283 - Obstetrical - Gynecolog Imag 2
- SONO 284 - Clinical Internship 3
- SONO 285 - Sonographic Interpretation 2
- SONO 287 - Management in DMS

Outcome: Graduates will practice adhering to the ethical, legal and professional standards of a diag. medical sonographer.

CAHS Category: Ethical, Legal and Professional

Outcome Type: Learning
Outcome Status: Active

Means of Assessment			
Ethical, legal and professional questions. Assessment Method Category: Survey - Employer	4.0 on Likert scale.	Annually	Yes
Ethical, legal and professional questions. Assessment Method Category: Survey - Alumni (after one year)	4.0 on Likert scale.	Annually	Yes
Ethical, legal and professional questions. Assessment Method Category: Survey - Employer	4.0 on Likert scale.	Annually	Yes
Ethical, legal and professional questions. Assessment Method Category: Survey - Graduate (Current Year)	4.0 on Likert scale.	Annual	Yes

Related Courses

- CCHS 101 - Orientation-Health Care
- CCHS 102 - Safety Issues-Health Care

- SONO 100 - Introduction to DMS
- SONO 105 - Sonography Physics Prin Lab
- SONO 112 - Abdominal Imaging Lab
- SONO 122 - OB/GYN Imaging Lab
- SONO 132 - Hemodynamics - Doppler Lab
- SONO 280 - Clinical Internship 1
- SONO 282 - Clinical Internship 2
- SONO 284 - Clinical Internship 3

Outcome: Graduates will evaluate and interpret ultrasound images using critical thinking skills.

CAHS Category: Critical Thinking

Outcome Type: Learning
Outcome Status: Active

Means of Assessment			
Clinical Skills Masteries Assessment Method Category: Observations (e.g. Clinical or Field)	75% or better	Annually	Yes
Critical Thinking questions and assessment. Assessment Method Category: Survey - Employer	4.0 on Likert scale.	Annually	Yes
Final Competencies Assessment Method Category: Portfolio/E-Portfolio	75% or better	Annually	Yes
Adjunct Clinical Instructor Survey Assessment Method Category: External review (e.g. employer or expert)	90% will learn 4.0 on a 5.0 Likert scale.	Annually	Yes
Critical thinking skill assessment Assessment Method Category: Survey - Alumni (after one year)	4.0 on Likert scale.	Annually	Yes
Critical thinking skill assessment Assessment Method Category: Survey - Graduate (Current Year)	4.0 on Likert scale.	Annually	Yes

Related Courses

- SONO 102 - Intro to Sonographic Imaging

- SONO 111 - Pathophys of Abdominal Organs
- SONO 112 - Abdominal Imaging Lab
- SONO 117 - Intro to Sonographic Interpret
- SONO 122 - OB/GYN Imaging Lab
- SONO 132 - Hemodynamics - Doppler Lab
- SONO 282 - Clinical Internship 2
- SONO 284 - Clinical Internship 3
- SONO 285 - Sonographic Interpretation 2

Outcome: The Program will continue to meet the standards of the JRCDSM to maintain specialized accreditation.

CAHS Category: Specialized Accreditation

Outcome Type: Other
Outcome Status: Active

Means of Assessment			
American Registry for Diagnostic Medical Sonographers(ARDMS) credentialing exam. Assessment Method Category: Certification Exam	80% of graduates will pass the 2 of 3 ARDMS exams within 1 year of graduation.	Annual	Yes
Alumni Survey Assessment Method Category: Survey - Alumni (after one year)	80% of graduates will be employed using their DMS degree, within 6 months of graduation.	Annually	Yes

Related Courses

- CCHS 101 - Orientation-Health Care
- CCHS 102 - Safety Issues-Health Care
- CCHS 103 - CI Skills-Health Care Provider
- MRIS 102 - Orientation to Med Vocabulary
- SONO 100 - Introduction to DMS
- SONO 102 - Intro to Sonographic Imaging
- SONO 104 - Intro to Ultrasound Physics
- SONO 105 - Sonography Physics Prin Lab
- SONO 111 - Pathophys of Abdominal Organs
- SONO 112 - Abdominal Imaging Lab
- SONO 115 - Sono Cross Sectional Anatomy
- SONO 117 - Intro to Sonographic Interpret
- SONO 121 - Introduction to OB/GYN Imaging
- SONO 122 - OB/GYN Imaging Lab

- SONO 131 - Hemo and Doppler Prin of Sono
- SONO 132 - Hemodynamics - Doppler Lab
- SONO 280 - Clinical Internship 1
- SONO 281 - Small Parts and Invasive Proc
- SONO 282 - Clinical Internship 2
- SONO 283 - Obstetrical - Gynecolog Imag 2
- SONO 284 - Clinical Internship 3
- SONO 285 - Sonographic Interpretation 2
- SONO 287 - Management in DMS

Program - Diagnostic Medical Sonography (A.A.S.) - Curriculum Map

Legend: (A) - Program Assessment, (I) - Introduced, (M) - Mastery, (R) - Reinforced

Outcomes	CCH S 101	CCH S 102	CCH S 103	MRIS 102	SON O 100	SON O 102	SON O 104	SON O 105	SON O 111	SON O 112	SON O 115	SON O 117	SON O 121	SON O 122	SON O 131	SON O 132	SON O 280	SON O 281	SON O 282	SON O 283	SON O 284	SON O 285	SONO 287
Graduates will utilize knowledge & clinical competencies to provide current, comprehensive diag. medical sono.							I	R	I	R	I	I	I	R	I	R	M	R	M	R	M	R	R
Graduates will be competent entry level practicing sonographers.	I	I		I	I	I	I	I	I	R	I	I	I	R	R	R	R	R	I	R	R	M	M, R
Graduates will communicate effectively to acquire, develop and convey ideas in diagnostic medical sonography.				I	I	I		I	I			R		R		R	R	R	M	M	M	M, R	
Graduates will practice adhering to the ethical, legal and professional standards of a diag. medical sonographer.	I	I			I			R		R				R		R	R		M		M		

Outcomes	CCH S 101	CCH S 102	CCH S 103	MRIS 102	SON O 100	SON O 102	SON O 104	SON O 105	SON O 111	SON O 112	SON O 115	SON O 117	SON O 121	SON O 122	SON O 131	SON O 132	SON O 280	SON O 281	SON O 282	SON O 283	SON O 284	SON O 285	SONO 287	
Graduates will evaluate and interpret ultrasound images using critical thinking skills.						I			I	I		I		R		R				M		M	R	
The Program will continue to meet the standards of the JRCDSMS to maintain specialized accreditation	I	I	I	I	I	I	I, M, R	I	I	I	I	R	I	R	M, R	R	M	R	M	R	M	R	R	M

To: Members of Program Review Committee

From: Theresa A. Raglin, Department Head

Date: August 9, 2012

Re: Diagnostic Medical Sonography

Relationship to Mission

The Diagnostic Medical Sonography Program continues to meet and enhance the mission of FSU. The program provides innovative career-oriented education in a highly specialized and emerging health field.

Program Visibility and Distinctiveness

The program provides a distinct educational experience. Students spend three semesters at the Big Rapids campus honing and refining their clinical skills prior to three semesters of internship at a clinical affiliate. This is a unique model when compared with other programs in the state because we have the ability to teach clinical skills as well professionalism in a controlled lab setting. Professionalism and ethical traits are highly sought after by employers and Ferris graduates consistently rate high in these categories.

Program Value

As the only diagnostic medical sonography program north of Grand Rapids, FSU is meeting the needs of our northern residents. Students from northern Michigan are provided the opportunity to attend a program closer to home.

The DMS program is meeting the needs of the employers. Graduates are in demand and employers consistently rank them high. The Bureau of Labor Statistics projects an increased consumer demand for sonographers as this method of diagnostic imaging provides a safer alternative to radiation.

Enrollment

Enrollment is steady in Diagnostic Medical Sonography Program. The program consistently has 3-4 times the number of applicants for the 24 seats available in the professional sequence of the program. The competition for clinical internship sites is steep in Michigan thus it would be difficult to increase class size and continue to provide quality sites for our students.

Characteristics, Quality and Employment

Registry exam rates are consistently above the national average for the graduates. As evidenced by the employer survey, graduates rated high in the cognitive, psychomotor and affective domain. Sample comments included: good knowledge, exceptional, met expectations, confident and good work ethic. Graduates continue to experience a high employability rate even in the struggling economy.

Quality of Curriculum and Instruction

The program faculty led the way with assessment and quality instruction within the College of Health Professions. This is reflected by their assessment plan including their measurements and outcome results. Graduate surveys continue to support and reflect the strength of the on-campus laboratory experience. Employer surveys reflect the high level of clinical skills achieved by the graduates.

Composition and Quality of Faculty

The faculty members in the DMS program are highly qualified and credentialed sonographers. Student and graduate surveys express satisfaction with the quality of faculty. The faculty continue to demonstrate dedication to this program through their commitment to student success.

Adequacy of Resources

Resources are adequate to support and meet the current needs of the program, faculty and students. Faculty are able to apply for funding through the College of Health Professions faculty enrichment fund, TIME grant funds and PDI funds to support their professional development endeavors.

Future Goals

Currently, there is a great deal of competition between the sonography programs within the state for clinical sites and an additional goal is to secure additional sites for the program. Another goal for the program is to provide a post graduate vascular certificate either alone or as part of the BS degree.

Overall Health of the Program

The results of the data collection are very good. The program is consistently rated high on assessment surveys. Outcomes are positive and will continue to be as the program moves forward at Ferris.

TO: Member of the Program Review Committee
FROM: Matthew Adeyanju, Dean, College of Health Professions
RE: Diagnostic Medical (DMS) Program
DATE: August 27, 2012

In 2001, the Federal Department of Labor, U.S. Bureau of Labor Statistics designated Diagnostic Medical Sonography an occupational category within the imaging sciences field. The Ferris Program is unique in that it is the only program in the state that provides students with an entire year of campus didactic and laboratory experience prior to their clinical assignment in the health care facility. The laboratory experience provides students the opportunity to apply the theory and principles learned in the lecture sessions. Notwithstanding, however, students work with patients in an off-campus clinical facility during their final three semesters. Another uniqueness of our program is a competitive entrance program. In fact, of the nine accredited DMS programs in the state of Michigan, we are the only non-competitive entrance program. The Ferris program allows a student meeting pre-determined qualifications with established minimum competency, the opportunity to learn ultrasound imaging. Also, the non-competitive nature eases the admission of displaced workers or returning adult students. The program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), in cooperation with the Joint Review Committee on Education Diagnostic Medical Sonography (JRCDMS).

The program is in high demand. For example, in the 2012 application process the DMS program had 90 qualified students for the 24 seats available in the program. Furthermore, the Federal Department of Labor website states that employment of the diagnostic medical sonographers is expected to increase by about 18 percent through 2018 – faster than the average for all occupations.

Current resources are adequate to meet the demands of the present curriculum. The building facilities are excellent. The classrooms and lab have recently been remodeled to meet the state of the art technology of modern day practice.

Funds for new equipment have generally been secured through Perkins funding and a new PACS reading room has been set up to aid in the student understanding of multiple imaging modalities.

RELATIONSHIP TO MISSION: The DMS program fits the Ferris State University and College of Health Professions missions to become a leader in providing opportunities for innovative teaching and learning techniques in a career-oriented, technological and professional education. Our program provides a hands-on approach to preparing the students for a skill-oriented career.

PROGRAM VISIBILITY AND DISTINCTIVENESS: The Ferris program is unique in that it is the only program in the state that provides students with an entire year of on-campus didactic and laboratory experience prior to their clinical assignment in the hospitals/health care facilities. The Ferris model of instruction was the first of its kind to earn accreditation which subsequently contributed in a change in the national accreditation standards by the Joint Review Committee on Education in Diagnostic medical Sonography (JRCDMS).

PROGRAM'S VALUE: The DMS program at Ferris provides graduates to fill positions in the health care facilities and agencies in the state of Michigan and beyond. The program is in high demand. In 2012 application year, there were 90 qualified students to fill only 24 available seats in the program. The Federal Department of Labor website states that employment of diagnostic medical sonographers is expected to increase by about 18 percent by 2018.

CHARACTERISTICS, QUALITY AND EMPLOYMENT: Our graduates are performing above the national average on the national registry exam. Employer surveys showed that Ferris graduates are performing very well on the job, hence, graduates continue to enjoy a high employability rate despite the bad economy.

QUALITY OF CURRICULUM AND INSTRUCTION: The quality of instruction continues to improve as the program faculty sets the standards for assessment and instruction. This is justified by the outcome assessment results and the passing of the national registry exam of the ARDMS by the graduates.

COMPOSITION AND QUALITY OF THE FACULTY: The two program faculty members are experienced and highly credentialed in the field. They have extensive professional field experience prior to entering the academic setting.

In summary, Ferris State University DMS program is very strong and healthy. Graduates get jobs and are doing well on the jobs as attested by favorable employer survey results. Registry exam rates are consistently above the national average for our graduates. Resources are adequate to support and meet the current needs of the program.