



Instructional Program Review Summary 2003-2004

Instructional Area: **Workforce**

Department: **Health Sciences**

Discipline: **Sonography**

February 2, 2004

Instructional Program Review Summary

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NOTE: An external reviewer should not be required to refer to the documentation notebook to understand the Instructional Program Review

Summary. Rather, data should be clearly cited in the summary so that the reviewer can easily find the source documents if needed.

EXECUTIVE SUMMARY

Use the following guidelines to provide a concise overview/summary of the program review contained in this report.

Write a brief description of the goals and objectives of the discipline.

The goals and objectives of the ACC Sonography Programs (DMS and DCS):

to provide students with both academic instruction and professional training in the field of Diagnostic Medical Sonography in order to meet the employment needs of the individual and the medical community;

to produce skilled medical sonographers who actively apply acceptable principles and techniques within the field of Diagnostic Medical Sonography;

to produce graduates eligible to take and pass the American Registry of Diagnostic Medical Sonographers certification exams upon completion of the program;

to maintain high academic and professional standards in its students;

to maintain standards for program accreditation;

to provide for student retention during the program through the use of tutoring, instructional aids, remedial assignments, etc;

to serve as a resource for the clinical agencies in the Austin area.

Overview of how the program review was conducted.

The Sonography Instructional Program Review began with a committee meeting to ascertain the strengths, weaknesses, opportunities and threats of the Program. The Sonography Department Chair reviewed the instructions for completion of documents for the IPR and the data provided by the Office of Institutional Effectiveness. The Department Chair then completed the narrative portion of the IPR and other required documentation. Several self-study team members then reviewed the documentation for thoroughness and accuracy. Upon completion of the review, the required documentation was submitted to OIE as required.

Summary of findings:

Progress on previous program review recommendations.

#1: a 50% FT faculty member with an overload to equal a 100% full-time faculty LEH load was hired; however, there is a continued need for additional full-time faculty due to expansion of the program since the previous review.

#2: the Sonography Program accepted donation of two ultrasound units and loans of two units, however, the equipment is outdated and no longer supported by the manufacturers. One piece of equipment has subsequently failed and cannot be repaired. The Sonography Program is in the process of purchasing one state-of-the-art ultrasound unit with Perkins monies allotted to the program and 3 additional, identical units as part of the Phase II Health Sciences building project.

#3: Adequate office space for faculty, classroom and lab space has been allocated in building D at the Riverside campus; the Sonography Program will be relocated to the new Health Sciences Building at the Eastview Campus in the spring of 2005 (3 faculty offices, dedicated sonography lab designed to emulate a typical sonography department and includes 5 scan rooms, student computer area, and storage).

#4: Through the use of ads within the ACC Course Schedules, development of a program website and the addition of the Diagnostic Cardiac Sonography track and AAS degree plans, the number of program applicants has been strong and continues to increase.

#5: Ties with clinical affiliates have been strengthened due to increased faculty visits to clinical sites and increased use of the Sonography lab to better prepare students for clinical rotations.

#6: Since the previous program review the DCS track has been added, the AAS degree plans have been added, the Vascular Technology course through Continuing Education has been added, and the Echocardiography Mobility Certificate through Continuing Education has been added.

Program strengths.

The strengths of the Sonography Program include the support of the Dean of Health Sciences in all matters pertaining to the program; the depth of experience of the faculty members; the ability to keep the program abreast of changes within the field of sonography; the diversity of the students who are highly motivated to succeed; the high retention rate for students admitted to the program; the high pass rate of graduates on the ARDMS exams; the high employment rate of graduates; the continued use of new and better teaching resources and technologies; the strong clinical partnerships in the Central Texas region; and the commitment of the faculty to the on-going success and growth of the program and its students.

Areas for improvement.

Areas for improvement include:

scheduling of courses within a semester, especially lab sections, to maximize efficiency and student lab experience;
communication within the program to include dissemination of information to students and Department Chair communications with faculty;
number of faculty holding AAS degree or higher;
communication with clinical affiliates and on-site clinical instructors;
enrollment that matches resources such as available appropriate and quality clinical sites for student placement;
faculty computers;
purchase of software for student use such as testing modules;
faculty training for teaching;
more full-time faculty to improve effectiveness and outcomes.

Key planning issues.

After the Sonography Program moves to the new Health Sciences Building at the Eastview Campus to utilize a dedicated lab designed by the Sonography Program, determination on future improvements to the program can be made. At this time the key planning issues involve acquiring additional full-time faculty and establishment of additional clinical affiliations to support the Program. It is expected that the growth of the Sonography Program will reach a plateau due to the number of clinical sites within the ACC service area willing and able to accept students for rotations. As the profession of Sonography continues to work towards an entry level that requires a baccalaureate degree, the ACC Sonography Program will plan to become part of the education and career ladder for sonographers in much the same way the Associate Degree Nursing program provides a pathway for RN's to obtain advanced degrees.

Conclusions: What are the major conclusions regarding the present state of the program?

The Sonography Program must have additional full-time faculty to maintain current enrollment numbers. Additional appropriate and high-quality clinical affiliates must be found to support the current enrollment. Enrollment growth for the Program cannot occur without investment by the college in additional faculty and investment by employers in providing sites for student placement.

Recommend future directions for the program based on this review:

- Expand services
- Maintain services
- Reduce services
- Close program

Recommendations: Summarize the self-study's recommended actions for improving the quality of the program.

#1: Request the addition of at least three full-time faculty members for the Program including bringing the current 50% FT position to a 100% FT position. One of these FT positions would be designated for the DCS Program.

#2: Request additional sections to allow the course schedule to more accurately reflect the time the student must spend attending lab courses in the second semester.

#3: Lab schedules should be developed to allow additional lab time in the second and third semesters of the program including Open Lab time and/or Tutorial sessions.

#4: Lab activities should be enhanced to include utilizing a large number of volunteer scan subjects to develop the students hands-on scanning skills.

#5: Recent changes to the admissions process and curriculum should be reviewed to determine the effectiveness of these changes in improving student outcomes throughout the length of the program.

#6: Increase the presence of Sonography faculty at the clinical sites to improve student outcomes in the clinical courses and to foster increased communication with clinical instructors and managers.

#7: Develop and offer additional elective credit courses in Sonography that focus on more specialized areas of Sonography; to be offered in the final semester.

#8: Faculty members should be allowed release time to develop existing Sonography courses to include more on-line teaching within the courses and/or to develop instructor prepared materials for purchase by the students.

SELF-STUDY TEAM PARTICIPANTS

List the names of people who participated in the review and their association with your program.

Name **Regina Swearingin** ACC Faculty Industry Representative
 Student

Name **Sue Cornelius** ACC Faculty Industry Representative
 Student

Name **Janet Barlow** ACC Faculty Industry Representative
Student

Name **Elizabeth Powell** ACC Faculty Industry Representative
 Student

Name **Linda Porter** ACC Faculty Industry Representative
Student

Name ACC Faculty Industry Representative Student

Name ACC Faculty Industry Representative Student

Name ACC Faculty Industry Representative Student

PROGRAM DESCRIPTION

Provide a brief description of the overall history, major developments and current objectives for your program (limit to 500 words).

The Sonography Program was implemented approximately 13 years ago as a joint effort between ACC and Austin Radiological Association in response to the acute shortage of medical sonographers in the Austin area. Rapid changes in technology and enhanced utilization of ultrasound as a "safe" (non-ionizing radiation modality), cost-effective, and portable imaging modality had greatly increased the demand for highly qualified graduates ready to enter the workplace. The need for formal education in sonography was also evidenced by the inability of "on-the-job-training or cross-training" of other imaging technologists to produce independently functional sonographers capable of successfully completing the ARDMS exams to attain the RDMS credential especially within a reasonable time frame. At inception, the ACC Sonography Program accepted only those with credentials as Radiologic Technologists.

One year after initial implementation of the Sonography Program, the Program successfully completed the CAAHEP accreditation process and received a one-year accreditation. The Sonography Program received a five-year accreditation in

1992 and has successfully undergone two more programmatic accreditation cycles. The latest CAAHEP accreditation included the inclusion of the Diagnostic Cardiac Sonography track.

A major development occurred in 1996 when the program was extended from a 12-month certificate to a 16-month/4-semester certificate program. This change was implemented in response to employer and graduate surveys that indicated graduates were lacking scanning skill and education in newer aspects of the field such as Doppler studies. At the same time, the Sonography Program was able to purchase the ultrasound-training simulator, becoming the first permanent installation of this type of equipment in the United States. The curriculum was revamped to take advantage of this teaching technology.

In 1999 local Austin cardiologists contacted ACC to request the development and implementation of an Echocardiography or Diagnostic Cardiac Sonography program. With the aid of several registered echocardiographers and cardiologists, the DCS program was instituted and first accepted students in the fall of 1999. At that time, the THECB required that ACC offer an Associate of Applied Science degree as well as the Certificate award. Recent curriculum changes have necessitated the complete elimination of the ATC award.

Current enrollment is the highest ever experienced by the Sonography Programs with a total of 48 students enrolled during the fall 2003 semester. Although the Sonography Programs will not be able to move to the new Health Sciences Building increased space for classrooms and the Sonography lab was made available in Building D at the Riverside campus.

The next major development will be the move to the new EVC/HSB that will allow the program to utilize a lab specifically designed for Sonography instruction. The purchase of four state-of-the-art ultrasound equipment and ergonomic workstations will allow the program faculty to enhance both didactic and lab instruction.

Current objectives for the program include securing additional appropriate and effective clinical affiliations for students in the DCS program, increasing lab time utilizing the new ultrasound equipment, promoting the opportunity for area residents to volunteer for the student lab sessions, and enhancing and expanding the use of on-line teaching to replace or supplement on-campus lectures.

STRENGTHS, WEAKNESSES, OPPORTUNITIES, THREATS (SWOT)

List the names of people who participated in the SWOT and their association with your program.

Name **Margaret Bishop** **ACC Faculty** Industry Representative
Student

Name **Linda Porter** ACC Faculty **Industry Representative** Student

Name **Sue Cornelius** **ACC Faculty** Industry Representative
Student

Name **Elizabeth Powell** ACC Faculty Industry Representative
Student

Name **Janet Barlow** **ACC Faculty** Industry Representative
Student

Name **Regina Swearingin** **ACC Faculty** Industry Representative
Student

Summarize the findings of the SWOT analysis. Focus on the top 5 or 6 issues and answer the following questions:

Strengths: In what does your program excel?

Variety of good clinical sites and instructors;
Separate classrooms and lab with setup including the ultrasound training simulator;
Diverse backgrounds and ages of students;
Highly qualified, experience and dedicated faculty;
Strong support of Dean of Health Sciences;
CAAHEP accredited program

Weaknesses: What are the aspects of your program, which, if not addressed, will impede the area's future?

Lack of funding for resources including faculty despite increased enrollment;
Lack of faculty trained as educators/inexperienced faculty;
Lack of continuity of didactic with clinical instruction;
Lack of clinical sites with true interest in teaching;
Lack of communication between Sonography Program and some clinical administrators;
Not enough time for faculty to work with students and improve teaching

Opportunities: What factors does your program need to take advantage of in order to enhance the quality of the area?

Ensure curriculum is a good beginning for students pursuing advanced degrees;
Positive influence of graduates upon employers;
Leader in sonography education;
Expand offerings in Continuing Education both on-campus and on-line;

Offer lab volunteer opportunities to local clinics

Threats: What are the external factors that could negatively impact your program's future?

Competition for clinical placements due to local non-accredited program startup;
Employers hiring non-registered individuals over ACC graduates;
Restrictions on service area imposed by state with no restriction on "career" school;
"Sharing" of clinical sites perceived as a good thing by employers;
Employers unable to recognize the difference between accredited and non-accredited programs and students from these programs;
Rejection of all sonography students as on-site clinical instructors experience burn-out due to negative impact of constant presence of students

Discuss changes from the program's previous SWOT analysis.

The Strengths of the Sonography Program have remained consistent since the previous SWOT analysis.

Weaknesses:

#1 of the previous SWOT has been addressed by pending purchase of new equipment.

#2 continues to exist and is compounded by HIPAA laws, however, procedures are in place to meet the requirements of HIPAA and allow clinical affiliates to donate case studies for student use. Recently more images and case studies have become available from vendors (CD-Rom programs) and large medical teaching institutions such as Harvard Medical School.

#3 continues to exist especially for the DCS program. The DMS program currently utilizes an adequate number of stable clinical sites to support the current enrollment, however, some sites are being shared with another local non-accredited program.

#4: Faculty workload continues to be a serious issue and once again the Sonography Program will be requesting additional full-time faculty positions to improve delivery of courses and student outcomes.

#5: The move to the new EVC/HSB will eliminate this weakness.

Opportunities:

#1: Has not been accomplished except for one on-line set of courses (Echocardiography Mobility Certificate) due to the lack of time for faculty to work on projects (related to Weakness #4).

#2: Most on-campus Sonography courses are taught using PowerPoint presentation software and access to the Internet . All Sonography courses are supplemented through the use of Blackboard instruction.

#3: This has been accomplished through the use of Blackboard rather than creation of CD-Rom packets.

#4: Development of sonography instructor training courses for internal use or external offering has not occurred although all new Sonography faculty have been mentored by the Department Chair and/or other experienced faculty members. Lack of time to develop such courses is related to Weakness #4.

#5: Both the DMS and DCS programs have expanded into every available, willing and appropriate clinical facility from Waco to San Marcos with one clinical site for DCS in San Antonio. The Sonography program continues to seek out additional clinical partners for student placement.

#6: The Sonography courses are evaluated yearly to include new information when appropriate, especially the Advanced Sonography Practices course that is intended to contain the most up-to-date information. Since the previous SWOT, the DCS program has been instituted as a separate track AAS degree plan. Additional coursework has been added in the curriculum to introduce the student to Vascular Technology and a Vascular Technology Applications course continues to be offered in the spring semester through the CE/HPI department.

Threats:

#1: With the purchase of new state-of-the-art equipment and the interest of the Sonography faculty in learning new applications and new technology, this Threat is no longer a major concern. However, if Weakness #4 persists, then the Program is again in danger of falling behind the current practices of the field.

#2: The fragmentation of health care services continues in the local area, however, affiliations with specialty offices (OB, Pediatric Cardiology, etc.) have been secured and have met the needs of the clinical courses.

#3: The quality and number of applicants has increased since the institution of the AAS award. Recent changes in Admission Criteria were made to improve the quality of applicants and reduce the number of pre-requisite courses needed to apply (increases the number of applicants).

#4: The number of adjunct faculty has increased but has not remedied the problems noted in Weakness #4. The Threat now exists that without additional full-time faculty, the program cannot maintain current enrollment.

#5: The length of the program has been increased to five semesters with the most recent curriculum change and additional courses have been added to address the need of graduates to have skills in Vascular imaging.

#6: The physical plant has been remedied by the move to the EVC/HSB and sufficient clinical affiliations are in place for the DMS program. Again, lack of appropriate clinical affiliations for the DCS program continue to pose a Threat to the number of students that can be admitted to the program.

#7: This Threat has impacted the program in the face of increased enrollment. Weakness #4 continues to threaten the ability of the faculty to work with the students in the lab setting and at the clinical site.

#8: This Threat has not impacted the program in that the numbers of people taking the ARRT ultrasound exam is negligible (only 40 in the entire United States).

ANALYSIS

[a] Relevance of the program to College mission and desired ends

Mission:

Review the program's purpose statement. Verify that the statement is current and accurate and reflects the mission of the college as a whole or update the purpose statement.

The Self-Study team reviewed the program purpose statement and found (select one):

The purpose statement is current, accurate, and reflects the mission of the college.

The purpose statement was revised as shown below:

Desired Ends (Board Policy A-2. Intended Outcomes)

How well does the program support the intended outcomes of the college by providing "service-area adults with the postsecondary and higher education they need and can use for productive useful lives?"

The Sonography Programs utilize input from Advisory Committees, yearly Graduate and Employer Surveys, and ARDMS exam results to evaluate the success of graduates. Review of the data from the Graduate and Employer Surveys shows a 100% employment rate for graduates through December 2002 with verbal employers and graduates feedback reporting 98% employment for the graduation class of 2003 as of January 2004. Feedback from employers and graduates through informal surveys shows most, if not all, graduates from 1990

to 2003 still in a sonography and/or medical imaging career. Responses from graduate surveys has shown that the entry-level salaries for Sonography Program graduates continues to rise every year (approximately \$18.00/hr in 1999 to approximately \$23.00/hr in 2003). ARDMS exam pass-rates for first time test-takers exceeds that of the national average with ACC Sonography Program graduates demonstrating a 98% pass rate in 2002 compared with a national average of 75%. ACC Sonography Program graduates often continue to seek advanced education and credentials in sonography (such as obtaining the RVT credential) by attending Continuing Education courses offered to graduates. Many employers reward those who attain additional credentials with increased wages.

In what ways does the program demonstrate an open, responsible exchange of ideas?

Graduate and Employer Surveys, formal Advisory Committee meetings, informal feedback sessions with employers, graduates, and students, faculty meetings, and newsletters to clinical affiliates provide for constant dialogue between the Sonography Program and our stakeholders. Input from these stakeholders is considered and adjustments to the curriculum and/or structure of the program are made.

In what ways does the program provide an open door to educational potential?

Through the use of an easily understood website maintained by the Sonography Program, Career Advising and Planning sessions held 3-4 times per semester, and personal advising by the Sonography Department Chair and Health Sciences Information Office, interested applicants have access to detailed information regarding the requirements and application process for the Sonography Programs. The use of the AAS Degree Plan Advising section of the Sonography website allows a potential student to plan his/her progress through the pre-requisite coursework using a logical sequence that can be adapted to another degree plan if the potential Sonography applicant chooses to change his/her major. Although specific admission criteria must be applied to those seeking entrance into the Sonography Programs, applicants who wish to transfer coursework from other regionally accredited colleges or universities are provided personal advising by the Sonography Department Chair and an individual plan for completion of pre-requisite coursework is developed.

The Sonography Program actively participates in Capital Idea Career Fairs and Orientations, the Greater Austin at Work Conference, and campus tours (when feasible). As part of the CAAHEP (programmatic) accreditation, the ACC Sonography Program is listed on the CAAHEP website which is available to interested applicants from Texas, the entire United States and even from foreign countries.

In what ways does the program take targeted action to address internal needs within available resources?

The Sonography Program shares supplies and instructional aid resources with other Health Science programs. The Sonography Program has successfully secured the loan of ultrasound equipment from local clinical affiliates and vendors for student lab use when current equipment was inadequate or has failed. Clinical affiliates have also donated supplies for the Sonography lab when needed and funds for purchasing supplies where unavailable or the need was urgent. The Sonography Program maintains close-knit ties to the clinical affiliates to assist our clinical partners when scanning expertise is needed.

Guest lecturers from all areas of medical imaging are invited to participate in teaching the Introduction to Medical Imaging course, thus providing a greater depth of knowledge and current practice in those medical areas than can be provided by the Sonography faculty alone.

The ACC Sonography Program is a luminary and beta site for MedSim, USA and is the first permanent installation of the simulator in the United States (installed in 1998). Significant donations of software for the simulator (UltraSim) have been received due to the efforts of the Sonography Department Chair.

In what ways does the program demonstrate a commitment to integrity and exemplary standards?

All Sonography faculty members have many years of experience within the profession of sonography and other related health-care fields such as Radiologic Technology and Nursing. All Sonography faculty are credentialed in the areas in which they teach, per CAAHEP and JRC-DMS Standards. The Sonography Program has maintained CAAHEP accreditation since 1992, successfully undergoing the submission of three Self-Study documents and peer-review site visits since initial accreditation. The ACC Diagnostic Cardiac Sonography Program obtained CAAHEP accreditation in its second year of operation.

All Sonography faculty must obtain 30 Continuing Medical Education credits in a three year period to maintain active status with the ARDMS. In addition, all faculty must be current in their immunizations, CPR, Safe Evidence of Care for the Seton and St. David's Systems, and HIPAA training.

All faculty are members of the Society of Diagnostic Medical Sonography with some faculty also members of the American Institute of Ultrasound In Medicine or American Society of Echocardiography. One faculty member is a Site-Visitor for the Joint Review Committee on Education for the Diagnostic Medical Sonographer (JRC/DMS) and is also a Board member of the Society of Diagnostic Medical Sonography representing region 3. This same faculty

member is active with the SDMS Educational Foundation, SDMS CME Committee and Educator's Committee. She has been a frequent presenter at the SDMS Educator's Tutorial and has been instrumental in the development of The SCAN (Sonography Clinical Assessment Notebook) published by the SDMS Educational Foundation.

In what ways does the program demonstrate personal and professional ownership that generates accountability?

Many of the Sonography faculty are also currently employed in the Central Texas area within facilities that provide for clinical experience for Sonography students. These faculty members have the unique opportunity to teach students in the didactic and lab setting as well as provide students with role models in the clinical area. In other words, students are able to observe those faculty members practicing what they teach. Full-time faculty that are unable to work in the clinical setting visit students during the assigned clinical hours and are able to work with the students in performing exams.

Through the use of student evaluations of faculty the Sonography Program is able to determine the effectiveness and appropriateness of the faculty interactions with students in both the lecture/lab and clinical setting. In addition, each clinical site is evaluated by the student at the end of the rotation.

Through the maintenance of faculty ARDMS credentials and the attainment of additional specialty credentials, the faculty demonstrate to the students the need for life-long learning in the field of sonography.

Through the promotion of membership and activity in the SDMS, the faculty model the role of the professional sonographer.

[b] Responsiveness to community needs and satisfaction of community demand

In what ways does the program address a verifiable need for the student, community, and society?

Through the bi-annual Advisory Committee meetings, yearly Graduate and Employer Surveys, informal feedback, and review of national trends and predictions for employment of sonographers (BLS), the ACC Sonography program evaluates data and information to determine the need for existence of the program and for possible program expansion or inclusion of new information needed in the workplace.

Applications for admission to the Sonography Programs continue to grow since the institution of the Associate of Applied Science degree plan in addition to the Advanced Technical Certificate or Level 2 Certificate offered since 1989.

The Sonography Programs regularly receives phone calls, faxes, emails, fliers and advertisements from employers and employment agencies seeking qualified graduates for sonography positions across the nation.

Describe the results of the program's most recent assessment of community need.

Graduate and Employer Surveys for the December 2002 graduation class are sent out and the Sonography Program is awaiting the return of those surveys. Surveys are conducted once yearly approximately one year after graduation. Therefore the most recent surveys reflect the December 2001 graduation class.

Graduate Survey question: "How long did you seek employment before obtaining your present position?", 100% of responding graduates (10) indicated 0-3 months as the time frame for obtaining employment.

Employer Survey question: "In your opinion, what is the job outlook for graduates in this particular health field?", 67% of responding employers (9) indicated Very Good and 33% indicated Good for the Present; 67% of responding employers (9) indicated Very Good and 33% indicated Good for the Future.

How do the program's five-year enrollment trends compare with those of the College overall?

The five-year enrollment trends of the Sonography Program mirror those of the college overall with a significant increase in enrollment in 2001 due to the institution of the AAS degree plan and the Diagnostic Cardiac Sonography track. The following data represents a class group entering in the fall semester and a class group graduating at the end of the fall semester each year.

1998

entering class: 11; # of graduates: 9

1999

entering class: 9; # of graduates: 9

2000

entering class: 15; # of graduates: 14

2001

entering class: 13; # of graduates: 12

2002

entering class: 23; # of graduates: 22

2003

entering class: 26; # of graduates: 22

[c] Accessibility to students and identification of unnecessary barriers

Analyze when and where courses are offered (by campus, time of day, mode of delivery).

All sonography courses are currently offered at the Riverside Campus; all sonography courses will be offered at the Eastview Campus beginning in the spring semester of 2005 (in the Health Sciences building).

All sonography courses are taught during daytime hours, with lecture sessions followed by lab sessions as assigned (due to need to keep lab sessions small for greater student success). Generally, the sonography lecture/lab courses are held between 8am and 4:30pm at the Riverside Campus Building D in Rooms 6115, 6116 and 6125A (Sonography Lab).

Sonography Clinical courses are conducted at the clinical sites during regular daytime hours of operation for the individual sonography department. Students are assigned to 24 hours/week of hands-on clinical experience in hospitals, physician offices and out-patient clinics. Per CAAHEP/JRC-DMS Standards, clinical coursework must be integrated with didactic coursework and clinical affiliates utilized by the program must meet specific criteria for student placement (appropriately credentialed sonographers, ultrasound equipment and caseload). The ACC Sonography Program must ensure that there is a one student/one sonographer/one ultrasound unit ratio maintained to meet the Standards. The Sonography Program utilizes clinical affiliates in the Greater Austin and Central Texas region including San Marcos, Waco, Temple, and Killeen to provide adequate and appropriate clinical education for the students.

Although having the Sonography courses taught at only one campus would seem to limit access for students, providing equal Sonography lab equipment and faculty for each ACC campus is cost-prohibitive and not feasible. The structure of the program endeavors to maximize the student's on-campus time during lectures/labs and assignment of clinical placement within reasonable driving distance for the student. However, efforts to ensure acceptable student outcomes takes precedence over location for both lab and clinical assignments.

Sonography faculty utilize on-line instruction via Blackboard to aid in teaching and to make more course content available at all times for all Sonography students.

List the number of sections taught (by location).

Riverside Campus

Spring: 5

Summer: 5

Fall: 11

List the number of sections closed or canceled per course.

All sections are available to Sonography Program students only; no sections were cancelled due to low enrollment.

How does each of the five-year demographic trends (gender, ethnicity, age group) for this program compare to the overall college trend? (List the source of your information.)

ACC Fact Book 2002-2003, OIE Table 8, and Program records

Program Trends 1998-2003

Gender: Male 15%; Female 84% (College: Male 46%; Female 54%)

Ethnicity: White 80%; Black 5%; Hispanic 14%; Asian 2% (College: White 64%; Black 7%; Hispanic 17%; Asian 6%)

Age Group: specific program data not available but majority of Sonography students are age 25 or over with an average age of 30 (College: majority of students are between 19-30)

Program demographic trends reflect the national trend of Health Care as predominately female. The Sonography Program is seeing increased numbers of applications from minority groups: males, Hispanics, Blacks and Asians.

Identify any unnecessary barriers to students, especially those who are educationally disadvantaged and not well served by other colleges.

The technical requirements for sonographers must be met by sonography students as well and admission to the program requires the: ability to lift and move patients and equipment, ability to discern audible sound, ability to communicate proficiently using the English language, full use of the shoulders, arms and hands, visual acuity to view monitor and images, and ability to withstand a physically and emotionally taxing workload. Through the completion of the prerequisite courses educationally disadvantaged students have the advantage to improve their study skills, etc.

The pre-requisite courses required for admission to the Program are comparable to other Health Science programs. Courses will fulfill Sonography pre-requisites if taken within 7 years of applying for admission to the program. Capital Idea is funding several students in the process of completing pre-requisites for the ACC Sonography Program (Capital Idea will only support students working towards admission to the CAAHEP accredited Sonography Program).

[d] Student outcomes including participation and successful-completion rates

How do course completion rates (A-B-C-D rates) for courses within this program compare to College norms?

Due to the structure of the Sonography Program, all Sonography courses have prerequisites. All Sonography courses are sequential and require a passing grade of "C" to enroll in courses the next semester. Therefore all Sonography students who complete the program have successfully passed all required Sonography courses in the order specified in the curriculum. The majority of Sonography students earn a "B" or better in their courses. A grade of "D" is not acceptable therefore a student that earns a "D" in any single Sonography course is withdrawn from the program.

What are the program completion or graduation rates (compared to intent as well as overall) for this program?

In the past five years, 64 students have graduated from the Sonography Programs (DMS and DCS) out of 67 students continuing through the second semester of the program. This is a 95% completion rate. This completion rate is only for those students actually admitted to the Sonography Program and who subsequently withdrew due to academic reasons. This rate does not include those who have listed Sonography as the declared Major even though not yet admitted to the Program or those who left the program due to personal reasons or relocation.

How do withdrawal rates for courses compare to College norms?

The withdrawal rates for Sonography courses is significantly lower than the college norm with fewer than one student per admission class withdrawing from the program during the last five years. Withdrawal rates for the Sonography Programs historically have been due to health or personal reasons such as relocation. Recently, due to the increase of admissions for the AAS degree plan, some students may have chosen to withdraw prior to failing a course.

What do the results of the program's student learning outcomes assessments (departmental final exams, exit tests, standardized tests, etc.) indicate about the program?

The departmental capstone courses and exit exams indicate students are prepared for the national registry exams. Clinical Competency exit exams indicate that the students are prepared to enter the workforce. Score reports from the ARDMS exams indicate that the Sonography Program should continue to focus on using multiple types of testing and question formats to prepare the graduates for the national registry exams.

[e] Measures of program quality and educational value added

- **Academic Standards**

What are the processes and procedures that the department uses to maintain academic standards and achieve consistency within the department?

The departmental grading criteria and distribution are the same in all sonography courses. The academic standards that are required to remain in good standing within the program are the same in all sonography courses. Faculty are required to submit all syllabi to the Department Chair for review and all faculty must utilize the Master Syllabus format.

- **Curriculum**

What procedures are used to assure that the curriculum is current and adequately meets the needs of students?

The Sonography Program utilizes review of ARDMS content outlines and score reports, Graduate and Employer Surveys, informal feedback from clinical instructors, direction and advice of the Medical Advisors, and the bi-annual Advisory Committee meetings to discuss graduate outcomes. The Program has also utilized the SDMS Benchmark Survey in assessing the curriculum.

- Are learning outcomes defined for courses and the program? Yes No
Are course texts up-to-date?. Yes No
Are course and program listings in the ACC Catalog up-to-date? Yes No
Do all courses have up-to-date syllabi on file? Yes No

Evaluate the use of instructional resources (including those in the library).

The Sonography Program maintains a large body of instructional resources including the ultrasound training simulator, CD-Rom tutorials, CD-Rom testing materials, case-study/film library, teaching and case-study videos, reference texts, sonography journals, registry review and preparation materials, anatomy models and charts. The library at the Riverside Campus contains a large number of sonography texts, journals, and other references including some videos. All of the Sonography Program resource holdings are utilized during lectures and labs with weekly assignments to review case-studies, computer tutorials, and videos. Each Sonography course has unique assigned learning activities that involve computer and library based research for papers, journal article reviews and presentations

Evaluate the extent to which technology impacts the mode of instruction, including the number of courses and sections taught via distance learning.

Sonography courses are taught using PowerPoint presentations and are supplemented with on-line coursework using Blackboard. No Sonography Program courses are taught strictly via distance learning due to the hands-on scanning aspect that is included in every course, including the ultrasound physics courses. In addition, the ultrasound training simulator is utilized for the DMS courses. The simulator allows the student to scan using a sophisticated computer program based on 3-D reconstructions and a computer system that

resembles an ultrasound unit. As stated previously, each Sonography course has computer assignments such as article reviews, web-searches, and tutorials.

Evaluate the extent to which instruction is focused on problem solving, active learning, and work-based elements.

Sonography is a patient-care allied health profession that is totally operator dependent for the creation of diagnostic images. The curriculum is based on current work practices and procedures, ARDMS content outlines, input from the Medical Advisors (physicians in current practice in Radiology and Cardiology), the JRC/DMS Standards, and feedback from clinical partners. Problem solving and active learning are inherent in the instruction for Sonography students. Case studies build critical thinking skills as do scanning evaluations. Since Sonography is a hands-on imaging modality, active learning through scanning and relating scanning experiences with didactic coursework is continuous throughout the program. All didactic, lab and clinical courses are sequenced and integrated to provide the student with maximum learning during the length of the program. Students share their clinical experiences with classmates during didactic sessions and during case-study presentations. Critical thinking skills are also taught using Pathology Worksheets and diagnosis flow charts.

List below the current discipline-specific courses within the program and the date of the latest review.

Courses

DSAE 1110
DMSO 1302
DMSO 1441
DMSO 1172
DSAE 1315
DSAE 1203

Date of Last Review 12/13/03

Courses

DMSO 1342
DMSO 2441
DMSO 1561
DSAE 2404
DSAE 1561

Date of Last Review 5/10/03

Courses

DMSO 2351
DMSO 2342
DMSO 2462
DSAE 2337
DSAE 2462

Date of Last Review 8/10/03

Courses

DMSO 2345

DMSO 2663
DMSO 2243
DSVT 1103
DSAE 2663

Date of Last Review 12/13/03

Course
Course

Date of Last Review
Date of Last Review

- **Faculty**

Do all faculty teaching in the program meet SACS requirements?

Yes No (if no, please explain)

What is the ethnic diversity of the faculty?

Of paid faculty, six are white and two are black.

Of non-paid on-site clinical instrutors, two are asian, two are black, four are hispanic, three are middle eastern, and twenty-five are white.

What evidence is there that faculty are staying current in their respective disciplines and instructional methodologies?

All Sonography faculty members must be credentialed by either the ARDMS or CCI (cardiac and vascular only) in the specialty in which they teach and evaluate students per CAAHEP accreditation and ACC standards. Each faculty member document a minimum of 10 CME credits per year to maintain those credentials. In addition, faculty members attend Sonography faculty in-service meetings and obtain Professional Development through ACC. This documentation is maintained by both the ACC Human Resources department and the Sonography Department Chair.

What recognition has been given to faculty within the last year?

The Department Chair has been recognized by the Society of Diagnostic Medical Sonography for contributions to the Educator's Committee and Continuing Medical Education Committee. She has also been recognized by the SDMS Educational Foundation for contributions to the development of additional Proficiencies for The SCAN (Sonography Clinical Assessment Notebook). Ms. Swearengin has been recognized by Mosby Publishing as a reviewer of Sonography textbooks. She is a contributor to a new Sonography text to be published by Mosby in the coming year.

One faculty member is recognized as a reviewer of Vascular Proficiencies (The SCAN) and another as a co-author of The SCAN Proficiencies for Pediatric and Fetal Echocardiography.

Describe professional development activities in which program faculty participate.

Faculty Development activities and workshops through the ACC Faculty Development Office;
SDMS CME lectures and seminars;

**Sonography Faculty Meetings;
Credit course work at ACC**

What percent (and the total number) of faculty participate in formal professional development activities on a regular basis?

100%

Describe the types of discipline-related professional development activities offered.

ACC does not regularly offer discipline specific professional development activities other than teaching workshops and courses. All ACC Sonography faculty obtain Sonography CME credits through seminars and other CME products approved by the SDMS, AMA, ASE, SVT and other recognized providers of Sonographic continuing education. The ACC Continuing Education/Health Professions Institute does sponsor Sonography CME courses that faculty can attend: Vascular Technology offered every spring semester and the on-line Echocardiography Mobility Certificate.

What percent of sections do full-time faculty teach?

55%

What percent of contact hours do full-time faculty teach?

87%

Are student evaluations of instruction within acceptable range? Yes No

To what extent are alternative modes of instruction incorporated into classes?

All Sonography courses incorporate on-line instruction (Blackboard) to supplement classes. Utilization of Blackboard was begun in 2002 and is progressing to development of hybrid lecture courses for the Sonography programs. Live scanning instruction and use of the ultrasound training simulator are utilized in all courses (didactic and clinical).

- **Student Satisfaction**

Do student course evaluations demonstrate satisfaction with courses?

Yes No

[f] Adequacy of program resources and efficiency of resource use

Describe the overall adequacy of resources (human, technological and capital, facilities, and fiscal) available to the program for providing effective program delivery and outcomes.

The human resources for the Sonography Program are inadequate as shown in the previous program review and the current SWOT for this program review. The number of adjunct faculty greatly exceeds the number of full-time faculty for the program. The Department Chair is the only true FT faculty member and has both significant teaching duties and administrative duties. One other faculty member (DMS Program) is 50% FT with an overload that exceeds a FT faculty member load. All other faculty members are adjuncts who work at least two days per week in the clinical area although most work full-time as sonographers and echocardiographers. This does not provide for effective program delivery as course schedules for lectures and labs must be worked around the adjuncts schedules and students do not have access to appropriate faculty members when they are on campus (i.e. DCS students on campus with no DCS faculty member available). As the Sonography Program has doubled enrollment in the last two years (both DMS and DCS programs have doubled) thus doubling the number of students enrolled during the fall semester, the number of FT faculty members has not increased during the last four years. In addition, the recent changes to the curriculum will double the number of Sonography students enrolled during the summer semester so that 2/3 of the year the total program enrollment will be at or near 50 students per semester. Contrast the current Sonography faculty/number of students with the number of FT faculty required for the same number of students in the Associate Degree Nursing Program: 1.5 FT with 5 FT. Program outcomes have yet to show a decline, however outcomes for current courses are not as good as in previous years. The Sonography faculty attribute this to lack of faculty and time allotted to current faculty to spend with students, particularly in the lab and clinical settings.

Technological resources for the program, other than the ultrasound training simulator for the DMS program are inadequate and outdated. However, the move to the new Health Sciences Building at the Eastview Campus will alleviate many of the technology problems now encountered during lectures. Sonography faculty lack the type of computers to develop courses that require significant inclusion of images and digital clips. The college has purchased some software for the ultrasound training simulator and some CD-Rom tutorial and testing software.

Capitol expenditures for the Sonography program have been less than \$45,000.00 since the program began in 1989. Although the college did purchase the ultrasound training simulator and one used piece of ultrasound equipment that failed within two years of purchase, all other capitol requests have gone unfunded. All ultrasound equipment now in use in the Sonography lab has been either loaned or donated and all the equipment is out-dated. The Sonography Program has been and continues to be the recipient of new modules and software for the ultrasound training simulator due to donations from the vendor (beta testing site for new software for the unit).

Facilities used by the Sonography Program have improved over the last 5 years, but delay in building Phase II of the Health Sciences building at the Eastview Campus has kept the Program at the Riverside Campus. Currently the Sonography Program utilizes two -three classrooms for lectures; one classroom is adjacent to the Sonography lab and one is across the hall and has been configured as a classroom/lab. For the first time since the beginning of the Sonography Program (1989), the Program has use of a room dedicated as the Sonography lab. The room is too small and the heating and cooling are inadequate, but schedules were drawn to meet the size of the room and the number of students that could be assigned to the lab at one time. The Sonography Program will move into the Phase II of the HSB in the spring of 2005 where a dedicated lab designed specifically for Sonography will be used in addition to large classrooms for lectures.

Fiscal: the yearly budget for the program barely meets the needs of the program. Indeed, the DCS Program was instituted in 1999 and has never actually been funded in the yearly budget other than meeting adjunct faculty salaries. Requests for funding for repairs of equipment, supplies and other teaching resources have been denied, although the college has funded emergency repairs for the ultrasound training simulator and one ultrasound unit in the last two years.

What is the ratio of full-time to adjunct faculty (by course and for the program overall)?

2/6

How up-to-date is the equipment used by the program? At this time the ultrasound equipment utilized by the Sonography programs is extremely out-dated, is no longer manufactured and is not supported by the manufacturer for repairs. Purchase of new state of the art equipment is pending as part of the Phase II of the new Health Sciences building.

Identify possibilities for improving the efficiency of the program's use of resources.

Currently, without identical state of the art ultrasound equipment, efficiency in the Sonography lab is not possible. It is expected that the new equipment will greatly improve the efficiency of the Sonography lab and will allow greater hands-on time for the students in the lab setting. The Sonography Program currently solicits donations of equipment, texts and supplies whenever possible. The Program has received many donations due to the willingness of the Department Chair and other faculty to review textbooks for publication, review software, and to author chapters for textbooks.

[g] Comparison of program performance, price, and enrollment with that of alternate local suppliers

How is the program competitive with similar programs offered by other institutions or schools in the service area in terms of performance, cost to students, and enrollments?

There is only one similar program in ACC's service area: a proprietary or "career" "college" that offers ultrasound training and an award of an AAS degree upon completion of that program. ACC's tuition costs are significantly lower for an AAS degree (approximately \$3,600.00 for 72 credit hours compared to \$20,000.00+ at the career school). ACC Sonography December 2003 graduates competed with the career school graduates for jobs in the local area, with 8 ACC Sonography graduates obtaining employment versus approximately 2 graduates of the career school (information provided by Sonography clinical affiliates).

The career school enrolls as many students as possible per quarter (anecdotaly: 25-30) but does not include integrated didactic and clinical for their ultrasound students. ACC accepts a total of 25 students per admission class (15 DMS and 10 DCS for 2003) and graduates 95% of those the following year. The career school ultrasound program is not CAAHEP accredited, so those completing that program must meet specific criteria to take the ARDMS exams (those graduates must work full-time for one year before applying to take the exams). The ACC Sonography Program is CAAHEP accredited which allows the graduates to apply to take the ARDMS exams before graduation and sit for the exams immediately upon graduation. The ACC Sonography Program has shown a high pass-rate for first time test takers of the ARDMS exams (98%) so that employers are able to hire registered graduate sonographers or registry candidate graduates each and every December.

[h] Direct and indirect program-related revenues and costs to the College

Identify the major sources of revenue for the program, including grants, partnerships, etc.

The major sources of revenue for the program are tuition and state-funding.

Compare program costs to those of other ACC programs.

The Sonography Program costs are similar to other Health Science Programs, all of which operate in a deficit due to enrollment limitations imposed by programmatic accreditation, limits on the number of students that can be placed in clinical (stipulations of the clinical affiliates), and low instructor to student ratio require by programmatic accreditation.

Compare the program's actual expenditures to the approved program budget for the previous two years.

In recent years the Sonography Program's actual expenditures have exceed the approved program budget due to necessary repairs to ultrasound equipment and

increased hiring of additional adjunct faculty to meet the needs of the students. Other expenditures have remained within budget.

TRANSFER or WORKFORCE AREA-SPECIFIC INFORMATION

Only Workforce Programs complete the items below.

Report/status from latest external accrediting agency visit

2001

When was the most recent program revision?

The Program is currently undergoing program revision and curriculum changes approved by the Sonography Advisory Committee in December, 2003. The curriculum revisions have been submitted to the ACC Curriculum Committee for approval and inclusion in the 2004-2005 Catalog.

The Sonography Program is under constant review as the profession of Sonography is dynamic and adjustments to course offerings must reflect yearly assessment of courses and outcomes. In addition, Sonography courses are part of the WECM and are reviewed according to the THECB schedule.

Number of declared majors intending to complete a program who complete degree/certificate requirements within 6 years

Those students who declare Diagnostic Medical or Cardiac Sonography and are admitted to a Sonography Program will complete the program within 4 semesters. Retention rates are high (95% in 2002) for the Sonography Program with those withdrawing from the program citing health, personal, or relocation reasons for leaving the program.

Many individuals have declared Sonography as their major while they are working on their pre-requisites. However, the Program only keeps data those students who are actually admitted to the program. In 2003, the Major Code 9185 Pre-Sonography was added to the ACC College Application. Both the Sonography Department Chair and the ACC Graduate Office felt that this would alleviate the confusion in the records and guide prospective Sonography students more clearly.

Average number of semesters it takes for students to gain degree/credential.

7

Number of graduates within the last three years

46

Demographics of graduates

White 37; Hispanic 6; Black 3; Asian 0

Percent of graduates who are employed within one year of graduation.

100%

What evidence exists that program completers (or near completers) are successful on the job? What, if available, are their beginning salaries?

Graduate Surveys are conducted once a year approximately one year after graduation. The most recent Graduate Survey revealed starting salaries at approximately \$40,000/year.

Percent of employers indicating satisfaction with graduates.

Employer Surveys conducted in 2001 (the most recent survey returned), indicated 100% of employers citing a Very Good or Good response to "What is your overall rating of the education received by this individual as it relates to the requirements of his/her job?"

Discuss the most recent results of Focus Group or internal survey of employers.

The most recent Employer Surveys (graduating class of 2001) revealed that employers felt that ACC Sonography graduates were average to above average in their skills and preparation for employment. The most recent Sonography Advisory Committee Meeting (2003) also revealed that employers are satisfied with the quality of graduates. The Sonography Program receives phone calls from employers around the country seeking Program graduates due to referrals and/or experience with previous Program graduates. In the recent Sonography graduating class, most graduates have secured employment (12 of 14 as known by the Program as of this date).

Number of employers indicating need for more graduates

Data from Texas Workforce Commission indicates a 25.4% growth in the number of sonographers employed in Texas thru 2010. Local area employers continue to request additional graduates and would prefer that ACC graduate a class every few months to meet their needs.

Provide evidence of SCANS competency integration into course syllabi and programs.

The SCANS competencies are listed in every Master Syllabus utilized by the Sonography courses. Master Syllabi can be viewed from the ACC Health Sciences website: www.austincc.edu/hltsci

How often does the program's advisory committee meet to discuss curriculum issues?

The Advisory Committees meet at least once a year with on-going discussions as needed.

When and where are advisory committee minutes maintained and posted?

The Advisory Committee minutes are maintained by ACC and posted to the ACC website within two weeks of the meeting.

Evidence of recent review of curriculum by external advisory committee.

Curriculum review and changes were conducted by the Sonography Advisory Committee (both DMS and DCS in a combined meeting) on December 3, 2003.

Advisory committee validation of entry level skills

The Sonography Advisory Committee has reviewed the State of the Program including graduate pass rates for the ARDMS exams. The Advisory Committee charges the Sonography Department Chair with the duty to ensure that the curriculum meets the ARDMS content outlines and that Graduate and Employer Surveys are conducted once a year approximately one after a class has graduated.

Only Transfer Programs complete the items below.

Number and percent of graduates who transfer within one year of graduation.

██████████

Number of articulation agreements with universities and colleges

██████████

Number of courses that transfer

██████████

Number of student complaints about problems with course transfer

██████████

Discuss the results of the most recent Survey/focus group of transfer institutions.

██████████

Discuss data from transfer institutions if available.

██████████

Number of students transferring successfully.

██████████

CONCLUSIONS

Based on the information collected and analyzed during the program review process, what are the major conclusions of this review of the program?

Summarize them here and complete the *Program Status* form.

The Sonography Program is a strong, well-recognized, well-organized course of study that continues to produce graduates that have the education and skills required of entry-level sonographers. The Program is meeting the needs of local

employers and the community by graduating students able to work independently and who are able to pass the ARDMS exams within one year or less. The Program will have difficulty maintaining this level of excellence in the face of increased enrollments and lack of full-time faculty to effectively deliver course content.

PROGRAM VISION STATEMENT

State the program's vision or preferred future for the next five years. The vision statement should provide direction to the program as it makes improvements to enhance its effectiveness and efficiency.

The vision of the ACC Sonography Program is to be a leader in Sonography education providing entry-level education and a strong foundation for advancement in the profession and workplace.

Rapid technological changes continue to occur in the field of Diagnostic Medical Ultrasound as evidenced by the sophistication of ultrasound equipment. Applications for use of Sonography also continue to grow along with advances in the technology. However, these advances in technology will not replace the need for an educated professional to operate the ultrasound equipment. Sonography will continue to be an operator dependent imaging modality during the next five years and beyond. In addition, the profession of Sonography is maturing to include baccalaureate and master degree levels.

The ACC Sonography Program must take into account these rapid technological and application changes that will continue to occur in the near and distant future. Sonography students must be instructed in basic and advanced technology, principles and procedures. Clinical instruction with appropriate hours in hands-on scanning must continue to ensure that the Sonography graduate is proficient and competent in all required applications and procedures appropriate for an entry-level sonographer. In addition, the Sonography graduate must have the ability to learn future applications based on education received during the length of the program. Sonography students must have the coursework needed to pursue advanced degrees if desired or required.

Therefore in meeting the needs of both graduates and employers, the ACC Sonography Program must ensure that the didactic, lab, and clinical courses provide both basic instruction and the foundation for future learning. This must be accomplished by the constant review and revision of the program involving all stakeholders. The Sonography faculty must have the time to stay abreast of current technology and applications in the clinical setting.

RECOMMENDATIONS

What does the self-study team recommend for improving or maintaining the quality of the program? Summarize them here and complete the *Quality Improvement Plan* form.

#1: Addition of at least three full-time faculty members for the Program including bringing the current 50% FT position to a 100% FT position. One of these FT positions would be designated for the DCS Program.

#2: Additional sections to allow the course schedule to more accurately reflect the time the student must spend attending lab courses in the second semester.

#3: Additional lab time in the second and third semesters of the program including Open Lab time and/or Tutorial sessions.

#4: Increase the number of volunteers utilized in scan labs.

#5: Review recent changes to the admission process and curriculum to determine effectiveness.

#6: Increase the presence of Sonography faculty at the clinical sites.

#7: Develop and offer specialized elective credit courses in Sonography.

#8: Increase the amount of time allowed for faculty to develop courses.

ADDITIONAL COMMENTS



APPENDIX

List all documents that you used in your report:

Texas Workforce Commission Texas Labor Market Information Data Base

ACC Fact Book, 2002-2003

OIE Data

JRC/DMS Annual Report

JRC/DMS Standards and Guidelines for an Accredited Educational for the Diagnostic Medical Sonographer

Internal Program Data

SDMS Benchmark Survey

When you have completed this report, send it via e-mail to the Coordinator for Institutional Assessment (rwall@austincc.edu) as an attachment.

Quality Improvement Plan Form for the Sonography Program

To be useful, a plan must be based on distinct, measurable tasks or actions that strengthen the program. An action plan is not philosophical or abstract. It can and should include some “what ifs.” “If this equipment is purchased,” “If space is added,” or “If schedules are changed,” are examples.

The template below is intended to assist you in thinking and planning long-term. The College knows that factors can and do change so that some of these projected tasks may not occur—especially those projected for the third year. Furthermore, we know that this plan will need to be revised. Therefore, in one year, OIE will be asking you to update both your progress towards these tasks and to review/revise your tasks for the second and third year of the plan.

Note on Requests for Funds: Consider changes that require **one-time** costs (equipment, renovation, etc.) and changes that require **recurring** costs (typically new positions). *All requests for funding should indicate how they will improve learning and meet targeted objectives.*

2004-05				
Goal: Increase full-time faculty.				
Estimated completion date: Fall 2004				
Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible
Convert current 50% FT to 100% FT Hire one FT faculty member for DCS program. Hire one FT faculty member for DMS program	Increase flexibility in scheduling sonography courses especially lab sections to improve student outcomes and efficiency. Improve student outcomes in second semester lab courses as evidenced by letter grade and retention of skills into the next semester.	Currently the college is spending \$121,900 for adjunct faculty salaries and faculty overloads (2004 buget). The cost of three new FT positions would be approximately \$150,814 (2003-2004 FT Faculty 12 month salary scale). By adding three FT faculty members, the number of adjuncts reduced from six to two.	If additional FT faculty are not funded, then the current enrollment of the Sonography cannot be maintained without negatively impacting student outcomes, retention in the program and overall satisfaction with the program.	Department Chair

	<p>Improve student outcomes in third - fifth semester lab and clinical courses as evidenced by letter grade, retention of skills into next semester and evaluation of entry-level competency by employers.</p> <p>Increase faculty to student ratio in the lab and clinical courses; ability to offer Open Lab and/or Tutorial sessions outside regularly scheduled Lab courses (all student activity in the lab must be supervised by a qualified instructor).</p> <p>Improve communication with clinical affiliates: on-site instructors and managers.</p> <p>Improve consistency between didactic and clinical courses.</p>			
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Goal: Improve student outcomes for for fall semester lab courses.				
Estimated completion date: Fall 2004				
Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible
Increase number of sections by one for each course (total of four sections for DMSO 1172	Course schedule accurately represents the actual time students need to spend in on-campus lab courses.	Actual cost is unsure as the number of students in the current sections would be subdivided into the new	Continued confusion with course schedule and student dissatisfaction with program and ACC.	Department Chair

and two for DSAE 1203).	<p>Improved student outcomes as evidenced by letter grade for course and retention of skills into the next semester courses.</p> <p>Improve student satisfaction with the fall lab courses.</p>	number of sections, thus reducing the number of students per section. This is currently happening with internal Sonography Program scheduling of labs and staffing LEH loads.	Students have difficulty registering for co-requisite course and scheduling working hours when the course schedule doesn't reflect the time the student really spends in the lab to achieve the competencies required by the course.	
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Goal: Improve student outcomes in clinical courses.

Estimated completion date: Spring 2004

Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible
<p>On-campus lab time as component of second-fourth clinical courses.</p> <p>Offer additional Open Lab and Tutorial sessions under faculty supervision.</p> <p>Increase number of scan model volunteers for student lab scanning by contacting local clinics, etc.</p> <p>Increase faculty presence at the clinical site.</p>	<p>Increase student outcomes for clinical courses: scanning proficiency at an earlier stage of the program, letter grade improvement, retention of skills into the next semester, evaluation of graduate entry-level competency by employers.</p> <p>Increased student hands-on scan time under supervision of paid instructors: adequate time for student scanning without pressure to maintain a patient schedule, objective criteria can be applied during evaluations.</p>	<p>No cost to require more lab time; will be a component of current clinical courses.</p> <p>No cost to promote student scan lab to local clinics.</p> <p>Increased faculty presence at the clinical sites and on campus for lab sessions requires additional FT faculty to meet needs of current enrollment level.</p>	<p>On-campus labs cannot be conducted without appropriate credentialed faculty to staff the lab; student outcomes are predicted to decrease without increased lab time and contact with paid faculty.</p> <p>Decreased visits to clinical sites by faculty will not improve communication between the Program and clinical instructors or managers. Reduced communication can lead to loss of clinical affiliation.</p>	<p>Department Chair</p> <p>Clinical Co-ordinators</p>

Goal:				
Estimated completion date:				
Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible

2005-06

Goal: Improve access to admission into the Program.

Estimated completion date: Summer 2005

Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible
Evaluate curriculum/pre-requisite changes pre-implemented for the summer 2005 admission class.	Due to the reduction in number of required pre-requisite courses, the Sonography Program will have a large applicant pool for selection for the class.	None	N/A	Department Chair Admissions Committee

Goal: Improve student retention in the Program.

Estimated completion date: Fall 2005

Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible
Review changes in curriculum to determine if newly added Sonography courses for summer admission 2005 have improved student outcomes and retention in the second semester.	Summer admission and new Sonography courses will better prepare Program students for the next semester courses. Material covered in second semester lecture and lab	None	N/A	Department Chair Department Faculty

	courses can be more focused on sonographic applications and scanning sessions.			
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Goal: Develop specialized course for Sonography.

Estimated completion date: Fall 2005

Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible
Develop specialized Sonography course in Neurosonology using on-line teaching (Blackboard). Offer course credit (regional offering) and through continuing education (national/international offering).	Elective course for Program students. Continuing Education course for practicing sonographers.	\$2,500.00 to develop course: purchase of texts, development of images, creation of course using HTML and Blackboard. Release time for faculty member to develop course.	Program does not keep abreast of current Sonographic applications. Missed opportunity to generate revenue through Continuing Education course offering.	Department Chair

Goal: Develop specialized course for Sonography.

Estimated completion date: Fall 2005

Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible
Develop specialized Sonography course in Breast Imaging using on-line teaching (Blackboard) for both local and national delivery.	Elective course for Program students. Continuing Education course for practicing sonographers.	\$2,500.00 to develop course: purchase of texts, development of images, creation of course using HTML and Blackboard. Release time for faculty member to develop course.	Program does not keep abreast of current Sonographic applications. Missed opportunity to generate revenue through Continuing Education course offering.	Department Chair

2006-07

Goal: Develop specialized course for Sonography.

Estimated completion date: Spring 2007

Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible
Develop specialized Sonography course in Pediatric Echocardiography using on-line teaching (Blackboard) for both local and national delivery.	Elective course for Program students. Continuing Education course for practicing sonographers.	\$2,500.00 to develop course: purchase of texts, development of images, creation of course using HTML and Blackboard. Release time for faculty member to develop course.	Program does not keep abreast of current Sonographic applications. Missed opportunity to generate revenue through Continuing Education course offering.	Department Chair

Goal: Develop specialized course for Sonography.

Estimated completion date: Fall 2007

Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible
Develop specialized Sonography course in Fetal Echocardiography using on-line teaching (Blackboard) for both local and national delivery.	Elective course for Program students. Continuing Education course for practicing sonographers.	\$2,500.00 to develop course: purchase of texts, development of images, creation of course using HTML and Blackboard. Release time for faculty member to develop course.	Program does not keep abreast of current Sonographic applications. Missed opportunity to generate revenue through Continuing Education course offering.	Department Chair

Goal:				
Estimated completion date:				
Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible

Goal:				
Estimated completion date:				
Task or Action	Expected Outcome/ Measure of Success	Estimated Cost(s) with Justification	Consequence if Not Funded	Who is Responsible