

Board of Trustees Agenda Item

Board Meeting Date: June 7, 2010

Title of Item:

Approval of the Addition of an Associate Degree to the Current Diagnostic Medical Sonography Certificate Program.

Background and Analysis:

Foothill seeks board approval for application to the State Chancellor's Office for the associate degree in Diagnostic Medical Sonography. We have a previously approved Certificate Program in this area.

The Diagnostic Medical Sonography Program is dedicated to the integration of didactic, laboratory, and clinical objectives with emphasis on the clinical aspect of Diagnostic Medical Sonography. These objectives are designed to successfully develop student's cognitive, psychomotor, and affective domains. The program strives to strengthen its role as a principal community resource by providing this program as well as continuing education to meet individual and collective needs.

The new degree has been approved by Foothill's curriculum committee and Academic Senate.

Recommendation: (specify if information only)

Foothill administration recommends approval of the Diagnostic Medical Sonography Associate Degree Program.

Submitted by:	Eloise Orrell
Additional contact names:	Kathleen Austin
Is backup provided?	Yes.

**Foothill College Diagnostic Medical Sonography
CCC-501: Application for Approval–New Credit Program**

Criteria A. Appropriateness to Mission

1. Statement of Program Goals and Objectives

Program Mission & Goals

The Diagnostic Medical Sonography Program of Foothill College is dedicated to the integration of didactic, laboratory, and clinical objectives with emphasis on the clinical aspect of Diagnostic Medical Sonography. These objectives are designed to successfully develop student's cognitive, psychomotor, and affective domains. The program strives to strengthen its role as a principal community resource by providing this program as well as continuing education to meet individual and collective needs. The program goals include:

1. Graduation of competent entry-level, American Registry of Diagnostic Medical Sonography (ARDMS) board eligible sonographers.
2. To develop the student's communication and critical thinking skills in order to function as a competent and diligent member of the health care team.
3. To develop technical skills to provide comprehensive quality care to individuals from a diverse socioeconomic, educational, and/or cultural background.
4. To graduate health care professionals who are respectful of others as well as practice the principles of ethics including autonomy, beneficence, non-maleficence, veracity, justice, fidelity, and recognize his/her responsibilities under the law.
5. To develop the student's awareness and commitment toward understanding and implementing the Code of Conduct & Code of Ethics as described by the Society of Diagnostic Medical Sonography.
6. To convey the importance of striving for continued improvement through education and active participation in this profession.

The curriculum ensures the achievement of program goals and learning domains. Instruction is based on appropriate sequence of classroom, laboratory, and clinical activities. Instruction is based on clearly written course syllabi describing learning goals, course objectives, and competencies required for graduation.

Program Scope

Foothill College offers an exciting opportunity for practicing diagnostic medical sonographers who need formalized education to pass the sonography registry, and for those in recognized American Medical Association Allied Health occupations who wish to specialize in Diagnostic Medical Sonography.

This 18-month certificate program consists of didactic and clinical preceptorship experience. This program will prepare students for the American Registry of Diagnostic Medical Sonographer's (ARDMS) examinations.

Formal academic and clinical laboratory course work is presented by experienced practicing sonographers and other health science professionals. Emphasis is placed on physics of ultrasound, abdominal applications, superficial structures, obstetrics and gynecology, and vascular sonography.

Course work is enhanced while assigned for clinical preceptorship where the student must master clinical competency via hands-on experience under the supervision of practicing sonographers.

2. Catalog Description

Diagnostic Medical Sonography is a profession qualified by professional credentialing and academic and clinical experience to provide diagnostic patient care services using ultrasound and related diagnostic procedures. The scope of practice includes those procedures, acts and processes permitted by law, for which the individual has received education and clinical experience, has demonstrated competency, and has completed the appropriate credentialing which is the standards of practice.

Standards are designed to reflect behavior and performance levels to perform patient assessments and evaluation using effective communication and analytical skills. Standards include the ability to acquire and analyze data obtained using sonography, related diagnostic technologies, and integration of data. The sonographer provides preliminary reports of findings to the physician in accordance with established procedures. The sonographer will use independent judgment and systematic problem solving methods to produce high quality diagnostic information and optimize patient care and safety.

Coursework includes use of sonography relevant to gynecology, obstetrics, abdominal subjects, superficial structures and vascular applications.

The DMS Program has been in operation since 1984 and is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS), and the college with the Western Association of Schools and Colleges.

The program is eighteen months in length, beginning each September. All courses are completed in sequence. The preceptorship (clinical) courses require thirty-two hours per week. Didactic and clinical laboratory instruction is in addition to preceptorship assignment. Students are eligible to take the American Registry of Diagnostic Medical Sonographers (ARDMS) examinations in the concentrations of Ultrasound Physics, Abdominal Subjects, Obstetrics and Gynecology, and Vascular Physics. Students, pending additional competencies, will be eligible for specialty examinations for breast sonography, neurosonography, and vascular technology. The DMS program leads to a Certificate of Achievement and may lead to an Associate in Science degree pending this application. The curriculum is presented in six quarters.

Career Opportunities

Students typically pursue technical careers in a hospital, clinic, and/or office. With additional technical experience, career positions may include supervisory positions and as a traveler or independent contractor. Most management, corporate, and education positions require four-year college degrees in a related field.

3. Program Requirements

Attachment A includes the course requirements for the **Certificate of Achievement in Diagnostic Medical Sonography** and **Associate of Science in Diagnostic Medical Sonography**. The Foothill College general education requirements are also in Attachment A. Students interested in transferring should consult their counselors and the Transfer Center to ensure appropriate course patterns required for IGETC certification.

See Attachment A: Program Requirements and General Education Requirements

4. Backgrounds and Rationale

The Diagnostic Medical Sonography Program was originally approved to be taught at Foothill College in 1984 and at that time, awarded a Career Certificate. Over the years, the medical industry has come to expect the minimum qualification for employment as a Diagnostic Medical Sonographer to include the Associate in Science Degree. During the last two years, Foothill College has polled the students in the certificate program to gauge their interest in an Associate in Science degree and found that students were more than willing to take additional general education coursework to earn a degree.

Criteria B. Need

5. Enrollment and Completer Projections

Based upon past and current enrollment figures in courses and the program:

- Each core course is offered once annually.
- On average, each core course has about 20-25 students enrolled.
- The number of estimated program completers per year has averaged 21 students since 1999.
- The program enrollment has grown in the past three years. This will continue as long as the medical establishment has a need of employees. The outlook for the future is healthy in terms of hiring sonographers. Also according to the District's Institutional Research and Planning office, the program demonstrates a healthy diversity of students, high success rates, and a very low withdraw rates. Likewise there is a very high success rates for the national board examination.

6. Place of Program in Curriculum/Similar Programs

The Diagnostic Medical Sonography Associate in Science degree is currently needed to complete the Diagnostic Medical Sonography program tract. Currently the DMS program has approval for a Certificate of Achievement. This application is to add an Associate in Science degree option within the existing program under the approved TOPS code 1227.00. The Diagnostic Medical Sonography program maintains current curriculum and approval from the Commission on

Accreditation of Allied Health Education Programs (CAAHEP), Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS), and the college with the Western Association of Schools and Colleges

Foothill College has several other allied health sciences programs; the Diagnostic Medical Sonography program is a specialized field requiring training unduplicated by the other programs. Adding a Diagnostic Medical Sonography Associate in Science degree option to the program will have no impact on the current program or the resources it uses.

7. Similar Programs at Other Colleges in Service Area

No CAAHEP approved community college, university extension, or proprietary programs exist in San Mateo or Santa Clara counties or in Northern California other than the CAAHEP approved DMS program in Richmond, California. The Richmond, California CAAHEP approved DMS program is proprietary.

8. Labor Market Information & Analysis

Industry Reports came from Economic Modeling Specialists, Inc. (EMSI), a service that provides industry employment projections by combining covered employment data from Quarterly Census of Employment and Wages (QCEW) produced by the Department of Labor with total employment data in Regional Economic Information System (REIS) published by the Bureau of Economic Analysis (BEA), augmented with County Business Patterns (CBP) and Non-employer Statistics (NES) published by the U.S. Census Bureau. Projections are based on the latest available EMSI industry data, 15-year past local trends in each industry, growth rates in statewide and (where available) sub-state area industry projections published by individual state agencies including the California Labor Market Information Department, and (in part) growth rates in national projections from the Bureau of Labor Statistics.

See Attachment B: Labor/Job Market Data

9. Employer Survey

An Employer Survey is issued annually as required by programmatic accreditation as part of the annual report. Since the inception of the DMS program, the surveys demonstrate a high level of employer satisfaction with student graduates. The survey has also been valuable to provide antidotal information from which the DMS program can make appropriate changes to meet future employer expectations.

See Attachment B: Employer Survey

10. Explanation of Employer Relationship

Not applicable.

11. List of Members of Advisory Committee (for 2009-2010)

The members of the Advisory Board represent the primary individuals empowered to hire DMS graduates.

First Name	Last Name	Occupation
David	Spstaroch	El Camino Hospital Director Diagnostic Imaging
Alice	Gregg	El Camino Hospital Manager, Radiology Services
Diane	Tiernan	SCCVMC, Director Diagnostic Imaging
David	Boyd	Supervisor, Santa Clara County Valley Medical Center
Darlene	DeBrito	Good Samaritan Hospital, Dept Manager Diagnostic Imaging
Pardini	Barbara	O'Connor Hospital, Director of Diagnostic Imaging
Donna	Prosser	Kaiser Santa Clara, Director of Diagnostic Imaging
Eleze	Armstrong	Hazel Hawkins Hospital, Director of Diagnostic Imaging
Paul	Kurily	Dept Manager Diagnostic Imaging
Jim	Holder	Dept Manager Diagnostic Imaging
David	Hom	Manager Medical Imaging Services
Volney	Van Dalsem III MD	Medical Director, DMS Program Director Stanford University Hospital OP Services
Tom	Frick	PAMF: El Camino, Director of Diagnostic Imaging

First Name	Last Name	Occupation
Eloise	Orrell	Dean, Biology & Health Sciences
Bonny	Wheeler	Director, Radiology Technology Program
Key	Jenene	Clinical Coordinator & Instructor, Radiology Technology Program

12. Recommendation of Advisory Committee

The Advisory Committee met on April 23, 2008 the Associate in Science degree was discussed. The proposed required classes and sequence were discussed and the committee recommended proceeding with the State program application.

See Attachment B: Minutes of Key Meetings

Criteria C. Curriculum Standards

13. Display of Proposed Sequence

Mandatory Sequence for Diagnostic Medical Sonography A.S. Degree & Certificate (96 Units)						
Fall 1 st Year	Units	Winter 1 st Year	Units	Spring 1 st Year	Units	
DMS 50A DMS Prin & Protocols	4	DMS 53A DMS Abdomen I	2	DMS 53B DMS Abdomen II	2	
DMS 50B Sono & Patient Care	2	DMS 54A Gynecology	2	DMS 54B Gynecology & Obstetrics	2	
DMS 72A Procedures & Apps	8	DMS 51A Sectional Anatomy	3	DMS 52A Physical Prin of US I	2	
DMS 60A Critique & Path I	2	DMS 60B Critique & Path II	1	DMS 60C Critique & Path III	1	
		DMS 70A Clinical Preceptorship I	8.5	DMS 70B Clinical Preceptorship II	8	
Total Units	16	Total Units	16.5	Total Units	15	
Summer 1 st Year	Units	Fall 2nd Year	Units	Winter 2nd Year	Units	
DMS 53C DMS Abdomen III	2	DMS 72E Procedures & Apps	2	DMS 80A Advanced Principles	3	
DMS 55A Obstetrics I	2	DMS 55B Obstetrics II	2	DMS 56B Vascular Sonography II	2	
DMS 52B Physical Prin of US II	2	DMS 56A Vascular Sonography I	3	DMS 52C Physical Prin of US III	2	
DMS 60D Critique & Path IV	1	DMS 60E Critique & Path V	1	DMS 60F Critique & Path VI	1	
DMS 70C Clinical Preceptorship III	8.5	DMS 70D Clinical Preceptorship IV	8.5	DMS 70E Clinical Preceptorship V	8.5	
Total Units	15.5	Total Units	16.5	Total Units	16.5	

Foothill General Education requirements are included in Attachment A.

Attachment C: Outlines of Record for Required Courses

14. Transfer Applicability

This program is designed as a stand-alone program which a sequence of classes. While some of the courses are transferable the program as a whole is not a transferable program.

Criteria D. Adequate Resources

15. Libraries and Learning Resources Plan

Since this application is adding an additional Associate in Science option to an existing program, no additional impact is projected. There are numerous learning resources available to the students. <http://www.foothill.edu/ol/index.php>

Additional resources include, but are not limited to, psychological services, testing services, wellness services <http://www.foothill.edu/transfer/counseling.html>, disability resources center, transition to work, learning communities, learning resources, Puente <http://www.foothill.edu/services/puente.html>, student success center, tutorial center, etc

16. Facilities and Equipment Plan

The source of financial support for the program will come from our normal apportionment revenue. The additional Associate in Science degree should not entail any significant increase in apportionment aside from normal growth, as it comprises courses that we currently offer.

17. Financial Support Plan

No additional impact is projected. Current and ongoing funding is from B-budget, block grant(s), Measure C bond issuance and any donation from industry.

18. Faculty Qualifications and Availability

Existing faculty will teach all of the courses required for the Diagnostic Medical Sonography associate degree. Courses offered in this program will be adequately staffed and managed by faculty in accordance with State minimum qualifications standards. FHDACCD regularly ensures faculty maintains currency in their subject areas. Full-time faculty teaches the majority of courses. Faculty has the requisite subject matter mastery, and include faculty who author, are national and international speakers, works with “cutting edge” technology, is associated with major university medical hospital and leading area hospitals.

Criteria E. Compliance

19. Based on model curriculum

Not applicable.

20. Licensing or Accreditation Standards

In compliance with normal accreditation standards, FHDACCD has a well-defined, though constantly evolving, plan for regular evaluation of academic programs. For example, at Foothill College, the Planning and Resource Committee (PARC) is the collaborative group responsible for review of instructional programs and institutional planning. This committee, working in conjunction with the Divisions, Departments and the College Curriculum Committee is continually evaluating and refining the program review process in response to institutional need and changes in factors such as availability of funding and other resources, mission and goals, direction of the district governing board, trends in education, and legislation. The format of program planning documentation and reporting has recently been revised to include an emphasis on outcomes assessment, and to provide a stronger link between program objectives and institutional mission and goals. The PARC is working on a method to provide a weighted overall score for each program that will afford programs a perspective of their own performance in the context of the institution as a whole.

As a part of the program planning and review process, the PARC analyzes program self-evaluation and planning documents and exchanges feedback between the program review and planning teams. In this way, program faculty regularly evaluate programs with further comment provided by other members of the college community. By decree of PARC, program evaluation is linked to resource allocation and institutional planning; review materials are required before consideration will be given to submitted requests.

The Diagnostic Medical Sonography Program is accredited through the JRC-DMS (Joint Review Committee on Education in Diagnostic Medical Sonography) under CAAHEP (Commission on Accreditation of Allied Health Programs). The DMS program follows the *Standards and Guidelines* for the Accreditation of Education Programs in Diagnostic Medical Sonography. These maintain and promote appropriate standards of quality for educational programs in diagnostic medical sonography and provide recognition for educational programs that meet or exceed the minimum standards outlined in these accreditation *Standards*. The *Standards* include documentation of sponsorship, program goals, resources, personnel, curriculum, learning competencies, student and graduate outcomes through evaluation and assessments, fair practices, etc.

21. Student Selection and Fees

Student selection is based on published criteria in conjunction with programmatic accreditation standards (JRC-DMS), national board examinations requirements for prerequisite 2, 3A and 4B2 with the ARDMS (American Registry of

Diagnostic Medical Sonography). Evidence of success is substantiated with ARDMS pass rates, program completion rates, employer and graduate surveys.

Selection is based on criteria by the JRC-DMS, ARDMS, published prerequisite requirements and is further based on a point system and lottery. Consideration is given to applicant's geographical area for local versus distant clinical site assignment. Therefore, admission and clinical assignment will be influenced for those students who reside in distant counties where clinical education partners are located.

Fee structure is established by the State of California and published by the college. <http://www.foothill.edu/reg/fees.html>



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Diagnostic Medical Sonography Criteria A Attachments

1. Program Requirements
2. General Education Requirements



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BIOLOGICAL & HEALTH SCIENCES DIVISION

DIAGNOSTIC MEDICAL SONOGRAPHY

Associate in Arts Degree & Certificate Requirements

DIAGNOSTIC MEDICAL SONOGRAPHY

Diagnostic Medical Sonographer is a professional qualified by professional credentialing, academic, and clinical experience to provide diagnostic patient care services using ultrasound and related diagnostic procedures. The scope of practice includes those procedures, acts and processes permitted by law, for which the individual has received education and clinical experience, has demonstrated competency, and has completed the appropriate credentialing which is the standards of practice.

Standards are designed to reflect behavior and performance levels to perform patient assessments and evaluation using effective communication and analytical skills. Standards include the ability to acquire and analyze data obtained using ultrasound, related diagnostic technologies, and integration of data. The sonographer provides preliminary reports of findings to the physician in accordance with established procedures.

The sonographer will use independent judgment and systematic problem solving methods to produce high quality diagnostic information and optimize patient care and safety. Coursework includes use of sonography relevant to gynecology, obstetrics, abdominal subjects, superficial structures and vascular applications.

The Diagnostic Medical Sonography Program has been in operation since 1984 and is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS), and the Western Association of Schools and Colleges (WASC).

Instruction is six quarters beginning in September. All courses are completed in sequence. The preceptorship (clinical) courses require thirty-two hours per week. Didactic and laboratory instruction is in addition to the preceptorship assignment. Students are eligible to take the American Registry for Diagnostic Medical Sonography (ARDMS) exams. Successful program completion leads to a Career of Achievement and can lead to an Associate in Science degree.

CAREER OPPORTUNITIES

Students typically pursue technical careers in the hospital, clinic, and office. With additional technical experience career positions may include supervisory positions, as a traveler or independent contractor. Most management, corporate, and education positions require four-year college degrees in a related field.

UNITS REQUIRED FOR MAJOR: 96

UNITS REQUIRED FOR CERTIFICATE: 96

ASSOCIATE DEGREE REQUIREMENTS:

- English proficiency: ENGL 1A or equivalent.
 - Mathematics proficiency: MATH 105 or equivalent.
- A minimum of 90 units required to include:

- All General Education requirements
- Core courses (96 Units)
- Other graduation requirements as appropriate.

NOTE: All courses pertaining to the major must be taken for a letter grade. In addition, a GPA of 2.5 or higher is required in all Core and Support courses for the Degree and Certificate.

PREREQUISITES:

Selective admission into the DMS Program is based on the following with grades of "C" or higher:

- High School graduation or equivalency
- Successful completion of a two-year Allied Health Program such as Radiology Technology, Registered Nursing and/or baccalaureate degree from an accredited institution in the United States in a science/medically related discipline with significant direct patient care experience.
- College Human Anatomy & Physiology with labs (preferred within the past 5 years)
- College General Physics (Radiology Physics is acceptable)
- Algebra at the high school or college level, or a college level or higher-level mathematics, or placement into **MATH 105** on the Foothill College Placement Test.
- College level communication: **ENGL 1A**
- Medical Terminology or **AHS 200** or equivalency if integrated into prior health care program
- Compliance with technical standards
- Cardiopulmonary Resuscitation Certified (can be delayed until acceptance)

NOTE: Application deadline is May 1st.

Refer to www.foothill.edu/bio/programs/ultra for further information.

Anatomy and Physiology studied in a language other than English will not be considered. Physical examinations, immunizations, background screening and drug testing are required to attend clinical internships. Positive results on background checks and drug testing could impact a student's ability to attend clinical assignment, complete the program requirements or gain a license to practice upon graduation. The cost of required physical examinations, immunizations, background screenings and drug tests will be paid by the student. Students accepted into the program will be provided with specific details.

CORE COURSES: 96 Units

Fall Quarter

DMS 50A Diagnostic Medical Sonography Principles & Protocols (4 Units)

DMS 50B Sonography & Patient Care (2 Units)

DMS 60A Critique & Pathology I (2 Units)

DMS 72A Diagnostic Medical Sonography Procedures & Applications (8 Units)

Winter Quarter

DMS 51A Sectional Anatomy (3 Units)
DMS 53A Diagnostic Medical Sonography I (2 Units)
DMS 54A Gynecology (2 Units)
DMS 60B Critique & Pathology II (1 Unit)
DMS 70A Clinical Preceptorship I (8.5 Units) (32 hrs/wk;
13 wks)

Spring Quarter

DMS 52A Physical Principles of Diagnostic Medical
Sonography I (2 Units)
DMS 53B Diagnostic Medical Sonography II (2 Units)
DMS 54B Gynecology & Obstetrics (2 Units)
DMS 60C Critique & Pathology III (1 Unit)
DMS 70B Clinical Preceptorship II (8 Units) (32 hrs/wk;
12 wks)

Summer Quarter

DMS 52B Physical Principles of Diagnostic Medical
Sonography II (2 Units)
DMS 53C Diagnostic Medical Sonography III (2 Units)
DMS 55A Obstetrics I (2 Units)
DMS 60D Critique & Pathology IV (1 Unit)
DMS 70C Clinical Preceptorship III (8.5 Units) (32 hrs/wk;
13 wks)

Fall Quarter

DMS 56A Vascular Sonography I (3 Units)
DMS 55B Obstetrics II (2 Units)
DMS 60E Critique & Pathology V (1 Unit)
DMS 70D Clinical Preceptorship IV (8.5 Units) (32 hrs/wk;
13 wks)
DMS 72E Diagnostic Medical Sonography Procedures &
Applications (2 Units)

Winter Quarter

DMS 52C Physical Principles of Diagnostic Medical
Sonography III (2 Units)
DMS 56B Advanced Applications of Vascular Technology II
(2 Units)
DMS 60F Critique & Pathology VI (1 Unit)
DMS 70E Clinical Preceptorship V (8.5 Units)(32 hrs/wk;
13 wks)
DMS 80A Advanced Sonographic Principles (3 Units)

Academic Year 2010-2011

A.A./A.S. Degree & General Education Requirements

The requirements for the Associate in Art or Associate in Science Degree include completion of (1) a minimum of 90 units in prescribed courses; (2) a minimum of 24 units completed at Foothill College; (3) a grade-point average of 2.0 or better in all college courses including Foothill courses; (4) a major of at least 27 units in a curriculum approved by the Foothill Curriculum Committee; and (5) the seven general education requirements listed below. The student who is planning to transfer to a four-year college or university should also consult with a counselor for the specific requirements of those institutions.

The student must successfully complete a minimum of 30–35 units from the courses listed below with at least one course in Humanities, English, Natural Sciences (with lab), Social and Behavioral Sciences, Communication and Analytical Thinking, American Cultures and Communities, and two courses in Lifelong Understanding from two different academic departments. **Courses may only be used in one area.**

AREA I—HUMANITIES

Arts: ART 1, 2A, 2AH, 2B, 2BH, 2C, 2CH, 2D, 2E, 4A with 4AX, 5A with 5AX, 11, 14, 36, 45A with 45AX; F A 1; GID 1; MUS 1, 2A, 2B, 2C, 3A, 3B, 3C, 7, 7D, 7E, 8, 8H, 10, 64A, 64B, 85A, 85B; PHOT 1, 5, 8, 8H, 10, 11; THTR 1, 5, 5B, 20A, 20B, 20C, 20D, 24, 30; VART 2A, 2B, 2C, 36B; WMN 15.

Letters: CHIN 1, 2, 3, 4, 5, 6, 13A, 13B, 14A, 14B, 25A, 25B; COMM 24; CRWR 6, 36B, 39A, 39B, 40, 41A, 41B, 60; ENGL 5, 8, 11, 12, 14, 17, 22, 23, 25, 25H, 26, 31, 32, 42A, 42B, 42C, 43, 45, 46A, 46B, 46C, 48A, 48B, 48C; FREN 1, 2, 3, 4, 5, 6, 13A, 13B, 14A, 14B, 25A, 25B, 39; GERM 1, 2, 3, 39; HIST 4A, 4B, 4C, 4CH; HUMN 1A, 1B; JAPN 1, 2, 3, 4, 5, 6, 13A, 13B, 25A, 25B, 33; LING 23, 25, 25H, 26; PHIL 2, 4, 8, 11, 20A, 22, 24, 25; SPAN 1, 2, 3, 4, 5, 6, 10A, 13A, 13B, 14A, 14B, 25A, 25B; THTR 2A, 2B, 2C, 8.

AREA II—ENGLISH

ENGL 1A, 1AH or ESL 26.

AREA III—NATURAL SCIENCES (WITH LABORATORY)

ASTR 10A with 10L, 10B with 10L, 10BH with 10L; BIOL 1A, 1B, 1C, 9 with 9L, 10, 13, 14, 15, 40A, 40B, 40C, 41; CHEM 1A, 10, 25, 30A; GEOG 1; HORT 10; PHYS 2A, 4A, 10.

AREA IV—SOCIAL & BEHAVIORAL SCIENCES

ANTH 1, 2A, 2B, 3, 4, 5, 6, 8; BUSI 22, 53; CHLD 55; ECON 1A, 1B, 9, 12, 25; GEOG 1, 2, 5, 9, 10; GERM 8; HIST 4A, 4B, 4C, 4CH, 8, 9, 9H, 10, 15, 16, 16H, 17A, 17B, 17C, 18, 19, 20, 23A, 30; POLI 1, 2, 2H, 3, 3H, 5, 7, 8, 9, 15, 15H; PSYC 1, 4, 10, 14, 21, 22, 25, 30, 33, 40, 49, 55; SOC 1, 10, 11, 15, 19, 20, 21, 23, 30, 40; SOSC 20; WMN 5, 11, 21.

AREA V—COMMUNICATION & ANALYTICAL THINKING

CIS 12A, 15A, 18, 25A; COMM 1A, 1B, 2, 3, 4, 12, 24, 30, 46, 55; ENGL 1B, 1BH, 4; MATH 1A, 1B, 1C, 2A, 2B, 10, 11, 12, 22, 44, 46, 49, 51; PHIL 1, 7, 8, 50.

AREA VI—UNITED STATES CULTURES & COMMUNITIES

ANTH 4; ART 2D; BIOL 14; CHLD 11; COMM 10, 12; ENGL 5, 8, 12, 31, 41, 48A, 48B, 48C; HIST 9, 9H, 10; MUS 8, 8H; PHIL 22; PHOT 8, 8H; POLI 7; PSYC 22; SOC 8, 23; SOSC 20; SPED 61; THTR 8; WMN 5, 11.

AREA VII—LIFELONG UNDERSTANDING

The student must successfully complete a total of four units or more in Lifelong Understanding from two different academic departments. For the purpose of this area, ALAP, DANC and PHED will be considered one academic department, and COIN and CIS will be considered one academic department. BIOL 8, 9, 45; BUSI 91L; CIS 2, 50A, 60; COIN 51; CNSL 1, 2, 72, 80, 90; COMM 2, 10, 12; CRLP 55, 70; DANC 1A, 1B, 2, 3A, 3B, 4, 5, 6, 7; HLTH 21; PHED 4; any physical activity course (PHED) or ALAP 60, 60X, 61, 61X, 62, 62X, 63, 63X, 64, 64X, 65, 65X, 66, 66X, 70, 70X, 71, 71X, 80, 80X; LIBR 1, 50, 71; SOC 19, 40; SOSC 20; SPED 52, 61, 72.

PETITION FOR GRADUATION

Upon completion of a majority of major and general education courses, consult with a counselor for information regarding Foothill College graduation procedures. The graduation petition must be filed in the quarter preceding the quarter in which you will complete the requirements for graduation.

Minimum proficiency: ENGL 1A or ESL 26 and MATH 105*, completed with a letter grade of **C** or better.

Note: If you intend to transfer to a four-year school, you must complete additional requirements for general education. You are strongly encouraged to meet frequently with a Foothill counselor.

State regulations provide that only one English or ESL course below transferable freshman composition may apply toward the associate degree. At Foothill, those courses are ENGL 110 or ESL 25.

*Intermediate Algebra or equivalent means MATH 105, or mathematics placement test score indicating eligibility for a mathematics course beyond the level of MATH 105, or completion of a higher level course with a grade of **C** or better, or completion of a bachelor's degree or higher from an accredited U.S. college or university.

For the most current list of requirements, access www.foothill.edu

Effective Summer 2009



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Diagnostic Medical Sonography Criteria B Attachments

1. Labor/Job Market Data
 - a. Diagnostic Medical Sonography Regional Program Demand Report
 - b. Program Report
 - c. Industry Report
2. Employer Survey
 - a. Blank Survey
 - b. Survey Results
3. Minutes of Key Meetings
 - a. April 23, 2008
 - b. April 22, 2009

Diagnostic Medical Sonography (TOP 1227.00)

Regional Program Demand Report

Foothill College, San Francisco larger MSA

Introduction and Contents

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Purpose and Goals

This report is designed to integrate and analyze data from multiple sources to help educational institutions discover regional labor market needs for certain postsecondary programs of study. The overall goal is to help a college align their program offerings the economy and labor market of its service region. To do this, the report selects a set of focus occupations, determines the regional job outlook for them, and compares this to the number of recent graduates in related programs at regional educational institutions. While this is a first step toward a supply/demand analysis, for increased accuracy it could be extended with survey-based information from local employers regarding their hiring outlook and recruitment sources.

The occupation employment and wage numbers are from EMSI's national Complete Employment database, which is built using numerous published data sources from the federal Bureau of Labor Statistics, Bureau of Economic Analysis, and Bureau of the Census. In addition, the report uses industry/occupation data and projections created by the State of AnyState. The completions-by-program and program-to-occupation links use data from the U.S. Department of Education.

These data sources have been specially processed and harmonized to provide more complete and detailed data than any individual source used. For more information, see the final page of this report.

Focus College

Foothill College

Region Definition

Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara

Key Terms and Concepts

Programs: Courses of postsecondary study defined by CIP (Classification of Instructional Programs) codes.

Occupation: A category of workers defined by the Standard Occupational Classification (SOC).

Relating occupations to Programs: EMSI determines these links using information from the U.S. Department of Education.

Replacement Jobs: The estimated number of job openings in an occupation due to retirement, turnover, and other factors aside from job growth. Based on national percentages by occupation.

Annual openings: The sum of new jobs and estimated replacement jobs for a given occupation, divided by the number of years in the timeframe.

Earnings: For industries, total annual earnings per worker is reported; these earnings include wages, salaries, profits, and benefits. Occupational earnings are reported as median hourly wage only.

Jobs: Full-time and part-time positions held by proprietors and payroll employees in the public or private sector. May exceed actual worker count.

Projections: Estimates of future job or population numbers based on (1) recent historical regional trends and (2) published forecasts created by a consensus of state and federal agencies.

Executive Summary

Overview

This report focuses on **1 occupations** which are expected to provide **21 annual job openings** from 2008-2013 in the San Francisco larger MSA 6-county area. Meanwhile, in 2007, area colleges produced **15 graduates** in **2 programs** related to these occupations. The numbers indicate an opportunity for area colleges to expand their offerings in this field.¹

Focus Occupations

The following occupations were selected for analysis in this report:²

- Diagnostic medical sonographers

Focus Programs

The key occupations above correspond to the following standard postsecondary program titles:³

- Diagnostic Medical Sonography/Sonographer and Ultrasound Technician
- Allied Health Diagnostic, Intervention, and Treatment Professions, Other

Labor Market Outlook

Aggregated data for all focus occupations:

	Region	State[s]	U.S.
2008 total jobs	895	4,712	50,691
2013 total jobs	941	5,154	55,815
2008-2013 growth	46	442	5,124
2008-2013 repl. jobs	61	323	3,380
Median hourly earnings	\$38.77	\$32.71	\$28.64

Focus Program Completions

"Completions" represents the total number of students to attain an award or degree at each given level in all the above college programs.

Award Level	2007 Completions (Foothill College)	2007 Completions (All Colleges in Region)
Award < 2 years	1	1
Associate's	10	14
Bachelor's	-	-
Postbaccalaureate Certificate	-	-
Master's	-	-
Doctor's	-	-
Professional	-	-
TOTAL	11	15

Source: U.S. Department of Education, National Center for Education

Statistics: Integrated Postsecondary Education Data System (IPEDS).

1. Annual job openings: new plus replacement jobs divided by years in the timeframe. Note that openings may be filled from various sources besides new graduates, and that graduates may work in occupations unrelated to their degree.

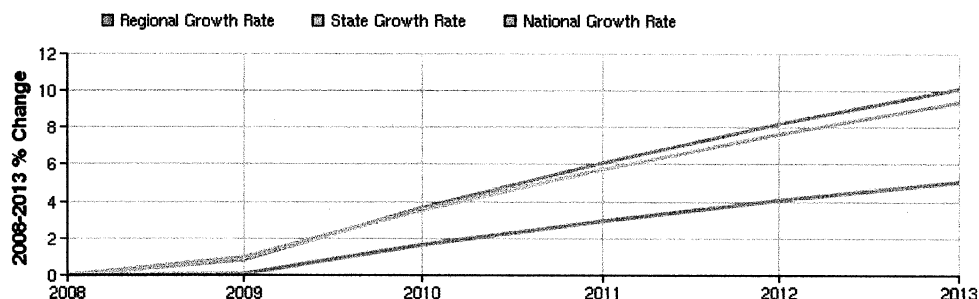
2. Occupations are defined by the federal SOC system.

3. Programs are defined by the federal CIP system. The occupation-program crosswalk is based on the CIP-SOC crosswalk published by the U.S. Department of Education.

Job Outlook Summary

Percent Change in Employment, All Focus Occupations

This graph shows yearly percent growth compared to 2008.



The table summarizes the regional job outlook for the focus occupations using employment projections and current wage data, indicating the demand for these kinds of workers and their pay scale. Colleges which strive to be labor market responsive, maximize their economic impact, and generate a return on investment for public funds should generally focus program resources to support high-growth, high-wage occupations.

Detailed Information by Occupation

Occupation Title	2008-13 Avg. Annual Openings			Median Hourly Earnings		
	Region	State[s]	U.S.	Region	State[s]	U.S.
Diagnostic medical sonographers	21	153	1,701	\$38.77	\$32.71	\$28.64
TOTAL	21	153	1,701	\$38.77	\$32.71	\$28.64

Source: EMSI Complete Employment, 3/2008.

Average annual openings: total new plus replacement jobs over the entire timeframe divided by number of years in the timeframe.

1. Projected new and replacement jobs can indicate demand, but are not necessarily equivalent to demand. The number is based on past regional performance of the industries that employ workers in the given occupations, combined with official, biannual state and federal ten-year estimates. Projections may underestimate demand if employers need these kinds of workers but are unable to hire qualified individuals to meet their needs, or if unforeseen business recruitment and growth outpace past trends. Similarly, projections may overestimate demand if there are unforeseen contractions in key employers, entire industries, or the national economy as a whole.

Regional Job Outlook

The table summarizes the regional job outlook for the focus occupations using employment projections and current wage data, indicating the demand for these kinds of workers and their pay scale. Colleges which strive to be labor market responsive, maximize their economic impact, and generate a return on investment for public funds should generally focus program resources to support high-growth, high-wage occupations. Occupations are sorted by total 2008 jobs.

Occupation Title	2008 Jobs	2013 Jobs	New Jobs	New & Rep. Jobs	Median Hourly Earnings
Diagnostic medical sonographers	895	941	46	107	\$38.77
	895	941	46	107	\$38.77

Source: EMSI Complete Employment - Spring 2009.

State & National Job Outlook

These two tables summarize the state and national job outlook for the focus occupations using employment projections and current wage data, indicating the demand for these kinds of workers and their pay scale. Occupations are in the same order as they are in the regional job outlook table on the previous page.

State Job Outlook

Occupation Title	2008 Jobs	2013 Jobs	New Jobs	New & Rep. Jobs	Median Hourly Earnings
Diagnostic medical sonographers	4,712	5,154	442	765	\$32.71
	4,712	5,154	442	765	\$32.71

Source: EMSI Complete Employment - Spring 2009.

National Job Outlook

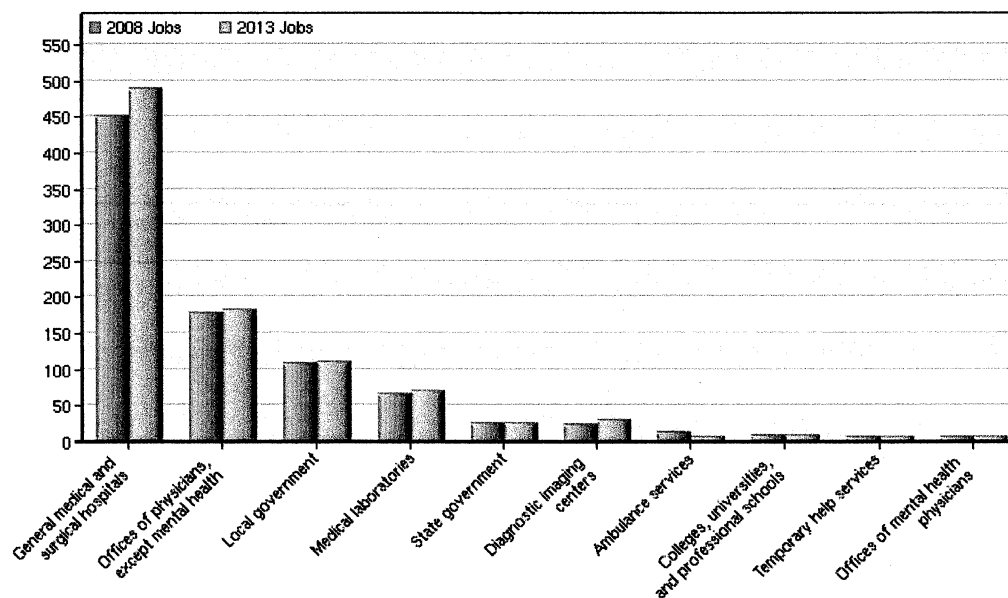
Occupation Title	2008 Jobs	2013 Jobs	New Jobs	New & Rep. Jobs	Median Hourly Earnings
Diagnostic medical sonographers	50,691	55,815	5,124	8,504	\$28.64
	50,691	55,815	5,124	8,504	\$28.64

Source: EMSI Complete Employment - Spring 2009.

Inverse Staffing Patterns

Industrial Makeup

These are your region's top ten growing industries in the selected occupations.



NAICS Code	Description	2008 Jobs	2013 Jobs	Change	% Change
622110	General medical and surgical hospitals	450	488	38	8%
621111	Offices of physicians, except mental health	177	181	4	2%
930000	Local government	109	110	1	1%
621511	Medical laboratories	65	70	5	8%
920000	State government	25	24	-1	-3%
621512	Diagnostic imaging centers	24	30	6	26%
621910	Ambulance services	12	<10	--	--
611310	Colleges, universities, and professional schools	<10	<10	--	--
561320	Temporary help services	<10	<10	--	--
621112	Offices of mental health physicians	<10	<10	--	--

Regional Graduation Summary

Regional graduations ("completions" or number of awards/degrees granted) in the programs tied to the focus occupations are one indicator of workforce supply. (Other sources include in-migration of new workers to the region, promotion from within firms, and currently unemployed workers in the same or similar occupations.) The following table breaks down these graduations by program and award level at AnyRegion college and at all institutions in the region. A zero entry for completers indicates the program is offered but had no completions, while a "-" indicates the program is not offered.

CIP Code	Program Title	Award Level	2007 Completions, Your College	2007 Completions, Entire Region
51.0910	Diagnostic Medical Sonography/Sonographer & Ultrasound Technician	Award of less than 1 academic year	-	-
		Award of at least 1 but less than 2 academic years	1	1
		Associate's degree	10	14
		Award of at least 2 but less than 4 academic years	-	-
51.0999	Allied Health Diagnostic/Intervention/Treatment Professions, Oth	[all]	-	-
TOTAL			11	15

Source: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System (IPEDS).

Occupational Programs & Completers

The following section provides detailed information for each focus occupation, including the job outlook information provided above. Each occupation is also associated with one or more postsecondary programs (defined by standard CIP 2000 codes) using information published by the U.S. Department of Education with customizations by EMSI.

A zero entry for completers indicates the program is offered but had no completions, while a "-" indicates the program is not offered.

Summary Table

Occupation	2008-2013 Avg. Annual Openings	2007 Completions, All Related Programs (College)	2007 Completions, All Related Programs (Region)	Total Related Programs	Total Occs. Sharing Same Programs
Diagnostic medical sonographers	21	11	15	2	4

Source: EMSI Complete Employment; U.S. Department of Education, IPEDS & Occupational Code Crosswalk - CIP 2000.

An occupation may be related to multiple programs and vice versa. Completions may be double-counted if related to multiple occupations; **do not total**. See columns "Total Related Programs" and "Total Occs. Sharing Same Programs" to refine interpretation of openings versus completions.

Detail Tables

The following tables provide detailed information for focus occupations and related programs, comparing estimated average annual openings in each occupation with recent completions (awards/degrees) in related programs at both AnyRegion College and at all institutions in the region. Many postsecondary programs are linked to multiple occupations; this is shown in the final column of each table and is one indication that fewer program completers will likely enter the given occupation than the overall total would suggest.

Sources for this section: EMSI Complete Employment, 3/2008; U.S. Department of Education, IPEDS.

Diagnostic medical sonographers

2008-2013 Avg. Annual Openings: **21**

Median Hourly Earnings: **\$38.77**

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	11	15	4
Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	11	15	1
Allied Health Diagnostic, Intervention, and Treatment Professions, Other	-	-	3

About the Data

Introduction

EMSI data is a compilation and harmonization of more than 80 government and private-sector sources. Updated every six months and based on the most recent data available, the dataset covers the entire US population and economy, down to each individual ZIP code. It includes data for industries, occupations, demographics, postsecondary institutions, and selected economic indicators.

Occupation Data

Organizing regional employment information by occupation provides a workforce-oriented view of the regional economy. EMSI's occupation data are based on EMSI's industry data and regional "staffing patterns" (showing the average mix of job types in various industries) taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is augmented by data from the American Community Survey (U.S. Census). Replacement jobs and annual openings estimates are based on national survey data by occupation. As in the official government statistics, occupations are categorized by Standard Occupational Classification (SOC) codes and titles.

Completions Data

Completions are voluntarily reported by postsecondary institutions through the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS). Completions are organized by program using the Classification of Instructional Programs (CIP) codes and titles.

Relating Occupations to Postsecondary Programs

The occupation-to-program (SOC-to-CIP) "crosswalk" is a large table that describes which occupations are generally trained for by each standard postsecondary program (based on Classification of Instructional Programs [CIP] codes and titles, last updated in 2000). EMSI starts with the official crosswalk published by the U.S. Department of Education and customizes it in various ways to make it more accurate and practical for comparing programs to regional labor markets.

About Economic Modeling Specialists

Products and Services

EMSI provides integrated regional economic and labor market data, web-based analysis tools, data-driven reports, and custom consulting services. EMSI specializes in detailed information about regional economies for assessment and planning purposes, bringing together industry, workforce, economic development, and education/training perspectives.

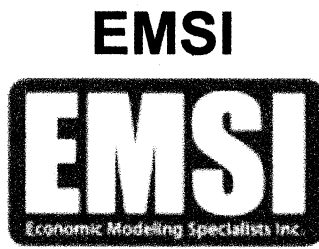
EMSI's expertise is centered on regional economics, data integration and analysis, programming, and design so that it can provide the best available products and services for regional decision makers. EMSI recently merged with its sister company CCBenefits Inc.-well known for conducting socioeconomic impact studies for over 800 community and technical colleges across the nation-to offer an integrated portfolio of solutions for college, workforce, and economic development professionals.

Clients

EMSI's client base includes hundreds of colleges, workforce boards, economic development organizations, governmental agencies, economists, consultants, academics, and private-sector analysts. With over four thousand current clients in the U.S., Canada, and the United Kingdom, EMSI's products and services are critical for informing regional policy.

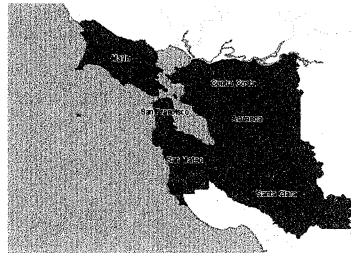
Contact EMSI

For more information about EMSI, visit us at www.economicmodeling.com, or call us toll-free at 866.999.3674.



1187 Alturas Drive
Moscow, Idaho 83843
2088823567

Program Report



Economic Modeling Specialists, Inc. www.economicmodeling.com

EMSI

Region Info

Region: San Francisco larger MSA

County Areas: Alameda, California (6001), Contra Costa, California (6013), Marin, California (6041), San Francisco, California (6075), San Mateo, California (6081), Santa Clara, California (6085)

Executive Summary

Program
Diagnostic Medical Sonography (TOP 1227.00)

Program Occupations
Diagnostic medical sonographers (SOC 29-2032)

Summary	
2008 Occupational Jobs	895
2013 Occupational Jobs	941
Total Change	46
Total % Change	5%
2009 Median Hourly Earnings/Worker	\$38.77
Annual Openings	21
Total Replacement Jobs	61

Source: EMSI Complete Employment - Spring 2009

Occupational Breakdown

SOC Code	Description	2008 Jobs	2013 Jobs	Annual Openings	Replacement Jobs	Hourly Earnings	Education Level
29-2032	Diagnostic medical sonographers	895	941	21	61	\$38.77	Associate's degree
	Total	895	941	21	61	\$38.77	

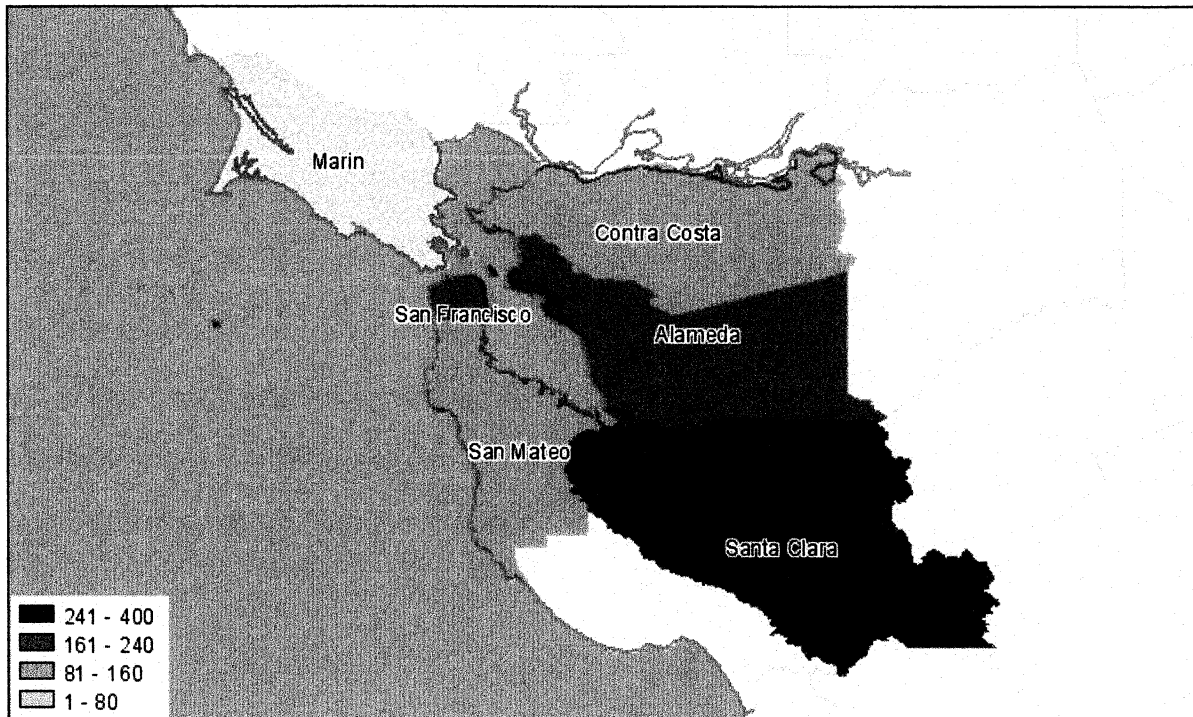
Source: EMSI Complete Employment - Spring 2009

Occupational Change

SOC Code	Description	Regional Change	Regional % Change	State % Change	National % Change
29-2032	Diagnostic medical sonographers	46	5%	9%	10%

Source: EMSI Complete Employment - Spring 2009

Occupation Distribution



County	2008 Jobs
Santa Clara, CA (6085)	312
Alameda, CA (6001)	170
San Francisco, CA (6075)	168
San Mateo, CA (6081)	118
Contra Costa, CA (6013)	82
Marin, CA (6041)	46

Source: EMSI Complete Employment - Spring 2009

Data Sources and Calculations

Occupation Data

Organizing regional employment information by occupation provides a workforce-oriented view of the regional economy. EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department.



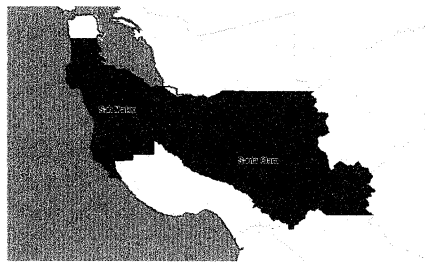
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Industry Report



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EMSI

Region Info

Region: SanMateo/SantaClara

Description: Two counties

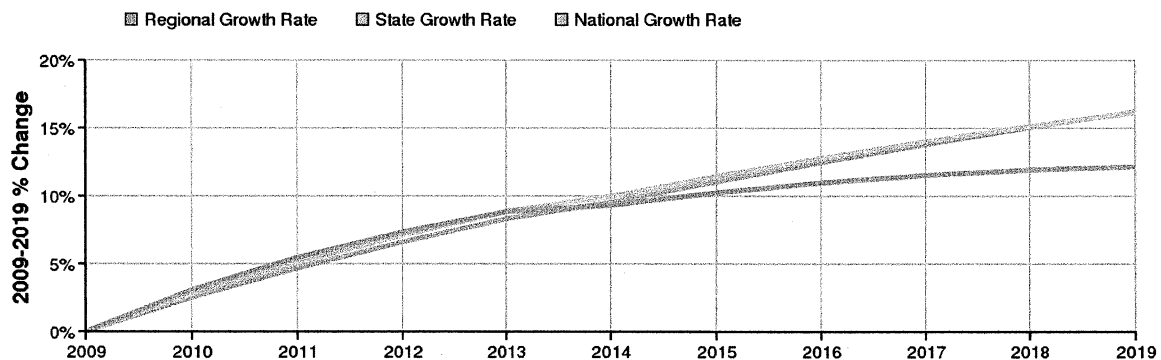
County Areas: San Mateo, California (6081), Santa Clara, California (6085)

Executive Summary

Selected Industries	
Medical and diagnostic laboratories (NAICS 62151)	
General medical and surgical hospitals (NAICS 62211)	

Basic Information	†
2009 Industry Jobs	36,637
2019 Industry Jobs	41,095
Total Change	4,458
Total % Change	12.17%
Current Average Earnings per Worker	\$101,049

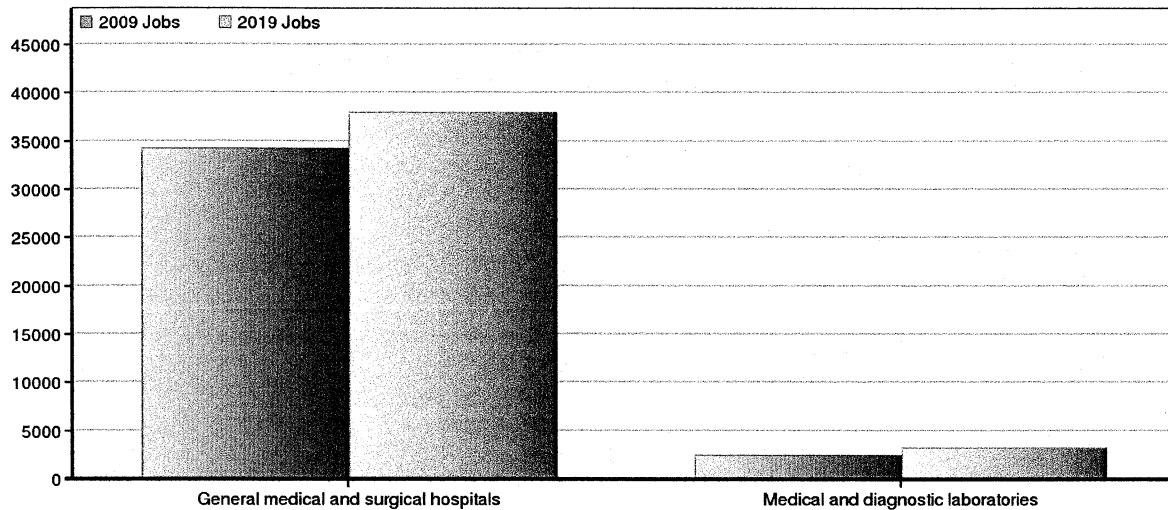
Industry Change Summary



Description	2009 Jobs	2019 Jobs	Change	% Change	Current EPW	2008 Establishments
Regional Total	36,637	41,095	4,458	12%	\$101,049	269
State Total	417,978	485,505	67,527	16%	\$78,138	3,933
National Total	4,611,672	5,359,294	747,622	16%	\$58,483	24,844

Source: EMSI Complete Employment - 2nd Quarter 2009 v. 2

Industry Breakdown



NAICS Code	Description	2009 Jobs	2019 Jobs	Current EPW	2008 Establishments
62211	General medical and surgical hospitals	34,213	37,928	\$101,457	128
62151	Medical and diagnostic laboratories	2,424	3,166	\$95,288	141
	Total	36,637	41,095	\$101,049	269

Source: EMSI Complete Employment - 2nd Quarter 2009 v. 2

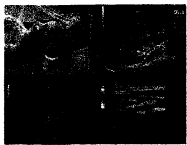
Data Sources and Calculations

Industry Data

In order to capture a complete picture of industry employment, EMSI basically combines covered employment data from Quarterly Census of Employment and Wages (QCEW) produced by the Department of Labor with total employment data in Regional Economic Information System (REIS) published by the Bureau of Economic Analysis (BEA), augmented with County Business Patterns (CBP) and Nonemployer Statistics (NES) published by the U.S. Census Bureau. Projections are based on the latest available EMSI industry data, 15-year past local trends in each industry, growth rates in statewide and (where available) sub-state area industry projections published by individual state agencies, and (in part) growth rates in national projections from the Bureau of Labor Statistics.

State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department.



Joint Review Committee
on Education in Diagnostic Medical Sonography
A Committee on Accreditation for Sonography Programs

Employer Survey

INSTRUCTIONS: The primary goal of a Diagnostic Medical Sonography Education program is to prepare the graduate to function as a competent ENTRY-LEVEL sonographer. This survey is designed to help the program faculty determine the strengths and areas for improvement for our program. All data will be kept confidential and will be used for program evaluation purposes only. We request that this survey be completed by the graduate's immediate supervisor.

Consider each item separately and rate each item independently of all others. Circle the rating that indicates the extent to which you agree with each statement. Please do not skip any rating. Select N if you do not know about a particular area.

5 Strongly Agree 4 Generally Agree 3 Neutral 2 Generally Disagree 1 Strongly Disagree N Not Applicable

Name of Graduate: _____

Institution Name: _____ JRC-DMS Program Number _____

Length of employment at time of evaluation: _____ years and _____ months.

What credentials as an employer do you require of your sonographers (*select all that apply*)?

☐ RDMS (☐Ab ☐Ob) ☐ RDCS ☐ RVT ☐ RT(S) ☐ Other: _____

I. Knowledge Base (*Cognitive Domain*)

The graduate:

A. Has the sonography knowledge necessary to function in a healthcare setting	5	4	3	2	1	N
B. Has the general medical knowledge necessary to function in a healthcare setting	5	4	3	2	1	N
C. Is able to collect data from charts and patients	5	4	3	2	1	N
D. Is able to interpret patient data	5	4	3	2	1	N
E. Is able to recommend appropriate diagnostic and therapeutic procedures	5	4	3	2	1	N
F. Uses sound judgment while functioning in a healthcare setting	5	4	3	2	1	N

Comments: _____

II. Clinical Proficiency (*Psychomotor Domain*)

The Graduate:

A. Effectively performs a broad range of clinical skills	5	4	3	2	1	N
B. Possesses the skills to perform patient assessment	5	4	3	2	1	N
C. Is able to perform current sonography procedures and modalities	5	4	3	2	1	N
D. Is able to perform and interpret diagnostic procedures	5	4	3	2	1	N

Comments: _____

III. Behavioral Skills (*Affective Domain*)

The Graduate:

A. Communicates effectively within a healthcare setting	5	4	3	2	1	N
B. Conducts himself / herself in an ethical and professional manner	5	4	3	2	1	N
C. Functions effectively as a member of the healthcare team	5	4	3	2	1	N
D. Accepts supervision and works effectively with supervisory personnel	5	4	3	2	1	N
E. Is self-directed and responsible for his / her actions	5	4	3	2	1	N

Comments: _____

V. Overall Rating

Please rate and comment on the overall quality of this program's graduate 5 4 3 2 1 N

Comments: _____

VI. Additional Comments

What qualities or skills (if any) did you expect of the graduate upon employment that he/she did not possess?

Please provide comments and suggestions that would help this program to better prepare future graduates.

What are strengths of the graduate(s) of this program?

If given the opportunity, would you hire another graduate from this program? Yes / No

Signature

Date

Title

Attachment D Employer Survey Results

Attachment D 2007 Annual Report.xls [Compatibility Mode]

**Annual Report - Diagnostic Medical Sonography
for CAAHEP Accredited Programs**

Sponsor Name: Diagnostic Medical Sonography of Foothill College
City, State Los Altos Hills, California

Directions: For each question/item within each learning domain on the surveys returned, count the number responses in each rating (e.g. # of 5s for that question/item across all surveys, # of 4s for that item across all surveys, etc). Enter that number in the appropriate cell below.

Enter the results separately for the 1 graduating class(es) in year 2007.

Class #1	Enrollment Date (from Retention tab)	Graduation Date (from Retention tab)	Total # of Grads
	6/30/2006	9/1/2007	21

CAUTION: Resequencing the order of the classes in the Retention tab will change the sequence of these classes!

Grad surveys sent = 19 # returned = 11

	Return Rate	Thres-hold
		50%

A positive item is where 80% or more of the responses for that question/item are rated 3 or above.

Item #	# of 5s	# of 4s	# of 3s	# of 2s	# of 1s	# N/As	# Omit	% >=3	Pos/Neg
Graduate - Cognitive									
Class #1 of 2007									
A.	11	0	0	0	0	0	0	100.0%	
B.	8	3	0	0	0	0	0	100.0%	
C.	9	2	0	0	0	0	0	100.0%	
D.	9	2	0	0	0	0	0	100.0%	
E.	10	1	0	0	0	0	0	100.0%	
F.	10	1	0	0	0	0	0	100.0%	
Graduate - Psychomotor									
Class #1 of 2007									
G.	11	0	0	0	0	0	0	100.0%	
H.	10	1	0	0	0	0	0	100.0%	
I.	10	1	0	0	0	0	0	100.0%	
J.	9	2	0	0	0	0	0	100.0%	
Graduate - Affective									
Class #1 of 2007									
K.	10	1	0	0	0	0	0	100.0%	
L.	10	1	0	0	0	0	0	100.0%	
M.	10	1	0	0	0	0	0	100.0%	

SUMMARY OF NEGATIVE GRAD SURVEY ITEMS:

Survey Wks-Grad-Gen Survey Wks-Empl-Gen Retention-Vascular Graduates-Vascular Results-Vascular Outcomes-Vascular

Foothill College
DIAGNOSTIC MEDICAL SONOGRAPHY ADVISORY BOARD COMMITTEE MEETING

MINUTES

APRIL 22, 2009

Dr. Volney Van Dalsem	Medical Director, Radiologic Technology Program & Outpatient Imaging Services, SUMC
Richard Galope	Vice President of Workforce Development & Instruction, Foothill College
Eloise Orrell	Dean, Biological & Health Science Division, Foothill College
Bonny Wheeler	Program Director, Radiologic Technology Program, Foothill College
Kathleen Austin	Program Director, Diagnostic Medical Sonography, Foothill College
David Sostarich	Radiology Director, El Camino Hospital
Alice Gregg	Manager, Radiology Services, El Camino Hospital
Darlene DeBrito	Radiology Director, Good Samaritan Hospital
Eleze Armstrong	Radiology Director, Hazel Hawkins Memorial Hospital
Barbara Pardini	Director, Imaging Services, O'Connor Hospital
Jana Hesemans	Radiology Manager, PAMF, Mountain View Center (Formerly Camino Medical Group)
David Boyd	Supervisor, Santa Clara Valley Medical Center
Sheila Sargent	Clinical Instructor, Valley Radiology
Patty Kirby	Clinical Instructor, Kaiser Santa Clara
Laurie Holderman	Adjunct Faculty, Foothill College
Andrew Shouse	2 nd Year Student Representative, Foothill College Radiologic Technology Program
Mindy Nguyen	1 st Year Student Representative, Foothill College Radiologic Technology Program

The meeting was called to order at 4:50 p.m by Kathleen Austin, Program Director of the Diagnostic Medical Sonography Program.

- See agenda for statistics on attrition, pass rate and trends for the 2008 graduating class and current class information.

DMS Assistant

- Students are now integrated into each facilities computer systems, workflow and exam observation two days per week during their first quarter rotation. This has enabled the students to get some of the more mundane yet indispensable information “under their belts” before ever scanning a patient.

Class Makeup

- In years past, most of the Sonography students came with an imaging sciences background. However, the current group of students is comprised of “non-traditional” backgrounds including foreign physicians (mainly from India and Pakistan), these individuals account for 41% of the current class.
- The “non-traditional” students are doing almost as well, or equal to, those with an RT background.
- Some discussion ensued regarding the foreign physicians’ ability to maintain their new scope of practice and not crossover into diagnosing their patients. For the most part, this has not been a problem with most of the students, with the exception of one student who was released from the program.

- Data gathering is planned for next year's meeting to see the employment longevity of these "non-traditional" graduates.

Employment Outlook

- Due to the present economy, employment for graduates is occurring up to two months post graduation rather than candidates obtaining jobs prior to graduation as in years past. As of now, all graduates from the class of 2008 are employed with the exception of one person who had surgery followed by an extended vacation upon graduation.
- The next class of students will be graduating in March of 2010.
- The AS degree option is appealing to graduates. Application is in progress.

New Technology in Lab

- Cutting edge equipment (including 3D and volume scanning) will be in place in the lab by the end of the summer; Some of this technology isn't even available in the hospitals/clinics yet. This is very exciting for the program as the students will be familiar with the latest technology even before it is being used on patients in the medical setting.

Distance Learning Program

- The affiliation with Santa Rosa Junior College is now in its third year. This has been very successful for students who live in Marin and the wine country. They have classes two days per week at Santa Rosa Junior College, but commute to Foothill for labs.
- Three hospitals in the north bay are continuing their clinicals for next year and there are plans to expand the program into the East Bay.

Meeting adjourned at 5:20 pm

Minutes respectfully submitted by Laurie Holderman

**FOOTHILL COLLEGE
RADIOLOGI TECHNOLOGY ADVISORY BOARD COMMITTEE MEETING
MINUTES, APRIL 23, 2008**

Miner, Judy	President, Foothill College
Graham, Duncan	Interim VP of Workforce Development & Instruction, Foothill College
Orrell, Eloise	Interim Dean, Biological & Health Science Division, Foothill College
Wheeler, Bonny	Interim Program Director, Radiologic Technology Program, Foothill College
Austin, Kathleen	Program Director, Diagnostic Medical Sonography, Foothill College
Van Dalsem, Dr. Volney	Medical Director, Radiologic Technology Program
Kirby, Patty	Clinical Instructor, Kaiser Santa Clara
Sargent, Sheila	Clinical Instructor, Valley Radiology
Lustig, Beverly	Clinical Instructor, Good Samaritan Hospital
Rodriguez, Susan	Assistant Clinical Instructor, Good Samaritan Hospital
Picard, John	Interim Radiology Director, Stanford University Hospital
Frick, Thomas	Radiology Director, Camino Medical Group
Gregg, Alice	Manager, Radiology Services, El Camino Hospital
Lopez, Deb	Director, Diagnostic Imaging, Santa Clara Valley Medical Center
Armstrong, Eleze	Radiology Director, Hazel Hawkins Memorial Hospital
Twohig, Sean	Foothill College, 2 nd Year Student Representative
Shouse, Andrew	Foothill College, 1 st Year Student Representative

The meeting was called to order at 3:40 p.m.

Welcome and Program News

- Advisory Board members were introduced
- Eloise Orrell was welcomed as the Foothill College Interim Dean of Biological Sciences (this has been in effect since August 2007), and Bonny Wheeler as the Foothill College Radiologic Technology Interim Program Director
- The Program successfully passed its JRC review with 61/61 points
- A new tube and table have been installed in the energized room of the radiology lab, as well as AGFA computed radiography equipment
- A student response system has been purchased for the Program, and a demonstration was provided for the attendees

Diagnostic Medical Sonography

- Kathleen provided attendees with a handout (attached) addressing the educational backgrounds for students for the last 3 years
- Graduates and employment trends for 2007 included 22 graduates
- Currently 23 students remain enrolled in the program, 2 having withdrawn within the first 2-3 weeks for personal reasons. Of the 23 enrollees, 10 have a non-RT background
- National statistics for the Physics, Abdomen, and Ob-Gyn examinations were presented and compared to the Foothill DMS statistics. The data are available for review on the attachment
- The DMS program duration has been extended from 15 to 18 months, with the student participating as a DMS assistant during the first quarter
- Purchase of a new machine with volume scanning capabilities is anticipated for the lab

- Santa Rosa College has been added as a program affiliate with proctoring and tutoring provided via grant funding
- Board members discussed increasing needs for evening and night shift coverage with sonographers, due to increased demand for after hours services. There was also discussion regarding the necessity for California licensure laws in this modality.
- Board members discussed continued support for graduate students to be presented with the Career Certificate and when possible the Associate of Science Degree in Diagnostic Medical Sonography.

Program Assessment Review

- A PowerPoint handout was distributed for review in conjunction with the presentation
- The program mission and goals were reviewed
- The program assessment tools were presented as follows: The Employer Assessment; Graduate Assessment; Clinical Assessment; Clinical Instructor Assessment; Laboratory Assessment and Lecture Course Assessment
- The *Employer Assessment* (attached herewith) addressed 5 key questions that Board members answered using the new student response system. Suggestions were made on a hard copy handout that was then collected for review
- The *Graduate Assessment* addressed 5 questions to which 16 graduates responded. A separate handout was provided that summarized the narrative responses provided by students
- The employment benchmark is to have 100% of new graduates employed after 6 months. The 2007 results reflected a 100% achievement rate.
- The ARRT benchmark pass rate has been established at 90%. In 2006 there were 30 graduates and a pass rate of 100%. The national average was 84.8% and the Foothill Program class average was 91.3%. In 2007 there were 32 graduates and a pass rate of 100%. The national average was 84.7% and the Foothill program class average was 90.5%
- Retention trends from the class of 2008 indicated that of 209 original applicants, 32 were accepted into the program, and 27 remain enrolled. Reasons for attrition included personal (2), clinical (1), and competency (3) issues. This was compared with the retention trends for the class of 2009 that had 265 applicants, of which 35 were accepted and 27 are currently enrolled in the program. Attrition was attributed to personal (5), clinical (1), competency (2) and an ethics violation (1).
- The number of students who graduated from 2004-2007 were, 29, 31, 30, and 32 respectively

Applicant and Job Market Trends

- The Board discussed future hiring trends and it was the general consensus that the need for radiologic technologists will persist due to development of off site clinics, and expansion of existing facilities
- Valley Radiology reported openings in specialties such as MRI, CT and US. An US opening at Camino Medical Group and an MRI opening at Good Samaritan Hospital were also reported. At this time it appears that Santa Clara Valley Medical Center will have 3 vacancies for radiologic technologists, and Stanford Medical Center is anticipating 10 vacancies.

Application Changes

- The deadline for applications for the class of 2010 was April 17th, 2008. Anatomy and Physiology is now a program prerequisite, and the student's GPA is now taken into consideration. There was a slight decline in the number of applications, which totaled 222

First Year Clinical Hours

- Based upon input from the Clinical Instructors and Affiliates, the first year clinical hours have been extended from 4 to 6 hours on Tuesdays and Thursdays

Program Evaluation Forms

- Eloise will be on a sabbatical in the Fall Quarter, during which time she will be working with Clinical Instructors to obtain feedback from the affiliates and students that will assist her with the revision of program forms. The intent is to develop forms that will place a greater emphasis on the affective domain. Documentation from other programs will also be performed in order to assist with the process

Minutes submitted by Eleze Armstrong



1. Outlines of Record

<u>Course ID</u>	<u>Title</u>
DMS 50A	Diagnostic Medical Sonography Principles & Protocols
DMS 50B	Sonography & Patient Care
DMS 51A	Sectional Anatomy
DMS 52A	Physical Principles Of Diagnostic Medical Sonography I
DMS 52B	Physical Principles Of Diagnostic Medical Sonography II
DMS 52C	Physical Principles Of Diagnostic Medical Sonography III
DMS 53A	Diagnostic Medical Sonography I
DMS 53B	Diagnostic Medical Sonography II
DMS 53C	Diagnostic Medical Sonography III
DMS 54A	Gynecology
DMS 54B	Gynecology & Obstetrics
DMS 55A	Obstetrics I
DMS 55B	Obstetrics II
DMS 56A	Vascular Sonography
DMS 56B	Advanced Applications Of Vascular Technology
DMS 60A	Critique & Pathology I
DMS 60B	Critique & Pathology II
DMS 60C	Critique & Pathology III
DMS 60D	Critique & Pathology IV
DMS 60E	Critique & Pathology V
DMS 60F	Critique & Pathology VI
DMS 70A	Clinical Preceptorship I
DMS 70B	Clinical Preceptorship II
DMS 70C	Clinical Preceptorship III
DMS 70D	Clinical Preceptorship IV
DMS 70E	Clinical Preceptorship V
DMS 72A	Diagnostic Medical Sonography Procedures & Applications
DMS 72E	Diagnostic Medical Sonography Procedures & Applications
DMS 80A	Advanced Sonographic Principles



1. Outlines of Record

<u>Course ID</u>	<u>Title</u>
DMS 50A	Diagnostic Medical Sonography Principles & Protocols
DMS 50B	Sonography & Patient Care
DMS 51A	Sectional Anatomy
DMS 52A	Physical Principles Of Diagnostic Medical Sonography I
DMS 52B	Physical Principles Of Diagnostic Medical Sonography II
DMS 52C	Physical Principles Of Diagnostic Medical Sonography III
DMS 53A	Diagnostic Medical Sonography I
DMS 53B	Diagnostic Medical Sonography II
DMS 53C	Diagnostic Medical Sonography III
DMS 54A	Gynecology
DMS 54B	Gynecology & Obstetrics
DMS 55A	Obstetrics I
DMS 55B	Obstetrics II
DMS 56A	Vascular Sonography
DMS 56B	Advanced Applications Of Vascular Technology
DMS 60A	Critique & Pathology I
DMS 60B	Critique & Pathology II
DMS 60C	Critique & Pathology III
DMS 60D	Critique & Pathology IV
DMS 60E	Critique & Pathology V
DMS 60F	Critique & Pathology VI
DMS 70A	Clinical Preceptorship I
DMS 70B	Clinical Preceptorship II
DMS 70C	Clinical Preceptorship III
DMS 70D	Clinical Preceptorship IV
DMS 70E	Clinical Preceptorship V
DMS 72A	Diagnostic Medical Sonography Procedures & Applications
DMS 72E	Diagnostic Medical Sonography Procedures & Applications
DMS 80A	Advanced Sonographic Principles

COURSE OUTLINES

Search Results

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You searched for Course Title: DMS 50A

1 Course Listing Found.

Biological and Health Sciences

DMS 50A DIAGNOSTIC MEDICAL SONOGRAPHY PRINCIPLES & PROTOCOLS

Effective: Summer 2010

Four hours lecture.

4 Units

GE Status: Non-GE applicable

1. Description -

An intensive course about fundamentals of ultrasound principles, protocols, and scanning involving the major abdominal organ structures, gynecology, obstetrics, and vessels. Sonographic terminology, orientation and descriptions of normal and abnormal structures. It is assumed the student has a thorough knowledge of gross and sectional anatomy.

Prerequisite: Admission to Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to apply, perform, comprehend, have knowledge of, analysis, synthesis, and evaluate at the elementary level the following:

- A. recognize the sonographic appearance of normal anatomy and in various body positions and planes.
- B. recite directional transducer movement as perceived by spatial recognition skills.
- C. explain key control functions of sonography equipment.
- D. apply elementary skills utilizing appropriate technique and diagnostic interpretation.
- E. define medical and sonographic terminology.

F. demonstrate excellent communication skills with patients, physicians, staff and the public.

A. define ethical and professional values related to sonography and medicine and its impact on patient/workers from various cultures.

3. Special Facilities and/or Equipment Needed -

DVD/TV-monitor, view boxes, medical sonography equipment.

4. Expanded Description of Course Content -

- A. recognize sonographic appearances of normal anatomy and in various body positions and planes
 - 1. scan planes including sagittal, transverse, coronal, and for EV
 - 2. scan orientation
 - 3. monitor relationship to body planes and body positions
 - 4. technical quality of normal anatomy
 - 5. use of technical factors including keyboard function keys
- B. transducer directional movement including spatial recognition skills
 - 1. use of rocking, sliding, angling, pivoting for acquisition of human anatomy
 - 2. subcostal and intercostal acquisitions
 - 3. spatial recognition to determine anatomy location and acquisition
- C. key control functions of US equipment
 - 1. keyboard
 - 2. TGC
 - 3. gain
 - 4. doppler controls
 - 5. FOV
 - 6. focal zones
 - 7. image storage
 - 8. advanced knobology
- D. skills to acquire appropriate images using acceptable technique for interpretation
 - 1. image quality during performance of patient examination
 - 2. image quality during assessment of recorded examination

3. image quality from text examples
4. image quality for diagnostic interpretation
- E. medical and sonographic terminology
 1. review of medical terminology, combining forms, prefixes, suffixes, abbreviations
 2. specific sonographic nomenclature
- F. communication skills with patients, physicians, staff, and public
 1. listening skills
 2. verbal skills
 3. nonverbal skills
 4. written skills
 5. interpersonal communication skills
- G. ethics and professional values relating to sonography, medicine, patients, co-workers, including those from various cultures
 1. role play scenarios to define excellent and appropriate communication skills
 2. role play scenarios to understand and improve communications and interaction with patients, staff, physicians, and the public with various cultural backgrounds

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

- A. Demonstration of mastery of material by written quizzes and final exam.
- B. Essay Exams.

7. Text(s) -

Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Discussion Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

- A. Reading materials from texts and website research on patient anatomy and pathology.
- B. Critical analysis of patient examinations and sonographic findings.
- C. Review of relevant published data as related to sonographic evidence of pathology and/or variants.

Current status: Approved

Last updated: 2010-01-29 16:26:34

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You searched for Course Title: DMS 50B

1 Course Listing Found.

Biological and Health Sciences

DMS 50B SONOGRAPHY & PATIENT CARE

Two hours lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

This course is designed to define the student sonographer's role on the medical team. It prepares the student to enter the clinical environment including instruction in sonographer safety and ergonomics. Legal, ethical, legislative and regulatory issues including scope of practice and standards. Patient care techniques, clinical assessment, diagnosis and treatment. Interacting with cultural, age, and the special needs populations. Professionalism, competency-based education and leadership.

Prerequisite: Admission to Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. recite the historical role of the sonographer & role of certifying / accrediting organization.
- B. recite workplace safety issues and prevention of injury.
- C. define the specifics of patient rights including legal concepts.
- D. apply fundamental skills, clinical assessments and diagnostic interpretation.
- E. define communication triads.
- F. cite relevant examples of an ethical practice and professionalism.
- G. define ethical and professional values related to sonography and medicine and its impact on patient/workers from various cultures, ages, and special needs populations.

3. Special Facilities and/or Equipment Needed -

DVD/TV-monitor, view boxes, internet access, medical sonography equipment.

4. Expanded Description of Course Content -

- A. Introduction to & History of Medical Sonography
 - 1. Sonographer Development
 - 2. Qualities
 - 3. Professional Organizations/Accrediting Agencies
 - 4. The Sonographer as a Student
 - 5. Classroom to Clinical Experience
 - 6. The successful clinical rotations
- B. Safety Issues
 - 1. MSI's
 - 2. Ergonomics
- C. define the specifics of patient rights including legal concepts.
 - 1. Governmental Regulations
 - 2. Forms of law
 - 3. malpractice
 - 4. serving as the witness
- D. Patient-Sonographer Interaction: Medical Techniques & Patient Care

1. Patient Rights
2. Patient Care
3. Taking vital signs
4. Technique, positioning, routine duties
- E. Communication & Critical Thinking Skills
 1. Patient's with special problems
 2. Professional communication
 3. The grieving process
- F. Diversity & Age .
 1. Ethical consideration
 2. Professionalism
- G. Institutional, Non institutional Settings & Strategies
- H. Professional Development & Leadership
- I. Patient Care Partnership: Understanding Expectations, Rights and Responsibilities

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

- A. Oral and practical, role playing
- B. Demonstration of mastery of material by written quizzes and final exam.
- C. Online participation with assignments.

7. Text(s) -

Craig, Marveen, Essentials of Sonography and Patient Care, 2nd ed., St. Louis, MO, PA: Saunders/Elsevier, 2006.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture	Discussion	Electronic discussions/chat	Demonstration	Other: Online
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10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Weekly reading assignments from the text.

Current status: Approved

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You searched for Course Title: DMS 51A

1 Course Listing Found.

Biological and Health Sciences

DMS 51A SECTIONAL ANATOMY

Three hours lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

3 Units

1. Description -

Sectional human anatomy for health care professionals, students of Allied Health and nursing professions. Emphasis on transverse, coronal and sagittal planes and correlation to other imaging modalities. Discussions include pathology-related alterations to sectional anatomy images.

Prerequisites: BIOL 40A, B, C or equivalent; some background with medical terminology or equivalent or health care professional or student of allied health occupation.

2. Expected Outcomes -

The student will be able to:

- A. define and use reference points, planes, and terminology related to medical imaging.
- B. identify the anatomy of the body cavity and head in the transverse, coronal and sagittal planes.
- C. identify each described organs internal anatomy and alteration by pathology.
- D. compare and contrast the differences of image presentation by various imaging modalities.
- E. discuss the various medical equipment which views the human body as it relates to anatomy in sectional planes and the role of cultural group acceptance.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Anatomical Terminology and Orientation
 1. Review of medical terminology
 2. Body Planes
 3. Orientation of anatomy in the cross section and sagittal planes
- B. Sectional Anatomy of Organs and Systems
 1. Cranium
 2. Facial Bones
 3. Brain
 4. Neck
 5. Thorax
 6. Heart
 7. Abdomen
 8. GI system
 9. GU system
 10. Muscles
 11. Pelvis
 12. Skeletal system
- C. Pathology of Organs and Systems
- D. Comparative analysis of CT, MRI, sonography.

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Quizzes and examinations including comprehensive final examination.

7. Text(s) -

Kelley, Lorrie L., and Petersen, Connie M., Sectional Anatomy for Imaging Professionals, Mosby-Year Book, 2007.

Kelley, Lorrie L., and Petersen, Connie M., Sectional Anatomy Study Guide, Mosby-Year Book, 2007.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

A. Weekly reading assignments from text.

B. Completion of workbook chapters.

C. Homework from review questions at the end of each chapter of the textbook.

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You searched for Course Title: DMS 52A

1 Course Listing Found.

Biological and Health Sciences

DMS 52A PHYSICAL PRINCIPLES OF DIAGNOSTIC MEDICAL SONOGRAPHY I

Two hours lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

Principles of diagnostic ultrasound, wave characteristics, artifacts, propagation, acoustic variables, and review of mathematical skills.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. utilize basic mathematical skills by solving equations.
- B. describe propagation of sound waves.
- C. discuss wave characteristics.
- D. describe artifacts.
- E. explain beam intensities.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes

4. Expanded Description of Course Content -

- A. Math review
 - 1. algebraic equations
 - 2. metric system
 - 3. logarithms
 - 4. decibels
 - 5. limited trigonometric functions
- B. Principles of sound waves and how they propagate.
 - 1. Defining sound, ultrasound, and waves
- C. Sound parameters and acoustic variables.
 - 1. 7 parameters of sound
- D. Interaction of sound in various media.
 - 1. pulsed sound introduction
 - 2. pulsed sound parameters
 - 3. intensity
- E. Beam intensities.
 - 1. sound interaction in media
 - 2. range equation
- F. Artifacts.
 - 1. reverbration
 - 2. mirror artifact
 - 3. shadowing
 - 4. enhancement

- 5. critical angle
- 6. side lobes

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, midterm, and a comprehensive final.

7. Text(s) -

Edelman, Sidney, Understanding Ultrasound Physics, 3rd ed., Houston, TX: ESP Publishers, 2005.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Read text assignments and complete written sections on tests.

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You searched for Course Title: DMS 52B

1 Course Listing Found.

Biological and Health Sciences

DMS 52B PHYSICAL PRINCIPLES OF DIAGNOSTIC MEDICAL SONOGRAPHY II

Two hours lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

A continuation of Physical Principles A with an emphasis on transducers, pulsed waves, real-time imaging and image display.

Prerequisite: DMS 52A.

2. Expected Outcomes -

The student will be able to:

- A. Identify the various types of transducers and describe the differences.
- B. Explain the principles of pulsed waves.
- C. Identify the differences between two-dimensional imaging and other types of imaging.
- D. Identify the components of the image display.
- E. discuss the role of cultural diversity upon the field of physics.

3. Special Facilities and/or Equipment Needed -

DVD/TV video system, internet access, computer, slide system, overhead projector.

4. Expanded Description of Course Content -

- A. Transducers.
 - 1. Transducer construction
 - 2. Transducer properties
- B. Principles of pulsed sound waves.
 - 1. Sound beam anatomy
 - 2. Lateral resolution
- C. Two-dimensional imaging.
 - 1. 2-D imaging
 - 2. Various transducer types to create the 2D image.
- D. Pulsed echo instrumentation and image display.
 - 1. Receiver functions
 - 2. Electrical interaction
 - 3. Reconstruction of the image
 - 4. Sender/receiver interfaces
 - 5. Care and cleaning of transducers
 - 6. Storage of transducers
- E. Real time imaging.
 - 1. Dynamic range
 - 2. Harmonic imaging
 - 3. Matrix of real time imaging
 - 4. Contrast materials

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Quizzes, final exam.

7. Text(s) -

Edelman, Sidney K., Understanding Ultrasound Physics, 3rd Edition, ESP Publishing, Houston, TX, 2005.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Read text assignments and complete written sections on tests.

Current status: Approved

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COURSE OUTLINES

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You searched for Course Title: DMS 52C

1 Course Listing Found.

Biological and Health Sciences

DMS 52C PHYSICAL PRINCIPLES OF DIAGNOSTIC MEDICAL SONOGRAPHY III

Two hours lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

A continuation of Physical Principles B with an emphasis on advanced principles in medical ultrasound instrumentation, harmonic imaging, volume rendering, hemodynamics, use of doppler imaging and sonographic quality control procedures. Preparation for national examinations.

Prerequisites: DMS 52B.

2. Expected Outcomes -

The student will be able to:

- A. explain the principles of harmonic imaging and volume scanning.
- B. define and identify the various types of hemodynamic flow and Doppler patterns.
- C. identify quality control procedures utilized in diagnostic ultrasound systems.
- D. explain bioeffects principles and manufactures safeguards
- E. to pass the national board examination practice exams

3. Special Facilities and/or Equipment Needed -

DVD/TV video system, internet access, computer, overhead projector.

4. Expanded Description of Course Content -

- A. Harmonic acoustic imaging and volume scanning
 - 1. principles of harmonics and volume techniques
 - 2. differentiating the sonographic image using the various techniques
 - 3. comparison of techniques and end results
- B. Principles of hemodynamics
 - 1. waveforms
 - 2. incorporation of doppler techniques to aid in diagnosis
 - 3. spectral analysis
 - 4. doppler physics and image display
 - 5. color power imaging
- C. identify quality control procedures utilized in diagnostic ultrasound systems.
- D. Bioeffects, patient safety and the AIUM standards
 - 1. demonstrate using the AIUM approved phantom and test object for quality assurance
 - 2. bioeffect research and outcomes in contrast with manufacturer design
 - 3. names of intensities only found in pulsed wave ultrasound
 - 4. ALARA
 - 5. dosimetric quantities
 - 6. values for diagnostic equipment such as SPTA (Spatial peak temporal average, TI (thermal index)
 - 7. documentation for quality assurance
- E. Preparation for national board examination.

1. elementary principles of waveforms
2. propagation of ultrasound through tissues
3. transducers
4. pulse echo instruments
5. image storage and display
6. image features
7. artifacts
8. safety

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Practice board exam test questions, quizzes, final exam

7. Text(s) -

Edelman, Sidney K., Understanding Ultrasound Physics, 3rd Edition, ESP Publishing, Houston, TX, 2005.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Weekly readings from texts and written tests.

Current status: Approved

Last updated: 2010-03-01 14:51:26

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You searched for Course Title: DMS 53A

1 Course Listing Found.

Biological and Health Sciences

DMS 53A DIAGNOSTIC MEDICAL SONOGRAPHY I

Two hours lecture, One hour ETUDES-NG internet skills.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

Anatomy and physiology related to the major abdominal organs and major abdominal vessels. Assessment including physical, clinical symptoms, and laboratory findings. Related pathology and its sonographic appearance involving these structures. Scanning protocols, technical factors and image quality.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. recognize in detail the anatomy and physiology of the major abdominal and vascular structures.
- B. describe the physiology of the same major abdominal and vascular structures.
- C. describe related pathology, lab tests, and clinical symptoms
- D. discuss ethical dilemmas for health care personnel when in conflict with cultural, gender, and age populations.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

A. Vascular system

- 1. Recognize anatomy in multiple planes and projections
- 2. Correlate lab tests
- 3. Obtain clinical symptoms and information
- 4. Acquisition of quality sonographic images
- 5. Recognize features of pathology per established methods
- 6. Interpret pathology from sonographic images
- 7. Recite standards of protocol

B. Liver

- 1. Recognize anatomy in multiple planes and projections
- 2. Correlate lab tests
- 3. Obtain clinical symptoms and information
- 4. Acquisition of quality sonographic images
- 5. Recognize features of pathology per established methods
- 6. Interpret pathology from sonographic images
- 7. Recite standards of protocol

C. Gallbladder and Biliary System

- 1. Recognize anatomy in multiple planes and projections
- 2. Correlate lab tests
- 3. Obtain clinical symptoms and information
- 4. Acquisition of quality sonographic images

5. Recognize features of pathology per established methods
 6. Interpret pathology from sonographic images
 7. Recite standards of protocol
- D. Pancreas
1. Recognize anatomy in multiple planes and projections
 2. Correlate lab tests
 3. Obtain clinical symptoms and information
 4. Acquisition of quality sonographic images
 5. Recognize features of pathology per established methods
 6. Interpret pathology from sonographic images
 7. Recite standards of protocol
- E. Ethics and the dilemmas for health care personnel
1. Conflicts and problem solving with various cultural groups
 2. Conflict and problem solving with gender and sexual orientation
 3. Conflict and problem solving involving various age groups

Unloaded hour: The student will be held responsible for one hour per week of ETUDES-NG internet research.

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Demonstration of mastery of lecture material by role play, written quizzes, midterm exams and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Discussion

Other: ETUDES internet skills

10. Lab Content -

Not applicable.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

Read weekly assignments from texts.

unloaded hours are spent conducting internet research and practicing Etudes skills.

Current status: Approved

Last updated: 2010-01-21 16:02:57

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COURSE OUTLINES

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You searched for Course Title: DMS 53B

1 Course Listing Found.

Biological and Health Sciences

DMS 53B DIAGNOSTIC MEDICAL SONOGRAPHY II

Two hours lecture, one hour ETUDES-NG internet skills.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

Anatomy and physiology related to major and superficial structures and organs including sonography of abdominal organs and superficial structures. Assessment including physical, clinical symptoms, laboratory findings, and pathology including the sonographic appearances. Scanning protocols, technical factors and image quality.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. identify and illustrate the anatomy and physiology typically examined using diagnostic sonography
- B. recite the proper scanning protocol and sono characteristics.
- C. describe the pathology associated with the same systems and body structures as it relates to the sonographic examination.
- D. discuss ethical dilemmas for health care personnel when in conflict with cultural, gender, and age populations.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Identify and illustrate anatomy.
 1. Kidneys
 2. Spleen
 3. Lymphatic System
 4. Superficial Structures
- B. Physiology of
 1. Kidneys
 2. Spleen
 3. Lymphatic System
 4. Superficial Structures
- C. Laboratory test relevant for
 1. Kidneys
 2. Spleen
 3. Lymphatic System
 4. Superficial Structures
- D. Etiology for pathology for
 1. Kidneys
 2. Spleen
 3. Lymphatic System

- 4. Superficial Structures
- E. Sonographic characteristics of pathology for
 - 1. Kidneys
 - 2. Spleen
 - 3. Lymphatic System
 - 4. Superficial Structures
- F. Display scanning protocol and sonogram characteristics for
 - 1. Kidneys
 - 2. Spleen
 - 3. Lymphatic System
 - 4. Superficial Structures
- G. Patient Assessment
- H. Dilemmas and conflict intervention for health care professionals

Unloaded hour: The student will be held responsible for one hour per week of ETUDES-NG internet research.

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Demonstration of mastery of lecture material by written quizzes, midterms and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound. St. Louis, MO.: Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Other: ETUDES-NG internet skills

10. Lab Content -

Not applicable.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

Weekly assignments from textbooks. One hour per week unloaded hours for ETUDES-NG internet research.

Current status: Approved

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You searched for Course Title: DMS 53C

1 Course Listing Found.

Biological and Health Sciences

DMS 53C DIAGNOSTIC MEDICAL SONOGRAPHY III

Two hours lecture, one hour ETUDES-NG internet skills.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

Anatomy, physiology and pathology of abdominal organs not yet covered, neurosonography, superficial structures, transplant, and the pediatric patient. Use of sonography in the operating room with a review of aseptic technique. Discussion of related medical ethics and legal issues.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. illustrate the anatomy and physiology of the brain and superficial structures.
- B. identify symptoms, diagnosis, and the disease processes relevant to the areas of study.
- C. describe the proper infection control and sterile technique.
- D. discuss ethical dilemmas for health care personnel when in conflict with law and cultural interests, gender, and age populations.

3. Special Facilities and/or Equipment Needed -

DVD, TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Identify and illustrate anatomy.
 - 1. Neurosonography
 - 2. Pediatric Patient
 - 3. Targeted superficial structures
 - 4. Transplants
 - 5. Intraoperative Sonography
- B. Physiology of
 - 1. Neurosonography
 - 2. Pediatric Patient
 - 3. Targeted superficial structures
 - 4. Transplants
 - 5. Intraoperative Sonography
- C. Laboratory tests relevant for
 - 1. Neurosonography
 - 2. Pediatric Patient
 - 3. Targeted superficial structures
 - 4. Transplants
 - 5. Intraoperative Sonography
- D. Etiology for pathology for
- E. Sonographic characteristics of pathology for
 - 1. Neurosonography

- 2. Pediatric Patient
- 3. Targeted superficial structures
- 4. Transplants
- 5. Intraoperative Sonography
- F. Display scanning protocol and sonogram characteristics for
 - 1. Neurosonography
 - 2. Pediatric Patient
 - 3. Targeted superficial structures
 - 4. Transplants
 - 5. Intraoperative Sonography
- G. Patient Assessment
- H. Dilemmas and conflict intervention for health care professionals
- I. Legal Issues
 - 1. Torts
 - 2. negligence
 - 3. malpractice
 - 4. HIPAA
 - 5. Confidentiality

Unloaded hour: The student will be held responsible for one hour per week of ETUDES-NG internet research.

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Demonstration of mastery of lecture material by written quizzes, midterms and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Discussion

Other: ETUDES-NG internet skills

10. Lab Content -

Not applicable.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

Weekly readings from the text. Unloaded hours for internet ETUDES-NG research.

Current status: Approved

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You searched for Course Title: DMS 54A

1 Course Listing Found.

Biological and Health Sciences

DMS 54A GYNECOLOGY

Two hours lecture, one-half hour ETUDES-NG internet skills.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

Anatomy and physiology of the nongravid pelvis. Pathology, sonographic appearance, and clinical symptoms of the female patient. Sonographic protocols and measurements with correlations to accepted standards.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. identify embryological development of the female reproductive tract.
- B. identify and describe reproductive anatomy and physiology.
- C. describe normal size of the female reproductive system.
- D. list the pathology associated with the of the female reproductive system.
- E. recite the process to determine a proper clinical assessment of the female patient
- F. discuss how to achieve technical assessment of the gynecological patients sonographic examination
- G. discuss ethical dilemmas for health care personnel when in conflict with cultural, gender, and age populations.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Gynecology
 - 1. Embryonic development of the female reproductive tract
- B. Anatomy and physiology
 - 1. vagina
 - 2. cervix
 - 3. uterus
 - 4. fallopian tubes
 - 5. ovaries
- C. Pathology
 - 1. vagina
 - 2. cervix
 - 3. uterus
 - 4. fallopian tubes
 - 5. ovaries
 - 6. adjacent ligaments
 - 7. adjacent muscles
 - 8. adjacent bowel
 - 9. nearby omentum
- D. Normal and abnormal size of the female reproductive tract

1. neonate
 2. child
 3. post puberty
 4. adult
 5. postmenopausal
- E. Clinical Assessment of the Gynecology patient
1. obtaining clinical history
 2. lab results
 3. additional image exams and reports
- F. Technical, psychosocial, ethics, legal and cultural beliefs.
1. following standards for technical factors
 2. following standards for patient interview
 3. complete assessment for vital signs
 4. discuss ethical dilemma
 5. discuss cultural beliefs and how this impacts the acquisition of the sonographic examination
- G. internet research and report writing
1. .5 hrs per week to research assigned topics

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Demonstration of mastery of lecture material by written quizzes, midterms, and comprehensive final exam. .5 hrs per week research of assigned topics and ETUDES-NG assignments.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Other: ETUDES-NG internet skills

10. Lab Content -

There is no lab content.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Read Text assignments and complete written sections in syllabus and tests.

Current status: Approved

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You searched for Course Title: DMS 54B

1 Course Listing Found.

Biological and Health Sciences

DMS 54B GYNECOLOGY & OBSTETRICS

Two hours lecture, one-half hour ETUDES-NG internet skills.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

Anatomy and physiology of the nongravid pelvis and first trimester pregnancy. Pathology, sonographic appearance, and clinical symptoms of the female patient. Sonographic protocols and measurements with correlations to accepted standards.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. identify and describe reproductive anatomy and physiology.
- B. describe normal size and pathology of the female reproductive system.
- C. describe embryology, normal and abnormalities in the first trimester
- D. discuss ethical dilemmas for health care personnel when in conflict with cultural, gender, and age populations.

3. Special Facilities and/or Equipment Needed -

DVD, TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Obstetrics and Gynecology
 1. Embryonic development of the developing pregnancy
 2. Anatomy of first trimester pregnancy and embryo to fetus
 3. Physiological development of the first trimester pregnancy
- B. Pathology
 1. the abnormal first trimester pregnancy
 2. loss of the first trimester pregnancy
 3. ectopic pregnancy
- C. Support data
 1. lab tests
 2. clinical and physical symptoms of normal pregnancy
 3. clinical and physical symptoms of abnormal pregnancy
 4. physical symptoms
- D. Size of the normal first trimester pregnant uterus/ovaries
 1. abnormal uterine development
 2. abnormal ovary during pregnancy
- E. Technical, psychosocial, ethics, legal and cultural beliefs.
 1. Standards for use of technical factors
 2. Understanding the pregnant patient
 3. Patient bonding
 4. Legal issues with 1st trimester pregnancy

5. Psychology and the emotional state of the pregnant patient
6. Pregnancy as it relates to cultural differences

Unloaded hour: The student will be held responsible for one hour per week of ETUDES-NG internet research and presentation.

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Demonstration of mastery of lecture material by written quizzes, midterms, and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Other: ETUDES-NG internet skills

10. Lab Content -

Not applicable.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

- A. Read text assignments and complete written sections in syllabus and tests.
- B. Unloaded hours are spent (.5 hrs per week) for assigned internet research and presentation.

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You searched for Course Title: DMS 55A

1 Course Listing Found.

Biological and Health Sciences

DMS 55A OBSTETRICS I

Two hours lecture, one half hour ETUDES-NG skills.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

Normal fetal growth and sonographic measurements with correlation to accepted standards. Development of the placenta, amniotic fluid and cord. Abnormalities, pathology and maternal complications.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

A. identify normal fetal anatomy and methods of fetal dating.

B. recite and apply the AIUM standards to obstetrical sonography.

C. describe development of amniotic fluid, cord, placenta and causes for abnormalities.

D. discuss ethical dilemmas for health care personnel when in conflict with cultural, gender, and age populations.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

A. Normal Obstetrical Anatomy

1. Fetal head
2. Fetal chest
3. Fetal Abdomen
4. Fetal skeletal system
5. Fetal urinary system

B. Fetal Dating Parameters and Methods

1. Fetal head measurements
2. Fetal chest measurements
3. Fetal Abdomen measurements
4. Fetal skeletal system measurements
5. Fetal urinary system measurements

C. Fetal Assessment

1. Assessment for fetal morphology

D. AIUM standards for obstetrical evaluation as published by the AIUM

E. Amniotic fluid

1. physiology of
2. volume
3. abnormalities of

F. Fetal Lie

G. Fetal well being

1. Biophysical Profile
2. Apgar Score

H. Placenta

1. physiology of
2. locations
3. abnormalities

I. Umbilical Cord

1. normal
2. abnormal

- 3. pathology of
- J. Membranes
- K. Invasive Procedures & Intervention
 - 1. CVS
 - 2. AF
 - 3. Bx
 - 4. Aspiration
 - 5. Laboratory tests and outcomes
- L. Fetal Circulation
 - 1. heart anatomy
 - 2. contrast to post delivery
 - 3. normal
 - 4. pathology of
- M. LUS
 - 1. normal
 - 2. measurements
 - 3. abnormalities
- N. Trophoblastic Neoplasia
- O. Technical, psychosocial, legal topics in obstetric sonography
 - 1. the abnormal fetus
 - 2. technical quality of the study
 - 3. legal issues for obstetrics and sonography
 - 4. maternal bonding

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, midterms, and comprehensive final exam. 1/2 hour per week with ETUDES-NG assignments and research.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Discussion

Other: ETUDES-NG internet skills

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Reading of text assignments and complete written sections of the syllabus and tests.

Current status: Approved

Last updated: 2010-01-29 16:28:26

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You searched for Course Title: DMS 55B

1 Course Listing Found.

Biological and Health Sciences

DMS 55B OBSTETRICS II

Two hours lecture, one half hour ETUDES-NG internet skills.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

Advanced obstetrical sonography. Abnormal 2nd and 3rd trimester fetal growth and sonographic measurements with correlations to accepted standards. Abnormalities, pathology and maternal complications.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. recognize clinical and sonographic signs of the abnormal pregnancy.
- B. describe the sonographic findings of the fetus affected by maternal complications.
- C. understand the types of guided techniques in invasive procedures
- D. technical and psychosocial topics in the 2nd & 3rd trimester abnormal pregnancy and discuss ethical dilemmas for health care personnel when in conflict with cultural, gender, and age-related populations.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. The abnormal pregnancy
 - 1. classifications of the high risk pregnancy and its impact on fetal and maternal well-being
 - 2. contrast clinical symptoms
 - 3. contrast history and physical examination findings
- B. Fetal abnormalities in the 2nd & 3rd trimester pregnancy
 - 1. fetal head and brain
 - 2. fetal thorax
 - 3. fetal chest
 - 4. fetal abdomen
 - 5. fetal skeletal system
- C. Maternal complications in the 2nd & 3rd trimesters
 - 1. cardiac complications
 - 2. urinary tract complications
 - 3. digestive tract complications
 - 4. nutritional compromises
- D. The post partum uterus
 - 1. complications of infection
 - 2. complications for deep vein thrombosis
- E. Image Quality Recognition for interpretation, presentation, and technical quality.
 - 1. Assessing and obtaining pertinent clinical information.
 - 2. components of the clinical report

3. assessing relevant from non relevant data
4. produce quality studies for the physician to interpret
5. contrast diagnostic quality of examinations from suboptimal studies
6. Artifacts - determine useful artifacts from other types of artifacts
- F. Produce quality studies for the physicians to diagnosis
 1. internet research to develop the Case Review and presentation
 2. internet research for the differential diagnosis
- G. Technical and psychosocial topics in obstetrical sonography
 1. role of the sonographer and patients who carry an abnormal fetus with respect to cultural beliefs.
- H. Communication using profession specific nomenclature.
 1. Applying described techniques to patients from diverse cultural, emotional, and socioeconomic status with sensitivity to their rights and comforts.
- I. Emphasis on Obstetrics in the 2nd & 3rd trimesters

Unloaded hour: The student will be held responsible for one hour per week of ETUDES-NG internet research.

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, midterms, and comprehensive final exam. Unloaded hours for ETUDES-NG research.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Discussion

Other: Etudes Internet skills

10. Lab Content -

Not applicable.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

Read assignments and complete written sections of the syllabus and tests.

Current status: Approved

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You searched for Course Title: DMS 56A

1 Course Listing Found.

Biological and Health Sciences

DMS 56A VASCULAR SONOGRAPHY

Three hours lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

3 Units

1. Description -

Vascular terminology, principles including doppler physics. Interpretation of frequency spectral analysis. Intracranial, cerebrovascular and peripheral venous applications related to vascular technology. Normal, abnormal and pathologic states of the human vascular system.

Prerequisite: Admission to Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. cite the genesis of the field of vascular sonography.
- B. describe the difference between types of waveforms.
- C. identify and illustrate vascular anatomy.
- D. list pathological conditions altering vascular flow.
- E. explain the sonographic scanning protocols.
- F. analyze doppler spectral waveforms of normal versus abnormal flow.
- G. discuss the impact of disease on cultural and ethnic populations.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Introduction to the field of vascular sonography.
 1. cite the genesis of vascular sonography including the discovery of and evolution to today's diagnostic practice
- B. Wave forms
 1. components of the wave form
 2. analysis of the variations and abnormal waveform
 3. Hemodynamics
 4. physical principles of vascular physics
- C. Anatomy and Physiology of the Vascular System
 1. Intracranial anatomy & physiology
 2. cerebralvascular
 3. Peripheral venous
- D. Various pathology affecting vascular flow
 1. Intracranial anatomy & physiology
 2. cerebralvascular
 3. Peripheral venous
- E. Identify risk factors, clinical history, physical findings, and other diagnostic indicators.
 1. disease processes such as diabetes and smoking
 2. relevance to specific clinical history, physical findings of the patient and symptoms.

- F. Vascular/doppler technical applications.
 - 1. Assessing and obtaining pertinent clinical information.
 - 2. components of the clinical report
 - 3. assessing relevant from non relevant data
 - 4. produce quality studies for the physician to interpret
 - 5. contrast diagnostic quality of examinations from suboptimal studies
 - 6. Artifacts - determine useful artifacts from other types of artifacts
- G. Discuss population/racial/cultural group tendencies toward vascular disease.

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, midterm exams and a comprehensive final.

7. Text(s) -

Allan, Dubbins, Pozniak, McDicken, Clinical Doppler Ultrasound with CD-ROM, 2nd ed., Elsevier Publishing, Philadelphia, PA, 2006.

Edelman, S., Understanding Ultrasound Physics, 3rd Ed., Education for Sonographer Professional (ESP), Woodlands, Texas, 2005.

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO, Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Read text assignments and complete written sections from the syllabus and tests.

Current status: Approved

Last updated: 2010-01-21 16:05:08

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You searched for Course Title: DMS 56B

1 Course Listing Found.

Biological and Health Sciences

DMS 56B ADVANCED APPLICATIONS OF VASCULAR TECHNOLOGY

Two hours lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

A continuation of DMS 56A for the advanced principles & theory of noninvasive vascular technology. Comprehensive study of arterial and venous applications including peripheral arterial, abdominal vascular, and assessment of the reproductive tract. Designed to help prepare individuals for the National Board for credentialing as a Registered Vascular Technologist.

Prerequisite: DMS 56A.

2. Expected Outcomes -

The student will be able to:

- A. describe imaging and non-imaging techniques for arterial, venous, including peripheral arterial, abdominal vascular, and assessment of the reproductive tract.
- B. list at least three pathological conditions for each application explaining the affect on blood flow for each system.
- C. explain normal and abnormal hemodynamics.
- D. interpret doppler information as it relates to normal and abnormal flow states.
- E. identify risk factors for vascular disease.

3. Special Facilities and/or Equipment Needed -

DVD/TV monitor, internet access, computer, viewboxes, CD-ROM.

4. Expanded Description of Course Content -

- A. Apply the knowledge of Anatomy to sonographic imaging and non-imaging techniques
 - 1. vessel routes
 - 2. vascular variations and collateral flow
- B. Arterial and Venous Testing
 - 1. patient history
 - 2. patient risk factors
 - 3. cite correlating disease types in detail the pathological conditions for each sonographic application
 - 4. interview for patient history and write findings using medical nomenclature
 - 5. apply the understanding from the patients physical examinations.
 - 6. Noninvasive and invasive testing correlation
- C. Arterial and venous disease including therapeutic Intervention
 - 1. medical intervention
 - 2. surgical intervention
- D. Image Quality Recognition for interpretation, presentation, and technical quality.
 - 1. Assessing and obtaining pertinent clinical information.
 - 2. components of the clinical report
 - 3. assessing relevant from non relevant data

4. produce quality studies for the physician to interpret
5. contrast diagnostic quality of examinations from suboptimal studies
6. Artifacts - determine useful artifacts from other types of artifacts

5. Repeatability Criteria -

Different material is covered each time the course is repeated.

6. Methods of Evaluation -

Written quizzes, midterm exams, comprehensive final.

7. Text(s) -

Allan, Dubbins, Pozniak, McDicken, Clinical Doppler Ultrasound with CD-ROM, 2nd ed., Elsevier Publishing, Philadelphia, PA, 2006.

Edelman, S., Understanding Ultrasound Physics, 3rd Ed., Education for Sonographer Professional (ESP), Woodlands, Texas, 2005.

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Read text assignments and complete written sections from syllabus and tests.

Current status: Approved

Last updated: 2010-03-01 14:52:03

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You searched for Course Title: DMS 60A

1 Course Listing Found.

Biological and Health Sciences

DMS 60A CRITIQUE & PATHOLOGY I

Two hours lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

2 Units

1. Description -

Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Emphasis on communication skills via written and oral case presentations and critiques.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. demonstrate listening, writing, and speaking communication skills through performance including sonographic nomenclature.
- B. define ethical and professional values related to sonography and medicine and its impact on patient/workers from various cultures, gender, and age populations
- C. define the data found on the ultrasound examinations including artifacts.
- D. prepare and present a case study using the criteria provided to conform to quality case studies.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Communication characteristics for listening, verbal, and written skills.
 - 1. listen to patients history and write findings using medical nomenclature
 - 2. interview patients and prepare written reports
- B. Communication using profession specific nomenclature.
 - 1. Applying described techniques to patients from diverse cultural, emotional, and socioeconomic status with sensitivity to their rights and comforts.
- C. Image Quality Recognition for interpretation, presentation, and technical quality.
 - 1. Assessing and obtaining pertinent clinical information.
 - 2. components of the clinical report
 - 3. assessing relevant from non relevant data
 - 4. produce quality studies for the physician to interpret
 - 5. contrast diagnostic quality of examinations from suboptimal studies
 - 6. Artifacts - determine useful artifacts from other types of artifacts
- D. Components of a Case review and presentation including research.
 - 1. internet research to develop the Case Review and presentation
 - 2. internet research for the differential diagnosis

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, case presentations, case reports, and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.

Sanders, R., Clinical Sonography, Little, Brown, Co., Boston, MA, 4th ed., 2007.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Oral presentations

Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

A. Written quizzes, comprehensive final exam.

B. Written case reports.

C. Case presentations.

Current status: Approved

Last updated: 2010-01-21 16:06:18

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You searched for Course Title: DMS 60B

1 Course Listing Found.

Biological and Health Sciences

DMS 60B CRITIQUE & PATHOLOGY II

One hour lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

1 Unit

1. Description -

Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on abdominal subjects.

Prerequisite: Admission to Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. demonstrate listening, writing, and speaking communication skills through performance and sonographic nomenclature with an emphasis on abdominal structures.
- B. define ethical and professional values related to sonography and medicine and its impact on patient/workers from various cultures, gender, and age populations.
- C. define the data found on the ultrasound examinations including artifacts with an emphasis on abdominal structures..
- D. prepare and present a case study using the criteria provided to conform to quality case studies.

3. Special Facilities and/or Equipment Needed -

DVD/TV, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Communication characteristics for listening, verbal, and written skills.
 - 1. listen to patients history and write findings using medical nomenclature
 - 2. interview patients and prepare written reports
- B. Communication using profession specific nomenclature.
 - 1. Applying described techniques to patients from diverse cultural, emotional, and socioeconomic status with sensitivity to their rights and comforts.
- C. Image Quality Recognition for interpretation, presentation, and technical quality.
 - 1. Assessing and obtaining pertinent clinical information.
 - 2. components of the clinical report
 - 3. assessing relevant from non relevant data
 - 4. produce quality studies for the physician to interpret
 - 5. contrast diagnostic quality of examinations from suboptimal studies
 - 6. Artifacts - determine useful artifacts from other types of artifacts
- D. Components of a Case review and presentation including research.
 - 1. internet research to develop the Case Review and presentation
 - 2. internet research for the differential diagnosis
- E. all with an emphasis on abdominal subjects

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, case presentations, and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

Curry, R., Tempkin, B., Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.

Sanders, R., Clinical Sonography, 4th ed. Boston, MA: Little, Brown, Co., 2007.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

A. Written quizzes, comprehensive final exam.

B. Written case reports.

C. Case presentations.

Current status: Approved

Last updated: 2010-01-21 16:06:55

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You searched for Course Title: DMS 60C

1 Course Listing Found.

Biological and Health Sciences

DMS 60C CRITIQUE & PATHOLOGY III

One hour lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

1 Unit

1. Description -

Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on gynecological and abdominal subjects.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. demonstrate listening, writing, and speaking, communication skills, use of sonographic nomenclature through performance.
- B. define ethical and professional values related to sonography and medicine and its impact on patient/workers from various cultures, gender, and age populations.
- C. define the data found on the ultrasound examinations including artifacts.
- D. prepare and present a case study using the criteria provided to conform to quality case studies.

3. Special Facilities and/or Equipment Needed -

VCR/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Communication characteristics for listening, verbal, and written skills.
 - 1. listen to patients history and write findings using medical nomenclature
 - 2. interview patients and prepare written reports
- B. Communication using profession specific nomenclature.
- C. Assessing and obtaining pertinent clinical information.
 - 1. components of the clinical report
 - 2. assessing relevant from non relevant data
- D. Image Quality Recognition for interpretation, presentation, and technical quality.
 - 1. produce quality studies for the physician to interpret
 - 2. contrast diagnostic quality of examinations from suboptimal studies
- E. Components of a Case review and presentation including research.
 - 1. internet research to develop the Case Review and presentation
 - 2. internet research for the differential diagnosis
- F. Applying described techniques to patients from diverse cultural, emotional, and socioeconomic status with sensitivity to their rights and comforts.
- G. Artifacts
 - 1. determine useful artifacts from other types of artifacts
- H. all with an emphasis on gynecology and abdominal subjects

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, case presentations, case research, and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.

Sanders, R., Clinical Sonography, Little, Brown, Co., Boston, MA, 3rd ed., 1998.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Read the following position papers on

A. Scrotal Sonography: Detection of Scrotal Pathology with Ultrasound

A. Acute Abdomen: Evaluation of the Acute Abdomen

C Breast Sonography: Sonographic Evaluation of the Breast

B. Embryology, Placenta: Embryology, Pathophysiology, and the Placenta

C. Sonographic Evaluation of Ectopic Pregnancies"

Current status: Approved

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You searched for Course Title: DMS 60D

1 Course Listing Found.

Biological and Health Sciences

DMS 60D CRITIQUE & PATHOLOGY IV

One hour lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

1 Unit

1. Description -

Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on obstetrical subjects.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. demonstrate listening, writing, and speaking communication skills and use of sonographic nomenclature through performance.
- B. define ethical and professional values related to sonography and medicine and its impact on patient/workers from various cultures, gender, and age populations.
- C. define the data found on the ultrasound examinations including artifacts.
- D. prepare and present a case study using the criteria provided to conform to quality case studies.

3. Special Facilities and/or Equipment Needed -

VCR/TV, internet access, computer, monitor, viewboxes

4. Expanded Description of Course Content -

- A. Communication characteristics for listening, verbal, and written skills.
 - 1. listen to patients history and write findings using medical nomenclature
 - 2. interview patients and prepare written reports
- B. Communication using profession specific nomenclature.
 - 1. Applying described techniques to patients from diverse cultural, emotional, and socioeconomic status with sensitivity to their rights and comforts.
- C. Image Quality Recognition for interpretation, presentation, and technical quality.
 - 1. Assessing and obtaining pertinent clinical information.
 - 2. components of the clinical report
 - 3. assessing relevant from non relevant data
 - 4. produce quality studies for the physician to interpret
 - 5. contrast diagnostic quality of examinations from suboptimal studies
 - 6. Artifacts - determine useful artifacts from other types of artifacts
- D. Components of a Case review and presentation including research.
 - 1. internet research to develop the Case Review and presentation
 - 2. internet research for the differential diagnosis
- E. All with an emphasis on obstetrical subjects

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, case presentations, and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.

Sanders, R., Clinical Sonography, Little, Brown, Co., Boston, MA, 3rd ed., 1998.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Other:

10. Lab Content -

NOT APPLICABLE.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Read the following position papers on:

- A. The Biophysical Profile Score
- B. Oligohydramnios: Sonographic Assessment
- C. The Basics of 3D/4D Ultrasound
- D. Disorders of the Fetal Genitourinary System
- E. Sonographic Evaluation of the Fetal Head

Current status: Approved

Last updated: 2010-01-21 15:30:00

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You searched for Course Title: DMS 60E

1 Course Listing Found.

Biological and Health Sciences

DMS 60E CRITIQUE & PATHOLOGY V

One hour lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

1 Unit

1. Description -

Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on superficial parts, pediatric, neonatal and vascular subjects.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. demonstrate listening, writing, and speaking, communication skills, use of sonographic nomenclature through performance.
- B. define ethical and professional values related to sonography and medicine and its impact on patient/workers from various cultures, gender, and age populations.
- C. define the data found on the ultrasound examinations including artifacts.
- D. prepare and present a case study using the criteria provided to conform to quality case studies.

3. Special Facilities and/or Equipment Needed -

VCR/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Communication characteristics for listening, verbal, and written skills.
 - 1. listen to patients history and write findings using medical nomenclature
 - 2. interview patients and prepare written reports
- B. Communication using profession specific nomenclature.
 - 1. Applying described techniques to patients from diverse cultural, emotional, and socioeconomic status with sensitivity to their rights and comforts.
- C. Image Quality Recognition for interpretation, presentation, and technical quality.
 - 1. Assessing and obtaining pertinent clinical information.
 - 2. components of the clinical report
 - 3. assessing relevant from non relevant data
 - 4. produce quality studies for the physician to interpret
 - 5. contrast diagnostic quality of examinations from suboptimal studies
 - 6. Artifacts - determine useful artifacts from other types of artifacts
- D. Components of a Case review and presentation including research.
 - 1. internet research to develop the Case Review and presentation
 - 2. internet research for the differential diagnosis
- E. Emphasis on Obstetrics and Superficial Structures

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, case presentations, and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.

Sanders, R., Clinical Sonography, Little, Brown, Co., Boston, MA, 4th ed., 2007.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Read weekly text assignments and complete written sections on tests.

Current status: Approved

Last updated: 2010-01-21 15:58:24

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You searched for Course Title: DMS 60F

1 Course Listing Found.

Biological and Health Sciences

DMS 60F CRITIQUE & PATHOLOGY VI

One hour lecture.

GE Status: Non-GE applicable

Effective: Summer 2010

1 Unit

1. Description -

Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on superficial parts, pediatric, neonatal and vascular subjects.

Prerequisite: Admission to the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. demonstrate listening, writing, and speaking, communication skills, use of sonographic nomenclature through performance.
- B. define ethical and professional values related to sonography and medicine and its impact on patient/workers from various cultures, gender, and age populations.
- C. define the data found on the ultrasound examinations including artifacts.
- D. prepare and present a case study using the criteria provided to conform to quality case studies.

3. Special Facilities and/or Equipment Needed -

VCR/TV, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Communication characteristics for listening, verbal, and written skills.
 - 1. listen to patients history and write findings using medical nomenclature
 - 2. interview patients and prepare written reports
- B. Communication using profession specific nomenclature.
 - 1. Applying described techniques to patients from diverse cultural, emotional, and socioeconomic status with sensitivity to their rights and comforts.
- C. Image Quality Recognition for interpretation, presentation, and technical quality.
 - 1. Assessing and obtaining pertinent clinical information.
 - 2. components of the clinical report
 - 3. assessing relevant from non relevant data
 - 4. produce quality studies for the physician to interpret
 - 5. contrast diagnostic quality of examinations from suboptimal studies
 - 6. Artifacts - determine useful artifacts from other types of artifacts
- D. Components of a Case review and presentation including research.
 - 1. internet research to develop the Case Review and presentation
 - 2. internet research for the differential diagnosis
- E. Emphasis on superficial parts, pediatric, neonatal and vascular subjects

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Written quizzes, case presentations, and comprehensive final exam.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Oral presentations Other:

10. Lab Content -

Not applicable.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

Weekly reading assignments. Internet research to develop written case study and the oral report.

Current status: Approved

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You searched for Course Title: DMS 70A

1 Course Listing Found.

Biological and Health Sciences

DMS 70A CLINICAL PRECEPTORSHIP I

Effective: Summer 2010

32 hours laboratory, one hour skills, one hour research & presentation. This is a 13 week course.

8.5 Units

GE Status: Non-GE applicable

1. Description -

A continuation of DMS 72A. This preceptorship is to obtain the technical expertise with emphasis on mastery of knowledge, skills, and abilities required performing sonographic studies and procedures. The major emphasis is on elementary level for abdominal and gynecological examinations as to delineate complete anatomic and functional information for interpretation.

Prerequisites: DMS 72A.

2. Expected Outcomes -

The student will be able to apply, perform, comprehend, have knowledge of, analysis, synthesize, and evaluate at the elementary level the following:

- A. competently perform all examinations and procedures in a timely manner requiring elementary sonographic applications including translating and calculation of quantitative data
- B. obtain and scrutinize appropriate clinical history, physical findings, laboratory data for all types of patient procedures and examinations.
- C. operate with supervision several different types of sonography equipment.
- D. demonstrate excellent communication skills with patients, physicians, staff and the public.
- E. reinforce standards of practice when working with cultural sensitive environments including various age and gender populations.

3. Special Facilities and/or Equipment Needed -

Hospital and medical facilities, lab coat, name tag.

4. Expanded Description of Course Content -

This course is a clinical preceptorship with the student assigned to a hospital or other qualified medical facility. It is designed as an integrative approach to:

- A. Performance and application of didactic information and principles of all examinations and procedures, with supervision, including
 - 1. gynecology
 - a. transabdominal application
 - b. endovaginal application
 - 2. obstetrics
 - a. transabdominal application
 - b. endovaginal application
 - 3. abdominal examinations
 - a. transabdominal application
 - b. subcostal approach
 - c. intercostal application
 - 4. invasive applications

- a. appropriate application to setting up sterile trays and instruments
 - b. ascertain the correct patient information matches the patient and is entered appropriately in the computer system
 - c. acquire patient data including medical history, laboratory data relevant to the invasive procedure
- B. Knowledge and application of anatomy, physiology, and pathophysiology.
 - 1. gynecology
 - 2. obstetrics
 - 3. abdominal applications
- C. to perform the sonographic examination in a timely manner consistent with this level of training
 - 1. uncomplicated abdominal examinations within 45 minutes
 - 2. uncomplicated gynecological examinations within 40 minutes
 - 3. uncomplicated obstetrical examinations for the 1st trimester within 30 minutes
 - 4. uncomplicated obstetrical examinations for the 2nd trimester within 50 minutes
 - 5. uncomplicated obstetrical examinations for the 3rd trimester within 50 minutes
- D. to identify the various computer onboard calculations
 - 1. to input calculations accurately
 - 2. to recognize and explain the types and purposes of the various onboard computer calculations per patient examination
- E. to obtain appropriate to the examination patient history
 - 1. to obtain appropriate to the examination information from the patient's physical examination
 - 2. to obtain appropriate to the examination information from laboratory data
 - 3. to analysis and predict the probable outcome based on this information and in conjunction with the sonographic examination.
- F. is able to perform and operate various ultrasound machines
 - 1. is able to demonstrate the key functions and knobology of each ultrasound system
 - 2. is able to explain the methods to improve the sonographic image using the appropriate key functions
 - 3. is able to judge quality of images based on accepted criteria
 - 4. is able to apply measurements correctly
 - 5. is able to criticize, appraise, and validate excellent image quality from nondiagnostic images.
- G. demonstrates excellent verbal, nonverbal, written communication skills with patients, staff, physicians, and the public
 - 1. demonstrates excellent communication skills with physicians
 - 2. demonstrates excellent communication skills with staff
 - 3. assumes responsibility for patient examinations and presentation through action
 - 4. applies program and department policy and procedures
- H. recognizes and applies "standards of practice" when working with cultural sensitive patient, physicians, staff, and the general public through the use of excellent communication skills.
 - 1. oral skills
 - 2. written skills
 - 3. nonverbal skills

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

- A. Clinical case presentations as presented orally, with demonstration, and written assignment. Assessment will include clinical research conducted prior to presentation.
- B. Skills and performance testing and evaluation by observation of performance.
- C. Clinical competency and proficiency assessment will be conducted at mid-quarter and end of quarter.
- D. Behavioral objectives evaluated by written form and observation.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.
Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.
Sanders, R., Clinical Sonography, Little, Brown, Co., Boston, MA, 4th ed., 2007.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture	Cooperative learning exercises	Oral presentations	Demonstration	Internship/preceptorship	Other: Clinical Lab
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10. Lab Content -

TBA hours are spent in critical analysis of patient examinations and findings. Lab Content is defined as assignment to the clinical preceptorship facility which is a hospital or similar medical facility for 13 weeks. Campus lab instruction is integrated into this course.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

- A. Reading materials from texts and website research on patient pathology.
- B. Critical analysis of patient examinations and findings.
- C. Review of relevant published data as related to sonographic evidence of pathology and/or variants.
- D. Report writing per patient case.

Current status: Approved

Last updated: 2010-03-01 14:52:35

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You searched for Course Title: DMS 70B

1 Course Listing Found.

Biological and Health Sciences

DMS 70B CLINICAL PRECEPTORSHIP II

Effective: Summer 2010

32 hours laboratory, one hour skills, one hour case research & presentation. This is a 12 week course. 8 Units

GE Status: Non-GE applicable

1. Description -

Designed as a preceptorship in a medical setting to obtain the technical expertise with emphasis on mastery of knowledge, skills, and abilities required performing sonographic studies and procedures. The student is exposed to varied methodologies and practice philosophies in a variety of clinical settings. The major emphasis is on the knowledge and performance for abdominal, obstetrics, and gynecology examinations.

Prerequisite: DMS 70A.

2. Expected Outcomes -

The student will be able to apply, perform, comprehend, have knowledge of, analysis, synthesis, and evaluate at the intermediate level the following:

- A. competently perform all examinations and procedures in a timely manner requiring elementary sonographic applications including translating and calculation of quantitative data
- B. obtain and scrutinize appropriate clinical history, physical findings, laboratory data for all types of patient procedures and exam.
- C. operate with supervision several different types of sonography equipment.
- D. demonstrate excellent communication skills with patients, physicians, and staff.
- E. reinforce standards of practice when working with cultural sensitive environments including various age and gender populations.

3. Special Facilities and/or Equipment Needed -

Hospital or assigned medical facility, lab coat, name tag.

4. Expanded Description of Course Content -

This course is a clinical preceptorship with the student assigned to a hospital or other qualified medical facility. It is designed as an integrative approach to:

- A. Performance and application of didactic information and principles of all examinations and procedures, with supervision, including
 - 1. gynecology
 - a. transabdominal application
 - b. endovaginal application
 - 2. obstetrics
 - a. transabdominal application
 - b. endovaginal application
 - 3. abdominal examinations
 - a. tranabdominal application
 - b. subcostal approach
 - c. intercostal application
 - 4. invasive applications

- a. appropriate application to setting up sterile trays and instruments
 - b. ascertain the correct patient information matches the patient and is entered appropriately in the computer system
 - c. acquire patient data including medical history, laboratory data relevant to the invasive procedure
- B. Knowledge and application of anatomy, physiology, and pathophysiology.
 - 1. gynecology
 - 2. obstetrics
 - 3. abdominal applications
- C. to perform the sonographic examination in a timely manner consistent with this level of training
 - 1. uncomplicated abdominal examinations within 45 minutes
 - 2. uncomplicated gynecological examinations within 40 minutes
 - 3. uncomplicated obstetrical examinations for the 1st trimester within 30 minutes
 - 4. uncomplicated obstetrical examinations for the 2nd trimester within 50 minutes
 - 5. uncomplicated obstetrical examinations for the 3rd trimester within 50 minutes
- D. to identify the various computer onboard calculations
 - 1. to input calculations accurately
 - 2. to recognize and explain the types and purposes of the various onboard computer calculations per patient examination
- E. to obtain appropriate to the examination patient history
 - 1. to obtain appropriate to the examination information from the patient's physical examination
 - 2. to obtain appropriate to the examination information from laboratory data
 - 3. to analysis and predict the probable outcome based on this information and in conjunction with the sonographic examination.
- F. is able to perform and operate various ultrasound machines
 - 1. is able to demonstrate the key functions and knobology of each ultrasound system
 - 2. is able to explain the methods to improve the sonographic image using the appropriate key functions
 - 3. is able to judge quality of images based on accepted criteria
 - 4. is able to apply measurements correctly
 - 5. is able to criticize, appraise, and validate excellent image quality from nondiagnostic images.
- G. demonstrates excellent verbal, nonverbal, written communication skills with patients, staff, physicians, and the public
 - 1. demonstrates excellent communication skills with physicians
 - 2. demonstrates excellent communication skills with staff
 - 3. assumes responsibility for patient examinations and presentation through action
 - 4. applies program and department policy and procedures
- H. recognizes and applies "standards of practice" when working with cultural sensitive patient, physicians, staff, and the general public through the use of excellent communication skills.
 - 1. oral skills
 - 2. written skills
 - 3. nonverbal skills

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

- A. Clinical case presentations as presented orally, with demonstration, and written assignment. Assessment will include clinical research conducted prior to presentation.
- B. Skills and performance testing and evaluation by observation of performance.
- C. Clinical competency and proficiency assessment will be conducted at mid-quarter and end of quarter.
- D. Behavioral objectives evaluated by written form and observation.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.
Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.
Sanders, R., Clinical Sonography, Little, Brown, Co., Boston, MA, 4th ed., 2007.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Oral presentations

Demonstration

Internship/preceptorship

Other: Clinical Lab

10. Lab Content -

TBA hours are spent in critical analysis of patient examinations and findings. Lab Content is defined as assignment to the clinical preceptorship facility which is a hospital or similar medical facility for 13 weeks. Campus lab instruction is integrated into this course.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

- A. Reading materials from texts and website research on patient pathology.
- B. Critical analysis of patient examinations and findings.
- C. Review of relevant published data as related to sonographic evidence of pathology and/or variants.
- D. Report writing per patient case.

Current status: Approved

Last updated: 2010-01-26 14:58:53

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You searched for Course Title: DMS 70C

1 Course Listing Found.

Biological and Health Sciences

DMS 70C CLINICAL PRECEPTORSHIP III

Effective: Summer 2010

32 hours laboratory, one hour skills, one hour case research & presentation. This is a 13 week course.

8.5 Units

GE Status: Non-GE applicable

1. Description -

Designed as a preceptorship in a medical setting to obtain the technical expertise with emphasis on mastery of knowledge, skills, and abilities required performing sonographic studies and procedures. The major emphasis is on intermediate-advanced level of knowledge and competency for abdominal, gynecology, obstetrics, and vascular sonography.

Prerequisite: DMS 70B.

2. Expected Outcomes -

The student will be able to apply, perform, comprehend, have knowledge of, analysis, synthesis, and evaluate at the intermediate-advanced level for the following:

- A. competently perform all examinations and procedures in a timely manner requiring intermediate-advanced sonographic applications including translating and calculation of quantitative data.
- B. obtain and scrutinize appropriate clinical history, physical findings, laboratory data for all types of patient procedures and examinations.
- C. operate with supervision several different types of sonography equipment.
- D. demonstrate excellent communication skills with patients, physicians, staff and the public.
- E. reinforce standards of practice when working with cultural sensitive environments including various age and gender populations.

3. Special Facilities and/or Equipment Needed -

Hospital and medical facilities, lab coat, name tag.

4. Expanded Description of Course Content -

This course is a clinical preceptorship with the student assigned to a hospital or other qualified medical facility. It is designed as an integrative approach to:

- A. Performance and application of didactic information and principles of all examinations and procedures, with supervision, including
 - 1. gynecology
 - a. transabdominal application
 - b. endovaginal application
 - 2. obstetrics
 - a. transabdominal application
 - b. endovaginal application
 - 3. abdominal examinations
 - a. tranabdominal application
 - b. subcostal approach
 - c. intercostal application
 - 4. invasive applications

- a. appropriate application to setting up sterile trays and instruments
 - b. ascertain the correct patient information matches the patient and is entered appropriately in the computer system
 - c. acquire patient data including medical history, laboratory data relevant to the invasive procedure
- 5. vascular examinations
 - a. carotid examinations
 - b. peripheral venous
 - c. peripheral arterial
 - d. abdominal vascular
- B. Knowledge and application of anatomy, physiology, and pathophysiology.
 - 1. gynecology
 - 2. obstetrics
 - 3. abdominal applications
 - 4. vascular applications
- C. to perform the sonographic examination in a timely manner consistent with this level of training
 - 1. uncomplicated abdominal examinations within 40 minutes
 - 2. uncomplicated gynecological examinations within 35 minutes
 - 3. uncomplicated obstetrical examinations for the 1st trimester within 25 minutes
 - 4. uncomplicated obstetrical examinations for the 2nd trimester within 45 minutes
 - 5. uncomplicated obstetrical examinations for the 3rd trimester within 45 minutes
- D. to identify the various computer onboard calculations
 - 1. to input calculations accurately
 - 2. to recognize and explain the types and purposes of the various onboard computer calculations per patient examination
- E. to obtain appropriate to the examination patient history
 - 1. to obtain appropriate to the examination information from the patient's physical examination
 - 2. to obtain appropriate to the examination information from laboratory data
 - 3. to analysis and predict the probable outcome based on this information and in conjunction with the sonographic examination.
- F. is able to perform and operate various ultrasound machines
 - 1. is able to demonstrate the key functions and knobology of each ultrasound system
 - 2. is able to explain the methods to improve the sonographic image using the appropriate key functions
 - 3. is able to judge quality of images based on accepted criteria
 - 4. is able to apply measurements correctly
 - 5. is able to criticize, appraise, and validate excellent image quality from nondiagnostic images.
- G. demonstrates excellent verbal, nonverbal, written communication skills with patients, staff, physicians, and the public
 - 1. demonstrates excellent communication skills with physicians
 - 2. demonstrates excellent communication skills with staff
 - 3. assumes responsibility for patient examinations and presentation through action
 - 4. applies program and department policy and procedures
- H. recognizes and applies "standards of practice" when working with cultural sensitive patient, physicians, staff, and the general public through the use of excellent communication skills.
 - 1. oral skills
 - 2. written skills
 - 3. nonverbal skills

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

- A. Clinical case presentations as presented orally, with demonstration, and written assignment. Assessment will include clinical research conducted prior to presentation.
- B. Skills and performance testing and evaluation by observation of performance.
- C. Clinical competency and proficiency assessment will be conducted at mid-quarter and end of quarter.
- D. Behavioral objectives evaluated by written form and observation.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.

Sanders, R. Clinical Sonography, 4th ed., Boston, MA: Little, Brown, Co., 2007.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Oral presentations

Demonstration

Internship/preceptorship

Other: Clinical Lab

10. Lab Content -

TBA hours are spent in critical analysis of patient examinations and findings. Lab Content is defined as assignment to the clinical preceptorship facility which is a hospital or similar medical facility for 13 weeks. Campus lab instruction is integrated into this course.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

- A. Reading materials from texts and website research on patient pathology.
- B. Critical analysis of patient examinations and findings.
- C. Review of relevant published data as related to sonographic evidence of pathology and/or variants.
- D. Report writing per patient case.

Current status: Approved

Last updated: 2010-01-26 15:01:16

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You searched for Course Title: DMS 70D

1 Course Listing Found.

Biological and Health Sciences

DMS 70D CLINICAL PRECEPTORSHIP IV

Effective: Summer 2010

32 hours laboratory, one hour skills, one hour case research & presentation. This is a 13 week course.

8.5 Units

GE Status: Non-GE applicable

1. Description -

Designed as a preceptorship in a medical setting to obtain the technical expertise with emphasis on the advanced mastery of knowledge, skills, and abilities required performing all types of sonographic studies and procedures.

Prerequisite: DMS 70C.

2. Expected Outcomes -

The student will be able to apply, perform, comprehend, have knowledge of, analysis, synthesis, and evaluate at the intermediate-advanced level for the following:

- A. competently perform all examinations and procedures in a timely manner requiring intermediate-advanced sonographic applications including translating and calculation of quantitative data.
- B. obtain and scrutinize appropriate clinical history, physical findings, laboratory data for all types of patient procedures and examinations.
- C. operate with supervision several different types of sonography equipment.
- D. demonstrate excellent communication skills with patients, physicians, staff and the public.
- E. reinforce standards of practice when working with cultural sensitive environments including various age and gender populations.

3. Special Facilities and/or Equipment Needed -

Lab coat, name tag

4. Expanded Description of Course Content -

This course is a clinical preceptorship with the student assigned to a hospital or other qualified medical facility. It is designed as an integrative approach to:

- A. Performance and application of didactic information and principles of all examinations and procedures, with supervision, including
 - 1. gynecology
 - a. transabdominal application
 - b. endovaginal application
 - 2. obstetrics
 - a. transabdominal application
 - b. endovaginal application
 - 3. abdominal examinations
 - a. tranabdominal application
 - b. subcostal approach
 - c. intercostal application
 - 4. invasive applications
 - a. appropriate application to setting up sterile trays and instruments

- b. ascertain the correct patient information matches the patient and is entered appropriately in the computer system
 - c. acquire patient data including medical history, laboratory data relevant to the invasive procedure
 - 5. vascular examinations
 - a. carotid examinations
 - b. peripheral venous
 - c. peripheral arterial
 - d. abdominal vascular
- B. Knowledge and application of anatomy, physiology, and pathophysiology.
 - 1. gynecology
 - 2. obstetrics
 - 3. abdominal applications
 - 4. vascular applications
- C. to perform the sonographic examination in a timely manner consistent with this level of training
 - 1. uncomplicated and complicated abdominal examinations within 40 minutes
 - 2. uncomplicated and complicated gynecological examinations within 35 minutes
 - 3. uncomplicated and complicated obstetrical examinations for the 1st trimester within 25 minutes
 - 4. uncomplicated and complicated obstetrical examinations for the 2nd trimester within 45 minutes
 - 5. uncomplicated and complicated obstetrical examinations for the 3rd trimester within 45 minutes
- D. to identify the various computer onboard calculations
 - 1. to input calculations accurately
 - 2. to recognize and explain the types and purposes of the various onboard computer calculations per patient examination
- E. to obtain appropriate to the examination patient history
 - 1. to obtain appropriate to the examination information from the patient's physical examination
 - 2. to obtain appropriate to the examination information from laboratory data
 - 3. to analysis and predict the probable outcome based on this information and in conjunction with the sonographic examination.
- F. is able to perform and operate various ultrasound machines
 - 1. is able to demonstrate the key functions and knobology of each ultrasound system
 - 2. is able to explain the methods to improve the sonographic image using the appropriate key functions
 - 3. is able to judge quality of images based on accepted criteria
 - 4. is able to apply measurements correctly
 - 5. is able to criticize, appraise, and validate excellent image quality from nondiagnostic images.
- G. demonstrates excellent verbal, nonverbal, written communication skills with patients, staff, physicians, and the public
 - 1. demonstrates excellent communication skills with physicians
 - 2. demonstrates excellent communication skills with staff
 - 3. assumes responsibility for patient examinations and presentation through action
 - 4. applies program and department policy and procedures
- H. recognizes and applies "standards of practice" when working with cultural sensitive patient, physicians, staff, and the general public through the use of excellent communication skills.
 - 1. oral skills
 - 2. written skills
 - 3. nonverbal skills

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

- A. Clinical case presentations as presented orally, with demonstration, and written assignment. Assessment will include clinical research conducted prior to presentation.
- B. Skills and performance testing and evaluation by observation of performance.
- C. Clinical competency and proficiency assessment will be conducted at mid-quarter and end of quarter.
- D. Behavioral objectives evaluated by written form and observation.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd

ed., Philadelphia, PA: W.B. Saunders, 2004.

Sanders, R., Clinical Sonography, 4th ed. Boston, MA: Little, Brown, Co., 2007.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Internship/preceptorship

Other: Clinical Lab

10. Lab Content -

TBA hours are spent in critical analysis of patient examinations and findings. Students will research, prepare clinical case studies and outcomes for presentation. Lab Content is defined as assignment to the clinical preceptorship facility which is a hospital or similar medical facility for 13 weeks. Campus lab instruction is integrated into this course.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

- A. Critical analysis of patient examinations and findings by reading case studies.
- B. Review of relevant published data as related to sonographic evidence of pathology and/or variants.
- C. Reading materials from texts and website research on patient pathology.
- D. Report writing per patient case.
- E. Presentation to instructor and/or physicians.

Current status: Approved

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You searched for Course Title: DMS 70E

1 Course Listing Found.

Biological and Health Sciences

DMS 70E CLINICAL PRECEPTORSHIP V

Effective: Summer 2010

Thirty-two hours laboratory, one hour skills, one hour case research & presentation.

8.5 Units

This is a 13 week course.

GE Status: Non-GE applicable

1. Description -

Designed as a preceptorship in a medical setting to obtain the technical expertise with emphasis on the advanced-graduate mastery of knowledge, skills, and abilities required performing all types of sonographic studies and procedures. The major emphasis is on terminal competencies leading to program completion.

Prerequisite: DMS 70D.

2. Expected Outcomes -

The student will be able to apply, perform, comprehend, have knowledge of, analysis, synthesis, and evaluate at the advanced level for the following:

- A. competently perform all examinations and procedures in a timely manner requiring elementary sonographic applications including translating and calculation of quantitative data
- B. obtain and scrutinize appropriate clinical history, physical findings, laboratory data for all types of patient procedures and examinations.
- C. operate with supervision several different types of sonography equipment.
- D. demonstrate excellent communication skills with patients, physicians, staff and the public.
- E. reinforce standards of practice when working with cultural sensitive environments including various age and gender populations.

3. Special Facilities and/or Equipment Needed -

Hospital and medical facility, lab coat, name tag.

4. Expanded Description of Course Content -

This course is a clinical preceptorship with the student assigned to a hospital or other qualified medical facility. It is designed as an integrative approach to:

- A. Performance and application of didactic information and principles of all examinations and procedures, with supervision, including
 - 1. gynecology
 - a. transabdominal application
 - b. endovaginal application
 - 2. obstetrics
 - a. transabdominal application
 - b. endovaginal application
 - 3. abdominal examinations
 - a. tranabdominal application
 - b. subcostal approach
 - c. intercostal application
 - 4. invasive applications
 - a. appropriate application to setting up sterile trays and instruments

- b. ascertain the correct patient information matches the patient and is entered appropriately in the computer system
 - c. acquire patient data including medical history, laboratory data relevant to the invasive procedure
- 5. Vascular Sonography
 - a. carotid examinations
 - b. peripheral arterial examinations
 - c. peripheral venous examinations
 - d. abdominal vascular examinations
- B. Knowledge and application of anatomy, physiology, and pathophysiology.
 - 1. gynecology
 - 2. obstetrics
 - 3. abdominal applications
 - 4. vascular applications
- C. to perform the sonographic examination in a timely manner consistent with this level of training
 - 1. abdominal examinations within 30 minutes
 - 2. gynecological examinations within 30 minutes
 - 3. obstetrical examinations for the 1st trimester within 20 minutes
 - 4. obstetrical examinations for the 2nd trimester within 30 minutes
 - 5. obstetrical examinations for the 3rd trimester within 40 minutes
- D. to identify the various computer onboard calculations
 - 1. to input calculations accurately
 - 2. to recognize and explain the types and purposes of the various onboard computer calculations per patient examination
- E. to obtain appropriate to the examination patient history
 - 1. to obtain appropriate to the examination information from the patient's physical examination
 - 2. to obtain appropriate to the examination information from laboratory data
 - 3. to analysis and predict the probable outcome based on this information and in conjunction with the sonographic examination.
- F. is able to perform and operate various ultrasound machines
 - 1. is able to demonstrate the functions and knobology of each ultrasound system
 - 2. is able to explain the methods to improve the sonographic image using the appropriate key functions
 - 3. is able to judge quality of images based on accepted criteria
 - 4. is able to apply measurements correctly
 - 5. is able to criticize, appraise, and validate excellent image quality from nondiagnostic images.
- G. is proficient in applying sterile techniques and patient assessment
- H. demonstrates excellent verbal, nonverbal, written communication skills with patients, staff, physicians, and the public
 - 1. demonstrates excellent communication skills with physicians
 - 2. demonstrates excellent communication skills with staff
 - 3. assumes responsibility for patient examinations and presentation through action
 - 4. applies program and department policy and procedures
- I. recognizes and applies "standards of practice" when working with cultural sensitive patient, physicians, staff, and the general public through the use of excellent communication skills.
 - 1. oral skills
 - 2. written skills
 - 3. nonverbal skills

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

- A. Clinical case presentations as presented orally, with demonstration, and written assignment. Assessment will include clinical research conducted prior to presentation.
- B. Skills and performance testing and evaluation by observation of performance.
- C. Clinical competency and proficiency assessment will be conducted at mid-quarter and end of quarter.
- D. Behavioral objectives evaluated by written form and observation.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.

Sanders, R., Clinical Sonography, Little, Brown, Co., Boston, MA, 4th ed., 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Oral presentations

Demonstration

Internship/preceptorship

Other: Clinical Lab

10. Lab Content -

TBA hours are spent in critical analysis of patient examinations and findings. Lab Content is defined as assignment to the clinical preceptorship facility which is a hospital or similar medical facility for 13 weeks. Campus lab instruction is integrated into this course.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

- A. Reading materials from texts and website research on patient pathology.
- B. Critical analysis of patient examinations and findings.
- C. Review of relevant published data as related to sonographic evidence of pathology and/or variants.
- D. Report writing per patient case.

Current status: Approved

Last updated: 2010-01-26 15:06:29

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You searched for Course Title: DMS 72A

1 Course Listing Found.

Biological and Health Sciences

DMS 72A DIAGNOSTIC MEDICAL SONOGRAPHY PROCEDURES & APPLICATIONS Effective: Summer 2010
 One hour lecture, 32 hours laboratory. **8 Units**

GE Status: Non-GE applicable

1. Description -

Instruction to develop the fundamental skills, procedures and applications for sonographic image acquisition. Includes instruction in establishing technical quality, interpretation, analysis, and case presentation. Includes hands-on participation in a structured lab setting with emphasis on simulation and live scanning exercises plus clinical preceptorship.

Prerequisite: Admission to Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

The student will be able to:

- A. recognize commonly obtained scan planes, recognized landmarks.
- B. define and apply standards for image acquisition.
- C. recognize and correlate anatomical structures.
- D. operate with supervision, sonography equipment.
- E. explain and use key control functions of ultrasound equipment.
- F. obtain patient clinical information in a simulated medical setting.
- G. present a clinical cases using intepretative analysis.
- H. perform the duties and tasks according to the description of the DMS Assistant.

3. Special Facilities and/or Equipment Needed -

DVD/TV-monitor, view boxes, computer stations, medical sonography equipment.

4. Expanded Description of Course Content -

- A. recognize commonly obtained scan planes, recognized landmarks.
 - 1. sagittal
 - 2. transverse
 - 3. coronal
 - 4. intercostal
- B. define and apply standards for image acquisition.
 - 1. contrast quality standards with suboptimal cases from files
 - 2. interpretative skills along with case analysis
- C. recognize and correlate anatomical structures.
 - 1. obtain, images with targeted anatomical structures as indicated by instructor
 - 2. cite relationship of organs and blood vessels
- D. operate with supervision, sonography equipment.
 - 1. keyboard information
 - 2. annotate date
 - 3. TGC
 - 4. gain

5. tissue harmonics
6. field of view
7. measurements
8. relationships of body position to monitor display
- E. explain and use key control functions of ultrasound equipment.
- F. obtain patient clinical information in a simulated medical setting.
 1. from the waiting room to the examination room
 2. describe the sonographic procedure to take place
 3. ascertain examination relevant information.
- G. present a clinical cases using Interpretative analysis.
 1. research information for clinical case presentation
 2. include clinical information
 3. include lab data
 4. include sonographic findings
 5. correlate with pathology findings
- H. perform the duties and tasks according to the description of the DMS Assistant.
- I. differentiate patient preparation for
 1. abdominal examinations
 2. gynecology examinations
 3. obstetrical examinations
 4. superficial examinations
 5. vascular examinations
 6. invasive procedures
 7. cite protocols for the above examinations and procedures

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Demonstration of mastery of material and technical skills through oral, practical laboratory exercises, clinical experience, written forms.

7. Text(s) -

Curry, R. Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed. Philadelphia, PA: W.B. Saunders, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture

Laboratory

Other: Clinical Lab

10. Lab Content -

- A. Laboratory Exercises: lab exercises in the DMS Lab. Each lab exercise may be individual or group activities and covers assigned reading, lecture topics, and clinical experiences.
- B. Laboratory Exercises, demonstration, and exercises. Each lab exercise will include individual or group participation. It will incorporate simulation training, individual tasks, interactivity with interactive case analysis and CD/DVD media.

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

- A. Reading materials from texts and website research on patient pathology.
- B. Critical analysis of patient examinations and findings.
- C. Review of relevant published data as related to sonographic evidence of pathology and/or variants.
- D. Report writing per patient case.

Current status: Approved

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You searched for Course Title: DMS 72E

1 Course Listing Found.

Biological and Health Sciences

DMS 72E DIAGNOSTIC MEDICAL SONOGRAPHY PROCEDURES & APPLICATIONS **Effective: Summer 2010**
One hour lecture, three hours laboratory. **2 Units**

GE Status: Non-GE applicable

1. Description -

Advanced proficiency levels toward image acquisition, implementing technical quality, interpretation and case analysis with an emphasis on the advanced practice sonographer. Will demonstrate skills through hands-on participation in a controlled lab setting with both simulation and live scanning exercises and demonstration of instructional techniques.

Prerequisite: Admission to Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. recognize anatomic structures obtained in the complex examination.
- B. demonstrate and apply standards using Standards of Practice
- C. will demonstrate understanding of the role of the clinical instructor through practical application
- D. operate and instruct in the use of diagnostic sonographic equipment.
- E. obtain and correlate complex clinical information in a simulated medical setting.
- F. present clinical cases using advanced interpretative analysis.

3. Special Facilities and/or Equipment Needed -

DVD/TV-monitor, view boxes, computer stations, medical ultrasound equipment.

4. Expanded Description of Course Content -

- A. Advanced Instrumentation
 - 1. live image acquisition
 - 2. simulation training
 - 3. 3D image acquisition
 - 4. volume acquisition
 - 5. volume data manipulation for interpretation
- B. Scanning Principles & Methods including normal and abnormal sonographic appearances.
 - 1. live image acquisition
 - 2. simulation training
 - 3. 3D image acquisition
 - 4. volume acquisition
- C. Patient Assessment and Management
- D. Scanning Protocols & Advanced Applications
 - 1. live image acquisition
 - 2. simulation training
 - 3. 3D image acquisition
 - 4. volume acquisition
- E. Interpretative and case analysis skills
 - 1. live image acquisition

2. simulation training
 3. 3D image acquisition
 4. volume acquisition
- F. The role of the clinical instructor
1. instructional techniques in a controlled environment
 2. role of the clinical instructor in record keeping
 3. role play in dealing with difficult student
 4. role play and assessment providing instruction to the new student

5. Repeatability Criteria -

Not repeatable

6. Methods of Evaluation -

- A. Oral and practical laboratory exercises
- B. Demonstration of mastery of lecture material by written quizzes and final exam.
- C. Role play and assessment.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.

Curry, R., Tempkin, B., Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed., Philadelphia, PA: W.B. Saunders, 2004.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Laboratory Demonstration Other: Campus Lab

10. Lab Content -

This is a campus lab with ultrasound equipment. Student's obtain and correlate complex clinical information in a simulated medical setting. Students present clinical cases using interpretative analysis. Student demonstrate understanding of the role of the clinical instructor through practical application

11. Honors Description - No content**12. Examples of Required Reading and Writing Assignments -**

Medical patient case studies are analyzed. No traditional reading or writing required.

Current status: Approved

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You searched for Course Title: DMS 80A

1 Course Listing Found.

Biological and Health Sciences

DMS 80A ADVANCED SONOGRAPHIC PRINCIPLES

Three hours lecture, three hours ETUDES-NG internet.

GE Status: Non-GE applicable

Effective: Summer 2010

3 Units

1. Description -

Continuation of all courses as well as new developments with advanced analysis of current sonographic practice. Student presentation and critique of neoplastic cases. Information necessary for completion and participation of national registry examination.

Prerequisites: Admission to the Diagnostic Medical Sonography Program. Completion of all prior didactic and clinical practicum courses required in the Diagnostic Medical Sonography Program.

2. Expected Outcomes -

The student will be able to:

- A. identify human anatomy, embryological development, physiology, and pathophysiology appropriate to medical sonography.
- B. recite normal measurements of organs and their structures.
- C. evaluate nomograms associated with sonography.
- D. employ interpretative and analytical skills with an emphasis on advanced techniques.
- E. recite laws of physics and relationship to medical sonography including control functions of equipment and image acquisition.
- F. define acoustic powers and intensity with regards to national standards and current legislation.
- G. discuss ethical dilemmas for health care personnel when in conflict with cultural interests.

3. Special Facilities and/or Equipment Needed -

DVD/TV, internet access, computer, monitor, viewboxes.

4. Expanded Description of Course Content -

- A. Human Anatomy, Physiology, and Pathophysiology
 - 1. taken in testing format in preparation for national board examinations
- B. Lab Data
 - 1. taken in testing format in preparation for national board examinations
- C. Image Acquisition
 - 1. taken in testing format in preparation for national board examinations
- D. Protocols for various sonographic studies
 - 1. taken in testing format in preparation for national board examinations
- E. Image identification preparation for national board examinations
- F. Sonographic equipment and physical principles
 - 1. taken in testing format in preparation for national board examinations
- G. Patient care techniques and ethical dilemmas for the health care professional
 - 1. taken in testing format in preparation for national board examinations
- H. Advanced Sonographic Techniques including analytical skills conforming to national standards of practice.
- I. Future Developments and Trends

- J. Preparation for National Registry Examinations
 - 1. testing against the clock
 - 2. image identification
- K. practice preparatory examinations on ETUDES-NG

Unloaded hours are spent completing preparation for national board exams.

5. Repeatability Criteria -

Not repeatable.

6. Methods of Evaluation -

Demonstration of mastery of lecture material by written quizzes, mock ARDMS registry exams.

7. Text(s) -

Middleton, Wm., The Requisites: Ultrasound, St. Louis, MO.: Mosby, 2004.
Curry, R., Tempkin, B, Ultrasonography: An Introduction to Normal Structures and Functional Anatomy, 2nd ed. Philadelphia, PA: W.B. Saunders, 2004.
Edelman, Sidney. Understanding Ultrasound Physics, 3rd ed. Houston, TX: ESP Publishers, 2005.

8. Disciplines -

Diagnostic Medical Sonography

9. Method of Instruction -

Lecture Other: ETUDES-NG internet

10. Lab Content -

Not applicable.

11. Honors Description - No content

12. Examples of Required Reading and Writing Assignments -

- A. Students use a registry prep book to assist for exam preparation.
- B. Students use several online registry prep examinations. Some of the preparatory examinations will be completed via ETUDES-NG. All tests will be timed.

Current status: Approved

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