

## **SONOGRAPHY**

Diagnostic Medical Sonography (DMS), sometimes referred to as ultrasound, is a diagnostic medical procedure that uses high frequency sound waves (ultrasound) to produce dynamic visual images of organs, tissues, or blood flow inside the body. Sonography is increasingly being used in the detection and treatment of heart disease, heart attack, and vascular disease that can lead to stroke. It is also used to guide fine needle, tissue biopsy to assist in taking a sample of cells from an organ for lab testing (i.e. test for cancer in breast tissue). Unlike x-rays, sonography is a radiation-free imaging modality.

## **JOB OPPORTUNITIES**

- Sonography is being used increasingly in acute care hospitals, imaging centers, and physicians' offices; it is used in all medical specialties.
- The California Employment Development Department projects a 27.6% increase in DMS employment from 2004 – 2014.
- A Central California DMS survey conducted by the RHORC (2002) showed a projected 89 P.T. and 68 F.T. job openings in 2005.
- Locally, the Santa Barbara News Press (2003, April 6) ran an article, *Diagnostic Medical Sonographers See Demand Rising*, confirming the local need.
- Radiology Today (2004, March 29) reported a \$15,000 median increase in wages from radiographer to sonographer

## **FACULTY**

- Carla Seder Sorisio, R.T., RDMS, Clinical Coord.
- Nick Spina, B.A., R.T., RDMS
- Debra Von Bernuth, B.A., RDMS, RVT

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## **MISSION STATEMENT**

The Mission of the Diagnostic Medical Sonography (DMS) Program is to provide a career ladder opportunity for existing Radiographic Technologists, Respiratory Therapists, Physical Therapists, Licensed Nurses and physicians; as well as those with bachelor's degrees to become competent sonographers who can serve the needs of a diverse patient population in an ethical and compassionate manner. Our basic goals are to:

1. Provide an educational experience that reflects the accepted standards of the profession,
2. Graduate students who are clinically and technically prepared to enter the current job market

## **LENGTH OF PROGRAM**

This is an 18-month Certificate Program in which courses are arranged in a meaningful sequence and must be taken in the order planned. The program begins each year with the start of the College's Summer Semester.

## **INFORMATION ABOUT THE PROGRAM**

The course of study in the Diagnostic Medical Sonography (DMS) Program offered at Santa Barbara City College will enable students to attend class (Fridays & Saturdays), while continuing to work part-time in health care. The program includes didactic/classroom courses with on-line lecture components and clinical experiences in sonography. The majority of time is spent in the clinical setting and can be arranged in a wide variety of SBCC's affiliated facilities from Central CA to Panorama City. Students who complete the program will be able to:

- Demonstrate scanning techniques for obstetrical, gynecological, medical/surgical, neonatal, and pediatric patients.
- Utilize high frequency sound waves to image arterial and venous peripheral vasculature, extracranial carotid arteries, and abdominal vasculature; as well as abdominal organs and small parts.
- Obtain a certificate in DMS
- Achieve eligibility to take the ARDMS registry exams in general sonography (focusing on the abdomen).

## **PREREQUISITES**

- If education was from outside the U.S., transcripts must be evaluated for U.S. equivalency; English and algebra competency.
- And one of the following prerequisite options

## **PREREQUISITE OPTIONS:**

**Cross Sectional Anatomy** (RT 250) is highly recommended to be completed prior to starting the program, but is required prior to the first clinical course (DMS 180). In addition, one of the three options below:

- 1) Completion of two-year allied health education program that is patient-care related (R.T., R.N., P.T., etc., ARDMS pre-requisite I) **OR**
- 2) Bachelor's degree (ARDMS pre-requisite 3A) with the following prerequisites:
  - Anatomy (i.e. Biomed 107) 4 units
  - Physiology (i.e. Biomed 108) 4 units
  - Medical Term. (i.e. Allied Health 120) 1 unit
  - Patient Care (i.e. R.T. 120 without R.T. 101, prior to 1<sup>st</sup> clinical course) 2 units **OR**
- 3) M.D. or D.O. degrees from in or outside the U.S., equivalent to those of the U.S. and Canada

## **ENTRANCE REQUIREMENTS:**

Before entering the DMS Program, students are required to:

1. attend a DMS orientation meeting the semester prior to entry at SBCC;
2. complete the SBCC physical examination on SBCC form including immunizations;
3. obtain a CPR card, which must be kept current throughout the program;
4. file a college application in the Admissions Office, the semester prior to beginning classes at SBCC. Can download from:  
<http://www.sbccc.edu/apply/files/sbccapp1.pdf>

## **APPLICATION PROCEDURE**

Submit the following:

- completed DMS application
- a copy of professional license
- official transcripts (& original foreign evaluation by an evaluation agency, if applicable)

### **Mail to:**

Health Technologies Office  
SBCC Attn: Lorraine Michalak  
721 Cliff Drive  
Santa Barbara, CA 93109-2394

Applicant is responsible for verifying receipt of all transcripts and completion of personal application file.

**Core Curriculum for DMS = 56 units, 2218 hrs:  
Total clinical hours = 1821 (189 Lab & 1632 Clin )  
Total lecture hours = 397**

Summer Semester (6/6/08 – 8/9/08)	Units	Lec hrs/wk	Lab hrs/wk
DMS 150: Physics & Instrumentation	3	5.4	0
DMS 155: Abd. & Sm. Parts Scanning	2.8	3.6	4.5
<b>SEMESTER TOTALS</b>	<b>5.8</b>	<b>9</b>	<b>4.5</b>

Fall Semester (8/29/08 – 12/13/08)	Units	Lec hrs/wk	Lab hrs/wk
DMS 156: OB/Gyn Scanning	2.6	2.3	2.3
DMS 160: Pathophysiology	3	3.4	0
DMS 165: Abd & Sm Parts Scanning & Path	3	2.3	3.0
R.T. 250: Cross Sectional Anatomy*	2	2.3	0
<b>SEMESTER TOTALS</b>	<b>10.6</b>	<b>10.3</b>	<b>5.3</b>

Winter Intersession (12/29/08 – 1/23/09)	Units	Lec hrs/wk	Lab hrs/wk
DMS 180: Clinical Experience I 32 hours/wk x 4 wks (128 hrs)	2.4	0	32
<b>SEMESTER TOTALS</b>	<b>2.4</b>	<b>0</b>	<b>32</b>

Spring Semester (1/30/09 – 5/23/09)	Units	Lec hrs/wk	Lab hrs/wk
DMS 166: OB/Gyn Scanning & Path.	2	2.3	0
DMS 170: Introduction to Vascular Ultrasound	4	3.4	3.4
DMS 181: Clinical Experience II 32 hours/wk x 16 wks (512 hrs)	9.5	0	32
<b>SEMESTER TOTALS</b>	<b>15.5</b>	<b>5.7</b>	<b>35.4</b>

Summer Semester (5/25/09 – 8/14/09)	Units	Lec hrs/wk	Lab hrs/wk
DMS 280: Clinical Experience III 40 hours/wk x 12 wks (480)	8.9	0	40
<b>SEMESTER TOTALS</b>	<b>8.9</b>	<b>0</b>	<b>40</b>

Fall Semester (8/31/09 – 12/19/09)	Units	Lec hrs/wk	Lab hrs/wk
DMS 250: Sonography Interpretation- Critique, Pathology and Literature Review	3	3.4	0
DMS 281: Clinical Experience IV 32 hours/wk x 16 wks (512 hrs)	9.5	0	32
<b>SEMESTER TOTALS</b>	<b>12.5</b>	<b>3.4</b>	<b>32</b>

\* It is highly recommended to complete Cross Sectional Anatomy prior to starting the DMS program.

### Sonographers must be able to:

- Lift more than 50 pounds routinely
- Push and pull routinely
- Bend and stoop routinely
- Have full use of both hands, wrists and shoulders
- Distinguish audible sounds
- Adequately view sonograms, including color distinctions
- Work standing on their feet 80% of the time
- Interact compassionately & effectively with the sick or injured
- Assist patients on and off examining tables
- Communicate effectively with patients and other health care professionals
- Organize and accurately perform the individual steps in a sonographic procedure in the proper sequence

(The above DMS Capabilities are from the Society of Diagnostic Medical Sonography, Plano, Texas. ©1999-2005)

### **FEES**

Registration fees are \$20 per unit for California residents (\$20 x 56 unit = \$1120. Out-of-state residents pay an additional \$173 per unit. Other required fees include physical exam (SBCC form will be provided), CPR certification (to be kept current throughout the program), uniforms, fees, textbooks, and supplies, as well as professional fees for memberships. You must furnish your own transportation to all clinical education sites and be able to drive 50 miles RT if necessary. For details, view: <http://www.sbccc.edu/apply/index.php?sec=28>

### **FINANCIAL AID**

A variety of scholarships, grants and loans are also available to students. Information and applications are available from the SBCC Financial Aid Office (2<sup>nd</sup> floor of the Student Services Building). Early inquiry is important because of early application deadlines. One source of scholarships for medical imaging students is [www.healthprofessions.ca.gov](http://www.healthprofessions.ca.gov)

### **ADDITIONAL INFORMATION**

- Lorraine Michalak- application & general questions (805) 965-0581 x 2366 [michalak@sbccc.edu](mailto:michalak@sbccc.edu)
- Debra McMahan (805) 965-0581 x 2504 [mcmahan@sbccc.edu](mailto:mcmahan@sbccc.edu)
- Marsha Roberson (805) 965-0581 x 2782 [roberson@sbccc.edu](mailto:roberson@sbccc.edu)
- Carla Seder Sorisio- clinical sites [czs822@msn.com](mailto:czs822@msn.com)
- Dr. Gwyer Schuyler (805) 965-0581 x 2569 [schuyler@sbccc.edu](mailto:schuyler@sbccc.edu) (academic counseling & transcripts)
- American Registry for Diagnostic Medical Sonographers (ARDMS) <http://www.ardms.org>

# Santa Barbara City College Diagnostic Medical Sonography Program (Revised 10/12/07)



# SB CC

Program begins  
June 6, 2008