

**Diagnostic Medical Sonography – Cardiac/Vascular Ultrasound Track**

ASSOCIATE OF APPLIED SCIENCE DEGREE (AAS)

REQUIRED CREDITS: 92

**LIMITED ENTRY**  
DEGREE CODE: SONCCARAAS

This is a limited-entry program. Some of these courses are program prerequisites and MUST be completed before a student is considered eligible for entry into the Program. Students MUST attend a Health Programs orientation and meet with a Health Programs advisor for additional advisement.

**DESCRIPTION**

Ultrasonography is a diagnostic imaging procedure that utilizes high frequency sound waves to image abdominal organs, vessels, the heart, and the developing fetus in the maternal uterus. Ultrasound can demonstrate masses, fluid accumulations, and other pathology in the patient. Ultrasound exams are performed under the supervision of a qualified physician. Students electing to take this area of study are prepared to enter the sonography field in the areas of adult and pediatric echocardiography as well as vascular ultrasound. The student, upon graduation, will be eligible to sit for the National Registry Exams for Diagnostic Cardiac Sonography. Upon passing the exams, they will use the designation RDCS (Registered Diagnostic Cardiac Sonographer). This is a limited entry program and students must attend a health programs orientation and meet with a health programs advisor for additional counseling. The Diagnostic Medical Sonography Program is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the JRC-DMS which is located at 6021 University Boulevard, Suite 500, Ellicott City, MD 21043, (651) 731-1582.

**STUDENT LEARNING OUTCOMES**

- Evaluate ultrasonic images for appropriate anatomy and recognize pathologic conditions.
- Determine proper sonographic techniques, transducer size, and image settings to obtain quality images while operating ultrasound equipment.
- Assess and facilitate basic patient care and comfort during sonographic procedures.
- Diagnose and adapt ultrasound examinations during the performance of an ultrasound procedure.

**PLEASE NOTE** - The courses listed below may require a prerequisite or corequisite. Read course descriptions before registering for classes. All MATH and ENG courses numbered 01-99 must be completed before reaching 30 total college-level credits. No course under 100-level counts toward degree completion.

**GENERAL EDUCATION REQUIREMENTS (31 CREDITS)****MATHEMATICS (3 credits)**

MATH 116 or above (except MATH 122, 123)

**ENGLISH COMPOSITION (3-5 credits)**

See AAS policy p. 50 for courses

**COMMUNICATIONS (3 credits)**

Recommended: COM 101 Oral Communication

**HUMAN RELATIONS (3 credits)**

Recommended: PSY 101 General Psychology

**NATURAL SCIENCE (12 credits)**

BIOL 223 and 224; and either EGG 131 and EGG 131L; or PHYS 110 or above

**FINE ARTS/HUMANITIES/SOCIAL SCIENCES (3 credits)**

AM 145 or above; ANTH 101 or above; ART 101 or above; COM 101 or above; ECON 100 or above; ENG 223 or above; GEOG 106; HIST 101 or above; World Languages 101B or above; MUS 101 or above; PHIL 101 or above; PSC 101 or above; PSY 101 or above; SOC 101 or above; THTR 100 or above; WMST 113

**U.S. AND NEVADA CONSTITUTIONS (4-6 credits)**

Recommended: PSC 101 Introduction to American Politics

**SPECIAL PROGRAM REQUIREMENTS (61 CREDITS)**

HIT 117B	Medical Terminology I	1
SON 102B	Basic Cardiac Sonography	3
SON 102L	Basic Cardiac Sonography Lab	1
SON 116B	Echocardiography I	3
SON 125B	Sonographic Physics and Instrumentation I	3
SON 135B	Cardiovascular Ultrasound Physics	2
SON 150B	Patient Care for Imaging Professions	3
SON 160B	Sonographic Scanning Lab I	2
SON 190B	Sonographic Physics and Instrumentation II	3
SON 195B	Sonographic Scanning Lab II	2
SON 216B	Echocardiography II	3
SON 225B	Stress Echocardiography	3
SON 250B	Seminar and Case Review I	2
SON 255B	Seminar and Case Review II	2
SON 261B	Pediatric Echocardiography I	3
SON 262B	Pediatric Echocardiography II	2
SON 275B	Vascular Sonography I	3
SON 275L	Vascular Sonography Laboratory I	1
SON 276B	Vascular Sonography II	3
SON 276L	Vascular Sonography Laboratory II	1
SON 280B	Sonographic Clinical Practicum I	2
SON 281B	Sonographic Clinical Practicum II	2
SON 282B	Sonographic Clinical Practicum III	3
SON 283B	Sonographic Clinical Practicum IV	3
SON 284B	Sonographic Clinical Practicum V	3
SON 291B	Cardiac Registry Review	2

See Degree Plan on next page.

- NOTE**
- Course numbers with the “B” suffix may be non-transferable for a NSHE baccalaureate degree.
  - Course numbers with the “H” suffix are designated Honors-level courses and can be used to fulfill equivalent general education requirements. For more information visit [www.csn.edu/honors](http://www.csn.edu/honors).
  - In no case, may one course be used to meet more than one requirement except for the Values and Diversity general education requirement (only AA, AS, and AB degrees) which may be used to fulfill the corresponding general education or emphasis requirement.
  - Students may elect to graduate using the degree requirements in effect at the time of matriculation, or when they declared or changed major or the current catalog. If a program is official after a student has matriculated, the student may choose the degree requirements of the new program. In no case may a student use a catalog which is more than six years old at the time of graduation.



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## FULL-TIME STUDENT DEGREE PLAN

Add more semesters to modify this plan to fit part-time student needs.

## FIRST SEMESTER

	Credits
BIOL 189 Fundamentals of Life Science <sup>1</sup>	(4)
Complete Mathematics (see courses previous page)	3
Complete AAS English Composition p. 50	3-5
COM 101 Oral Communication	3
<b>TOTAL CREDITS</b> .....	<b>9 (13) - 11 (15)</b>

## SECOND SEMESTER

	Credits
BIOL 223 Human Anatomy and Physiology I	4
Complete Fine Arts/Humanities/Social Science (see courses previous page)	3
PSC 101 Introduction to American Politics	4
<b>TOTAL CREDITS</b> .....	<b>11</b>

## THIRD SEMESTER

	Credits
PSY 101 General Psychology	3
BIOL 224 Human Anatomy and Physiology II	4
EGG 131 and EGG 131L; or PHYS 110 or above	4
HIT 117B Medical Terminology I	1
<b>TOTAL CREDITS</b> .....	<b>12</b>

## FOURTH SEMESTER

Application due to Limited Entry - Deadline is February 1st every year

## FIFTH SEMESTER

	Credits
SON 102B Basic Cardiac Sonography	3
SON 102L Basic Cardiac Sonography Laboratory	1
SON 150B Patient Care for Imaging Professions/Lab	3
<b>TOTAL CREDITS</b> .....	<b>7</b>

## SIXTH SEMESTER

	Credits
SON 116B Echocardiography I	3
SON 125B Sonographic Physics and Instrumentation I	3
SON 160B Sonographic Scanning Lab I	2
SON 280B Sonographic Clinical Practicum I	2
<b>TOTAL CREDITS</b> .....	<b>10</b>

## SEVENTH SEMESTER

	Credits
SON 190B Sonographic Physics and Instrumentation II	3
SON 195B Sonographic Scanning Lab II	2
SON 216B Echocardiography II	3
SON 225B Stress Echocardiography	3
SON 281B Sonographic Clinical Practicum II	2
<b>TOTAL CREDITS</b> .....	<b>13</b>

## EIGHTH SEMESTER

	Credits
SON 282B Sonographic Clinical Practicum III	3
<b>TOTAL CREDITS</b> .....	<b>3</b>

## NINTH SEMESTER

	Credits
SON 135B Cardiovascular Ultrasound Physics	2
SON 250B Seminar and Case Review I	2
SON 261B Pediatric Echocardiography I	3
SON 275B Vascular Sonography I	3
SON 275L Vascular Sonography Laboratory I	1
SON 283B Sonographic Clinical Practicum IV	3
<b>TOTAL CREDITS</b> .....	<b>14</b>

## TENTH SEMESTER

	Credits
SON 255B Seminar and Case Review II	2
SON 262B Pediatric Echocardiography II	2
SON 276B Vascular Sonography II	3
SON 276L Vascular Sonography Laboratory II	1
SON 284B Sonographic Clinical Practicum V	3
SON 291B Cardiac Registry Review	2
<b>TOTAL CREDITS</b> .....	<b>13</b>

**DEGREE PLAN TOTAL CREDITS**..... **92 (96) - 96 (100)**<sup>1</sup>This course is a prerequisite to BIOL 223.