

# Bachelor of Science Degree in Radiologic and Imaging Sciences (BSRAD)

2020-2021 Program Guide

**Admission requirements are subject to change. Please check for any admission updates:**  
[valenciacollege.edu/west/health/admissionupdates.cfm](http://valenciacollege.edu/west/health/admissionupdates.cfm)

## Priority Application Deadline

July 1<sup>st</sup>  
November 1<sup>st</sup>  
March 1<sup>st</sup>

## Classes Begin\*

Fall Term - August  
Spring Term - January  
Summer Term - May

## ABOUT THIS LIMITED-ACCESS PROGRAM

The Radiologic and Imaging Sciences **Bachelor of Science (B.S.) degree prepares registered Radiographers, Sonographers, Radiation Therapists and Nuclear Medicine Technologists for leadership positions within the** imaging field. This program provides the opportunity to gain valuable knowledge and skills in leadership, radiology management/administration, research, teaching, and an advanced clinical modality of the student's choice. See the Concentration options that follow in this document; Leadership does not have a Practicum.

Valencia's B.S. in Radiologic and Imaging Sciences (BSRAD) degree is a limited access program, and admission to Valencia does not guarantee acceptance to the program. Program applicants must also submit documentation of their active professional health credential. Applicants must hold an eligible degree from a regionally accredited institution and a current eligible professional credential from ARRT, ARDMS, CCI or NMTCB. Students are admitted to begin the program each term and applications are accepted on an ongoing basis. ***Although an application submitted prior to a priority application deadline is more likely to be processed for the upcoming term, applications can be submitted after the priority deadline.*** Except for a course(s) in some concentrations, this is an online program designed for working professionals; some courses require on-site testing at Valencia or at a location in your community. **Students must complete at least 32 degree credits at Valencia to be awarded this degree.**

\* <https://valenciacollege.edu/academics/calendar/>

## PROGRAM ADMISSIONS AND ACCEPTANCE CHECKLIST

- \_\_\_\_\_ 1. Be a U.S. citizen or a U.S. permanent resident or in a non-immigrant category other than F or J visa categories.
- \_\_\_\_\_ 2. Review this BSRAD program guide and the overview and program requirements in the online Valencia catalog:  
[catalog.valenciacollege.edu/degrees/bachelorofscience/astobsradiologicimagingciences/](http://catalog.valenciacollege.edu/degrees/bachelorofscience/astobsradiologicimagingciences/).
- \_\_\_\_\_ 3. Submit a completed Valencia application for admission using the *Bachelor's Degree & ATC* application ([valenciacollege.edu/admissions-records/forms.cfm](http://valenciacollege.edu/admissions-records/forms.cfm)) and be in Active student

status. First-time Valencia bachelor's program applicants must create a new application account.

- \_\_\_\_\_ 4. Have an address in the state of Florida.
- \_\_\_\_\_ 5. Submit the documentation to request Florida Residency for tuition purposes.
- \_\_\_\_\_ 6. Have a minimum overall college GPA of 2.5 with minimum grades of C in the prerequisite coursework.
- \_\_\_\_\_ 7. Submit official transcripts from all prior colleges and universities with one denoting completion of an Associate Degree or higher in Radiography, Sonography, Nuclear Medicine Technology or Radiation Therapy from a regionally accredited institution. Applicants who hold a current healthcare professional credential in an eligible field and any associate degree or higher from a regionally accredited institution may substitute their professional credential in lieu of having the degree in an eligible field. Documentation will be required.
- \_\_\_\_\_ 8. Have a minimum of 68 accepted credits including the following General Education prerequisite coursework:
  - ENC 1101 Freshman Composition<sup>+</sup> 3 credits
  - MAC 1105 College Algebra <sup>+</sup> 3 credits
  - BSC 2093C **or**  
BSC X085C Anatomy & Physiology I<sup>+</sup> 4 credits
  - BSC 2094C **or**  
BSC X086C Anatomy & Physiology II<sup>+</sup> 4 credits

+ This course must be completed with a minimum grade of C.
- \_\_\_\_\_ 9. Receive notification from the Valencia Admissions Office of *admission as a candidate* for the B.S. in Radiologic and Imaging Sciences.
- \_\_\_\_\_ 10. After receiving notification of admission as a *candidate* for the Bachelor of Science, send an Atlas email containing your VID and a clear, legible copy of your current certification with the American Registry of Radiologic Technologists (N or R or S or T) **or** American Registry of Diagnostic Medical Sonographers (RDMS) or Cardiovascular Credentialing International (RCS or RVS) **or** Nuclear Medicine Technology Certification Board (CNMT) and the application fee. Your professional certification must remain current throughout your program enrollment. .
- \_\_\_\_\_ 11. Following program acceptance and registration notification from the School of Allied Health, if you have not done so, complete the fully online B.S. Degree Orientation. If you need assistance with course selection, registration and/or getting started in the program, confer with the School of Allied Health Bachelor-Level Advisor.  
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- \_\_\_\_\_ 12. For those taking a practicum (clinical) course, prior to beginning the practicum, the following documentation must be provided and the estimated cost is \$190 plus the cost for any needed immunizations and/or CPR:
  - Current criminal background check and fingerprinting
  - Drug screening
  - Physical exam form
  - Record with up-to-date immunization data

- Current specific CPR certification

## **COST**

The estimated total cost for the B.S. in Radiologic & Imaging Sciences degree, including Florida Resident tuition for the 60 credits of program requirements, special course fees, and associated expenses such as the background check, CPR, and immunizations (if needed) is approximately \$7300. This estimate does not include books.

## **ADDITIONAL PATHWAYS TO THE B.S. IN RADIOLOGIC AND IMAGING SCIENCES**

**If you do not hold an associate degree or professional certification** in Radiography, Diagnostic Medical Sonography, Nuclear Medicine Technology or Radiation Therapy from a regionally accredited institution, Valencia offers the Associate in Science degree in Radiography and in Diagnostic Medical Sonography. The program guides for these programs are available via [valenciacollege.edu/west/health](http://valenciacollege.edu/west/health).

**If you hold professional certification with ARRT or with ARDMS** but do not hold an associate degree in Radiography or Sonography from a regionally accredited institution, you may be eligible to earn Valencia's A.S. Degree in Radiography or in Diagnostic Medical Sonography via the Award of Credit process. You would complete specific courses at Valencia and then, based on your professional certification, you would be granted college credit for the required Radiography or Sonography courses and be awarded an A.S. degree. For more information on this option, please access the webpage <https://valenciacollege.edu/academics/programs/as-degree/credit-industry-certification-agreements.php>

## **CLINICAL PRACTICUM**

**A clinical practicum must be begun within 1 year of completion of the course prerequisites in order to assure current content knowledge needed for safe clinical practice.**

## **DEGREE CONCENTRATIONS**

When you apply to the BSRAD, you will need to declare one of the six degree concentrations: Leadership, CT, MRI, Mammography, Cardiac Ultrasound or Vascular Ultrasound. As reflected in the program curriculum that follows, 15 of your degree credits will be determined by the concentration you declare.

### **Leadership (non-clinical) for Radiographers, Sonographers, Nuclear Med Techs and Radiation Therapists**

The concentration provides specialized course work for those aspiring to, or already in, leadership positions within their respective health professions. You will gain knowledge and skills related to healthcare administrative and supervisory duties which will enable you to more effectively perform leadership roles within healthcare.

### **Computed Tomography for Radiographers, Nuclear Med Techs and Radiation Therapists**

This patient-focused concentration enables you to develop skills to become a CT technologist. You will gain an understanding of the physical principles and instrumentation involved in CT, as well as quality management. This includes procedure protocols, evaluating equipment operation, ensuring accurate diagnosis and safe patient care.

## **Magnetic Resonance Imaging for Radiographers, Sonographers, Nuclear Med Techs and Radiation Therapists**

This patient-focused concentration enables you to develop skills to become an MRI technologist. You will gain an understanding of the basic concepts of magnetic resonance, including magnet types, the generation of magnetic resonance signal and magnet safety. You will also learn procedures covering anatomy, pathology and equipment applications for the various regions of the human body.

## **Mammography for Radiographers**

This patient-focused concentration enables you to develop skills to become a Mammography technologist. You will gain an understanding of the concepts and imaging theory applied in Mammography as well as quality management. You will also learn procedures and protocols, breast anatomy and pathology, and equipment operation applied to Mammography.

## **Cardiac Ultrasound for Radiographers and Sonographers**

From diagnosis to treatment, you will focus on managing cardiovascular disease from the patient perspective. You will learn basic techniques of non-invasive ultrasound modalities used to evaluate disorders of cardiac circulation, cardiac valves and myocardium, pre- and post-procedure care and therapeutic measures to treat cardiovascular diseases. You will develop echocardiographic examination skills in the laboratory and clinical setting. By completing six course credits beyond this concentration, you will be eligible to sit for the Cardiovascular Credentialing International (CCI) Registered Cardiac Sonographer (RCS) specialty examination.

## **Vascular Ultrasound for Sonographers**

From the patient's perspective, you will focus on the detection, diagnosis and treatment of vascular disease using non-invasive sonographic techniques. You will learn the basic techniques (protocols, image optimization, patient care and diagnostic criteria) of non-invasive sonographic modalities used to evaluate diseases of the peripheral and visceral vascular systems; pre- and post-procedures care; and treatments used to treat vascular diseases. Your vascular ultrasound examination skills will be developed in the laboratory and clinical setting. After completing the Vascular Ultrasound Concentration, you will be eligible to sit for the Vascular Technology (VT) exam offered by the American Registry of Diagnostic Medical Sonographers (ARDMS).

## **CONTINUING EDUCATION (CEUs)**

Courses completed in the BS in Radiologic and Imaging Sciences may be reported for Continuing Education (CEUs) based on the guidelines of your credentialing or licensing body.

## **AWARD OF CREDIT OPTIONS**

You may be able to **earn course credits toward the BSRAD degree via the Award of Credit process**. If you hold a specific **advanced professional credential(s) beyond the primary level with ARRT, ARDMS, NMTCB or CCI** and want to **receive course credit** for this credential(s), you will be able to request this credit after you complete 21 upper-division degree credits. To learn more about the Award of Credit options, visit [http://valenciacollege.edu/asdegrees/credit\\_alternative.cfm](http://valenciacollege.edu/asdegrees/credit_alternative.cfm) and scroll to Radiologic and Imaging Sciences. **If interested in an Award of Credit, you should discuss this option with the program advisor to be certain you still will have the required minimum 32 Valencia degree credits.**

**Degree Requirements  
B.S. in Radiologic and Imaging Sciences  
2020-21**

**VALENCIA B.S. GENERAL EDUCATION EXIT REQUIREMENTS**

		Credits	
ENC 1102	Freshman Composition II <sup>+</sup>	3	
SPC 1608	Fundamentals of Speech <b>OR</b>		
SPC 1017	Interpersonal Communication	3	
Gen Ed	Elective		3
Humanities	See General Education Requirement <sup>+</sup>	3	
Social Science	See General Education Requirement <sup>+</sup>	3	
Mathematics	A Gordon Rule Gen Ed Course <sup>+</sup> (STA 2023 is recommended)	3	

Plus, a Humanities General Education Core course and a Social Science General Education Core course if not completed prior to admission to the BSCARDIO. Choices for General Education courses are found at <http://catalog.valenciacollege.edu/degrees/bachelorofscience/generaleducation/>.

Foreign Language Proficiency Requirement	8
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**CORE COURSES**

RTE 3213	Radiology Information Systems <sup>+</sup>	3
RTE 4574	Advanced Imaging Modalities <sup>+</sup>	3
HSC 4555	Pathophysiologic Mechanisms <sup>+</sup>	3
HSC 4640	Health Law and Compliance <sup>+</sup>	3
HSC 4652	Ethics and Health Care in a Pluralistic Society <sup>+</sup>	3
HSA 4184	Leadership in Healthcare <sup>+</sup>	3
HSA 3702	Research Methods and Information Literacy <sup>+</sup>	3
	Radiologic and Imaging Sciences Electives <sup>+</sup>	3
	Radiologic and Imaging Sciences Electives <sup>+</sup>	3

**SELECT ONE CONCENTRATION**

**Concentration: Computed Tomography** (for Radiographers, Rad Therapists and NMTs only)

RTE 3116	Advanced Patient Care <sup>+</sup>	3
RTE 3765	Anatomy for the Medical Imager <sup>+</sup>	3
RTE 3590	Computed Tomography <sup>+</sup>	3
RTE 4474	Quality Management <sup>+</sup>	3
RTE 4942L	CT Practicum <sup>+</sup> *	3

**Concentration: Magnetic Resonance Imaging**

RTE 3116	Advanced Patient Care <sup>+</sup>	3
RTE 3765	Anatomy for the Medical Imager <sup>+</sup>	3

RTE 3591	MRI Principles and Instrumentation <sup>+</sup>	3
RTE 3592	MR Imaging and Procedures <sup>+</sup>	3
RTE 4943L	MRI Practicum <sup>+</sup> *	3

**Concentration: Mammography** (for Radiographers only)

RTE 3116	Advanced Patient Care <sup>+</sup>	3
RTE 3765	Anatomy for the Medical Imager <sup>+</sup>	3
RTE 3588	Mammography <sup>+</sup>	3
RTE 4474	Quality Management <sup>+</sup>	3
RTE 4941L	Practicum <sup>+</sup> *	3

**Concentration: Leadership**

RTE 3205	Administration and Supervision <sup>+</sup>	3
RTE 4474	Quality Management <sup>+</sup>	3
HSA 4340	Principles of Human Resources Management <sup>+</sup>	3
HSA 4110	Organizational Behavior <sup>+</sup>	3
HSA 4341	Conflict Management in Healthcare <sup>+</sup>	3

**Concentration: Cardiac Ultrasound** (for Radiographers and Sonographers only)

RET 4440C	Cardiac Ultrasound I <sup>+</sup>	3
RET 4443	Cardiac Ultrasound Physics <sup>+</sup>	2
RET 4942L	Cardiac Ultrasound Clinical Practice I <sup>+</sup> *	2
RET 4441C	Cardiac Ultrasound II <sup>+</sup> *	3
RET 4943L	Cardiac Ultrasound Clinical Practice II <sup>+</sup> *	2
RTE 3116	Advanced Patient Care <sup>+</sup>	3

**Concentration: Vascular Ultrasound** (for Sonographers only)

SON 3172C	Introduction to Vascular Sonography <sup>+</sup>	3
SON 3173	Vascular Sonography II <sup>+</sup> *	3
SON 3806L	Vascular Sonography Practicum I <sup>+</sup> *	2
SON 4174	Vascular Sonography III <sup>+</sup> *	2
SON 4816L	Vascular Sonography Practicum II <sup>+</sup> *	2
Electives	Radiologic and Imaging Sciences Electives <sup>+</sup>	3

**Options for Radiologic and Imaging Sciences Electives**

RTE 3253	Teaching in the Health Professions <sup>+</sup>	3
HSA 4340	Principles of Human Resources Management <sup>+</sup>	3
RTE 3205	Administration and Supervision <sup>+</sup>	3
RTE 4474	Quality Management <sup>+</sup>	3
RTE 3590	Computed Tomography <sup>+</sup>	3
RTE 3591	MRI Principles and Instrumentation <sup>+</sup>	3
RTE 3592	MR Imaging and Procedures <sup>+</sup> *	3

RTE 3593	Advanced MRI Procedures <sup>+</sup> *	3
RTE 3588	Mammography <sup>+</sup>	3
RTE 3116	Advanced Patient Care <sup>+</sup>	3
RTE 3765	Anatomy for the Medical Imager <sup>+</sup>	3
HSA 4110	Organizational Behavior <sup>+</sup>	3
HSA 4341	Conflict Management in Healthcare <sup>+</sup>	3
HSC 3500	Epidemiology <sup>+</sup>	3
RET 4034	Problems in Patient Management <sup>+</sup>	3
RET 4440C	Cardiac Ultrasound I <sup>+</sup>	3
RET 4441C	Cardiac Ultrasound II <sup>+</sup> *	3

<sup>+</sup> This course must be completed with a grade of C or better.

<sup>\*</sup> This course has a prerequisite; check course description in Valencia Catalog.

### **FOREIGN LANGUAGE PROFICIENCY REQUIREMENT**

Two years of one foreign language or American Sign Language in high school; or English as a Second Language

courses in college plus certain English communication courses in college; or one year of foreign language in

college; or equivalent proficiency prior to graduation

### **GRADUATION REQUIREMENTS**

- Earn a minimum 2.0 Valencia GPA and minimum overall 2.0 GPA.
- Earn a minimum grade of C (2.0) in all prerequisite and upper division courses.
- Satisfy Valencia's General Education requirements and Gordon Rule requirements unless you hold an Associate in Arts or Bachelor's degree or have completed the entire General Education program at a regionally accredited institution.
- Satisfy the State of Florida's Civic Literacy Competency
- Complete at least 42 semester credits of upper division course work.
- Complete at Valencia at least 25% of the 128 hours degree program (32 credits), based upon the Florida College System's requirement of a 2+2 admission into the baccalaureate program.
- Obtain a degree audit through your Atlas account and review it for readiness to submit your application for graduation.
- Submit an application for graduation online through Atlas by the deadline date listed in the Academic Calendar in the online official catalog. You must have at least the minimum number of college-level credits for your degree, including all courses for which you are registered, in order to submit a graduation application.
- Fulfill all financial obligations to Valencia.  
Complete two years of one foreign language or American Sign Language in high school or one year of foreign language in college (or equivalent proficiency prior to graduation).
- Total Semester Credits Required for the degree: 128

### **Notes:**

Specialized courses may not be offered every session. *Placement in a practicum course is not automatic; the student must notify the program of his/her intent to complete the practicum by the deadline established during the semester prior to placement.*

Prior to beginning the practicum/clinical, students must provide the following documentation:

- Current criminal background check and fingerprinting
- Drug screening
- Physical exam form
- Record with up-to-date immunization data
- Current specific CPR certification

**Transfer Notes:**

- Students who hold an A.A. or bachelor's degree from a regionally accredited institution have satisfied Valencia's general education program requirements.
- Students transferring from a regionally accredited Florida public institution with the general education program (GEP) requirements of that institution met have thereby satisfied Valencia GEP requirements.
- 1000 and 2000 level courses do not substitute for upper division 3000 – 4000 level courses.

**Registration Note:** Once a student has been approved as “Course Registration Eligible,” it is the student’s responsibility to secure enrollment in the desired course(s).

**State of Florida’s Civic Literacy Competency:**

**6A-10.02413 Civic Literacy Competency.**

Prior to the award of an associate in arts or baccalaureate degree, first-time-in-college students entering a Florida College System institution in the 2018-19 school year, and thereafter must demonstrate competency in civic literacy through one of the following options prior to graduation:

- (1) Successfully passing either POSX041 American Government or AMHX020 Introductory Survey Since 1877.
- (2) Achieving the standard score on one of the following assessments:

Assessment	Standard Score
AP Government and Politics: United States	3
AP United States History	4
CLEP: American Government	50

*Rulemaking Authority 1001.02(1), 1007.25(4) FS. Law Implemented 1007.25 FS. History–New 6-19-18*



# SCHOOL OF ALLIED HEALTH PROGRAM GUIDELINES

## FOR THE B.S. IN RADIOLOGIC & IMAGING SCIENCES (BSRAD)

and

## ADVANCED TECHNICAL CERTIFICATES IN CT, MRI, MAMMOGRAPHY, CARDIAC ULTRASOUND, VASCULAR ULTRASOUND AND LEADERSHIP IN HEALTHCARE

Valencia's Health Sciences programs are offered through the School of Allied Health and the School of Nursing, which provide information about specific admission criteria for the programs. The School of Allied Health Program Guides, of which this is one, are developed for a specific academic year (August to July) and, as a rule, changes to admission and program requirements become effective at the start of an academic year; however, **Valencia College reserves the right to make changes in admission and program requirements as circumstances require.** If a mid-year change becomes necessary, it will be indicated via [valenciacollege.edu/west/health/admissionupdates.cfm](http://valenciacollege.edu/west/health/admissionupdates.cfm).

You may apply to only one bachelor's-level Health Sciences program at a time and enrollment is limited to only one Health Sciences program in a term.

### ATLAS EMAIL

All communication from Valencia relative to program admission will be via your **Atlas email**. Written communication you send to Valencia staff should also be via your Atlas email and should include your name and your Valencia ID number.

### MANDATORY ORIENTATION

Following acceptance to the B.S. in Radiologic and Imaging Sciences, to register, you must have completed the online Bachelor's Orientation. If you have not, there will be a hold on your record that will prevent registration until you complete the Bachelor's Orientation.

### ONLINE PROGRAMS/TESTING

The programs are online except for some courses in the Cardiac Ultrasound Concentration and the practicum course in the CT, Mammography and MRI Concentrations and the practicum course in the Advanced Technical Certificates in CT, Mammography and MRI. The practicum course is a clinical rotation completed in a healthcare facility.

A few of the courses may require on-site testing at a Valencia campus or at another proctored site if Valencia is not convenient for you. If you want to take your examinations in another proctored location, you will need to do so at an approved testing site such as a college or public library that offers proctoring services and which may require a fee.

### BACKGROUND CHECK, FINGERPRINTING, DRUG TESTING, IMMUNIZATIONS AND CPR CERTIFICATION

Some BSRAD Concentrations and some related Advanced Technical Certificate (ATC) programs include student clinical rotations in external affiliate health care facilities with which Valencia has agreements for student clinical assignments. The affiliates' policies require that students serving in a clinical rotation be cleared of offenses that would disqualify them from participating in student clinical assignments. Thus, all students in a program or degree concentration that requires a clinical experience must submit to a criminal background check, fingerprinting and drug screening as well as provide documentation of specific immunizations and CPR certification prior to participation in the clinical experience.

If you have a positive background check, fingerprint or drug test, you may be denied enrollment in a Health Sciences program due to the inability to participate in a student clinical assignment. If you have concerns regarding known background issues, it is recommended that you e-mail questions to [hscompliance@valenciacollege.edu](mailto:hscompliance@valenciacollege.edu).