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| For Academic Affairs and Research Use Only |
| CIP Code:  |  |
| Degree Code: |  |

**Bulletin / Banner Change Transmittal Form**

**[x ] Undergraduate Curriculum Council**

**[ ] Graduate Council**

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

Email completed proposals to curriculum@astate.edu for inclusion in curriculum committee agenda.

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| Deanna Barymon | 8/27/2019 |

**Department Curriculum Committee Chair** |

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**COPE Chair (if applicable)** |
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| Cheryl DuBose | 8/15/2019 |

**Department Chair:**  |

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**Head of Unit (If applicable)**   |
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| Shanon Brantley | 9/20/2019 |

**College Curriculum Committee Chair** |

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**Undergraduate Curriculum Council Chair** |
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| Susan Hanrahan | 9/24/2019 |

**College Dean** |

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**Graduate Curriculum Committee Chair** |
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**General Education Committee Chair (If applicable)**   |

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**Vice Chancellor for Academic Affairs** |

**1.Contact Person** (Name, Email Address, Phone Number)

Dr. Cheryl DuBose

cdubose@astate.edu

870-972-2772

**2.Proposed Change**

Change BSRS track title to Mammography/Breast Sonography in all areas it occurs. Revise course descriptions to reflect this terminology and current content (Title to be changed in these courses: RS 4553, 4563, 4573)

**3.Effective Date**

9/1/2019

**4.Justification –**Consistency is needed to avoid unnecessary confusion. Content in 2 courses has been increased to include required information for national certification examination and current clinical practice.

**Bulletin Changes**

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| **Instructions**  |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Follow the following guidelines for indicating necessary changes.** **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.** - Deleted courses/credit hours should be marked with a red strike-through (~~red strikethrough~~)- New credit hours and text changes should be listed in blue using enlarged font (blue using enlarged font). - Any new courses should be listed in blue bold italics using enlarged font (***blue bold italics using enlarged font***)*You can easily apply any of these changes by selecting the example text in the instructions above, double-clicking the ‘format painter’ icon 🡪 , and selecting the text you would like to apply the change to.**Please visit* [*https://youtu.be/yjdL2n4lZm4*](https://youtu.be/yjdL2n4lZm4) *for more detailed instructions.* |

UGB pages with edits are pasted on subsequent pages

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| Special Education  |
| World Languages and Cultures (emphasis in): —French —Spanish  |

**Bachelor of Science in Electrical Engineering (B.S.E.E.)**

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| Electrical Engineering  |

**Bachelor of Science in Mechanical Engineering (B.S.M.E.)**

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| Mechanical Engineering  |

**Bachelor of Science in Nursing (B.S.N.)**

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| Nursing —Second Degree Accelerated Program —RN to BSN —LPN to BSN  |

**Bachelor of Science in Radiologic Sciences (B.S.R.S.)**

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| Radiologic Sciences (emphasis in): —Cardiovascular-Interventional Technology —Diagnostic Medical Sonography —Magnetic Resonance Imaging —Mammography/Breast Sonography —Medical Imaging Informatics —Radiation Therapy —Imaging Specialist (Bridge Program)  |

**Bachelor of Social Work (B.S.W.)**

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| Social Work  |

**CERTIFICATE PROGRAMS**

Arkansas State University offers technical programs in which certificates of proficiency are awarded. These programs are offered for students who wish to prepare for employment in a minimum of one or two years and do not wish to pursue formal programs leading to an associate or a baccalaureate degree in the areas. *All certificate programs require admission to the university.*

Specific requirements for each certificate is listed in the ~~respecive~~ respective college sections of this bulletin.

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| Bone Densitometry |
| Computed Tomography  |
| Corporate Media  |
| Digital Humanities  |
| Emergency Medical Technician  |
| Free Enterprise  |
| Graphic Communication  |
| Information Technology  |
| Leadership Studies  |
| Media Ministry  |
| Museum Studies  |
| Neuropsychological Testing  |
| Nonprofit Communication  |
| Paramedic |

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65

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| **Radiography Component (Junior Year) of Bachelor of Science in Radiologic Sciences** October 31 for admission to the Spring semester. Students are accepted based on 1) Prerequisite course GPA; 2) Entrance Exam scores; 3) interview scores. NOTE: Students completing prerequisite work or a Medical Imaging and Radiation Sciences program at A-State receive extra points toward admission score.  |
| **Cardiovascular-Interventional Technology – Bachelor of Science in Radiologic Sciences** April 1 for Fall enrollment. Students are accepted based on 1) cumulative GPA, 2) selected course grades, 3) interview, and 4) modality clinical evaluations. All categories are converted to a point system. Students wishing to apply must have completed all core requirements and an accredited radiography program. A-State radiography program students receive extra points when calculating total scores.  |
| **Mammography/Breast Sonography – Bachelor of Science in Radiologic Sciences** April 1 for Summer I enrollment. Students are accepted based on 1) cumulative GPA, 2) selected course grades, 3) interview, and 4) modality clinical evaluations. All categories are converted to a point system. Students wishing to apply to the Mammography program must have completed all core require­ments and the Radiography component prior to fall semester. Breast sonography is included in this track for a Women’s Health approach to patient care. A-State radiography program students receive extra points when calculating total scores.  |
| **Medical Imaging Informatics – Bachelor of Science in Radiologic Sciences** April 1 for Fall enrollment. Students are accepted based on 1) cumulative GPA, 2) selected course grades, 3) interview, and 4) modality clinical evaluations. All categories are converted to a point system. Students wishing to apply to the Informatics program must have completed all core requirements and the Radiography component prior to fall semester. A-State radiography program students receive extra points when calculating total scores.  |
| **Magnetic Resonance Imaging - Bachelor of Science in Radiologic Sciences** April 1 for Summer I enrollment. Students are accepted based on 1) cumulative GPA, 2) selected course grades, 3) interview, and 4) modality clinical evaluations. All categories are converted to a point system. Students wishing to apply to the MRI program must have completed all core requirements and the Radiography component prior to fall semester. A-State radiography program students receive extra points when calculating total scores.  |
| **Diagnostic Medical Sonography - Bachelor of Science in Radiologic Sciences** April 1 for Summer I enrollment. Students are accepted based on 1) cumulative grade point average, 2) selected course grades, 3) interview, and 4) modality clinical evaluations. All categories are converted to a point system. Students wishing to apply to the Sonography program must have completed all core requirements and the Radiography component prior to fall semester. A-State radiography program students receive extra points when calculating total scores.  |
| **Radiation Therapy - Bachelor of Science in Radiologic Sciences** April 1 for Fall enrollment. Students are accepted based on 1) cumulative GPA, 2) selected course grades, 3) interview, and 4) modality clinical evaluations. All categories are converted to a point system. Students wishing to apply to the Radiation Therapy program must be enrolled or have completed an accredited school of Radiologic Technology. A-State graduates receive extra points when calculating total scores.  |
| **Imaging Specialist (Bridge Program) - Bachelor of Science in Radiologic Sciences** The “Bridge Program” offers the Imaging Specialist track of the BSRS in General Radiography. Admission is granted at the beginning of each semester. Only applicants who have 1) completed the associate degree in Radiologic Technology from a school approved by the American Registry of Ra­diologic Technologists OR 2) passed the national certification boards through the American Registry of Radiologic Technologists OR 3) completed curriculum reviewed and accepted by Dept. Chair will be considered.  |
| **Bachelor of Science in Nursing** June 7 for Fall enrollment in sophomore nursing courses and the LPN to BSN track. November 15 and June 7 for transfer/admission/readmissions for subsequent semester. Registered nurses must apply during the semester enrolled in NRS 3312. Applicants into the sophomore level must have at least 30 semester hours with a cumulative GPA of 3.0 or above completed by application deadline (June 7). Required prerequisite courses must be completed with a “C” or better by application deadline. Due to space availability, applicants for admis­sion will be ranked based on the GPA of all completed courses that apply toward the BSN Degree. |

*The bulletin can be accessed at* [*https://www.astate.edu/a/registrar/students/bulletins/*](https://www.astate.edu/a/registrar/students/bulletins/)

309



Major in Radiologic Sciences

**Bachelor of Science in Radiologic Sciences**

**Emphasis in Mammography/Breast Sonography**

A complete 8-semester degree plan is available at https://www.astate.edu/info/academics/degrees/

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| University Requirements:  |
| See University General Requirements for Baccalaureate degrees (p. 42)  |
| **First Year Making Connections Course:**  | **Sem. Hrs.**  |
| RT 1003, Making Connections in Radiology  | **3**  |
| **General Education Requirements:**  | **Sem. Hrs.**  |
| See General Education Curriculum for Baccalaureate degrees (p. 78) **Students with this major must take the following:** *MATH 1023, College Algebra or MATH course that requires MATH 1023 as a prerequisite* *BIO 2203* ***AND*** *2201, Human Anatomy and Physiology I and Laboratory* *PSY 2013, Introduction to Psychology* *COMS 1203, Oral Communication (Required Departmental Gen. Ed. Option)*  | **35**  |
| **Major Requirements:**  | **Sem. Hrs.**  |
| HP 2013, Medical Terminology  | 3  |
| RAD 2001, Intro to Medical Imaging  | 1  |
| RAD 3103, Intro to Radiography  | 3  |
| RAD 3113 **AND** RAD 3111, Radiographic Procedures I and Laboratory  | 4  |
| RAD ~~3123~~ 3122, Radiation Physics and Imaging  | ~~3~~ 2 |
| RAD 3202, Imaging Equipment  | 2  |
| RAD 3203 **AND** RAD 3201, Radiographic Procedures II and Laboratory  | 4  |
| RAD 3213 ~~AND RAD 3211~~, Image Acquisition & Evaluation I ~~and Laboratory~~  | ~~4~~ 3 |
| RAD 3223, Sectional Anatomy  | 3  |
| RAD 3232, Radiography Clinical I  | 2  |
| RAD 4103 **AND** RAD 4101, Radiographic Procedures III and Laboratory  | 4  |
| RAD 4113, Image Acquisition & Evaluation II  | 3  |
| RAD 4123, Imaging Pathology  | 3  |
| RAD 4132, Radiobiology  | 2  |
| RAD 4142 **AND** RAD 4141 Radiographic Procedures IV and Laboratory | 3 |
| RAD 4143, Radiography Clinical II  | 3  |
| RAD 4203, Radiography Clinical III  | 3  |
| RAD 4213, Radiography Clinical IV  | 3  |
| **Sub-total**  | ~~50~~51 |
| **Emphasis Area (Mammography/Breast Sonography):**  | **Sem. Hrs.**  |
| RS 3122, Legal and Regulatory Environ of Radiology  | 2 |
| RS 3733, Geriatric Considerations in Radiology  | 3 |
| RS ~~4502~~ 4503, Mammography Procedures  | ~~2~~3 |
| RS ~~4512~~ 4513, Mammography Instrumentation  | ~~2~~3 |
| RS 4553, ~~Mammography Clinical Education I~~ Breast Imaging Clinical Education I | 3 |
| RS 4563, ~~Mammography Clinical Education II~~ Breast Imaging Clinical Education II | 3 |

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339

**Major in Radiologic Sciences (cont.)**

**Bachelor of Science in Radiologic Sciences**

**Emphasis in Mammography/Breast Sonography**

A complete 8-semester degree plan is available at https://www.astate.edu/info/academics/degrees/

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| RS 4573, Imaging in Women's Health Clinical Education  | 3  |
| RS 4822, Psychosocial Factors in Healthcare  | 2  |
| RSU 4213, Ultrasound Physics and Instrumentation I  | 3  |
| RSU 4323, Physics and Instrumentation II  | 3  |
| RSU 4833, Breast Sonography  | 3  |
| Sub-total  | ~~29~~ 31 |
| **Required Support Courses:**  | Sem. Hrs.  |
| BIO 2223 AND 2221, Human Anatomy and Physiology II and Laboratory  | 4  |
| **Total Required Hours:**  | ~~121~~124 |

*The bulletin can be accessed at* [*https://www.astate.edu/a/registrar/students/bulletins/*](https://www.astate.edu/a/registrar/students/bulletins/)

340

**RS 4463. Statistics for Medical Imaging** Methods used for data collection and statistical analysis in medical imaging procedures and education with a focus on the applications of data and statistics in reporting of clinical efficiency, image repeat rates, and educational outcomes. Fall.

**RS 4483. Cardiovascular Interventional Internship** Guided clinical practice to develop, apply, analyze, integrate, synthesize and evaluate concepts and theories in cardiovascular-interventional radiology. Prerequisite, Admission to the Radiologic Science Program. Summer.

**RS 4503~~4502~~. Mammography Procedures** Breast anatomy, physiology and positioning for routine and invasive mammographic procedures. Includes positioning nomenclature, specialized patient care techniques, and image evaluation for quality and error identification. ~~Clinical concepts and applications of the various mam­mographic procedures performed and equipment used in the mammography suite, emphasizes the understanding of the equipment and the performance of all procedure.~~ Prerequisite, Admission to the Radiologic Science Program. Fall.

**RS 4513~~4512~~. Mammography Instrumentation** Components, operation and purpose of specialized mammographic equipment, including mammographic x-ray tube, digital imaging, automatic expo­sure control, and image recording options~~, and laser readers~~. MQSA and federal QC requirements are included. Prerequisite, Admission to the Radiologic Science Program. Spring.

**RS 4553. ~~Mammography~~** Breast Imaging**Clinical Education I** Guided clinical practice experiences to de­velop, apply, analyze, integrate, synthesize and evaluate concepts and theories in mammography and breast sonography. Prerequisite, Admission to the Radiologic Science Program. Fall.

**RS 4563. ~~Mammography~~** Breast Imaging**Clinical Education II** Guided clinical practice experience designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in mammography and breast sonography. Prerequisite, Admission to the Radiologic Science Program. Spring.

**RS 4573. Imaging in Women’s Health Clinical Education** Guided clinical practice experiences to develop, apply, analyze, integrate, synthesize and evaluate concepts and theories related to imaging in women’s health clinics. Areas of focus include mammography, breast sonography ~~ultrasound~~, and bone densitometry. Prerequisite, Admission to the Radiologic Sciences Program. Summer.

**RS 4601. Overview of Computed Tomography** Four content areas required by the ARRT for post-primary CT certification. Prerequisite, Instructor permission and admission to the Radiologic Science Program. Fall, Spring, Summer.

**RS 4623. Computed Tomography Instrumentation** Components, operation and purpose of specialized Computed Tomography equipment, including computer mechanisms, imaging theory and equipment operation. Prerequisite, Admission to the Radiologic Science Program. Summer.

**RS 4633. Computed Tomography Procedures** Anatomy, pathology, scanning protocols, contrast administration, and contraindications for all CT procedures. Prerequisite, Admission to the Radiologic Science Program. Fall.

**RS 4643. Computed Tomography Clinical Education** Guided content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in computed tomography. Prerequisite, Admission to the Radiologic Science Program. Summer.

**RS 4822. Psychosocial Factors in Health Care Delivery** Focus on psychosocial issues which impact the delivery of healthcare in a medical imaging environment. Prerequisite, formal acceptance in to the professional program. Spring

**RS 4834. Imaging Specialist Clinical Education I** Supervised clinical experience in routine and trauma radiographic procedures. Prerequisite, Admission to the Radiologic Science Program. Fall.

**RS 4844. Imaging Specialist Clinical Education II** Supervised clinical experience in routine and trauma radiographic procedures. Prerequisite, Admission to the Radiologic Science Program. Spring.

**RS 4852. Advanced Radiologic Pathophysiology I** This course is an intensive study of the radiographic manifestations of diseases that affect the ~~muscoloskeletal~~ musculoskeletal and respiratory systems, excluding neoplasms. Emphasis is on physiologic changes evident in images and differentiating which imaging modalities are most sensitive in detecting these changes. Prerequisite, formal ac­ceptance in to the professional program. Fall.

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549