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

**Course Revision Proposal 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](mailto:curriculum@astate.edu) for inclusion in curriculum committee agenda.

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| --- | --- |
| Deanna Barymon 8/27/2019 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Cheryl DuBose 8/15/2019 **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (If applicable)** |
| Shanon Brantley 9/24/2019 **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Susan Hanrahan 9/24/2019 **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **General Education Committee Chair (If applicable)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |

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

Dr. Cheryl DuBose

[cdubose@astate.edu](mailto:cdubose@astate.edu)

(870)972-2772

2. Proposed Starting Term and Bulletin Year for Change to Take Effect

Fall, 2020

3. Current Course Prefix and Number

**RS 4512**

3.1 – **[Yes]** Request for Course Prefix and Number change

If yes, include new course Prefix and Number below. *(Confirm that number chosen has not been used before. For variable credit courses, indicate variable range. Proposed number for experimental course is 9. )*

**RS 4513**

3.2 – **Yes** If yes, has it been confirmed that this course number is available for use? **Yes**

*If no: Contact Registrar’s Office for assistance.*

4. Current Course Title

Mammography Instrumentation

4.1 – **[No]** Request for Course Title Change

If yes, include new Course Title Below.

Enter text...

1. If title is more than 30 characters (including spaces), provide short title to be used on transcripts. *Title cannot have any symbols (e.g. slash, colon, semi-colon, apostrophe, dash, and parenthesis).*

Enter text...

1. Please indicate if this course will have variable titles (e.g. independent study, thesis, special topics).

Enter text...

5. – **[Yes ]** Request for Course Description Change.

If yes, please include brief course description (40 words or fewer) as it should appear in the bulletin.

Components, operation and purpose of specialized mammographic equipment, including mammographic x-ray tube, digital imaging, automatic exposure control, and image recording options. MQSA and federal QC requirements are included.

6. – [**No** ] Request for prerequisites and major restrictions change.

*(If yes, indicate all prerequisites. If this course is restricted to a specific major, which major. If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).*

1. **Yes / No** Are there any prerequisites?
   1. If yes, which ones?

Enter text...

* 1. Why or why not?

Enter text...

1. **Yes / No** Is this course restricted to a specific major?
   1. If yes, which major? Enter text...

7. – [**No** ] Request for Course Frequency Change(e.g. Fall, Spring, Summer). *Not applicable to Graduate courses.*

a. If yes, please indicate current and new frequency:

Enter text...

8. – [**No** ] Request for Class Mode Change

*If yes, indicate if this course will be lecture only, lab only, lecture and lab, activity, dissertation, experiential learning, independent study, internship, performance, practicum, recitation, seminar, special problems, special topics, studio, student exchange, occupational learning credit, or course for fee purpose only (e.g. an exam)? Please* *indicate the current and choose one.*

Enter text...

9. – [**No** ] Request for grade type change

*If yes, what is the current and the new grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])*

Enter text...

10. **No** Is this course dual listed (undergraduate/graduate)?

a. If yes, indicate course prefix, number and title of dual listed course.

Enter text...

11. **No** Is this course cross listed?

*(If it is, all course entries must be identical including course descriptions. Submit appropriate documentation for requested changes. It is important to check the course description of an existing course when adding a new cross listed course.)*

**11.1** – If yes, please list the prefix and course number of cross listed course.

Enter text...

**11.2** – **Yes / No** Are these courses offered for equivalent credit?

Please explain. Enter text...

12. **No** Is this course change in support of a new program?

a. If yes, what program?

Enter text...

13. **No** Does this course replace a course being deleted?

a. If yes, what course?

Enter text...

14. **No** Will this course be equivalent to a deleted course or the previous version of the course?

a. If yes, which course?

Enter text...

15. **No** Does this course affect another program?

If yes, provide confirmation of acceptance/approval of changes from the Dean, Department Head, and/or Program Director whose area this affects.

Enter text...

16. Does this course require course fees? **No**

*If yes: Please attach the New Program Tuition and Fees form, which is available from the UCC website.*

**Revision Details**

17. Please outline the proposed revisions to the course.

*Include information as to any changes to course outline, special features, required resources, or in academic rationale and goals for the course.*

This request includes an increase in credit hours to enable inclusion of required information included in the national certification examination in mammography, specifically 3D digital tomosynthesis equipment, MQSA in-depth study, federal mammography facility requirements, and QC procedures.

Proposed 3-credit hour Course Outline

| **Week #** | **Lecture Topic** |
| --- | --- |
| 1-3 | MQSA  Federal and State Facility Regulations |
| 4 | **Exam 1** |
| 5 - 6 | Mammographic Imaging Equipment  -Unique tube design  -Compression paddles  Digital Image Receptors |
| 7 -8 | 3D Breast Imaging Equipment  2D Breast Imaging Equipment |
| 9 | Equipment for Invasive Mammographic Procedures  -Stereotactic biopsy units  -Biopsy “gun”  -Clips, localization paddles, etc. |
| 10 | **Exam 2** |
| 11-12 | Quality Control in Mammography |
| 13 | Quality Assurance in Mammography |
| 14 | **Exam 3** |
| 15 | **Comprehensive Final Exam** |

18. Please provide justification to the proposed changes to the course.

The current course lacks sufficient time (2 credit hour) to sufficiently cover details of MQSA, federal and state QA/QC guidelines procedures and outcomes, and 3D digital breast tomosynthesis, which is the latest imaging technique in mammography. The national certification examination content specifications includes all of these topics..

19. **No** Do these revisions result in a change to the assessment plan?

*\*If yes: Please complete the Assessment section of the proposal on the next page.*

*\*If no: Skip to Bulletin Changes section of the proposal.*

***\*See question 19 before completing the Assessment portion of this proposal.***

**Assessment**

**Relationship with Current Program-Level Assessment Process**

20. What is/are the intended program-level learning outcome/s for students enrolled in this course? Where will this course fit into an already existing program assessment process?

Enter text...

21. Considering the indicated program-level learning outcome/s (from question #23), please fill out the following table to show how and where this course fits into the program’s continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

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| --- | --- |
| **Program-Level Outcome 1 (from question #23)** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Assessment Measure | Please include direct and indirect assessment measure for outcome. |
| Assessment  Timetable | What semesters, and how often, is the outcome assessed? |
| Who is responsible for assessing and reporting on the results? | Who (person, position title, or internal committee) is responsible for assessing, evaluating, and analyzing results, and developing action plans? |

*(Repeat if this new course will support additional program-level outcomes)*

**Course-Level Outcomes**

22. What are the course-level outcomes for students enrolled in this course and the associated assessment measures?

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| **Outcome 1** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Which learning activities are responsible for this outcome? | List learning activities. |
| Assessment Measure | What will be your assessment measure for this outcome? |

*(Repeat if needed for additional outcomes)*

**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 below include edits requested on other forms.**

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 |

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

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**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.

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

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