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

**New Course Proposal Form**

**[ x] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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| --- |
| **[ ] New Course or [ ]Experimental Course (1-time offering) (Check one box)** |

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￼9/28/2017**Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**COPE Chair (if applicable)** |
| Cheryl DuBose 9/28/2017**Department Chair:**  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Head of Unit (If applicable)**   |
| Deanna Barymon￼9/28/2017**College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Undergraduate Curriculum Council Chair** |
| Susan Hanrahan 9/28/2017**College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Graduate Curriculum Committee Chair** |
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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**General Education Committee Chair (If applicable)**   | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Vice Chancellor for Academic Affairs** |

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

Cheryl DuBose

cdubose@astate.edu

972-2772

2. Proposed Starting Term and Bulletin Year

Summer 2018

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

RSMR 4713

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

Imaging Standards of Communication and Interoperability

Short title: Imaging Standards of Comm

5. Brief course description (40 words or fewer) as it should appear in the bulletin.

Communication and interoperability standards associated with medical imaging devices and health and radiology information systems. Students will demonstrate an understanding of interoperability terminology and the setup of HL7 and DICOM devices.

6. Prerequisites and major restrictions. (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. Are there any prerequisites? No
	1. If yes, which ones?

Enter text...

* 1. Why or why not?

 Enter text...

1. Is this course restricted to a specific major? **Yes / No**
	1. If yes, which major? Bachelor of Science in Radiologic Sciences – emphasis medical imaging informatics

7. Course frequency(e.g. Fall, Spring, Summer). *Not applicable to Graduate courses.*

Summer

8. Will this course 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 choose one.

Lecture

9. What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])

Standard letter

10. Is this course dual listed (undergraduate/graduate)?

No

11. Is this course cross listed? No

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

Please explain. Enter text...

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

a. If yes, what program?

 Enter text...

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

a. If yes, what course?

Enter text...

14. Will this course be equivalent to a deleted course? No

a. If yes, which course?

Enter text...

15. Has it been confirmed that this course number is available for use? Yes

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

16. Does this course affect another program? No

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

Enter text...

**Course Details**

17. Outline (The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

Week 1: Introduction & History of Medical Interoperability

Week 2: HL7 Version 2.2

Week 3: HL7 Versions 3 and FHIR

Week 4: HL7 Device Setup (Mirth Interface Engine)

Week 5: DICOM Service Classes

Week 6: DICOM Architecture

Week 7:Determining DICOM Conformance and Device Set-up (Device TBD)

Week 8: Introduction to IHE

Week 9: IHE Technical Framework

**Week 10: Final Exam**

18. Special features (e.g. labs, exhibits, site visitations, etc.)

None

19. Department staffing and classroom/lab resources

Existing adjunct faculty member for a web based course

1. Will this require additional faculty, supplies, etc.?

 No

20. 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.*

**Course Justification**

21. Justification for course being included in program. Must include:

 a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

 This course will supplement the Medical Imaging Informatics curriculum and will cover computer networking systems specifically related to the hospital or outpatient radiology department. Completion of this course will fill an important gap in the current curriculum and will cover a missing component for the content specifications of both the PARCA Certified PACS Associate exam and the American Board of Imaging Informatics (ABII) exam.

b. How does the course fit with the mission established by the department for the curriculum? If course is mandated by an accrediting or certifying agency, include the directive.

 The course will help prepare students to sit for the internationally recognized PARCA exam and/or the national ABII exam taken by those specializing in medical imaging informatics. This fits with our department mission to produce competent graduates and multi-certified technologists.

c. Student population served.

Bachelor of Science in Radiologic Sciences – Medical Imaging Informatics emphasis

d. Rationale for the level of the course (lower, upper, or graduate).

This is an upper level course that will be completed after students have obtain the fundamental concepts learned during the radiography program.

**Assessment**

**University Outcomes**

22. Please indicate the university-level student learning outcomes for which this new course will contribute. Check all that apply.

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| * 1. **[ ]** Global Awareness
 | * 1. **[ x]** Thinking Critically
 | * 1. **[ x]** Information Literacy
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**Relationship with Current Program-Level Assessment Process**

23. 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?

This course will help meet the radiography program-level learning outcome of demonstrating acceptable problem solving skills. Outcomes from this course will be added to the assessment plan for the medical imaging informatics emphasis area.

24. 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)** | Students will demonstrate acceptable problem solving skills. |
| Assessment Measure | Employer surveys |
| Assessment Timetable | December, annually |
| Who is responsible for assessing and reporting on the results? | Course faculty |

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

 **Course-Level Outcomes**

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

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| **Outcome 1** | Students will understand interoperability standards associated with medical imaging devices and health/radiology information systems. |
| Which learning activities are responsible for this outcome? | Lecture, final project |
| Assessment Measure  | Students will score an 80% or higher on the final exam.  |

*(Repeat if needed for additional outcomes)*

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| **Outcome 2** | Students will demonstrate an understanding of the various computer networking concepts utilized by HL7 and DICOM devices. |
| Which learning activities are responsible for this outcome? | Lecture, paper, final project |
| Assessment Measure  | Students will score an 80% or higher on the associated HL7 and DICOM exams.  |

**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.* |

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Major in Radiologic Sciences

**Bachelor of Science in Radiologic Sciences**

**Emphasis in Computed Tomography/Medical Imaging Informatics**

A complete 8-semester degree plan is available at http://registrar.astate.edu/.

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| University Requirements:  |
| See University General Requirements for Baccalaureate degrees (p. 41)  |
| **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. 84) **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  |
| HP 3413, Cultural Competency  | 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, Radiation Physics and Imaging  | 3  |
| 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  |
| RAD 3223, Sectional Anatomy  | 3  |
| RAD 3233, Radiography Clinical I  | 3  |
| 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 4143, Radiography Clinical II  | 3  |
| RAD 4203, Radiography Clinical III  | 3  |
| RAD 4213, Radiography Clinical IV  | 3  |
| **Sub-total**  | **54**  |
| **Emphasis Area (CT/Medical Imaging Informatics):**  | **Sem. Hrs.**  |
| CIT 1503, Microcomputer Applications  | 3  |
| CIT 2033, Programming Fundamentals  | 3  |
| CIT 2523, Telecommunications and Networking  | 3  |
| CIT 3013, Management Information Systems  | 3  |
| CIT 3403, Database Management  | 3  |
| CIT 4523, Advanced Telecommunications  | 3  |
| CIT 4623, Computer Security  | 3  |
| RS 3733, Geriatric Considerations in Radiology  | 3  |
| RS 4362, Leadership Practicum in RIS  | 2  |
| RS 4623, CT Instrumentation  | 3 |

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| RS 4633, CT Procedures  | 3  |
| RS 4644, CT Clinical Education ***RSMR 4713 Imaging Standards of Communication and Interoperability*** | 4 ***3*** |
| **Sub-total**  | **~~36~~ 39**  |
| **Required Support Courses:**  | **Sem. Hrs.**  |
| BIO 2223 **AND** 2221, Human Anatomy and Physiology II and Laboratory  | **4**  |
| **Total Required Hours:**  | **~~132~~ 135** |

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RSMR 4712. Imaging Information Management Explains the functioning of computers and computer concepts in medical imaging. Topics covered are HIPAA, PACS, and RIS in MRI and the imaging department. Prerequisite, formal acceptance in to the professional program. Spring.

***RSMR 4713 Imaging Standards of Communication and Interoperability -*** *Communication and interoperability standards associated with medical imaging devices and health and radiology information systems. Students will demonstrate an understanding of interoperability terminology and the setup of HL7 and DICOM devices.* ***Summer.***

RSMR 4723. MRI Procedures I Provides knowledge of anatomy, pathology, scanning protocols, contrast administration, and contraindications for magnetic resonance imaging of the head, spinal column, and musculoskeletal system. Prerequisite, formal acceptance in to the professional program. Fall.