Code # NHP39 (2014) REV

**New/Special Course Proposal-Bulletin Change Transmittal Form**

☒ **Undergraduate Curriculum Council** - Print 1 copy for signatures and save 1 electronic copy.

☐ **Graduate Council** - Print 1 copy for signatures and send 1 electronic copy to [mmcginnis@astate.edu](mailto:mmcginnis@astate.edu)

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| --- |
| ☒**New Course or** ☐ **Special Course (Check one box)**  *Please complete the following and attach a copy of the catalogue page(s) showing what changes are necessary.* |

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (If applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |

1. Proposed Course Prefix and Number (For variable credit courses, indicate variable range.)

RS 4833

2. 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).

Advanced MRI Imaging

3. 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 problems, student exchange, occupational learning credit, or course for fee purpose only (e.g. an exam)? Please choose one.

Lecture

4. What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental)?

Standard letter

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

No

6. Is this course cross listed? (If it is, all course entries must be identical including course descriptions. It is important to check the course description of an existing course when adding a new cross listed course.)

No

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

Anatomy, pathology, scanning protocols, contrast administration, and contraindications for magnetic resonance angiography, venography, functional imaging, dynamic imaging, and cardiac imaging

8. Indicate all prerequisites and 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).

a. Are there any prerequisites?

Formal admittance into the Radiologic Science Program

b. Why?

The Medical Imaging and Radiations Sciences programs are lock step programs. Students complete the program in cohorts.

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

Summer (10 weeks)and Spring

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

Ray Winters

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

ext. 3329

11. Proposed Starting Term/Year

Spring 2016

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

If yes, what program?

No

13. Does this course replace a course being deleted? Yes

If yes, what course?

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Has this course number been used in the past? No

*Submit Course Deletion Proposal-Bulletin Change Transmittal Form.*

14. Does this course affect another program? No

If yes, provide contact information from the Dean, Department Head, and/or Program Director whose area this affects.

No

15. Justification should include:

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

This is an upper division clinical course which will provide the student an opportunity to master MRI physics, instrumentation and scanning protocols.

At the completion of the course the student will be able to:

1. Express and apply proper radiographic and medical terminology

2. Discuss the scanning protocols for specific body parts.

3. Describe and discuss use of contrast media in MRI and demonstrate proper use of power injectors

4. Critique images for specific anatomy and adequate density.

5. Describe patient care and radiation protection requirements used during specific MRI procedures.

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 mission of the programs in medical imaging and radiation sciences is to produce competent entry level practitioners. Part of this education includes providing students with specific didactic material needed for successful clinical practice.

c. Student population served.

Students formally admitted to the Bachelor of Science in Radiologic Sciences program

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

This is an upper division clinical course which will provide the student an opportunity to master MRI physics, instrumentation and scanning protocols. Students are required to be admitted to the Radiologic Science Program before taking this class. Students must have completed all core classes of approximately 75 hours with a minimum of 2.5 GPA. They have completed the 3000-level foundation and are in the mastery level of this professional track. This is an upper division clinical course which will provide the student an opportunity to master MRI physics, instrumentation and scanning protocols

16. 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: Radiographic terminology and preliminary steps for MRI examinations

Week 2: Review of sectional anatomy

Week 3: Procedural considerations for MRI of the Head and cerebral vessels

Week 4: Procedural considerations for MRI of the cervical spine and throat

Week 5: Procedural considerations for MRI of the thoracic and lumbar spine

Week 6: Procedural considerations for MRI of the Pelvis

Week 7: Procedural considerations for MRI of the abdomen and body

Week 8 & 9: Procedural considerations for MRI of various extremities

Week 10 & 11: Procedural considerations for vascular and cardiac procedures

Week 12 & 13: Procedural considerations for pediatric MRI

Week 14 Procedural considerations for atypical anatomical/pathologic procedures.

17. Course requirements (e.g. research papers, projects, interviews, tests, etc.)

Three practical exams and a final.

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

There will be supplemental reading and required pre-class videos.

19. Department staffing and classroom/lab resources (Will this require additional faculty, supplies, etc.?)

No additional resources will be required.

20. What is the primary intended learning goal for students enrolled in this course?

To obtain a working knowledge of specific procedural requirements of MRI procedures and their radiographic manifestations.

21. Reading and writing requirements:

a. Name of book, author, edition, company and year

MRI in Practice by Westbrook, Roth and Talbot, Blackwell Publishing, 3rd edition, 2013

b. Number of pages of reading required per week: 30

c. Number of pages of writing required over the course of the semester: 5

22. High-Impact Activities (Check all that apply)

☒Collaborative assignments

☐Research with a faculty member

☐Diversity/Global learning experience

☐Service learning or community learning

☐Study abroad

☐Internship

☐Capstone or senior culminating experience

☐Other Explain: Enter text...

23. Considering the indicated primary goal (in Box #20), provide up to three outcomes that you expect of students after completion of this course.

**Outcome #1:** (For example, what will students who meet this goal know or be able to do as a result of this course?)

The student will master the basic scanning protocols for various body parts.

Learning Activity:(For example, what instructional processes do you plan to use to help students reach this outcome?)

Classroom simulations and demonstrations will be utilized.

Assessment Tool: (For example, what will students demonstrate, represent, or produce to provide evidence of their learning?)

Using 3 exams and a final, students will list and describe scanning protocols for specific body parts with 80% accuracy.

*(Repeat if needed for additional outcomes 2 and 3)*

**Outcome #2:**

Students will be able to describe the indications for use and proper usage of contrast agents in MRI.

Learning Activity:

Classroom instruction on MRI contrast administration and simulations will be utilized.

Assessment Tool:

Students will participate in case study evaluations of contrast administration with 80% accuracy.

**Outcome #3**:

Learning Activity:

Assessment Tool:

24. Please indicate the extent to which this course addresses university-level student learning outcomes:

* 1. Global Awareness

☒Minimally  
☐Indirectly  
☐Directly

* 1. Thinking Critically

☐Minimally  
☐Indirectly  
☒Directly

* 1. Using Technology

☐Minimally  
☐Indirectly  
☒Directly

**From the most current electronic version of the bulletin, copy all bulletin pages that this proposal affects and paste it to the end of this proposal.**

**To copy from the bulletin:**

1. Minimize this form.
2. Go to <http://registrar.astate.edu/bulletin.htm> and choose either undergraduate or graduate.
3. This will take you to a list of the bulletins by year, please open the most current bulletin.
4. Find the page(s) you wish to copy, click on the “select” button and highlight the pages you want to copy.
5. Right-click on the highlighted area.
6. Click on “copy”.
7. Minimize the bulletin and maximize this page.
8. Right-click immediately below this area and choose “paste”.
9. For additions to the bulletin, please change font color and make the font size larger than the surrounding text. Make it noticeable.
10. For deletions, strike through the text, change the font color, and enlarge the font size. Make it noticeable.

This is a complete program overhaul. Please refer to the accompanying Program package. This information will replace information on pages 311-332 and 504-512 in the bulletin