

Undergraduate Curriculum Council
Agenda
April 28, 2017
Library 6th Floor Conference Room 603

Meeting called to order at 2 pm by Dr. Wheeler.

1. Approval of April 28, 2017 (including May 9 email info) Minutes [DB motion, WJ seconded. Pass]
2. Course Proposals
 - a. Curricular Proposals
 - i. 2017U_NHP63_CR_DPEM-3562-to-3603
 1. Motion: WJ. Second: SG. Pass
 - ii. 2017U_NHP64_CR_DPEM-3572-to-3493
 1. Motion: WW. Second: JS. Pass
 - iii. 2017U_NHP65_CD_RT-courses
 1. Motion: KF. Second: SG. Pass
3. Election of A-State Assessment Committee representative – Summer DeProw
 - a. SDP informed the UCC that the A-State Assessment Committee benefits from more curricular input. Shelley Gipson served last year and did a very good job.
 - b. WW nominated SG to continue as representative. WJ seconded. Passed.
4. Updates to Proposal Directions and other supplementary documents – Alyssa Simpson
 - a. AS explained the subcommittee assignments. DG and WJ explained the role of subcommittee lead as the one who organizes the discussion and leads the effort to work out issues on proposals prior to the meeting.
 - b. AS updated committee on changes to curricular forms and process documents on the website. Specifically: CIP & Department Codes, making Yes/No more prominent, numbers 4.1.a., 4.1.b., 11.1, and 11.2 in the Course Revision Form.
 - i. The committee suggested uniformity by moving all “Yes/Nos” to the left side of the question. The forms also need more clarity and uniformity on submitting approval from affected departments/programs. AS will work on making these changes.
 - ii. SG asked when the new forms would be implemented. AS explained that the forms were already on the website. The committee decided that they would accept the older forms through November, potentially the full fall semester, but proposals will need to be submitted for the spring semester with the newly revised forms.

Undergraduate Curriculum Council
Agenda
April 28, 2017
Library 6th Floor Conference Room 603

5. MISC

- a. GT inquired about the process for courses that are not taught and have not been taught for a number of years. Departments recently received notification of such courses from ARR.
 - i. KW explained that if they will not be taught, just delete them.
 - 1. WW requested clarification for deletion process. KW the deletions follow normal curricular process and the committee approves.

Motion to adjourn: JS. Second: SG. Meeting adjourned at 2:27 pm.

Subcommittee Memberships

| Subcommittee1 | Subcommittee2 | Subcommittee3 |
|----------------|-----------------|----------------|
| Gabriel Tait | Kim Pittcock | Deanna Barymon |
| Shelley Gipson | Jason Stewart | David Gilmore |
| Warren Johnson | Wayne Wilkinson | Matthew Hill |
| Rebecca Oliver | Nikesha Nesbitt | Kyle Fouts |
| | | Star Holloway |

Code #

Course Revision Proposal Form

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.

Deborah Persell 8/24/2017
Department Curriculum Committee Chair

| | |
|--|---------------|
| | ENTER DATE... |
|--|---------------|

COPE Chair (if applicable)

Deborah Persell 8/24/2017
Department Chair:

| | |
|--|---------------|
| | ENTER DATE... |
|--|---------------|

Head of Unit (If applicable)

Deanna Barymon 8/24/2017
College Curriculum Committee Chair

| | |
|--|---------------|
| | ENTER DATE... |
|--|---------------|

Undergraduate Curriculum Council Chair

Susan Hanrahan 8/25/17
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)

Deborah Perell
dpersell@astate.edu
 870-680-8286

2. Proposed Starting Term and Bulletin Year for Change to Take Effect
 Spring 2018

3. Current Course Prefix and Number
 DPEM 3562, Principles of Administration in DPEM

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.)*

DPEM 3603

3.2 – 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

Principles of Administration in DPEM

4.1 – [No] Request for Course Title Change

If yes, include new Course Title Below. *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).*

5. – [No] Request for Course Description Change.

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

NA

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).

a. Are there any prerequisites? No

a. If yes, which ones?

NA

b. Why or why not?

NA

b. Is this course restricted to a specific major? No

a. If yes, which major? NA

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

a. If yes, please indicate new frequency:

NA

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 choose one.

NA

9. – [No] Request for grade type change

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

NA

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

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

NA

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.)

a. If yes, please list the prefix and course number of cross listed course.

NA

b. Are these courses offered for equivalent credit? No

Please explain. NA

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

a. If yes, what program?

NA

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

a. If yes, what course?

NA

14. Will this course be equivalent to a deleted course or the previous version of the course?

a. If yes, which course?

Moving DPEM 3562 from a 2 hour to a 3 hour course.

15. 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.

NA

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.

Course will be expanded to meet the content requirements and rigor of a 3-hour upper level elective versus a 2-hour upper level elective. Course will be expanded to include all administrative elements students would need to know/understand about disaster preparedness and emergency management. The goal for this course will be to pull some of the administrative elements from across our course offerings in order to provide students with a comprehensive overview of those principles.

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

Based on curriculum assessments, course progression and the need for 3-hour courses versus 2 hour courses, two of our current courses were identified to be increased to 3 hour courses. DPEM 3562, Principles of Administration in DPEM will have content added to meet weakness identified within our accreditation assessment. This addition of content will increase the rigor of the course to a 3-hour course.

19. Do these revisions result in a change to the assessment plan?

[No, however it will address some weaknesses identified.]

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

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

Assessment

University Outcomes

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

- a. Global Awareness b. Thinking Critically c. Information Literacy

Relationship with Current Program-Level Assessment Process

21. 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?

22. 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.

| | |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Program-Level Outcome 1 (from question #23) | |
| Assessment Measure | |
| Assessment Timetable | |
| 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

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

| | |
|-------------------------------------------------------------|--------------------------------------------------------|
| Outcome 1 | |
| Which learning activities are responsible for this outcome? | |
| Assessment Measure | What will be your assessment measure for this outcome? |

(Repeat if needed for additional outcomes)


Bulletin Changes

Instructions

Please visit <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 →  **Format Painter**, and selecting the text you would like to apply the change to.

Please visit <https://youtu.be/yjdL2n4!Zm4> for more detailed instructions.

Major in Biotechnology (cont.)

Bachelor of Science

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

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| University Requirements: | |
| See University General Requirements for Baccalaureate degrees (p. 41) | |
| First Year Making Connections Course: | Sem. Hrs. |
| BIO 1013, Making Connections - Biology | 3 |
| General Education Requirements: | Sem. Hrs. |
| See General Education Curriculum for Baccalaureate degrees (p. 84) | 35 |
| Students with this major must take the following: MATH 1023 College Algebra or MATH course that requires MATH 1023 as a prerequisite CHEM 1013 AND 1011, General Chemistry I and Laboratory BIOL 1063, People and the Environment AND 1001, Biological Science Laboratory COMS 1203, Oral Communication (Required Departmental Gen. Ed. Option) | |
| Language Requirement: | Sem. Hrs. |
| A student must complete the foreign language requirements before being considered a Environmental Studies Major. (Refer to Department of Biological Sciences Foreign Language Requirement). | |
| Major Requirements: | Sem. Hrs. |
| BIO 1303 AND 1301, Biology of Animals and Laboratory | 4 |
| BIO 1503 AND 1501, Biology of Plants and Laboratory | 4 |
| BIO 3023, Principles of Ecology | 3 |
| BIO 4021, Biological Seminar | 1 |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| GEOG 4113, Water Resources Planning | 3 |
| GEOG 4623, Environmental Management | 3 |
| HIST 3323, United States Environmental History | 3 |
| RET 3113, Fundamentals and Applications of Renewable Energy | 3 |
| STAT 3233, Applied Statistics I | 3 |
| Select two of the following: BIO 3673, Human Dimensions of Natural Resources BIO 4613, Conservation Biology GEOG 4613, Conservation of Natural Resources | 6 |
| Policy, Law and Administration (Select five of the following): CRIM 2043, Community Relations in the Administration of Justice POSC 3503, Principles of Public Administration POSC 3513, Public Budgeting Process POSC 4143, Public Opinion and Public Policy POSC 4503, Public Policy, Politics and Power POSC 4513, Disaster Response Operation Management POSC 4523, Public Personnel Administration POSC 4533, Environmental Law and Administration | 15 |
| Environmental Sociology and Health (Select three of the following): DPEM 2303, Environmental Health Training in Emergency Response DPEM 3562 , DPEM 3603 Principles of Administration in Emergency Management SOC 4363, Environmental Sociology SOC 4373, Sustainable Development in Modern Society | 8-9 9 |
| Select two from the following course and/or course/lab combinations: GEOL 1003 AND GEOL 1001, Environmental Geology and Laboratory PHSC 1014, Energy and the Environment PSSC 2813 AND PSSC 2811, Soils and Laboratory | 8 |
| Sub-total | 64-65 |
| Electives: | Sem. Hrs. |
| Electives | 17-18 |
| Total Required Hours: | 120 |

The bulletin can be accessed at <http://www.astate.edu/a/registrar/students/>

DPEM 3553. Ethics and the Law in DPEM Examines law and ethical dilemmas in disaster preparedness and emergency management. Includes human rights and injustices associated as well as codes of ethics in emergency management and public health emergency laws. Current and historical disasters will be analyzed. Fall, Spring.

DPEM 3563. Information Technology in DPEM Social media, visual, mapping, disaster management systems, software and geographic information systems will be explored as a resource for disaster preparedness and emergency management. Overviews of each system will be provided followed by hands-on experiences with the various technology systems. Fall, Spring, Summer.

~~DPEM 3562~~. DPEM 3603 Principles of Administration in Emergency Management Examines laws and regulations relating to emergency management programs in the private and public sector. Ethical dilemmas and professional accountability will be explored utilizing case studies. Community resilience and recovery in times of disaster will be emphasized. Fall, Spring, Summer.

The bulletin can be accessed at <http://www.astate.edu/a/registrar/students/>

Code #

Course Revision Proposal Form

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.

Deborah Persell 8/24/2017
Department Curriculum Committee Chair

COPE Chair (if applicable)

Deborah Persell 8/24/2017
Department Chair:

Head of Unit (If applicable)

Deanna Barymon 8/24/2017
College Curriculum Committee Chair

Undergraduate Curriculum Council Chair

Susan Hanrahan 8/25/17
College Dean

Graduate Curriculum Committee Chair

General Education Committee Chair (If applicable)

Vice Chancellor for Academic Affairs

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

Deborah Persell
dpersell@astate.edu
870-680-8286

2. Proposed Starting Term and Bulletin Year for Change to Take Effect
Spring 2018

3. Current Course Prefix and Number
DPEM 3572, Politics of Disasters

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.)*

DPEM 3493

3.2 – 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

Politics of Disasters

4.1 – [No] Request for Course Title Change

If yes, include new Course Title Below. *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).*

NA

5. – [No] Request for Course Description Change.

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

NA

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).

a. Are there any prerequisites? No

a. If yes, which ones?

NA

b. Why or why not?

NA

b. Is this course restricted to a specific major? No

a. If yes, which major? NA

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

a. If yes, please indicate new frequency:

NA

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 choose one.

NA

9. – [No] Request for grade type change

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

NA

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

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

NA

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.)
- a. If yes, please list the prefix and course number of cross listed course.
NA
 - b. Are these courses offered for equivalent credit? No
Please explain. NA
12. Is this course change in support of a new program? No
a. If yes, what program?
NA
13. Does this course replace a course being deleted? No
a. If yes, what course?
NA
14. Will this course be equivalent to a deleted course or the previous version of the course?
a. If yes, which course?
Moving DPEM 3572 from a 2 hour to a 3 hour course.
15. 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.
NA
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.

Course outline and content, including assignments, discussions, and related materials already meet the rigor for a 3-hour versus a 2-hour upper level elective. Content for this course offering cannot be condensed without sacrificing what students need to gain from studying the political aspects of disaster preparedness and emergency management.

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

Based on curriculum assessments, course progression and the need for 3-hour courses versus 2 hour courses, two of our current classes were identified to be increased to 3 hour courses. DPEM 3572, Politics of Disasters Principles will have content added to meet weakness identified within our accreditation assessment. This addition of content will increase the rigor of the course to a 3-hour course.

19. Do these revisions result in a change to the assessment plan?

[No, however it will address some weaknesses identified.]

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

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

Assessment

University Outcomes

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

- a. Global Awareness b. Thinking Critically c. Information Literacy

Relationship with Current Program-Level Assessment Process

21. 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?

22. 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.

| | |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Program-Level Outcome 1 (from question #23) | |
| Assessment Measure | |
| Assessment Timetable | |
| 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

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

| | |
|-------------------------------------------------------------|--------------------------------------------------------|
| Outcome 1 | |
| Which learning activities are responsible for this outcome? | |
| Assessment Measure | What will be your assessment measure for this outcome? |

(Repeat if needed for additional outcomes)


Bulletin Changes

Instructions

Please visit <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 →  **Format Painter**, and selecting the text you would like to apply the change to.

Please visit <https://youtu.be/yjdL2n4lZm4> for more detailed instructions.

DPEM 3572. 3493. Politics of Disaster Analyzes the effects of the national response framework and presidential directives in disaster preparedness and emergency management. Compares and contrast the role of society, science, and politics in emergency management. Explores the inter-governmental relationships and the globalization of disasters. Fall, Spring, Summer.

DPEM 3563. Information Technology in DPEM Social media, visual, mapping, disaster management systems, software and geographic information systems will be explored as a re- source for disaster preparedness and emergency management. Overviews of each system will be provided followed by hands-on experiences with the various technology systems. Fall, Spring, Summer.

The bulletin can be accessed at <http://www.astate.edu/a/registrar/students/>

Course Deletion Proposal Form

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.

| | |
|----------------|----------|
| Deanna Barymon | 8/1/2017 |
|----------------|----------|

Department Curriculum Committee Chair

| | |
|--|------------|
| | ENTER DATE |
|--|------------|

COPE Chair (if applicable)

Cheryl DuBose 8/1/2017

Department Chair:

| | |
|--|------------|
| | ENTER DATE |
|--|------------|

Head of Unit (If applicable)

Deanna Barymon 8/23/2017

College Curriculum Committee Chair

| | |
|--|------------|
| | ENTER DATE |
|--|------------|

Undergraduate Curriculum Council Chair

Susan Hanrahan 8/25/2017

College Dean

| | |
|--|------------|
| | ENTER DATE |
|--|------------|

Graduate Curriculum Committee Chair

| | |
|--|------------|
| | ENTER DATE |
|--|------------|

General Education Committee Chair (If applicable)

| | |
|--|------------|
| | ENTER DATE |
|--|------------|

Vice Chancellor for Academic Affairs

1. Course Title, Prefix and Number

- RS 3133 Radiologic Sectional Anatomy
- RS 3811 Radiologic Quality Management Administration
- RS 4333. Radiologic Education Concepts
- RS 4532 Mammography Procedures and Instrumentation
- RSU 4563. Ultrasound Clinical Education VII
- RSU 4564. Ultrasound Clinical Education VIII
- RT 1012 Clinical Relevancy in Radiography
- RT 1103. Introduction to Radiologic Technology
- RT 1112. Basic Radiologic Procedures

RT 1121. Basic Radiologic Procedures Laboratory
RT 1202. Radiologic Procedures
RT 1211. Radiologic Procedures Laboratory
RT 1222. Radiologic Physics
RT 1232. Clinical Practicum I
RT 1303. Advanced Radiologic Procedures
RT 1311. Advanced Radiologic Procedures Laboratory
RT 1323. Principles of Exposure I
RT 1332. Clinical Practicum II
RT 200V. Special Projects in Radiologic Technology
RT 2104. Clinical Practicum III
RT 2114. Clinical Practicum IV
RT 2122. Principles of Exposure II
RT 3113. Radiologic Pathophysiology
RT 3202. Radiologic Special Procedures
RT 3212. Principles of Exposure III
RT 3223. Clinical Practicum V
RT 3312. Radiobiology
RT 3332. Radiologic Pharmacology and Drug Administration
RT 3333. Clinical Practicum VI

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

Cheryl DuBose

cdubose@astate.edu

870-972-2772

3. Last semester course will be offered

Spring 2017

Please clarify by selecting one of the following:

- a. Remove RS 3133 Radiologic Sectional Anatomy RS 3811 Radiologic Quality Management Administration RS 4333. Radiologic Education Concepts RS 4532 Mammography Procedures and Instrumentation RSU 4563. Ultrasound Clinical Education VII RSU 4564. Ultrasound Clinical Education VIII RT 1012 Clinical Relevancy in Radiography RT 1103. Introduction to Radiologic Technology RT 1112. Basic Radiologic Procedures RT 1121. Basic Radiologic Procedures Laboratory RT 1202. Radiologic Procedures RT 1211. Radiologic Procedures Laboratory RT 1222. Radiologic Physics RT 1232. Clinical Practicum I RT 1303. Advanced Radiologic Procedures RT 1311. Advanced Radiologic Procedures Laboratory RT 1323. Principles of Exposure I RT 1332. Clinical Practicum II RT 200V. Special Projects in Radiologic Technology RT 2104. Clinical Practicum III RT 2114. Clinical Practicum IV RT 2122. Principles of Exposure II RT 3113. Radiologic Pathophysiology RT 3202. Radiologic Special Procedures RT 3212. Principles of Exposure III RT 3223. Clinical Practicum V RT 3312. Radiobiology RT 3332. Radiologic Pharmacology and Drug Administration RT 3333. Clinical Practicum VI from bulletin for Spring of 2018
- b. Other -

4. Student Population

- a. The course was initially created for what student population?
Medical Imaging and Radiation Sciences students
- b. How will deletion of this course affect those students?
Deletion of these courses will not affect the students. Our recent significant curriculum revision has combined many of these courses into new courses with the RAD prefix. These courses are not part of any curriculum outlines found within the Medical Imaging and Radiation Sciences department.

College, Departmental, or Program Changes

5. a. How will this affect the college, department, and/or program?
Deletion of these courses will not affect the college, department, or program, as these courses are no longer a part of the Medical Imaging and Radiation Sciences curriculum.
- b. Does this program and/or course affect another department? No
If yes, please provide contact information from the Dean, Department Head, and/ or Program Director whose area this affects.
- c. Please provide a short justification for why this course being deleted from program.
These courses are no longer found within our curriculum and simply clutter our space within the Undergraduate Bulletin. We would like to streamline our information for more efficient and effective student use.

6. Is there currently a course listed in the bulletin which is equivalent to this one? No

If yes, which course(s)?

Information within these courses have either been combined within one course or disseminated amongst many courses within the RAD curriculum. The Medical Imaging and Radiation Sciences curriculum was revised with new course prefixes (RAD) with a start date of January 2016. None of the RT courses have been used since Spring 2016. The RS and RSU courses listed above have also been removed from the curriculum starting in the Fall of 2017.

7. Will this course be equivalent to a new course? No

If yes, what course?


Bulletin Changes

Instructions

Please visit <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 →  **Format Painter**, and selecting the text you would like to apply the change to.

Please visit <https://youtu.be/yjdL2n4!Zm4> for more detailed instructions.

Pages 527-537 of the 2017-2018 Bulletin

DEPARTMENT OF MEDICAL IMAGING AND RADIATION SCIENCES

Radiography (RAD)

- RAD 2001. Introduction to Medical Imaging and Radiation Sciences** Overview of medical imaging modalities and radiation therapy, as well as the practitioner's role in the health care delivery system. Spring.
- RAD 3103. Introduction to Radiography** Introduction to the clinical environment, the latest imaging technologies, general patient care, venipuncture lab practice, and legal and ethical issues. Prerequisite, Admission to the Radiologic Science Program. Summer.
- RAD 3111. Radiographic Procedures I Lab** Basic radiographic procedures, specifically of the chest, abdomen, upper extremity, and shoulder girdle. Prerequisite, Admission to the Radiologic Science Program. Summer.
- RAD 3113. Radiographic Procedures I** Radiographic terminology, preliminary steps of a radiographic examination including radiographic anatomy, positioning of the chest, abdomen, upper extremity and shoulder girdle, positioning nomenclature, pathology and film evaluation will be covered. Prerequisite, Admission to the Radiologic Science Program. Summer.
- RAD 3123. Radiation Physics and Imaging** Introduction to the basic x-ray equipment and the production and use of ionizing radiation, basic radiation physics and its application, and components for radiologic imaging. Prerequisite, Admission to the Radiologic Science Program. Summer.
- RAD 3201. Radiographic Procedures II Lab** Radiographic procedures, specifically of the lower extremity, pelvis, spine, and bony thorax. Prerequisite, Admission to the Radiologic Science Program. Fall.
- RAD 3202. Imaging Equipment** Components, operation and purpose of imaging equipment, including image-intensified and digital fluoroscopy, automatic exposure control, image recording options, laser readers, and mobile imaging. Prerequisite, Admission to the Radiologic Science Program. Fall.
- RAD 3203. Radiographic Procedures II** Radiographic terminology and the preliminary steps of a radiographic examination. Radiographic anatomy and positioning of the lower extremity, pelvis, spine and bony thorax. Includes positioning nomenclature, pathology and film evaluation. Prerequisite, Admission to the Radiologic Science Program. Fall.

- RAD 3211. Image Acquisition and Evaluation I Lab** Manipulation of exposure factors and evaluation of the effects on image quality in the laboratory setting. Focus on skills to achieve safe and optimal image acquisition. Prerequisite, Admission to the Radiologic Science Program. Fall.
- RAD 3213. Image Acquisition and Evaluation I** Image acquisition for digital and screen-film image receptors, the Image quality evaluation process, image quality factors, and image quality analysis. Emphasis on application of skills and suggested corrective actions. Prerequisite, Admission to the Radiologic Science Program. Fall.
- RAD 3223. Sectional Anatomy** Introduction to sectional images of human anatomy using CT and MRI. Provides the foundation knowledge required for successful practice by the radiologic professional. Prerequisite, Admission to the Radiologic Science Program. Spring.
- RAD 3233. Radiography Clinical I** Supervised clinical experience in routine radiographic procedures. Students are evaluated with a competency based evaluation system. Prerequisite, Admission to the Radiologic Science Program. Fall.
- RAD 4101. Radiographic Procedures III Lab** Advanced radiographic procedures, specifically cranium, gastrointestinal, genitourinary, trauma, foreign body, and bone growth. Prerequisite, Admission to the Radiologic Science Program. Spring.
- RAD 4103. Radiographic Procedures III** Radiographic terminology and the preliminary steps of a radiographic examination. Radiographic anatomy and positioning of the cranium, gastrointestinal, genitourinary, trauma, foreign body and bone growth studies. Includes positioning nomenclature, pathology and film evaluation. Prerequisite, Admission to the Radiologic Science
- RAD 4113. Image Acquisition and Evaluation III** Continues the study of image acquisition and evaluation begun in RAD 3213 with specific emphasis on digital image acquisition errors, image artifacts, pathology effects on image quality and technique chart development and use. Prerequisite, Admission to the Radiologic Science Program. Spring.
- RAD 4123. Imaging Pathology** Imaging presentation of traumatic injuries and diseases including manifestations of disease on images and the modalities best suited to distinguish the various pathologies. Prerequisite, Admission to the Radiologic Science Program. Spring.
- RAD 4132. Radiobiology** Introduction to the biological effects of ionizing radiation and radiation safety standards required for professional practice. Prerequisite, Admission to the Radiologic Science Program. Spring.
- RAD 4143. Radiography Clinical II** Supervised clinical experience in routine radiographic procedures. Students are evaluated with a competency based evaluation. Prerequisite, Admission to the Radiologic Science Program. Spring.
- RAD 4203. Radiography Clinical III** Supervised clinical experience in routine radiographic procedures. Students are evaluated with a competency based evaluation system. Prerequisite, Admission to the Radiologic Sciences Program. Fall.
- RAD 4213. Radiography Clinical IV** Supervised clinical experience in routine radiographic procedures. Prerequisite, Admission to the Radiologic Science Program. Summer.

Radiologic Sciences (RS)

- RS 3122. Legal and Regulatory Environment of Radiology** Introduction to the growing legal and regulatory requirements being placed on radiology departments and professionals. Content includes American College of Radiology. Joint Commission on Accreditation of Healthcare Organizations, Food and Drug Administration, and state regulatory regulations as well as other legal considerations regarding personnel, operations and staffing. Prerequisite, formal acceptance in to the professional program. Spring, Summer.
- ~~**RS 3133. Radiologic Sectional Anatomy** Radiologic concepts and applications of sectional anatomy including transverse, sagittal and coronal sections of all body areas. Prerequisite, formal acceptance in to the professional program. Fall, Spring, Summer.~~
- RS 3142. Advanced Imaging and Therapy I** Foundation information on the physics, instrumentation, and clinical procedures for digital imaging, computed tomography, magnetic resonance imaging, diagnostic medical sonography equipment as well as an overview of quality management concepts. Fall, Summer.
- RS 3152. Advanced Imaging and Therapy II** Foundation information on the physics, instrumentation, and clinical procedures for cardiovascular interventional technology, mammography, bone densitometry, nuclear medicine, and radiation therapy. Spring, Summer.
- RS 3633. Pediatric Considerations in Radiology** Practice standards utilized in pediatric radiology including accepted methods of immobilization, patient care and techniques. Prerequisite, formal acceptance in to the professional program. Fall, Summer.
- RS 3733. Geriatric Considerations in Radiology** Psychosocial, emotional, mental and psychiatric issues encountered in the aging process with attention to normal processes of aging, common interventions, and treatments. Fall, Spring.
- ~~**RS 3811. Radiologic Quality Management Administration** Administrative aspects of the concepts and applications of the various quality assurance theories and techniques. Includes those quality functions mandated by various accrediting bodies related to medical imaging and radiation therapy. Prerequisite, formal acceptance in to the professional program. Fall.~~
- RS 3843. Advance Clinical Practice** Focus is on current healthcare delivery environment including patient assessment, monitoring, infection control, and management. It includes working with multicultural patients, managing problem patients, and patient education. Prerequisite, Admission to the Imaging Specialist program. Spring.
- RS 4101. Overview of Magnetic Resonance Imaging** Overview of MRI including the four content areas required by the ARRT for post-primary certification. Prerequisite, Instructor approval.
- RS 4183. Leadership Practicum** Experiential learning practicum with three radiologic facilities that allows students to participate with department management the skills, concepts and theories studied in RS 4343. Prerequisite, formal acceptance in to the professional program. Fall, Spring, Summer.

~~**RS 4333. Radiologic Education Concepts** An examination of various educational principles and methods appropriate for instruction in radiologic technology educational programs. Particular emphasis will be placed on the competency based approach to instruction and JRCERT guidelines. Prerequisite, formal acceptance in to the professional program. Spring.~~

RS 4343. Radiologic Administrative Concepts Introduction to the organization, operations, and management of a radiology department. Includes an introduction to health care delivery systems, decision making, and the management functions. Prerequisite, formal acceptance in to the professional program. Fall, Spring.

RS 436V. Independent Study in Radiologic Sciences Guided investigation of an advanced radiologic topic selected in consultation with a member of the radiologic sciences faculty. May be repeated with different topics for a total of 6 semester credits. Prerequisite, formal acceptance in to the professional program. Demand.

RS 4413. Cardiovascular Equipment and Intervention Overview of cardiovascular intervention equipment and disease intervention. Prerequisite, formal acceptance into the professional program. Fall.

RS 4423. Cardiovascular-Interventional Procedures and Instrumentation The course will discuss angiography and interventional procedures. The student will be introduced to the specialized equipment required to produce and acquire the images and for monitoring the patient. Patient care procedures, medical and legal implications, and pharmaceutical and contrast agents specific to each examination will be defined. Prerequisite, formal acceptance in to the professional program. Fall.

RS 4433. Cardiac Equipment and Intervention Overview of cardiac catheterization main and ancillary equipment and disease intervention. Prerequisite, formal acceptance into the professional program. Spring

RS 4443. Cardiac Physiology and Procedures Emphasis on cardiac anatomy and physiology, electrocardiography, ECG, instrumentation, procedural performance, and elementary interpretation. Diagnostic imaging procedures and interventional therapies related to coronary disease and dysfunction are also presented. Hands on experience with ECG equipment will be introduced. Prerequisite, formal acceptance in to the professional program. Spring.

RS 4444. Cardiac Clinic Clinical practice experiences designed for development, application, and evaluation of concepts and theories in cardiac catheterization procedures to prepare CIT students for entry-level practice. Prerequisites, formal admission to the professional program. Spring.

RS 4454. Cardiovascular Interventional Clinical Education Clinical practice experiences designed for development, application, and evaluation of concepts and theories in cardiovascular-interventional radiology to prepare CIT students for entry-level practice. Prerequisites, formal admission to the professional program. Fall.

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, Spring.

RS 4464. 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 4512. Mammography Instrumentation Components, operation and purpose of specialized mammographic equipment, including mammographic x-ray tube, digital imaging, automatic exposure control, image recording options, and laser readers. Prerequisite, Admission to the Radiologic Science Program. Summer.

RS 4502. Mammography Procedures 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

~~**RS 4532. Mammography Procedures and Instrumentation** This course is designed to introduce the student to the technical and procedural aspects of mammography. Various aspects of mammography, breast anatomy, patient interaction and exam procedures will be covered. Prerequisite, formal acceptance in to the professional program. Spring.~~

RS 4553. Mammography Clinical Education I Guided clinical practice experiences to develop, apply, analyze, integrate, synthesize and evaluate concepts and theories in mammography. Prerequisite, Admission to the Radiologic Science Program. Spring.

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

RS 4601. Overview of Computed Tomography Four content areas required by the ARRT for post-primary CT certification. Prerequisite, Instructor approval 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 4644. 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. Fall, Spring.

RS 4852. Advanced Radiologic Pathophysiology I This course is an intensive study of the radiographic manifestations of diseases that affect the 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, Summer.

RS 4862. Advanced Radiologic Pathophysiology II This course is an intensive study of the radiographic manifestations of neoplasms and diseases that affect vascular systems. Emphasis is on physiologic effects of neoplasms and vascular system diseases and image manifestations of these effects. Prerequisite, formal acceptance in to the professional program. Spring, Summer.

Magnetic Resonance Imaging (RSMR)

RSMR 3853. Advanced MR Pathophysiology I Provides knowledge of patient care and assessment, imaging contraindications, contrast agents, introduction to MRI and MRI safety, cultural diversity, infection control, interpersonal communication, and body mechanics. Prerequisite, formal acceptance in to the professional program. Fall.

RSMR 3863. Advanced MR Pathophysiology II Common pathologies found in magnetic resonance imaging (MRI) of the thorax, abdomen, pelvis, and cardiovascular systems. Prerequisite, formal acceptance in to the professional program. Spring.

RSMR 4702. Introduction to MR Imaging Provides knowledge of patient care and assessment, imaging contraindications, contrast agents, introduction to MRI and MRI safety, cultural diversity, infection control, interpersonal communication, and body mechanics. Prerequisite, formal acceptance in to the professional program. Fall.

RSMR 4703. MRI Instrumentation A study of the equipment used in production of the MR signal and image, specific coil designs, quality assurance measures, and equipment safety. Prerequisite

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 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.

RSMR 4733. MRI Procedures II Provides knowledge of anatomy, pathology, scanning protocols, contrast administration, and contraindications for magnetic resonance imaging of the abdomen, pelvis, and musculoskeletal system. Prerequisite, formal acceptance in to the professional program. Spring.

RSMR 4753. MRI Clinical Education I The course will provide beginning level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in magnetic resonance imaging. Prerequisite, formal acceptance in to the professional program. Fall.

RSMR 4763. MRI Clinical Education II The course will provide intermediate level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in magnetic resonance imaging. Prerequisite, formal acceptance in to the professional program. Spring.

RSMR 4773. MRI Clinical Education III The course will provide advanced level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in magnetic resonance imaging. Prerequisite, formal acceptance in to the professional program. Summer.

RSMR 4783. MRI Clinical Education IV The course will provide advanced level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in magnetic resonance imaging. Prerequisite, formal acceptance in to the professional program.. Summer.

RSMR 4803. MRI Physical Principles I Introduction of the concepts of basic physics and instrumentation for magnetic resonance imaging. Topics include nuclear magnetism, the Larmor equation, tissue characteristics, and imaging parameters. Prerequisite, formal acceptance in to the professional program. Fall.

RSMR 4812. MRI Pharmacology Provides knowledge of types of contrast media, contraindications, dose calculation, administration routes, effects on the MRI image, patient care and assessment. Prerequisite, formal acceptance in to the professional program. Summer.

RSMR 4813. MRI Physical Principles II Exploration of imaging options, spin echo, fast spin echo, STIR, FLAIR, gradient imaging, and echo planar imaging. Includes a comprehensive analysis of image artifacts. Prerequisite, formal acceptance in to the professional program. Spring.

RSMR 4823. Data Acquisition and Processing A study of the patient coordinate system and spatial localization, magnetic resonance imaging gradient system, data manipulation, and quality control practices in MRI. Prerequisite, formal acceptance in to the professional program. Spring.

RSMR 4833. Advanced MRI Imaging Anatomy, pathology, scanning protocols, contrast administration, and contraindications for magnetic resonance angiography, venography, functional imaging, dynamic imaging, and cardiac imaging. Prerequisite, Admission to the Radiologic Science Program. Spring.

Nuclear Medicine (RSN)

RSN 300V. Nuclear Medicine Program Exchange Clinical Preceptorship to be taken concurrently while enrolled in the nuclear medicine program. Prerequisite, formal acceptance in to the

RSN 4113. Nuclear Medicine Pharmacy This course focuses on the study of the chemical and biological aspects of radiopharmaceuticals, radionuclides, radioactive decay, and the preparation and quality control of radiopharmaceuticals. Clinical procedure information for magnetic resonance imaging studies. Prerequisite, formal acceptance in to the professional program. Spring.

RSN 4213. Nuclear Medicine Physics and Instrumentation This course focuses on the study of nuclear medicine physics, especially radionuclide production and detection, counting statistics, energy spectrum analysis, and scintillation imaging systems. Prerequisite, formal acceptance in to the professional program. Fall.

RSN 4313. Nuclear Medicine Procedures I This course focuses on the study of nuclear medicine clinical procedures for in vivo and in vitro studies, related anatomic studies, and associated physiologic pathologic conditions. Prerequisite, formal acceptance in to the professional program. Fall.

RSN 4323. Nuclear Medicine Procedures II This course focuses on the continued study of nuclear medicine clinical procedures for in vivo and in vitro studies, related anatomic studies, and associated physiologic pathologic conditions. Prerequisite, formal acceptance in to the professional program. Spring.

RSN 4513. Nuclear Medicine Clinical Education I The course will provide beginning level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in nuclear medicine procedures. Prerequisite, formal acceptance in to the professional program. Fall.

RSN 4523. Nuclear Medicine Clinical Education II The course will provide intermediate level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in nuclear medicine procedures. Prerequisite, formal acceptance in to the professional program. Spring.

RSN 4535. Nuclear Medicine Clinical Education III The course will provide advanced level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in nuclear medicine procedures. Prerequisite, formal acceptance in to the professional program. Summer.

Radiation Therapy (RST)

RST 4203. Introduction to Radiation Therapy and Patient Care This course will provide an overview of the foundations of radiation therapy and the practitioners role in the health care delivery system. Prerequisite, formal acceptance in to the professional program. Fall.

RST 4214. Radiation Therapy Principles and Practice I The course will provide a knowledge base for assessing, comparing, contrasting and recommending the type of radiation therapy equipment, procedure and technique, patient positioning and immobilization for appropriate tumor localization and treatment delivery. Prerequisite, formal acceptance in to the professional program. Fall.

RST 4224. Radiation Therapy Principles and Practice II The course will examine and evaluate the management of specific neoplastic disease. Prerequisite, formal acceptance in to the professional program. Spring.

RST 4234. Radiation Therapy Principles and Practice III The course will build on the foundations of the principles of radiation therapy practice from the two previous courses. Prerequisite, formal acceptance in to the professional program. Summer.

RST 4242. Radiation Therapy Clinical Treatment Planning The course will build on the foundations of the principles of radiation therapy practice from the two previous courses. Prerequisite, formal acceptance in to the professional program. Summer.

RST 4313. Radiation Therapy Physics I This course will establish a knowledge of physics pertinent to developing an understanding of radiations used in the radiation therapy clinical setting

RST 4323. Radiation Therapy Physics II The course will review and expand concepts and theories in the Radiation Physics I course. Prerequisite, formal acceptance in to the professional program. Spring.

RST 4333. Applied Radiation Biology This course will present basic concepts and principles of radiation biology. Prerequisite, formal acceptance in to the professional program. Summer.

RST 4413. Radiation Protection, Safety, and Quality Management This course will present principles of radiation protection and safety for the radiation therapist. Prerequisite, formal acceptance in to the professional program. Spring.

RST 4513. Radiation Therapy Clinical Education I The course will provide beginning level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Prerequisite, formal acceptance in to the professional program. Fall.

RST 4523. Radiation Therapy Clinical Education II The course will have immediate content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Prerequisite, formal acceptance in to the professional program. Spring.

RST 4533. Radiation Therapy Clinical Education III The course will have advanced content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Prerequisite, formal acceptance in to the professional program. Summer.

Diagnostic Medical Sonography (RSU)

- RSU 4101. Introduction to Ultrasound** This course will provide an overview of the foundations of diagnostic medical sonography and the practitioners role in the health care delivery system. Spring.
- RSU 4112. Sectional Anatomy Sonography** Knowledge of anatomical layering and review body systems. Sonographic terminology, organ and organ system relationships, and directional terminology will also be focused upon in this course. Prerequisite, formal acceptance in to the professional program. Summer.
- RSU 4122. Small Parts Sonography** Knowledge of anatomy pathology of small parts including male pelvis, breast, thyroid, and musculoskeletal sonography. Prerequisite, formal acceptance into the professional program. Summer.
- RSU 4132. Introduction to Sonography Laboratory** Clinical application knowledge of sonography equipment, sonographic terminology, and anatomy pathology of small parts. Students will participate in directed scanning exercises and simulator scanning to develop the critical thinking skills needed in practice of sonography. Prerequisite, formal acceptance into the professional program. Summer.
- RSU 4213. Ultrasound Physics and Instrumentation I** This course will provide theoretical foundations and clinical applications of ultrasound physics and instrumentation, including Doppler principles, performance testing, and bioeffects. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4223. Abdominal Sonography I** Specific anatomic and pathologic information necessary for the clinical practice of abdominal diagnostic medical sonography, including abdominal organs and organ systems, normal, abnormal appearances, and pertinent laboratory tests are discussed. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4232. Abdominal Sonography I Laboratory** This course will provide clinical application knowledge of abdominal organs and organ systems. Students will participate in directed scanning exercises and simulator scanning to develop the critical thinking skills needed in practice of abdominal sonography. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4322. OBGYN Sonography Laboratory** Laboratory scanning of specific anatomy and pathology necessary for the clinical practice of obstetric and gynecologic diagnostic medical sonography. Corequisites, RSU 4613 and 4323. Prerequisite, formal acceptance into the professional program. Spring.
- RSU 4323. Physics and Instrumentation II** This course is a continuation of RSU 4213. Advanced theoretical foundations and clinical applications of ultrasound physics and instrumentation, including Doppler principles, performance testing, and bioeffects. Prerequisite, formal acceptance into the professional program. Spring.
- RSU 4413. Vascular Sonography** Knowledge of venous and arterial anatomy, physiology and clinical considerations necessary for practice in the vascular clinical setting. Anatomy of the upper and lower extremities, abdomen, special circulations, cerebrovascular circulation. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4422. Vascular Sonography Laboratory** Ultrasound scanning of anatomy of the upper and lower extremities, abdomen, and special circulations, as well as cerebrovascular intra and extracranial circulation will be the focus of this course. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4511. Ultrasound Clinic I** Entry level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in small parts and abdominal sonography. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4523. Ultrasound Clinical Education II** Advanced level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in small parts, abdominal, and ob-gyn sonography. Prerequisite, formal acceptance into the professional program. Spring.
- RSU 4534. Ultrasound Clinical Education III** Advanced level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in small parts, abdominal, and obstetrics and gynecology sonography. Prerequisite, formal acceptance into the professional program. Summer.
- RSU 4544. Ultrasound Clinical Education IV** Advanced level content and clinical practice experiences designed for sequential development application, analysis, integration, synthesis and evaluation of concepts. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4551. Sonography Clinical Relevancy** Advanced application of anatomy and pathology as seen with sonographic examination and case studies will be the focus of this course. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4552. Ultrasound Clinical Education V** Advanced level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in small parts, abdominal, ob gyn, and vascular sonography. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4562. Ultrasound Clinical Education VI** Provides students with supplemental clinical experience in the event students should miss an excessive amount of clinical days, the student feels that additional clinical experience is needed, or DMS faculty and clinical instructors feel that the student would benefit from additional clinical experience. Prerequisite, formal acceptance into the professional program. Demand.
- ~~**RSU 4563. Ultrasound Clinical Education VII** Provides students with supplemental clinical experience in the event students should miss an excessive amount of clinical days, the student feels that additional clinical experience is needed, or DMS faculty and clinical instructors feel that the student would benefit from additional clinical experience. Prerequisite, formal acceptance into the professional program. Demand.~~
- ~~**RSU 4564. Ultrasound Clinical Education VIII** Provides students with supplemental clinical experience in the event students should miss an excessive amount of clinical days, the student feels that additional clinical experience is needed, or DMS faculty and clinical instructors feel that the student would benefit from additional clinical experience. Prerequisite, formal acceptance into the professional program. Demand.~~
- RSU 4613. Obstetric and Gynecologic Sonography** Specific anatomic and pathologic information necessary for the clinical practice of obstetric and gynecologic diagnostic medical sonography.

- RSU 4622. Obstetric Sonography II** Continuation of specific anatomic and pathologic information necessary for the clinical practice of obstetric diagnostic medical sonography. Registration restricted to students who have successfully completed the spring semester in the DMS program. Prerequisite, formal acceptance into the professional program. Summer.
- RSU 4642. Introduction to Cardiovascular Sonography** Cardiovascular anatomy, physiology and clinical considerations necessary for practice in the cardiovascular clinical setting. Indications for cardiovascular testing and disease processes are discussed. Prerequisite, formal acceptance into the professional program. Summer.
- RSU 4652. Special Procedures in Sonography** Specific anatomic and pathologic information necessary for the clinical practice of special procedures in abdominal, pediatric, and neonatal diagnostic medical sonography. Fall.
- RSU 4712. Introduction to Cardiac Sonography** Cardiac anatomy, physiology and clinical considerations necessary for practice in the cardiovascular clinical setting. Indications for cardiac testing and disease processes are discussed. Prerequisite, formal acceptance into the professional program. Spring.
- RSU 4723. Cardiac Sonography** Continued discussion of cardiac disease processes. Corequisite RSU 4732. Good standing in DMS program required. Summer.
- RSU 4732. Competency Sonography Lab I** Clinical application knowledge of small parts, abdominal organs and organ systems. Students will participate in directed scanning exercises and simulator scanning to develop the critical thinking skills needed. Corequisite, 4223. Prerequisite, formal acceptance into the professional program. Fall.
- RSU 4742. Cardiac Sonography Lab** Provide clinical application knowledge of gynecologic and obstetrical, vascular, or cardiac sonography. Directed scanning exercises and simulator scanning to develop the critical thinking skills. Registration restricted to students who have successfully completed the fall semester of appropriate DMS program. Summer.
- RSU 4762. Advanced Vascular Sonography Procedures** Clinical application knowledge of advanced vascular sonography procedures, directed scanning exercises and simulator scanning to develop the critical thinking skills needed in practice of vascular sonography. Prerequisite, formal acceptance into the professional program. Spring.
- RSU 4812. Cardiac Conduction and Arrhythmia** Provides an understanding of normal and abnormal conduction of electrical impulses in the cardiac system. Prepares students to recognize cardiac rhythms in the clinical setting. Registration restricted by admittance to the DMS program. Spring.
- RSU 4833. Breast Sonography** Sonographic knowledge, skills and abilities in the areas of normal breast as well as breast abnormalities and how to coordinate images with screening or diagnostic mammography. Restricted to BSRS majors. Spring.

Radiologic Technology (RT)

- RT 1003. Making Connections Radiologic Sciences** Open to incoming Freshmen only. This course will provide both an introduction to the nature of university education and a general orientation to the functions and resources of the university as a whole. This section of First Year Seminar is a special health professions section and will include a focus on understanding and appreciating radiologic science majors. Prerequisite, formal acceptance into the professional program. Fall.
- ~~**RT 1012. Clinical Relevancy in Radiography** A special interest course for those who are planning to sit for the national registry examination for radiography. The course will cover radiographic anatomy, positioning, terminology, exposure, physics, equipment operation and maintenance, processing, and image evaluation. Prerequisite, formal acceptance into the professional program. Summer.~~
- ~~**RT 1103. Introduction to Radiologic Technology** Basic principles associated with the practice of radiologic technology. Includes professionalism, ethical responsibilities, foundations of imaging, radiation protection and patient care procedures. Prerequisite, formal acceptance into~~
- ~~**RT 1112. Basic Radiologic Procedures** Provides knowledge of radiographic terminology and the preliminary steps of a radiographic examination. Radiographic anatomy and positioning of the chest and abdomen. Includes positioning nomenclature, pathology and film evaluation. Prerequisite, formal acceptance into the professional program. Summer.~~
- ~~**RT 1121. Basic Radiologic Procedures Laboratory** The laboratory associated with Basic Radiologic Procedures. Prerequisite, formal acceptance into the professional program. Summer.~~
- ~~**RT 1202. Radiologic Procedures** Radiographic anatomy and positioning of the upper extremity, shoulder girdle, lower extremity and pelvic girdle. Includes positioning nomenclature, pathology and film evaluation. Prerequisite, formal acceptance into the professional program. Fall.~~
- ~~**RT 1211. Radiologic Procedures Laboratory** The laboratory associated with Radiologic Procedures. Prerequisite, formal acceptance into the professional program. Fall.~~
- ~~**RT 1222. Radiologic Physics** This is an initial program course designed to provide students foundational concepts of physics associated with diagnostic radiology. Includes basics of electricity, electromagnetism, the x-ray imaging system, and radiologic quantities. Prerequisite, formal acceptance into the professional program. Summer.~~
- ~~**RT 1232. Clinical Practicum I** Supervised clinical experience in routine radiographic procedures. Students are evaluated with a competency-based evaluation system. Prerequisite, formal acceptance into the professional program. Fall.~~
- ~~**RT 1303. Advanced Radiologic Procedures** Radiographic anatomy and positioning of the vertebral column, bony thorax, skull, facial bones, and sinuses. Includes positioning nomenclature, pathology, and film evaluation. Prerequisite, formal acceptance into the professional program. Spring.~~
- ~~**RT 1311. Advanced Radiologic Procedures Laboratory** The laboratory associated with Advanced Radiologic Procedure. Prerequisite, formal acceptance into the professional program. Spring.~~

- RT 1323. Principles of Exposure I** Coordinated classroom laboratory study of radiation physics associated with x-ray production, interactions between ionizing radiations and matter, and associated health physics issues. Prerequisite, formal acceptance into the professional program. Fall.
- RT 1332. Clinical Practicum II** Supervised clinical experience in all aspects of clinical radiography. Students are evaluated with a competency based evaluation system. Prerequisite, formal acceptance into the professional program. Spring.
- RT 200V. Special Projects in Radiologic Technology** Individual study assignment designed to be a research paper or project on selected topics in Radiologic Technology. May be repeated with various topics. Prerequisite, formal acceptance into the professional program. Fall, Spring, Summer.
- RT 2104. Clinical Practicum III** Supervised clinical experience in all aspects of clinical radiography. Students are evaluated with a competency based evaluation system. Prerequisite, formal acceptance into the professional program. Summer.
- RT 2114. Clinical Practicum IV** Supervised clinical experience in all aspects of clinical radiography. Students are evaluated with a competency based evaluation system. Prerequisite, formal acceptance into the professional program. Summer.
- RT 2122. Principles of Exposure II** Coordinated classroom laboratory study of radiologic imaging systems with emphasis on theories and concepts of imaging equipment, image acquisition, and processing. Prerequisite, formal acceptance into the professional program. Spring.
- RT 3113. Radiologic Pathophysiology** A general survey of medical and surgical diseases. Focus is on manifestations of disease related to all imaging modalities in radiology. Prerequisite, formal acceptance into the professional program. Fall.
- RT 3202. Radiologic Special Procedures** Radiographic anatomy and positioning of the gastrointestinal tract and biliary system. Includes special procedures associated with diagnostic
- RT 3212. Principles of Exposure III** Coordinated classroom laboratory continuation of the study of radiation physics with particular emphasis on radiographic exposure technique systems and related health physics. Prerequisite, formal acceptance into the professional program. Fall.
- RT 3223. Clinical Practicum V** Advanced clinical experience in radiology. Students are evaluated with a competency based evaluation system. Includes diagnostic radiology, special procedures, radiation therapy, nuclear medicine, ultrasound, computed tomography and magnetic resonance imaging. Prerequisite, formal acceptance into the professional program. Fall.
- RT 3312. Radiobiology** Principles of health physics, radiation protection, and radiobiology. Deals in depth with clinical applications. Prerequisite, formal acceptance into the professional program. Spring.
- RT 3332. Radiologic Pharmacology and Drug Administration** The concepts and applications of pharmacology and drug administration unique to the radiologic setting. Contrast media types and administration is covered in detail. Prerequisite, formal acceptance into the professional program. Spring.
- RT 3333. Clinical Practicum VI** Continuation of RT 3223. Includes final competency evaluation. Prerequisite, formal acceptance into the professional program. Spring.