FLORIDA ATLANTIC UNIVERSITY

Graduate Programs—NEW COURSE PROPOSAL

DEPARTMENT PHYSICS

RECOMMENDED COURSE IDENTIFICATION
PREFIX RAT Course Number 6888 LAB CODE (L or C)
COMPLETE COURSE TITLE: RADIATION PROTECTION AND SAFETY

CREDITS 3

TEXTBOOK INFORMATION: RADIATION PROTECTION & DOSIMETRY, MICHAEL G. STABIN, SPRINGER 2007
READINGS:
- MRI SAFETY
- http://www.ncrponline.org/Publications/Reports/Misc_PDFs/Ultrasound%20Summary--NCRP.pdf
- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3810427/

EFFECTIVE DATE (first term course will be offered)
FALL 2016

GRADING (SELECT ONLY ONE GRADING OPTION):
  REGULAR X SATISFACTORY/UNSATISFACTORY

COURSE DESCRIPTION, NO MORE THAN THREE LINES: THIS COURSE WILL PROVIDE THE STUDENTS THE KNOWLEDGE AND TECHNICAL BACKGROUND TO UNDERSTAND THE CALCULATION METHODOLOGY, COMPLIANCE WITH THE SAFETY STANDARDS, AND USE OF QUANTITATIVE RISK ASSESSMENT FOR RADIATION PROTECTION & SAFETY.

PREREQUISITES*

PERMISSION OF INSTRUCTOR

COREQUISITES*

REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL)*

* PREREQUISITES, COREQUISITES AND REGISTRATION CONTROLS WILL BE ENFORCED FOR ALL COURSE SECTIONS.

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: MEDICAL PHYSICIST
MEMBER OF THE GRADUATE FACULTY OF FAU AND HAS A TERMINAL DEGREE IN THE SUBJECT AREA (OR A CLOSELY RELATED FIELD).

Faculty contact, email and complete phone number: Theodora Leventouri
leventouri@fau.edu
561-297-2695

Please consult and list departments that might be affected by the new course and attach comments. The proposed course is not offered at FAU. It is a required course recommended by the Commission on Accreditation of Medical Physics Education Programs (CAMPEP).

Approved by:

Department Chair:

College Curriculum Chair:

College Dean:

UGPC Chair:

Graduate College Dean:

UFS President:

Provost:

Date:

9/17/2015
10/23/2015
10/22/2015
10/29/15
10/30/15

1. Syllabus must be attached; see guidelines for requirements: www.fau.edu/provost/files/course
syllabus.2011.pdf
2. Review Provost Memorandum: Definition of a Credit Hour
www.fau.edu/provost/files/Definition
Credit_Hour_Memo_2012.pdf
3. Consent from affected departments (attach if necessary)

Email this form and syllabus to UGPC@fau.edu one week before the University Graduate Programs Committee meeting.

FAUniverseGrad—Revised July 2015
Professional Science Master in Medical Physics (PSMMP)

RAT  Radiation Protection and Safety

Course Syllabus

1. Course title/number, credit hours: RAT 6888 Radiation Protection and Safety, 3 credit hours.
2. Prereq/coreq: Permission of the Instructor
3. Course logistics
   a. Fall Term 2016
   b. Notation if online course: N/A
   c. Class location and time: SE 101, Friday 4:00-6:50
4. Instructor contact information
   a. Instructor’s name: Zoubir Ouhib DAMP, FACR/ Adjunct/Research Affiliate Associate Professor and Dr. Theodora Leventouri
   b. Office address: Science Bldg. 43, Rooms 31B, 112
   c. Office hours: Mo, We 1-2, Fri 3-4 SE 112, by appointment, and open door policy.
   d. Contact telephone number: office (561) 297-2695 fax (561) 297-2662
   e. E-mail address: zouhib@brrh.com, leventou@fau.edu
5. TA contact information N/A
6. Course description
This course will provide the students the knowledge and technical background to understand the calculation methodology, compliance with the safety standards, and use of quantitative risk assessment for radiation protection & safety.
7. Course objectives/student learning outcomes
At the end of this course the students are expected to have a good understanding of safety calculation methodology, compliance with the safety standards, and use of quantitative risk assessment for radiation protection & safety.
8. Required texts/readings
9. Supplementary/recommended readings
MRI SAFETY
Ultrasound safety

<table>
<thead>
<tr>
<th>Exam Dates</th>
<th>Quiz Dates</th>
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<tbody>
<tr>
<td>E1</td>
<td>Q1</td>
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<tr>
<td>E2</td>
<td>Q2</td>
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<tr>
<td>E3</td>
<td>Q3</td>
</tr>
<tr>
<td>FINAL</td>
<td>Q4</td>
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10. Course topical outline (15 weeks)

| W1: | Introduction and historical perspective | HW1: | Readings |
| W2: | Interaction physics applied to radiation protection | HW2: | Reading and Problems |
| W3: | Protection principles (time, distance, shielding) | HW3: | Questions and Problems |
| W4: | Handling radiation and radioactive sources | HW4: | Questions and Problems |
| W5: | Radiation survey/contamination equipment | HW5: | Questions and Problems |
| W6: | Personnel monitoring | HW6: | Questions and Problems |
| W7: | Radiation dose limits | HW7: | Questions and Problems |
| W8: | Protection regulations | HW8: | Questions and Problems |
| W9: | Shielding Principles: Beams and sources | HW9: | Questions and Problems |
| W10: | Application of statistics | HW10: | Questions and Problems |
| W11: | External exposure, Internal Exposure | HW11: | Questions and Problems |
| W14: | Safety of ultrasound | HW14: | Readings and Questions |
| W15: | Protection regulations | HW15: | Readings |

11. Course evaluation method

The letter grade is decided from four exams (15/100 each) including the final, and 4 quizzes (10/100 each). Class participation and literature research are important in determining the letter grade from the grading scale. Additional point will be given to raise the grade to the higher letter grade. Further explanation will be discussed in class.

12. Grading scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>100-92 %</td>
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<tr>
<td>A-</td>
<td>91-86 %</td>
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<tr>
<td>B+</td>
<td>85-80%</td>
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<tr>
<td>B</td>
<td>79-70%</td>
</tr>
<tr>
<td>B-</td>
<td>69-60%</td>
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<tr>
<td>F</td>
<td>&lt;60%</td>
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</tbody>
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13. Policy on makeup tests, late work, and incompletes

Student meets with the Instructor for arrangements.

14. Special course requirements N/A

15. Classroom etiquette policy (if applicable)

University policy on the use of electronic devices states: "In order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular telephones and pagers, are to be disabled in class sessions."

16. Disability policy statement

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute coursework must register with the
Office for Students with Disabilities (OSD) -- in Boca Raton, SU 133 (561-297-3880); in Davie, MOD 1 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305) -- and follow all OSD procedures.

17. Honor Code policy statement
Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001 at http://www.fau.edu/regulations/chapter4/4.001, Honor Code.pdf.