



Dr. Th. Leventouri
Professor of Physics
Director, Medical Physics Program
Department of Physics
Director, Center for Biomedical and Materials Physics
Charles E. Schmidt College of Science

777 Glades Road
Boca Raton, FL 33431
Tel: 561.297.2695
Fax: 561.297.2662
leventou@fau.edu
www.physics.fau.edu

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 318, 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

Radiation protection & Dosimetry, Michael G. Stabin, Springer 2007.

9. Supplementary/recommended readings

MRI SAFETY

https://www.temple.edu/medicine/departments_centers/clinical_departments/documents/MRI-safety-quiz.pdf

http://www.health.gov.on.ca/en/common/ministry/publications/reports/disc_ct_mri/mri_report.pdf, <http://www.radiology.ucsf.edu/patient-care/patient-safety/mri>

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Ultrasound safety

http://www.ncrponline.org/Publications/Reports/Misc_PDFs/Ultrasound%20Summary--NCRP.pdf <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3810427/>

Exam Dates

E1
E2
E3
FINAL

Quiz Dates

Q1
Q2
Q3
Q4

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
W12 Environmental Dispersion, Radioactive waste:	HW12: Questions and Problems
W13: Safety of MRI	HW13: 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

A: 100-92 %	A-: 91-86 %	B+: 85-80%	B: 79-70%
B-: 69-60%	F: <60%		

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

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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.

<http://www.fau.edu/policies/files/1.13%20Disabilities%20and%20Accommodations%20FINAL%209-18-12.pdf>

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](#).