

Radiation Physics, Nuclear Measurements and Radiochemistry Curricula Development

Executive Summary

The objective of this project is to create 10 new, permanent, nuclear-related courses for students in nuclear physics, nuclear environmental science and engineering, and nuclear medicine at Florida International University (FIU). These courses will be developed by an interdisciplinary team of faculty and researchers from the Physics and Chemistry Departments, the Applied Research Center and Los Alamos National Laboratory (no cost). The courses to be developed will provide educational opportunities for a group of students that traditionally is underrepresented in Nuclear Sciences. The students targeted with this project come from different programs: chemistry, physics, and engineering. Their educational and training needs are similar and overlapping but also different. This grant will enable FIU to have three different university units to pool equipment resources, expert staff, and offer nuclear courses that none of the units by itself would have been able to accomplish. The benefit is to continue to grow FIU's nuclear research and academic programs to prepare the next generation of science, technology, engineering, and math (STEM) professional engineers and scientists to join the diverse nuclear workforce. Teaming of FIU and Los Alamos National Laboratory will transform FIU's programs.

Ten undergraduate and graduate courses, with their associated labs, will be developed in this proposed effort:

1. *Radiochemistry* (graduate level with lab included, 4 semester hours)
2. *Radiochemistry* (undergraduate senior level, 3 semester hours, separate lab required)
3. *Radiochemistry Lab* (undergraduate, 1 semester hour, required with the lecture)
4. *Nuclear Radiation Detection and Measurement* (graduate level with lab, 4 semester hours)
5. *Nuclear Radiation Detection & Measurement* (undergraduate level, 3 semester hours, separate lab required)
6. *Nuclear Radiation Detection & Measurement Lab* (undergraduate level, 1 semester hour, lecture required)
7. *Radiation Physics and Dosimetry* (graduate level with lab included, 4 semester hours)
8. *Radiation Physics and Dosimetry* (undergraduate level, 3 semester hours, separate lab required)
9. *Radiation Physics and Dosimetry Lab* (undergraduate, 1 semester hour, required with the lecture)
10. *Radiation Safety*

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