From:	Breckenridge, Nick
To:	Thaler, Lindsey; Toothman, Patricia; Bucher, Beth; Bennett, Angela; Cooper, Mark
Subject:	Course Offering Advertisement
Date:	Tuesday, October 29, 2019 11:37:47 AM
Attachments:	image004.png image005.png

Good morning!

Below is a course offering advertisement that one of our faculty members felt some of your students may be interested in. Please feel free to share as you see fit.

THE OHIO STATE UNIVERSITY

Nick Breckenridge
Graduate Programs Coordinator
College of Engineering, Department of Mechanical and Aerospace Engineering
N250H Scott Lab, 201 W. 19th Ave., Columbus, OH 43210
614-292-7163 Office
breckenridge.17@osu.edu **mae.osu.edu**

From: Cao, Raymond <cao.152@osu.edu>

NUCLEAR/MECHENG 5742 – Nuclear Radiations and Their Measurements (10223 or 10226)

Nuclear radiations are ubiquitously existed in our environment and are used widely for medical diagnostic imaging (chest X-ray, CAT) and therapy. Understand how do ionizing radiations are interacting with materials are fundamentally important for protection, scientific investigation, nuclear energy, and industrial non-destructive evaluations. Learning detection of ionizing radiation prepare students for the careers in the sectors of homeland security, non-proliferation, nuclear energy, medical physicist, health physicist, and internship opportunities at U.S. National Laboratories. This course will allow the understanding of the radiation sources, their interactions with materials, detection instruments, semiconductor devices, electronics and instruments for data acquisition, digital signal process and spectrum analysis. A separate lab component is offered with this course to provide students hands-on experiences for radiation detection. The labs will be conducted at OSU-Nuclear Reactor Lab, located on West Campus. The lab schedule will be worked out individually before or within the first week of the class.

Course Details: TuTh, 11:10 - 12:30 pm

Course goals/objectives:

- Have a profound understanding of the type of ionization radiations, how they interact with materials and how to choose the right detector based on

knowledge learned

- Build a deep understanding of the important concepts in pulse shaping & processing and therefore know how to set up, test and optimize a nuclear electronic instrument
- Demonstrate through experiments the basic principles of operation of nuclear radiation detectors and associated instrumentation both in NIM and in digital mode

Lei Raymond Cao (pronounce tsao)
Professor and Director, Nuclear Engineering Program
Director, Nuclear Reactor Laboratory
Department of Mechanical and Aerospace Engineering, College of Engineering
E402 Scott Lab, 201 W 19th Avenue, Columbus, OH 43210
Tel: 614.247.8701 Fax: 614.232.3163
cao.152@osu.edu / nars.osu.edu