Health Physics at Texas A&M University

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Objectives

• Provide a brief overview of the university and the college
• Discuss briefly the department and history of the program
• Focus on the faculty and program in health physics
Texas A&M University

- Established in 1876 as a land-grant institution
- Originally an all male, military school
- Current enrollment ~46,000 students
- Campus area ~5,200 acres in College Station, TX
- Also became a sea-grant and a space-grant university
College & Department

- College of Engineering ~ 9,600 students
- Eleven departments in the College
- Department of Nuclear Engineering (1962) ~ 320 students
- Offers BS, MS, and PhD degrees in nuclear engineering and health physics
- About 20 full-time faculty – 5 faculty in health physics
Enrollments

• Entering freshmen in the fall 2007 - 16 students
• Currently enrolled in the undergraduate program – 30 students
• M.S. candidates – 18 students
• Ph.D. candidates – 13 students
Degree Programs

• Radiological Health Engineering (1981)
  – Fully accredited by ABET in 1986-87
  – Requires 124 credits

• Master of Science in Health Physics (1986)
  – Requires 32 credits
  – Thesis is required

• Doctor of Philosophy
  – Requires 64 credits, qualifying and preliminary written examinations and a dissertation
Radiological Health Engineering

- Strong fundamental engineering foundation
- Some common courses with nuclear engineers
- Courses in general chemistry, organic chemistry, biology, anatomy & physiology, ground water movement and atmospheric transport
- Includes senior design course
Master of Science Program

• Radiation physics (2 semesters)
• Radiation detection & measurements
• Recommendations & regulations
• Radiobiology
• Internal dose techniques
• Electives and directed studies
• Research
Ph.D. Program

• Course work based on areas of interest and proposed research of student
  – Microdosimetry
  – Radiation carcinogenesis
  – Advanced radiation biology
  – Aerosol physics
  – Radioactive waste disposal
  – Mathematics, statistics, science and engineering courses
Faculty

• **L. A. Braby**, radiation physics & dosimetry, space radiation
• **J. R. Ford**, radiation biology, radiation effects & carcinogenesis
• **W. H. Marlow**, aerosol physics & transport
• **J. W. Poston, Sr.**, external & internal dosimetry
• **W. D. Reece**, radiation dosimetry, reactor operations & radionuclide production
Summary

• Health physics program is part of the largest NE program in the US
• Evolved over a period of time beginning in the early 1980’s
• Undergraduate program is growing slowly
• Graduate program strengths are based on quality of the faculty and the research program