Stephen R. Tritch
Nuclear Engineering Program
Professional Master of Science and Graduate Certificate

Offered on-campus and online

WHY STUDY NUCLEAR ENGINEERING AT THE UNIVERSITY OF PITTSBURGH?

With over 60 nuclear reactors under construction and 500 proposed plants worldwide, engineers with a strong background in nuclear power and safety and risk assessment are crucial to the future of the industry.* With this in mind, Pitt’s Swanson School of Engineering proudly offers both a Master of Science (30-credits) and Graduate Certificate (15-credits) in Nuclear Engineering.

Western PA is home to utility generators, commercial R&D companies, and government agencies who have identified skills needed by the next generation of nuclear hires. Our program was created to address this need. Academics and industry professionals have collaborated to create the program’s curriculum, which is continually improved to meet the needs of the advancing nuclear enterprise and is taught by senior leadership from the nuclear power industry.

The curriculum focuses on the different facets of nuclear power including energy generation, operations safety, and environmental issues and policy. By offering this program online, we provide students from around the globe the expertise of our region without ever setting foot on campus.

WHY SWANSON ONLINE?

Pitt’s state of the art online technology makes it possible to attend lectures alongside our on-campus students. In combining our online and on-campus classes, we are able to create for you a collaborative learning environment of students with similar interests but diverse educational and professional backgrounds. The flexibility to attend an on-campus class, join a lecture online, or view a recorded lecture enables you to select the learning style that works best for you and your schedule.

ADMISSIONS REQUIREMENTS

BS in Engineering from an ABET-accredited university program,
OR
BS in other technical disciplines.

NOTE: Candidates with other educational and professional backgrounds will be considered on an individual basis with strong emphasis given to academic promise, career orientation, work experience, and preparation in engineering and related disciplines. Additional coursework may be required to ensure skill set necessary for success in the program.

FOR MORE INFORMATION
engineering.pitt.edu/NuclearProgram


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Upon acceptance, you will be assigned a faculty advisor to help guide your studies. With limited formal credit requirements, you and your advisor can tailor the program to meet your educational goals. For the professional MS program, no thesis is required and there is only one required course. We encourage all accepted students who come to us from a background other than nuclear engineering, to complete ME/ENGR 2100: Fundamentals of Nuclear Engineering early on in their studies.

DELIVERY
- On-Campus
- Online

TOTAL CREDITS
- Masters – 30
- Certificate – 15

ENTRANCE EXAM
- GRE*

ADDITIONAL ADMISSIONS REQUIREMENTS
- Two Letters of Recommendation
- Official Transcripts

Required for professional MS — one of the following three courses
ME/ECE 2646 Linear System Theory
ME 2001 Differential Equations – on-campus only
ME 2002 Linear and Complex Analysis – on-campus only

Courses offered to satisfy 30-credit MS and 15-credit certificate
ME/ENGR 2100 Fundamentals of Nuclear Engineering
ME/ENGR 2101 Nuclear Core Dynamics
ME/ENGR 2102 Nuclear Plant Dynamics and Control
ME/ENGR 2103 Integration of Nuclear Plants with the Reactor Core
ME/ENGR 2104 Nuclear Operations and Safety
ME/ENGR 2105 Integrated Nuclear Power Plant Operations – on-campus only
ME/ENGR 2110 Nuclear Materials
ME/ENGR 2115 Heat Transfer and Fluid Flow in Nuclear Power Plants

Course topics offered with variable frequency to satisfy 30-credit MS and 15-credit certificate
- Nuclear Quality Assurance Management
- Nuclear Chemistry and Radiochemistry
- Radiation Detection and Measurement (on-campus only)
- Boiling Water Reactor Thermal-Hydraulics and Safety
- Computational Radiation Transport
- Mathematical Modeling of Nuclear Plants
- Management Principles in Nuclear Power
- Case Studies in Nuclear Codes & Standards
- The Nuclear Fuel Cycle

The schedule of classes currently offered is listed on our website at engineering.pitt.edu/courses

*GRE requirement will be evaluated for those with a strong academic past and industry experience.