



## 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

Nuclear energy contributes as much to meeting U.S. energy demand without emissions as any other source, renewable or otherwise. Engineers with a strong background in nuclear power, safety, and advanced plant design 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.

The program began by leveraging the nuclear engineering knowledge base of Western PA, which is home to nuclear utility generators, commercial R&D companies and government agencies, coupled with Pitt's School of Engineering. It has grown to provide a unique combination of nuclear academics and research across the Mechanical Engineering and Materials Science (MEMS) department, featuring a breadth of experienced industry professionals knowledgeable in neutronics, safety analysis, risk analysis, plant design, plant operations and advanced plant design. The collaboration between academics and industry knowledge has resulted in a unique curriculum, which is continually improving to meet the needs of advancing nuclear technology and is taught by experts from the nuclear power industry.

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

#### WHY SWANSON ONLINE?

Pitt's state-of-the-art online technology makes it possible to attend lectures alongside of our on-campus students. By combining our online and on-campus classes, we are able to create 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.

DR. HENG BAN

*Associate Dean and Director of Nuclear Engineering*

#### 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](http://engineering.pitt.edu/NuclearProgram)

**PITT** | **SWANSON**  
ENGINEERING  
GRADUATE & ONLINE PROGRAMS



## Stephen R. Tritch Nuclear Engineering Program

Professional Master of Science and Graduate Certificate *(continued)*

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 require students who come to us from a background other than nuclear engineering, to complete ME/ENGR 2100: Fundamentals of Nuclear Engineering or be approved as having taken an equivalent course.*

### DELIVERY

- On-Campus
- Online

### TOTAL CREDITS

- Masters – 30
- Certificate – 15

### ENTRANCE EXAM

- GRE Optional

### ADDITIONAL ADMISSIONS REQUIREMENTS

- Two Letters of Recommendation
- Official Transcripts

## NUCLEAR ENGINEERING GRADUATE COURSES

Note Well: Courses designated as “**NUCE/ME**” will also be recognized for credit toward an MS or PhD in Mechanical Engineering. These courses include **NUCE/ME 2100**, **NUCE/ME 2102**, and **NUCE/ME 2115**, described below.

<b>NUCE/ME 2100</b>	Fundamentals of Nuclear Engineering
NUCE 2101	Nuclear Core Dynamics
<b>NUCE/ME 2102</b>	Nuclear Plant Dynamics and Control
NUCE 2103	Integration of Nuclear Plant Systems with the Reactor Core
NUCE 2104	Nuclear Operations and Safety
NUCE 2105	Integrated Nuclear Power Plant Operations
NUCE 2110	Nuclear Materials
NUCE 2112	Nuclear Chemistry and Radiochemistry
NUCE 2113	Radiation Detection and Measurement
<b>NUCE/ME 2115</b>	Heat Transfer and Fluid Flow in Nuclear Plants
NUCE 2116	Boiling Water Reactor Thermal Hydraulics and Safety
NUCE 2120	Mathematical Modeling of Nuclear Power Plants
NUCE 2122	Management Principles in Nuclear Power
NUCE 2125	Case Studies in Nuclear Codes and Standards
NUCE 2130	The Nuclear Fuel Cycle
NUCE 2131	Metal Cooled Reactors
NUCE 2132	Boiling Water Reactor Systems and Safety

PROOF ONLY

For more information about our Graduate Nuclear Programs, please contact:

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STEPHEN R. TRITCH  
NUCLEAR ENGINEERING PROGRAM

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**[engineering.pitt.edu/NuclearProgram](http://engineering.pitt.edu/NuclearProgram)**

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08/22