

100% ONLINE

# INTERDISCIPLINARY MASTER'S OF ENGINEERING MATERIALS ENGINEERING CONCENTRATION

CONSISTENLY RANKED AMONG THE TOP 5 IN BEST ONLINE  
ENGINEERING GRADUATE PROGRAMS BY U.S. NEWS & WORLD REPORT

The 30 credit hour online Materials Engineering Master's concentration falls within Purdue University's Interdisciplinary Engineering Master's degree. The concentration and full master's degree is designed for professionals who want to enhance their careers through developing cutting-edge knowledge in materials science and engineering and leading innovations in the five main classes of materials - metals, ceramics, polymers, composites, and biomaterials. As a student in this concentration, you will focus on materials topics and technical knowledge like additive manufacturing, machine learning, high-resolution microscopy, and materials fatigue.

Purdue University's online graduate engineering program is consistently ranked in the top five programs by *U.S. News and World Report*. Students within the Interdisciplinary Master's of Engineering degree will learn from the same renowned faculty who teach on campus at Purdue. Thesis and non-thesis options are also offered.



## ADMISSION REQUIREMENTS

Program participants must have an undergraduate degree from an ABET-accredited engineering program or one with equivalent standards. The Interdisciplinary Engineering degree is ideal for students and practitioners who want to tailor their plan-of-study around their personal and professional engineering goals and interests. The Interdisciplinary Master's degree is one of Purdue's most flexible engineering graduate degrees.

## FACULTY SPOTLIGHT

Dr. Nikhilesh Chawla is the Ransburg Professor of Material Engineering at Purdue University. His research focuses on Four-Dimensional (4D) materials science with a particular emphasis on the deformation behavior of advanced materials at bulk and small length scales. He has co-authored nearly 260 journal publications in these areas, including the chronology of events that led to materials disasters from the collapse of the Columbia Space Shuttle, the World Trade Center tragedy, and the sinking of the Titanic. Dr. Chawla says of Materials Engineering, "materials are ubiquitous in our world, from aircraft, sporting goods, automotive, semiconductors, and biomedical devices. Materials are extremely important in high-performance engineering applications. As we like to say here at Purdue - you can't make it without materials!"



## WHAT YOU WILL LEARN:

- > Students will learn how to design and engineer materials for various applications (mechanical, thermal, electrical, etc.).
- > Students will understand the influence of structure on properties of materials.
- > Students will learn about the structure and properties of various classes of materials including metals, ceramics, polymers, composites, and semiconductors.
- > Students will learn how to use computational methods such as machine learning, data science, and artificial intelligence to solve cutting edge problems.
- > Students will learn to use high fidelity characterization and testing tools to evaluate the properties of materials.

CURRICULUM REQUIREMENTS	CREDITS
Materials Engineering Graduate Courses	9
Purdue Engineering Graduate Courses	21
<b>TOTAL CREDITS</b>	<b>30</b>