NECH502 Advanced/Additive Manufacturing Engineering

Explore the incredible world of additive manufacturing (AM) (3D printing) and its huge range of commercial and next-generation technologies, real-world applications and more.

SPRING/FALL | IN-PERSON OR ONLINE* SUMMER | ONLINE ONLY*

*Register for online sections through CSU Online

Course Description:

This course provides a comprehensive exploration of additive manufacturing (AM) technologies, materials, software and industrial infrastructure, and its relevance in global product design, development and manufacturing. This course gives you the real-world knowledge you need to excel in any job that involves AM.



Course Objectives:





- What AM is and why it has become one of the most important transformative technologies for product development/innovation.
- Commercial and next-generation AM processes, devices and capabilities.
- Additive materials: Metals, polymers, ceramics, and composites, and how to select the best material.
- How to design more innovative products with design for additive (DfAM) techniques.
- The latest trends and business opportunities in AM: Digital manufacturing, distributed manufacturing, and mass customization.
- How to calculate return on investment in additive, when to invest in AM, and when to use it, or not.

About the Instructor:

Dr. David Prawel has enjoyed a four-decade career as an entrepreneur, consultant, author, researcher and educator in 3D technology for digital product development and manufacturing. In his 30-year industrial career, he helped create several 3D technology companies, including a successful IPO. He is the founder of the Idea-2-Product 3D printing laboratory and co-director of the Biomaterials Research & Engineering Laboratory. His research explores the impact of 3D shape and structure on the biological and mechanical performance of bone healing scaffolds and devices in orthopedic medicine.

