



For Immediate Release

ASME and Autodesk Collaborate to Launch First-of-its-Kind Curriculum to Address Manufacturing Skills Gap with Free Industry 4.0 Courses

Free Industry 4.0 courses cover design for sustainability, digital literacy and data skills to help prepare the workforce, reduce “time to talent” and support business outcomes

NEW YORK (December 10, 2024) – The American Society of Mechanical Engineers (ASME) and Autodesk, Inc. today launch the first four in a series of [free courses to address the manufacturing skills gap](#). The need for additional training for engineers and manufacturing technicians, as well as resources for engineering educators, was identified in the 2024 "Industry 4.0 and Modernizing Manufacturing Education" report co-authored by ASME and Autodesk and published by the American Society for Engineering Education (ASEE), and in their earlier collaborative multiphase research project on the “Future of Manufacturing.” To provide industry and academic guidance for advanced manufacturing, ASME and Autodesk conducted the research study to investigate and identify the future workflows and skills needed for mechanical engineering, manufacturing engineering, and machinist roles over the next decade.

The first four courses being released are:

- Design for sustainability
- Introduction to Industry 4.0 and technologies
- Industry 4.0 and business
- Digital literacy and data skills

“The project-based curriculum uses real-world examples to engage and motivate students and professionals as they develop skills that are in high demand,” says Stephanie Viola, executive director of the ASME Foundation and managing director of ASME Programs and Philanthropy. “These courses are the latest chapter in ASME and Autodesk’s efforts to help engineers and technicians advance their careers and to support manufacturers as they integrate advanced technologies into their operations.”

The researchers found that emerging technologies including design for manufacturing (DfM), operations technology infrastructure, artificial intelligence and machine learning (AI and ML) technologies such as generative design, integrated software platforms, and centralized data management will require new skills of mechanical and manufacturing engineers and machinists. The report recommended training and

education to develop these “hard skills” for current and future employees. In addition, engineers and machinists will need strong “soft skills” including creative problem solving, communication, and collaboration, and interdisciplinary skills to close gaps for each job role.

"As a leader in Design and Make technology, Autodesk and our partners are uniquely positioned to help educators prepare the next generation for jobs of the future. In collaboration with ASME, we're providing practical, project-based courses that equip students with essential skills for success," said Autodesk Vice President of Education Experiences Mary Hope McQuiston. "Our curriculum empowers educators to integrate Industry 4.0 technologies and principles into their classrooms, fostering both technical expertise and collaborative skills needed for evolving manufacturing careers. Together, we're not just addressing the skills gap - we're building a foundation for learning and innovation beyond the classroom."

Additional courses covering the Evolution of Engineering and Manufacturing and Industry 4.0 in context are planned for release in early 2025.

For more information, see the ["Industry 4.0 and Modernizing Manufacturing Education" report](#) and ["Future of Manufacturing" research report](#).

About ASME

ASME helps the global engineering community develop solutions to real world challenges. Founded in 1880 as the American Society of Mechanical Engineers, ASME is a not-for-profit professional organization that enables collaboration, knowledge sharing, and skill development across all engineering disciplines, while promoting the vital role of the engineer in society. ASME codes and standards, publications, conferences, continuing education, and professional development programs provide a foundation for advancing technical knowledge and a safer world. In 2020, ASME formed the International Society of Interdisciplinary Engineers (ISIE) II & III LLC, a new for-profit subsidiary to house business ventures that will bring new and innovative products, services, and technologies to the engineering community. For more information, visit www.asme.org.

About the ASME Foundation

The ASME Foundation is the philanthropic arm of the American Society of Mechanical Engineers, supporting an array of programs in three core pillars: engineering education, career engagement, and global development. With the goal of empowering tomorrow's technical workforce, the ASME Foundation advances equitable access both to professional opportunities and to engineering innovations that improve quality of life. For more information, visit www.asmefoundation.org.

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