COURSE DETAIL

INDUSTRY 4.0 AND 3D PRINTING
Country Singapore
Host Institution Singapore University of Technology and Design
Program(s) Singapore University of Technology and Design
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mechanical Engineering Engineering Computer Science
UCEAP Course Number 137
UCEAP Course Suffix
UCEAP Official Title INDUSTRY 4.0 AND 3D PRINTING
UCEAP Transcript Title INDUSTRY4&3D PRINT
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

The latest industrial revolution is named as Industry 4.0, which is defined as the combination of smart manufacturing systems and developed information technologies. The success model of Industry 4.0 is enabled by a group of tools such as cloud computing, machine learning, big data, internet of things, and cyber physical systems. This course provides a study of Industry 4.0 and its revolutionary implications to smart manufacturing, smart products/services, and smart cities. The implementation, opportunities and challenges of Industry 4.0 are also discussed. The powerful change in production techniques will require the extensive use of digital intelligence in the entire production process. As one of the important manufacturing methods of Industry 4.0, additive manufacturing (AM) or three-dimensional (3D) printing is introduced in the second part of course. 3D printing offers numerous benefits to a smart factory, such as high production efficiency, time and material saving, rapid prototyping, and decentralized production methods. This course provides a comprehensive study on the liquid, solid and powder-based 3D printing methods. It also offers insights on the applications and future trend of 3D printing.

Language(s) of Instruction
English

Host Institution Course Number
30.303

Host Institution Course Title
INDUSTRY 4.0 & 3D PRINTING

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Engineering Product Development

Print