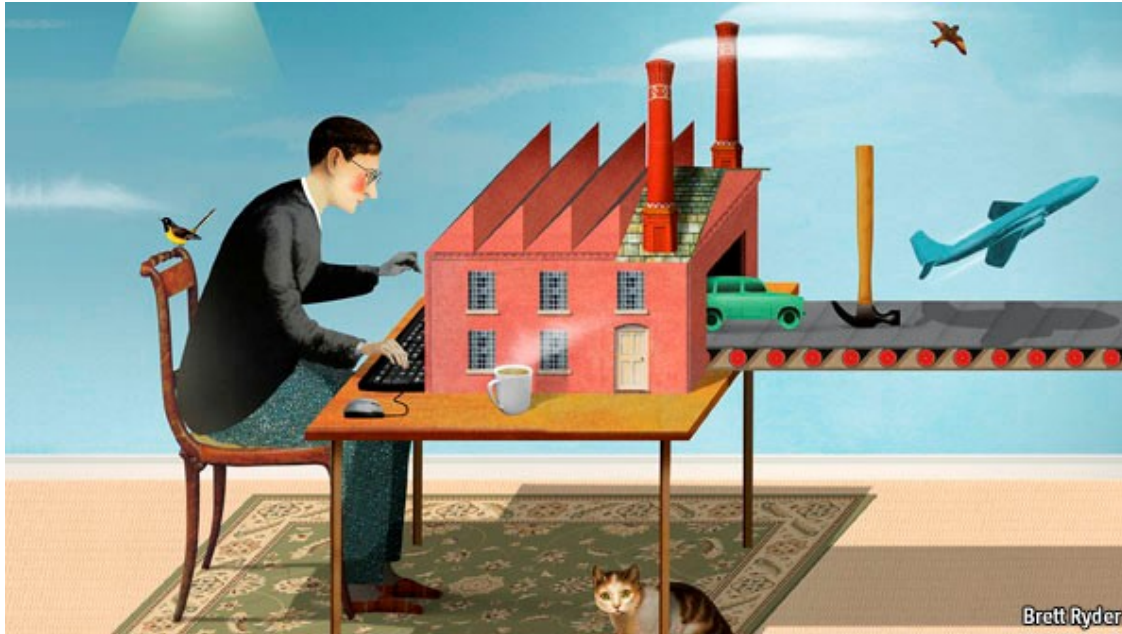


New Course (Fall 2017)

# ME 601 Digital Design & Fabrication



*Future of 3D Printing, The Economist, April 2012*

## Course Description

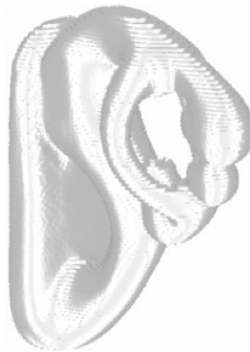
This course provides a broad overview on concepts and technologies in digital design and fabrication. Topics in digital design include methods for modeling freeform curves, surfaces, and solids, and techniques for algorithmic design of complex three-dimensional shapes. Topics in digital fabrication cover computer methods that transform computer-aided design models into machine instructions, including slicing, support generation, and path planning.

Due to the growing maker movement amid increased democratization of manufacturing processes, designing, fabricating and selling a manufactured product has become more accessible than ever before. The new course aims to provide students both cutting-edge knowledge and hands-on project experiences in digital design and fabrication. It will involve Python based computer programming for creative shape design. Students will also have access to 3D printers and laser cutters in the ME Instructional Lab and Grainger Maker Space.

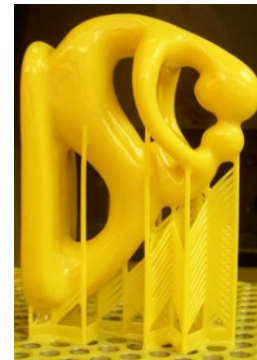
Note, this course is currently listed as *ME 601 Computational Manufacturing* in the course enrollment system.



(a) 3D model



(b) Slices



(c) 3D printed part

**Prerequisite** Undergraduate senior standing or graduate students

**Time** TR 9:30 am to 10:45 am **Room** Mech Engr 1152

**Instructor** Prof. Xiaoping Qian **Email** qian@engr.wisc.edu

**Acknowledgment:** This course is supported in part by a CoE Education Innovation Fund.