18 January 2020
3D Printing
3D 打印

Week 8 assignments:
- Publish and modify the page using git workflow
  使用 Git 工作流程发布、修改、反复发布你的网页。

- Design and print several models using a 3d printer
  使用 3D 打印设计和打印几个模型。

- Create a page to document your progress of week 7
  创建网页去记录最近所学。
  - What did you do and learn?
    你学了什么做了什么？
  - What are your experiences? (problems, solution, etc.).
    你经历了什么？（问题，解决方案等）
  - Upload a picture and the programming code to your website.
    上传照片和代码到你的网站。

Please bring with you: 请带上你的

- Your personal laptop 个人电脑

- A mouse 鼠标

And please install the following software: 请安装一下软件
- TinkerCAD
  https://www.tinkercad.com/
- Cura
  https://ultimaker.com/software/ultimaker-cura

Do not hesitate to contact us if you have any question. 有疑问可以随时联系老师。

Additive Manufacturing, also known as 3D printing, refers to a range of layer-upon-layer manufacturing technologies used to synthesize a three-dimensional object both for prototyping and manufacturing purposes. The process involves the successive forming of material layers under computer control, allowing complex components to be manufactured.

增材制造，俗称 3D 打印，融合了计算机辅助设计、材料加工与成型技术、以数字模型文件为基础，通过软件与数控系统将专用的金属材料、非金属材料以及医用生物材料，按照挤压、烧结、熔融、光固化、喷射等方式逐层堆积，制造出实体物品的制造技术。相对于传统的、对原材料去除 - 切削、组装的加工模式不同，是一种"自下而上"通过材料累加的制造方法，从无到有。这使得过去受到传统制造方式的约束，而无法实现的复杂结构件制造变为可能。

近二十年来，AM 技术取得了快速的发展，"快速原型制造（Rapid Prototyping）"、"三维打印(3D Printing)"、"实体自由制造(Solid Free-form Fabrication) "之类各异的叫法分别从不同侧面表达了这一技术的特点。

Subtractive manufacturing is a process by which 3D objects are constructed by successively cutting material away from a solid block of material. Subtractive prototyping gives you the opportunity to design, prototype, and manufacture in end-use materials. It is an appropriate choice for parts used for small and large volume production runs, to obtain specific finishes, or to obtain specific mechanical properties.

减材制造是一种过程，通过从实体块中连续切割材料来构造 3D 对象。 减法原型使您有机会设计，原型和制造最终用途的材料。 对于用于小批量和大批量生产运行的零件，获得特定的表面光洁度或获得特定的机械性能，它是合适的选择。

Machine Setting 机器设置