

# 3d printer - lab report example

[Engineering](#)



## **3D printer**

3D Printer 3D Printer Equipment The equipments in the lab include a Maker Bot Replicator 2, Z Corporation Spectrum 2510, FANUC Robot LR Meta 200ic, and LMU3D 1 printer. Maker Bot Replicator 2 offers a high-speed, easy, and reasonably priced tool for producing quality 3D models. It allows one to prototype easily, and is suitable for quality printing on a MakerBot Replicator 2. In contrast, FANUC Robot LR Meta 200ic is suitable for general purpose and material management. LMU students with the help of the professor created the LMU3D 1 printer and it is not yet finished. Finally, Z Corporation Spectrum 2510 is for 3D color product.

### Requirements

There are several accessories required to use the equipment in the lab. An advanced slicing engine, the algorithm that directs a MakerBot Replicator, powers the machine. The materials used determine the product, but it is essential to understand the software and other computer applications that are required for the model before printing (3D Creation Lab). One also needs to select an appropriate polymer or business papers if one needs a durable prototype.

### Process

The process for 3D printing is a lengthy process, but in the end, it turns digital designs into realism. It involves laying successive layers of materials using a computer, in an additive process that continues until one reaches the desired product in terms of geometry and shape. A computer aided design (CAD) package is used to design a model before the printing process (3D Creation Lab). After examining the design for manifold errors, one converts

the model into thin layers, which designers tailor according to the type of printer. An inkjet printer head sets down material onto a powder bed in succession, through processes such as extrusion and sintering.

#### Reference

3D Creation Lab. (2015). Web.

Retrieved from <http://www.3dcreationlab.co.uk/>

3D Printing. Chapter 1. (Document attached)