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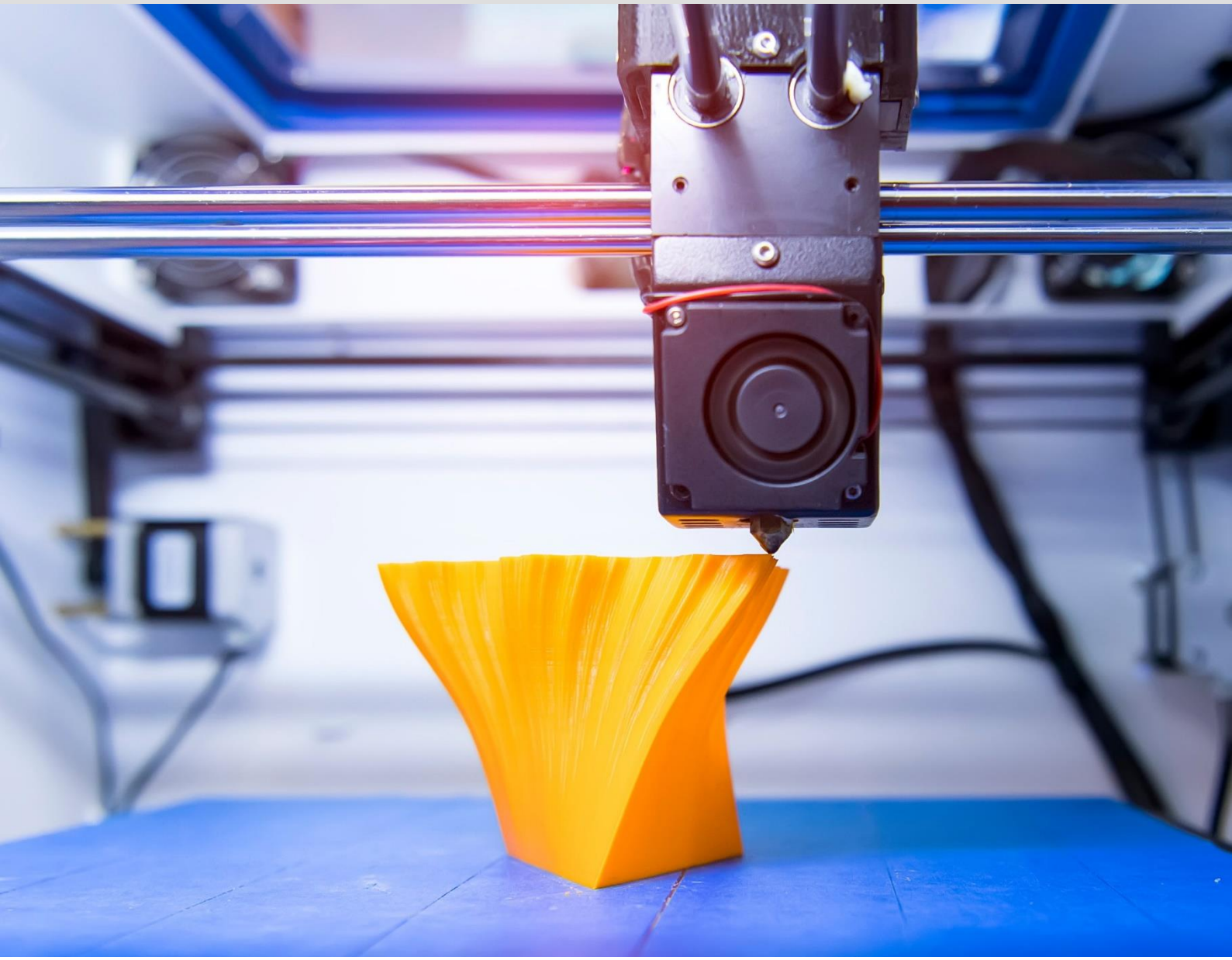
DL NGL

NEXT GENERATION LABS



DL NGL-FABLAB

Module for the study of Making and Modelling and 3D/4D Printing

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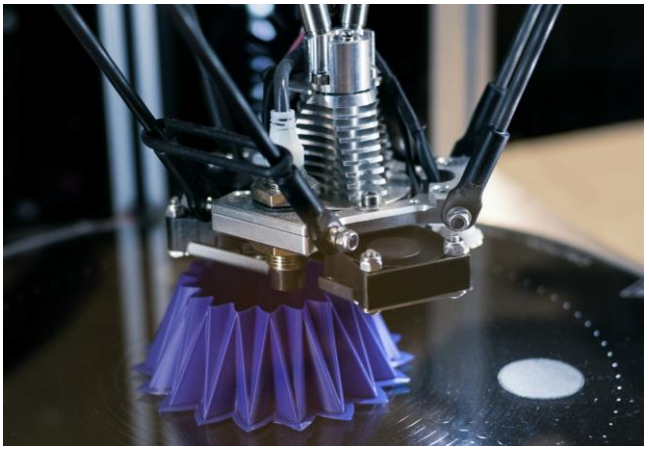
Several technologies have transformed our world throughout history, including the steam engine, the light bulb, the microchip and the World Wide Web. 3D printing is one of the latest revolutionary technologies, completely changing the way we are able to learn, research and prototype, creating something physical out of nothing.

The Module, composed of a high-performance 3D printer and design and printing software that makes 3D modeling accessible to everyone, with a complete and easy-to-use set of tools, aims to guide the student through a complete experience unprecedented, starting from the mental conception of an object, according to specific needs, up to its physical production.

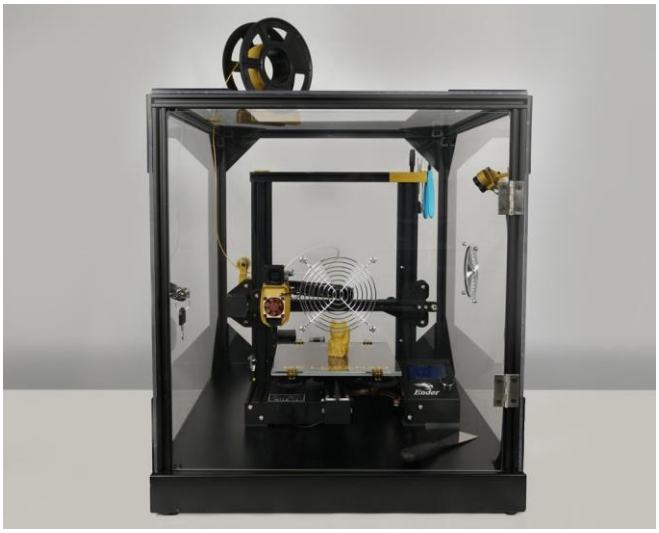
The Module represents a complete course on the most important topics for 3D printing, proposing an accurate description of the 4 fundamental steps:

- conception,
- modelling,
- 3D printing,
- applications.



With the detailed documentation accompanied by practical video tutorials, the student learns the basic concepts of 3D modelling, the mechanics and resistance of the models, and acquires mastery in preparing the print files to create indispensable objects in areas such as prototyping, architecture, automotive and all those fields of application where previously the collaboration of several experts was required.

Through this Module, you not only have the possibility to use a 3D printer, but also to engineer models according to your needs.
The teaching material consists of a full-bodied manual complete with concepts for 3D modelling and a series of explanatory videos for a better exposure of the basic concepts.



The 3D printer is robust and able to resist over time, the exceptional super-tempered and heated glass table guarantees defects-free prints and their easy removal.

The professional quality of the extrusion of its frame ensures perfect positioning of the printing nozzle and a very stable structure. The exclusive add-ons allow for better print quality, avoid annoying inconveniences that other printers have and allow you to monitor and control the printer even remotely by having a video streaming of the piece being printed.

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During the course, the aspects related to 4D printing will also be addressed from a theoretical point of view; 4D printing is the process through which a 3D printed object transforms into another structure thanks to external factors, under the influence of external energy such as temperature, light or different environmental stimuli.

The applications are numerous, even in the field of health, with special products manufactured to help the human body.

Educational experience

- Introduction to 3D printing
- Components of a 3D printer
- Pre-start checks
- Safety standards
- Setup and maintenance
- Software installation
- Printing a simple object: modeling, preparation of the print file, web interface and printing
- Measurements
- Printing a complex object: modeling, preparation of the print file, web interface and printing
- Assembly of multiple objects
- Advanced modeling

NEXT GENERATION LABS

The DL NGL-FABLAB module can be integrated in the NEXT GENERATION LAB - DL NGL laboratory through the minimum purchase of the following modules:

- **Teacher Station - DL NGL-BASE**
  Necessary for the proper functioning of the laboratory. Quantity: 1.

- **Student Station - DL NGL-STUDENT**
  To be multiplied by the number of "student stations" to be created.