The course

Starting from a digital model, the process of 3D printing, or Additive Manufacturing, permits the production of three-dimensional items. An offshoot of rapid prototyping, 3D printing is gradually replacing some of the industrial technologies, in particular those involving low production volumes or highly personalized products.
This new, rapid and low cost production concept, associated with a reduction in manufacturing waste and lower transport and assembly costs, is an interesting prospect for self-producers and experimental projects.

If the truth be told, 3D printing is currently changing the world as this technology has all the necessary criteria to revolutionize industrial production. Its economic impact can be compared to the invention of the steam engine or the printing press.
However, at present, the size of almost all of the items printed in 3D is still restricted by the dimensions of the printing machine. The available equipment currently permits rapid prototype production for small articles. Let's imagine what would happen in the near future if a 3D printer is installed in every home. Would we be able to print our own houses?

The Milanese FabLab **Opendot** and **WASP – World's Advanced Saving Project,** are offering a professional course that will focus on all aspects of BIG 3D designs, as part of the summer camp program campoBASE, at BASE Milano.
Participants will learn how to design models for extra-large printers (with an operational volume of one cubic meter); they can be used to print chairs, lamps, toys, tools and accessory items that would otherwise be impossible.... Because, in this case, size definitely matters.

Two top experts will be involved in the program: Alessandro Ranellucci, software creator and developer for the 3D printing program Slic3r, who will explain how to generate the G-Code and how to manage large-size machinery. And Dario Pizzigoni, founder of TreeD Filaments, who will introduce the world of polymers to the participants, explain the characteristics of these materials and identify which of them can be used in printing; he will illustrate the results and demonstrate what properties can be achieved.

The course has been organized with an alternation of theory and practical applications, a series of lectures and activities of design and collective revision, focusing on the self-production of the articles designed and printed in large formats.

THE COURSE
/ DETAILS

Objectives

- To acquire the theoretical and practical competencies regarding 3D printing at the present time and its possible future developments
- To know and understand the limits and the potential of 3D BIG printing, to learn how to print and how to obtain the best possible results
- To learn how to design, set and manage the printers with an operational volume of one cubic meter
- To test a series of tips&tricks in the generation of 3D files and G-Codes that have been optimized for the machines

General info

Target
The course is directed to designers, companies, makers, entrepreneurs, designers, architects, engineers, technicians, the curious and the people passionate about 3D printing.

Requisites
Basic knowledge of 3D modelling and 3D printing is useful but not essential.

Participants
Max 15, min. 7
(The possible cancellation of the course will be notified on time.)

Certification
On completion of the course, participants will be issued with an attendance certificate signed by the instructors:
- Enrico Bassi, Gianluca Pugliese / Opendot
- Massimo Moretti / WASP
- Nicola Schiavarelli / WASP
- Alessandro Ranellucci / Slic3r
- Dario Pizzigoni / TreeD Filaments

THE COURSE / TEAM

Instructors

Enrico Bassi / Opendot
www.opendotlab.it

Gianluca Pugliese / Opendot
www.opendotlab.it

Massimo Moretti / WASP
www.wasproject.it

Nicola Schiavarelli / WASP
www.wasproject.it

Giorgio Gurioli / WASP
www.wasproject.it

Alessandro Ranellucci / creatore di Slic3r
Slic3r is the tool you need to convert a 3D model into printing instructions for your 3D printer. The Slic3r project was born in 2011 within the RepRap community as an effort to provide the growing 3D printing technology with an open and flexible toolchain. Slic3r is based on a community of people working collaboratively on GitHub, discussing new features and testing them. It's being used by thousands of people all over the world, it is free and will always be an independent project, not driven by any business or single vendor.
www.slic3r.org

Dario Pizzigoni / fondatore di TreeD Filaments
TreeD Filaments is a leading manufacturer of high-profile filaments for 3D printing. Each individual compound of materials is thoroughly tested and is ready to be printed with the majority of printers on the market.
www.treedfilaments.com

Organizer

Opendot
Opendot is a Milanese FabLab, a hub for research and experimentation and open innovation. Through a multidisciplinary approach and innovative development processes, Opendot organizes design tables, hackathons, professional training courses and also offers consulting services for companies and private and public bodies, positioning itself as a platform for merging new skills and traditional know-how. Its activities include talks, workshops, training programs and courses at different levels of complexity, interfacing with foundations, schools and universities, including Naba and Domus Academy. For two years it has hosted the FabAcademy, the most important Makers training course on the international scenario, coordinated by Neil Gershenfeld of MIT, Boston, USA.
www.opendotlab.it

Partner

WASP
WASP produces solid professional printers with the aim to promote sustainable development and self-production. PowerWasp has been the first step in the production history of the group, subsequently the succesful line DeltaWasp was created. The proceeds from the sale of 3D printers is totally invested in research on sustainable materials, innovative systems and integrated projects. WASP is triggering a revolution in the production field and its current great ambition is to build houses km0 in order to reach a common widespread prosperity.
www.wasproject.com

THE COURSE / PROGRAM

DAY 01

- Lecture by Massimo Moretti / founder of WASP: “Introduction to 3D printing and a presentation of the “maker economy”
- How to design with and for 3D BIG printing, introduction to the technology and WASP tour.

DAY 02

- Exchanging, brainstorming and design concepts’ creation
- Lecture by Alessandro Ranellucci / creator of Slic3r: how to configure and set Slic3r for BIG printing

DAY 03

- Designing and printing the first scale prototypes

DAY 04

- Printing the designs
- Lecture by Dario Pizzigoni / founder of TreeD Filaments: “Polymers and 3D printing - which polymers can be used and which should be avoided, how to print and how to obtain the best results.”

DAY 05

- Lecture by Nicola Schiavarelli / WASP: “Not just plastic. From cement to ceramic, from unfired clay to geopolymers, to all of the experiments performed outside of the world of plastics.”
- Final review, Q&A, Tips&Tricks

THE COURSE
/ REGISTRATION

Sign up

How to apply
Send an email to federica@opendotlab.it

Costs
350€ each

Accomodation
Agreement with:
Hotel Panazza
www.hotelpanazza.it
Agriturismo La casa delle rondini
http://lacasadellerondini.jimdo.com

Payment method
Paypal and credit/debit card

For further inquiries

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