

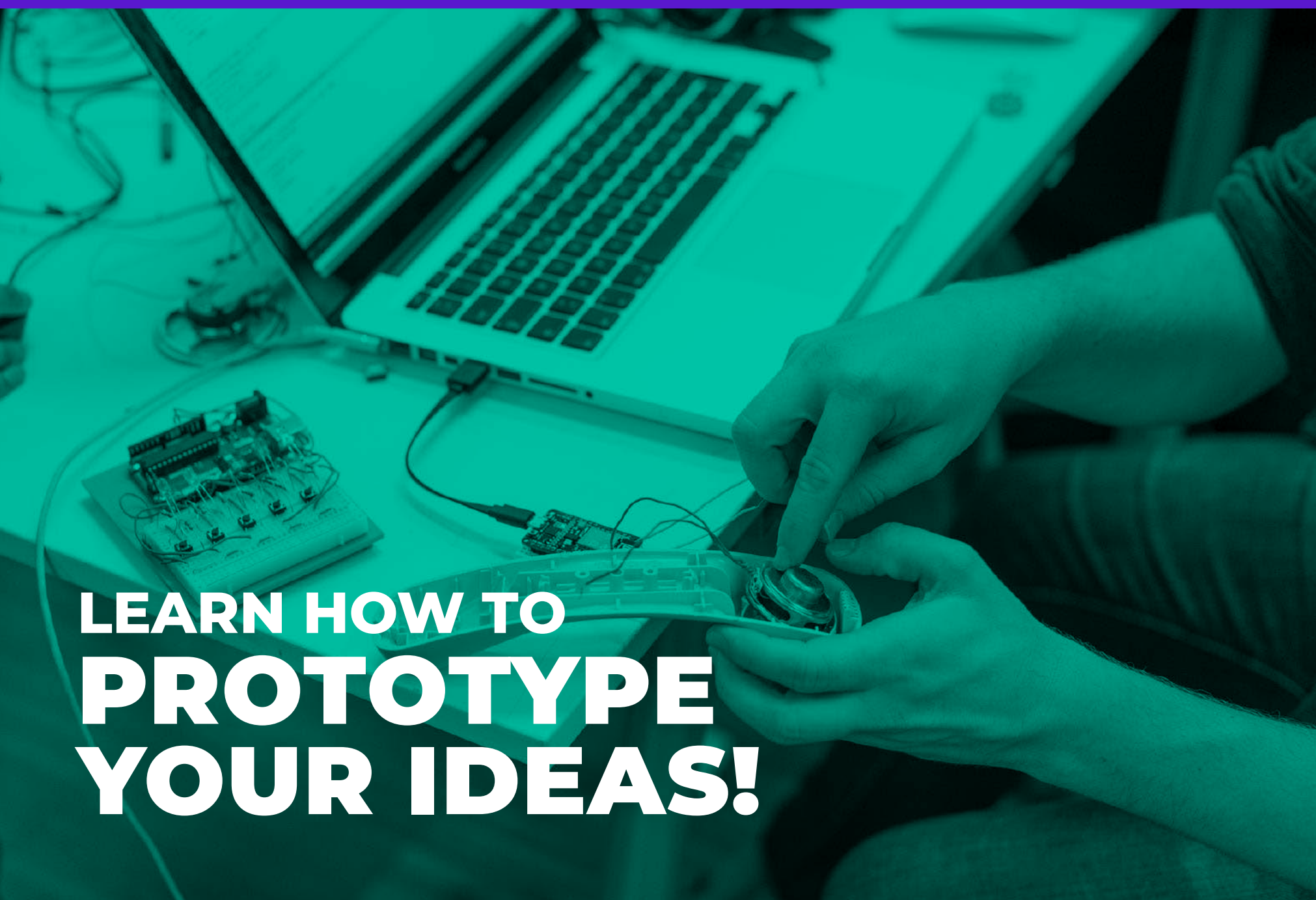


# FAB ACADEMY

BARCELONA

2022





LEARN HOW TO  
**PROTOTYPE**  
**YOUR IDEAS!**



# Fab Academy Barcelona

## Duration

6 months - from January to June (inclusive)

## Classes starts

Mid-January

## Classes

Monday to Friday (15h - 20h) - Assignments:  
Weekly + final project

**Final project** Delivered  
on June 2021

## Language

The course is  
taught in English

## Location

Barcelona, Spain

## Credits

45 ECTS

## Course Fee

7500 €

## Need more information?

[info@fablabbcn.org](mailto:info@fablabbcn.org)



## About Fab Academy

Future brings new challenges, and to face them, new careers are surfacing. Soon, we'll have Drone Experience Designers, Avatar Programmers and Artificial Organ Designers. In Fab Academy, you will get the chance to see how designs become real, how bits become atoms and how your ideas can impact the world.

Fab Academy is an intensive five-month program that teaches students to envision, design and prototype projects using digital fabrication tools and machines. It is a multi-disciplinary and hands-on learning experience that empowers students to learn-by-doing and inspires them to make stuff locally to become active participants in sustainable cities and communities.



# Program Content



## Project management

Introduction to the tools that will be used in the course (version control, web development, project management, etc tools) and project management principles. Getting through a GitLab!



## Computer-aided design

Covering all the possibilities for 2D and 3D software, tools and formats. You will start sketching your Final Project.



## Computer-controlled cutting

You will get acquainted with cutting possibilities; CAD & CAM intro; Vinyl cutter and Laser cutter introduction and exercise.



## Electronics production

First steps into electronics production. We start with PCB (Printed Circuit Board) description and production.



## 3D scanning and printing

You will get an introduction to additive vs subtractive processes and learn 3D printing processes, material, machines, formats and software. Also, 3D scanning tools and machines.



## Electronics design

Keeping up with the electronic production, you will get an introduction to components, circuits and testing equipment.



## Computer-controlled machining

You will get an introduction to projects, machines, materials, tools and more, to then design, mill and assemble something big!



## Embedded programming

Learning the essentials of programming small computers (microcontrollers) to drive devices and program your board.



## Molding and casting

Learn to design and produce molds to then test castings of objects and parts.



## Input and Output devices

You will broaden the possibilities of your microcontroller board by adding hardware to capture data, and to send data to another device or user.



## Applications and implications

Why to design? And why to make rather than buy? The impact of our practice.



## Networking and communications

Data transmission through wired or wireless media.



## Mechanical design

You will get the basic knowledge to design a machine and build the mechanical parts to operate it manually.



## Interface and application programming

You will get the necessary tools to write an application that interfaces a user with the input &/or output device that you made.



## Machine design

Once you have the mechanical parts, you will learn the essential notions to automate your machine.



## Wildcard week

For this assignment, you will be asked to design and produce something of your choice, with a digital fabrication process not covered in previous assignments (composites, textiles, biotechnology, robotics, folding, and cooking...)



## Invention, intellectual property, and income

An introduction to key concepts that will help you bring your projects or product to the market.



[fablabbcn.org/fab\\_academy](http://fablabbcn.org/fab_academy)

**Write us:** [info@fablabbcn.org](mailto:info@fablabbcn.org)

**Call us:** +34 935 995 628