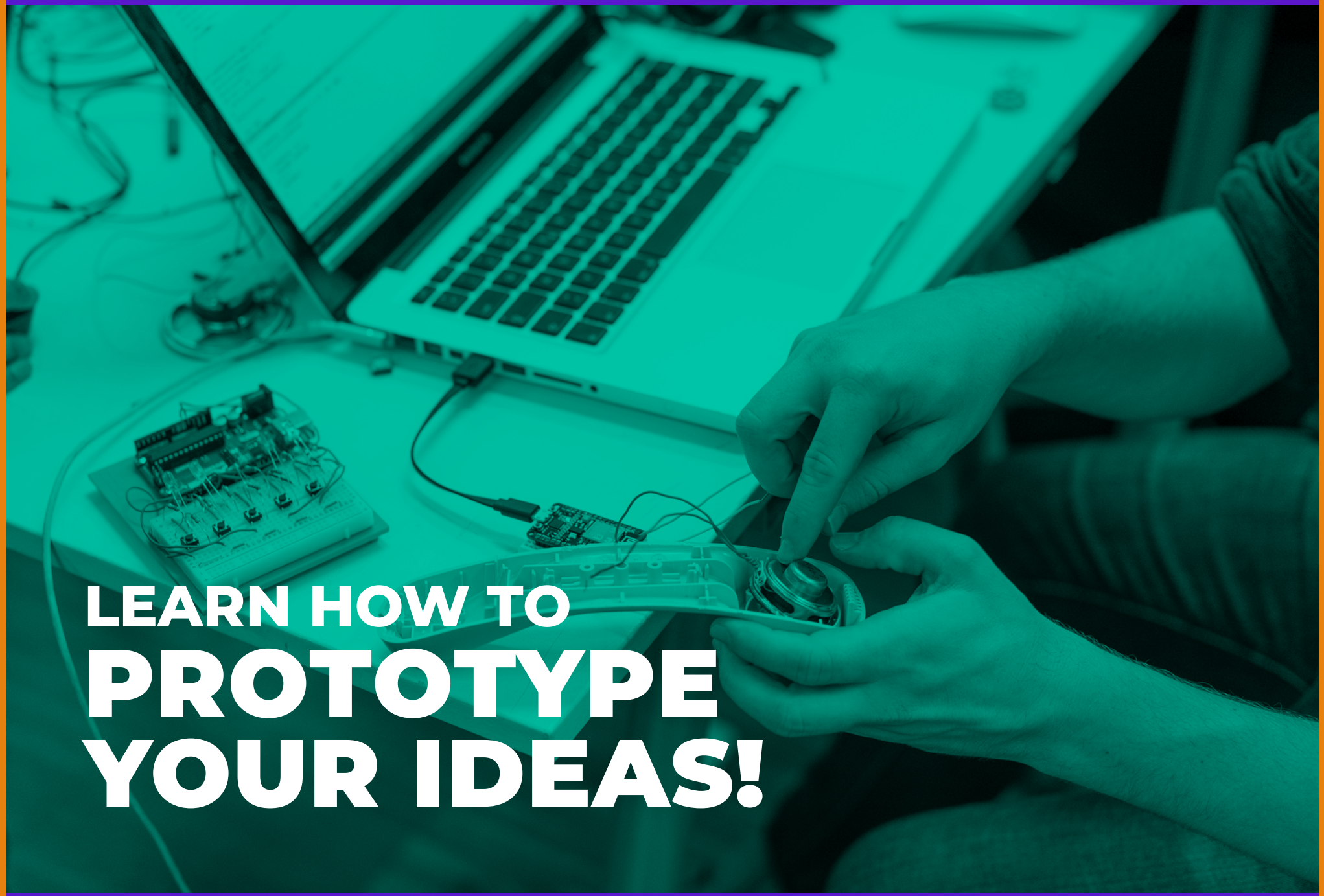
FABACADEMY

FAB ACADEMY

BARCELONA

2020


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 2020

Language
The course is taught in English

Location
Barcelona, Spain

Application Fee
No fee attributed

Course Fee
6.000 €

Need more information?
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, mil 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.

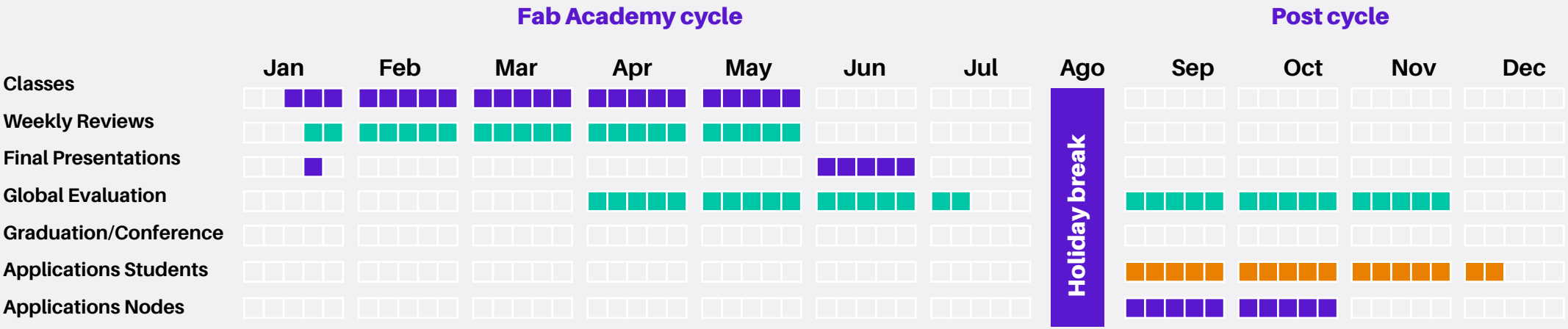
Machine design
Once you have the mechanical parts, you will learn the essential notions to automate your machine.

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.

Program Structure

General Structure



Weekly Term Structure

	Week 1	Week 2	Week 3	Week 4	Week 5
Jan			Principles and practices: Presentations, introductions	Project Management	Computer-aided design
Feb	Computer-controlled cutting	Electronics production	3D Scanning and printing	Electronics Design	
March	Computer-controlled machining	Embedded programming	Molding and casting	Input Devices	
April	Output devices	Easter break TBC	Applications and implications	Networking and communications	Mechanical Design
May	Interface and application programming	Machine design	Wildcard week	Invention, intellectual property and income	
June	Project development	Project presentations	Project presentations	Finish Documentation for Review	
July	Feedback from review	Evaluation closing			

(TBC)

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