FABRICADEMY

Textile & Technology Academy

textile-academy.org

Programme Guide

01 About Fabricademy

WELCOME TO FABRICADEMY,
TEXTILE AND TECHNOLOGY ACADEMY

Fabricademy is an international interdisciplinary program that focuses on sustainability and digital technologies applied to the textile field, and its broad range of applications, from fashion and costume design, to wearable technologies, to material science and bio-technology.

FABRICADEMY
MODUS OPERANDI

The 6-month educational program runs in multiple laboratories across the world, redefining the future of education through a glocal, holistic, and hands-on approach that blends global insights with locally tailored, real-world problem-solving interventions. Fabricademy, facilitated by the Fab Foundation, is an alliance of fablabs, textile labs, biolabs and makerspaces dedicated to equip graduates with pioneering skills for interdisciplinary collaboration, innovation, and sustainable solutions for current and future planetary challenges.

Fabricademy is conceived as a modular curriculum, offering participants the choice to attend the ORIGINAL 6-month complete program or create a customised selection of learning modules with the à La Carte Program.

Fabricademy is offered as a hybrid online and in-person learning experience with facilitated sessions over Zoom, online resources and teaching materials, along with in-person lab training, hands-on workshops and local mentorship.
To participate, you must choose your preferred attendance location: either a certified and equipped laboratories or apply with your own lab.

COURSE OVERVIEW

Title	**Fabricademy, Textile & Technology Academy**
Scientific Coordination	**Anastasia Pistofidou, Cecilia Raspanti**
Language	**English**
Academic period	**Mid September - Beginning of April**
Modality	**Online Lectures and On-site Hands-on Workshops**
Location	**In certified laboratories distributed worldwide or Home attendance with access to a Fab Lab**
Diploma	**Academany**

5 REASONS TO STUDY WITH FABRICADEMY


[2]

01. Access to an open innovation laboratory where you can develop experimental design and work with advanced fabrication technologies.


[1]

02. Hands-on experience in recycling textiles, wearable tech, and more than human design through eco-friendly prototyping.

03. Build projects integrating sustainability, customization, and smart textiles using real-time digital fabrication tools.


[3]


[5]

04. Collaborate with a global network of TextileLabs, FabLabs, and BioLabs, becoming part of an international fashion tech innovation community.


[4]

05. Inclusive and flexible learning environment focused on circular fashion, biodesign, and ethical manufacturing solutions for the future of the industry.

[1] **Zahia Albakri |** Mountain Magistrate
[2] **Marisa Satsia |** Open Source Body
[3] **Lisa Boulton |** Weik
[4] **Kate Reed |** Beyond Biomimicry
[5] **Alberte Bojesen |** Seaweed Dialogues

02 Curriculum
Program Structure

The program is structured as a **two phase distributed blended learning approach**, evolving over a 6-month period.

Phase I

September
December

In the first phase of the program, participants are introduced to prominent technologies through a series of hands-on intensive masterclasses. The classes interweave traditional craftsmanship with advanced prototyping tools, innovative materials, software and manufacturing techniques.

Phase II

January
March

In the second phase, participants focus on the development of personal in-depth applied research, implement critical thinking, and enhance complementary skills for the development of innovative solutions that explore and propose more sustainable, fair, and viable alternative systems to those in place today.

- **September**
  - Skill Capsules (classes)
  - Local Evaluation
- **December**
  - Christmas break
- **January**
  - Personal Project Development
  - Mentoring Sessions
- **March**
  - Final Presentations
  - Global evaluation

Fabricademy Final Project // Water Beats by Brunna Ramos
https://class.textile-academy.org/2022/brunna-ramos/

03 Syllabus
Modules

PHASE I — SKILLS CAPSULES
September December

State of the art
- Ecodesign, Biodesign
- Fashion Tech & smart textiles
- Computational craft
- Website design & programming

Digital Bodies
- 3D Scanning & Modelling
- Digital Avatars
- Digital fabrication Techniques
- Laser cutting fabrication

Open-Source Circular Fashion
- 2D & 3D Design for digital fashion
- Modular & zero waste design
- Sustainability
- Laser cutting fabrication

BioChromes
- Botanical, bacterial & other natural colour sources
- Development of dyes, inks & pigments
- Sustainability & regenerative thinking
- Biotechnology & BioLab principles

E-textiles
- Conductive Fabrics and yarns
- Electronic textiles & soft circuits
- Crafting sensors
- Programming

Computational Couture
- 3D modeling principles
- Generative design & Parametric Design
- 3D printed fashion
- 3D fashion & CLO3D

BioFabricating Materials
- Crafting & growing bio-materials
- Bio-technology principles
- Material Innovation
- Ecological practices

Soft Robotics
- Bio-inspired design
- soft actuators & artificial muscles
- Prosthetics & Inflatables
- Molding, Casting & Vinyl Cutting

Wearables
- Electronics programming
- Actuators
- Wearable circuits
- Fabric actuators

Textile Scaffold
- 3D modelling & CNC milling
- Crystallization
- Wooden Textiles
- Technical Textiles
- Craftsmanship

Open-source Hardware
- Open-source machines
- Machine hacking
- DIY tools
- Textile manufacturing

Skin electronics
- Beauty Technology & Conductive Makeup
- Wearable Computing
- Bioelectronics
- Augmented human concepts

Implications and applications
- More Than Human Design
- Personalized Product Service Systems (UPPSS)
- Nature-inspired innovation
- Entrepreneurship

Project Pitch
- Concept Design
- Research Methodologies
- Presentation & communication

PHASE II — PERSONAL PROJECT DEVELOPMENT
January March

PPD Gantt, Process & Workflow
- Project planning & Collaborative tools
- Research methodologies
- Circular Model Canvas
- Time Management
- Strategic Planning

PPD Storytelling & Final prototype
- Narrative Flow
- Scriptwriting
- Storyboard Design
- Visual Storytelling
- Media editing

PPD Focus Groups - Mentoring Session x 2
- Peer-to-Peer Learning
- Feedback from experts
- Public speaking

PPD MidTerm & Final Project Presentations
- Public Speaking
- Technical Demonstration
- Data Visualization
- Media editing

Shaping the future of **eco-pioneers** and **material designers** in circular and regenerative textile and material manufacturing by blending **craftsmanship** and **ancestral knowledge** with disruptive technologies.[1]

#biodesign #bioyarns #biofabrics #mycelium, natural and bacterial dyeing

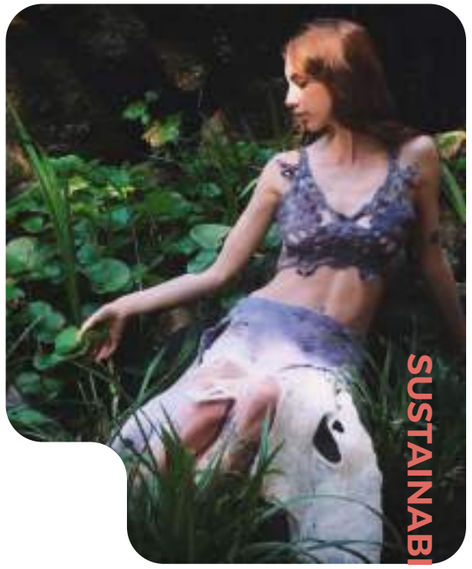
WEARABLE TECHNOLOGY

Wearable Tech is at the forefront of merging **electronics with textiles** to create **smart fabrics**. These fabrics are enhanced with **microcontrollers, sensors, actuators**, and **programmable logic** to bring interactive designs to life.[2]

#conductive threads, #smart textiles, #human computer interaction

INNOVATION

[1] **Anna Cain** | Metamorphocin
[2] **Maite Sosa Methol** | Movimiento
[3] **Florencia Moyano** | 3D Printed Feathers
[4] **Betiana Pavon** | Deconstructive Heads



SUSTAINABILITY

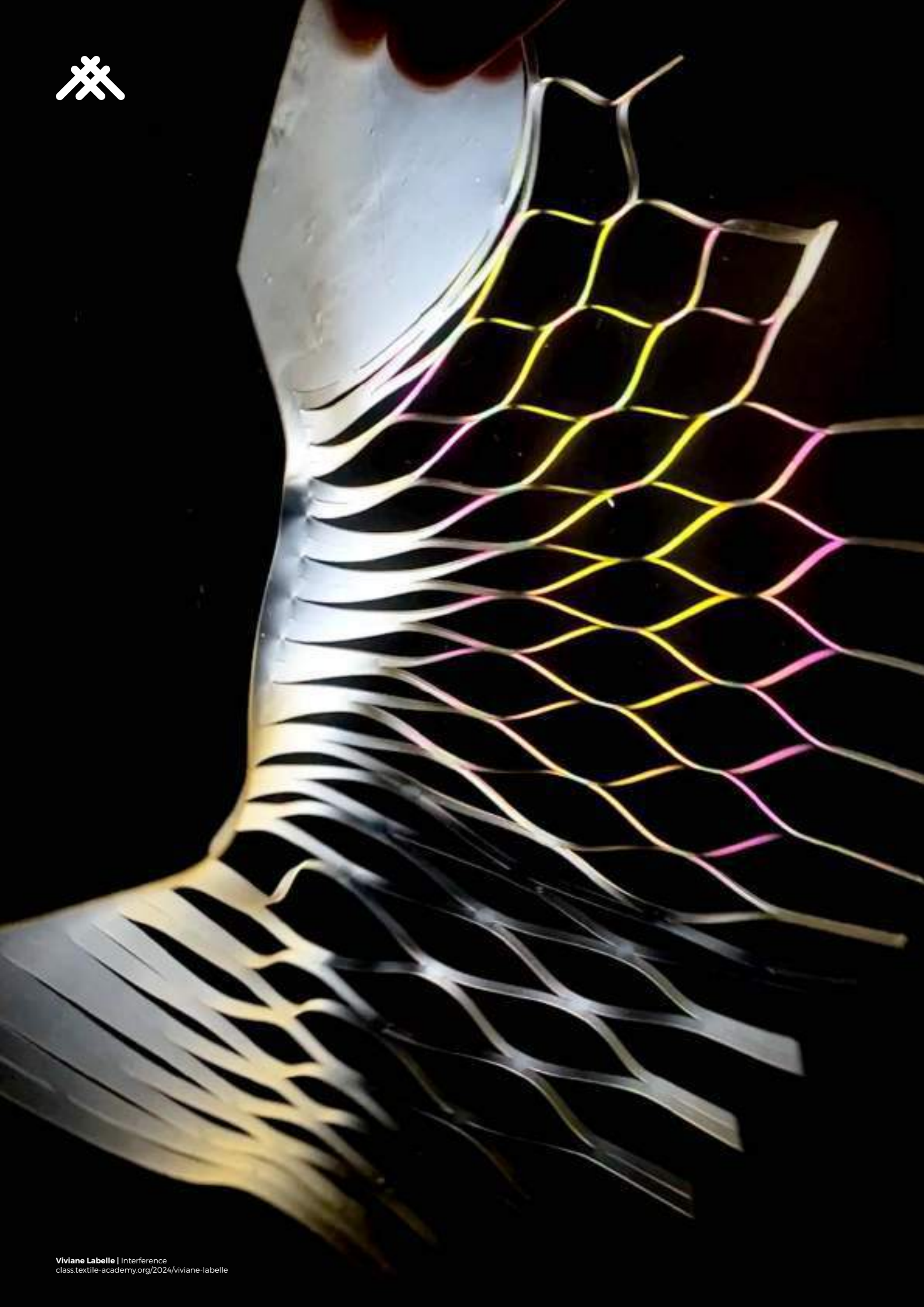
The industry 4.0 research area focuses on developing digital skills and exploring technologies such as **3D scanning, 3D printing** (additive manufacturing), CNC milling, **parametric design** and **3D modelling.**[3]

#digital fabrication #parametric design #advanced manufacturing technologies

INDUSTRY 4.0

Fostering a culture of **innovation and sustainable change.** Participants gain **in-depth theoretical knowledge** and develop **critical thinking skills** to integrate **future-forward design strategies that address environmental, ethical, and societal challenges.**[4]

#multidisciplinary #circular business models #open innovation



Viviane Labelle | Interference
class.textile-academy.org/2024/viviane-labelle