D Y PATIL
DEEMED TO BE
UNIVERSITY
SCHOOL OF
ARCHITECTURE
NAVI MUMBAI

NAAC A++

ADMISSIONS OPEN 2025

COMPUTATIONAL DESIGN

D.Y.PATIL SCHOOL OF ARCHITECTURE, NAVI MUMBAI

COURSES OFFERED:

- Certificate Programme
  Eligibility: Bachelor's Degree, or 12th Pass, Working Professionals.
- Short Course (4 session , 4 hrs. per session)
  Eligibility: Open to all.

  Summer School

PROGRAMME HIGHLIGHTS

- Multidisciplinary approach to problem solving
- Innovative Design strategies
- Critical Thinking via research
- Aligning to emerging global design strategies

www.dypatil.edu dypusoa.admissions@dypatil.edu +91 7039089594 (9am to 5pm)

Prof. Aparna Surve

Dean

D Y Patil Deemed to be University School of Architecture, Navi Mumbai

We at D Y Patil deemed to be University school of Architecture, Navi Mumbai are committed to making a better world, opening the doors for passionate learners. The school traverses on a visionary trilogy of Art, Architecture and Design that permeates same culture throughout all its pedagogical ventures of ever-expanding bank of UG & PG degree programmes in Architecture, Design and Urban Design and various Certificate programmes in Visual Arts, Design & Urban Studies that can be termed as science or social art or a combination of both! Hence, our current students and alumni have all shown fantastic skills and professionalism as problem solvers, supporters of social activities and creators of spaces for human kind to not just live but flourish.

The school provides a platform for students to explore, experience and execute their innovations by engaging with diverse disciplines and skillsets under the mentorship of dedicated faculty, scholars and experts. Together we learn to tackle global challenges, work on a culture of serving and shaping the society through critical thinking, analytical approach, and creative mindset; translating ideas into actions by setting in a “culture of doing”.

The growth of students is nurtured by the faculties who themselves pursue excellence, allowing the minds to grow, developing an unseen foundation system, strong enough to support its potential for outward growth later in the professional field. The latter guide students to become professionals with an open mind and a sensitive approach towards the society and environment. Most importantly the school believes in constantly upgrading its robust and state of the art infrastructure comprising of various modern equipment, workshops, laboratories viz. Digital fabrication lab, Advanced model making lab, Mac-lab, Wacom lab, AR-VR lab, rapid-prototyping, sculpture & clay modelling, ceramics& pottery and art Studios, where it becomes a melting pot of various theoretical didactics and hands-on experimentation and innovation.

DY Patil Deemed to be University campus at the prominent location of smart city Navi Mumbai provides a suitable environment to become focused and successful Architects, Designers, Urban Designers and the Art practitioners of tomorrow. We welcome young minds with passion and creative energy, regardless of where they come from to be a part of the D Y family.

Certificate Programme for Computational Design and Fabrication

The Certificate Course on "Computational Design and Fabrication" at D Y Patil deemed to be University School of Architecture aims to blend the captivating world of architecture with the transformative power of computational design. This program seeks to exemplify creativity alongside other design disciplines in India while developing technical skills and the ability to design concepts and fabrication methodologies. With a strong focus on computational design, prototyping, and fabrication our course aspires to provide the highest quality education in architecture and design.

About the Program - Computational Design and Fabrication

By integrating computational and artificial intelligence, this program enables candidates to be industry ready across diverse design sectors, including industrial, fashion and product design. The study of Computational Design fosters the expression of thoughts and ideas through the studies of Art and History, offering a unique perspective to the world. Through the lens of computational Design, participants will be able to perceive complex designs, stimulate, prototype and know how to build and equip them for entrepreneurial pursuits. The course encourages self-exploration and self-expression, empowering individuals to articulate design thinking and contribute to the process of social change. By marrying the realms of computational and AI, we aim to equip candidates with the necessary tools to become proficient designers capable of creating impactful and thought-provoking design solutions in our ever-evolving world.

Progrem Name - Computational Design and Fabrication

Eligibility - 12th Pass/Bachelor's Degree/Working Professionals

Course Duration - 6 months

- 4 months (Theory, Studio, Experiential Learning)

4 days a week: Wed & Thur. - 4:00 pm - 7:00 pm
Sat. - 9:00 am - 4:00 pm
Sun. - 9:00 am - 4:00 pm

2 months (Mentorship Programme)

Credits -20
Academic Year - 2024-25
Program Fees RS 1,50,000/-
(NOT INCLUDED: Field trip and Final project material)

SHORT COURSE IN COMPUTATIONAL DESIGN

Progrem Name - Computational Design and Fabrication (Short Course)

This course is beneficial for student seeking essential education in the field of computational design, focusing on techniques/software skills/equipment knowledge

Course Duration - 4 sessions

- 4 sessions 4 hrs (Experiential Learning)

4 days a week: - 12:00 pm - 4:00 pm

or

4 Saturdays :- 12:00 pm - 4:00 pm

Content: Introduction to Basics of Rhino software & Basics of Grasshopper plugins along with Digital Fabrication techniques using 3D printing & laser cutting.

Session 1:

Introduction to basic Rhino geometries and designing in Rhino.

Session 2:

Introduction to basics Grasshopper plugins.

Session 3:

Introduction to 3D printing techniques.
(3D printed prototype can be taken by the participant)

Session 4:

Introduction to laser cutting techniques.
(Laser cut prototype can be taken by the participant)

Each student will get demonstration and special guidance by our expertise

•Course will be conducted at D.Y Patil deemed to be University:School of Architecture, Center of Design (Navi Mumbai)

Academic Year - 2024-25

Program Fees Rs. 11,800/- All Inclusive

Inclusive of the material. (3D printed & laser cut fabricated)

Vision
Statement

To empower individuals with the knowledge and skills to merge computational design and AI within architecture, fostering technical proficiency, creativity, and innovation across diverse design sectors. Our aim is to cultivate adept designers who contribute to societal transformation, shaping the future of architecture and design globally through interdisciplinary approaches and visionary thinking.

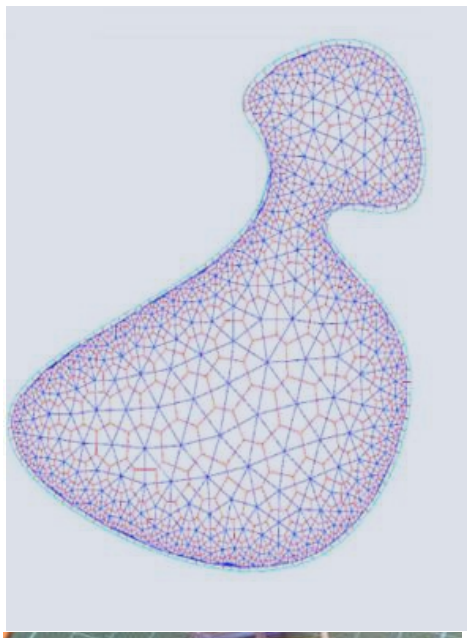
Mission
Statement

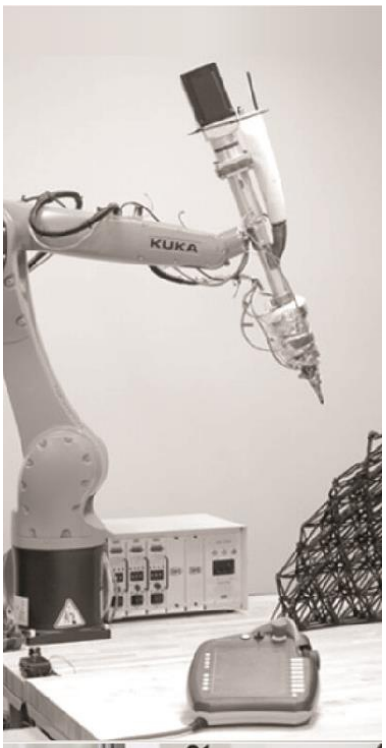
Our mission is to familiarise students with the foundational aspects of Computational Design and Fabrication, particularly in relation to fabrication, manufacturing, and production within the contemporary art landscape. By actively engaging with the materials, tools, and techniques covered in this course, students will not only develop their artistic talents but also enhance their proficiency in the practical aspects of computational design. They will acquire the ability to critically analyse their own experiences and reactions to the work of artists, craftsmen, and designers, which will contribute to a deeper understanding of the intricate relationship between fabrication, manufacturing, production, and Computational Design and Fabrication. As their skills progress, students will be empowered to express their observations and ideas through the visual medium, and actively participate in discussions surrounding the integration of fabrication, manufacturing, and production processes in the field of Computational Design and Fabrication.

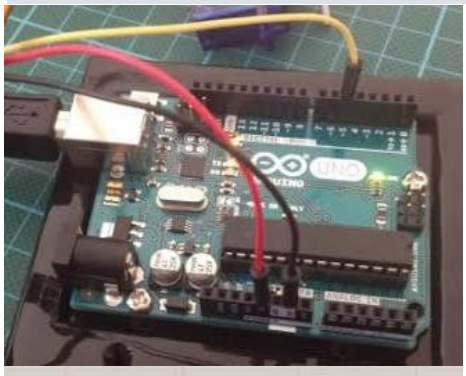
Programme Objectives

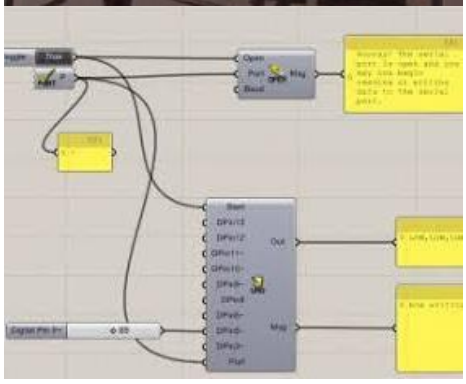
- Develop a foundational understanding of computational design and AI principles and techniques within the field of design and architecture and foster creativity and critical thinking by drawing insights from art and history to inspire and shape impactful design concepts.
- Develop capacity to adapt various techniques and materials relevant to the ever-changing design practices.
- Develop a foundational proficiency in fabrication techniques and prototyping methodologies, allowing candidates to translate design concepts into tangible prototypes, effectively bridging the gap between digital models and physical realisation.
- Cultivate an entrepreneurial mindset among participants, equipping them with the necessary tools to identify and pursue opportunities for innovative design solutions in diverse sectors.

Course Details









1 Design

This module encompasses perspective on the Theory and Timeline of Computational Design, tracing its evolution through time. It is a comprehensive approach into the fusion of AI and Graphics, uncovering novel ways to enhance design processes. The curriculum further delves into the practical realm, guiding individuals in crafting physical prototypes through CAD and CAM Software. Through a meticulous approach, the program teaches the art of comparing designs, iteratively refining prototypes, and translating them into tangible forms through machining. Culminating the learning journey, participants gain the expertise to finalise designs primed for efficient manufacturing processes.

2. Code

This module aims to cultivate a comprehensive grasp of Computational Design software. Through practical exercises, participants will engage in hands-on learning, honing their skills in the realm of Computational Design. Moreover, the module delves into the synergy between Computational Design and AI, offering exercises that amalgamate these two dynamic fields. By bridging the gap between theory and application, participants will not only harness the power of Computational Design but also explore its innovative fusion with AI training techniques.

3. Build

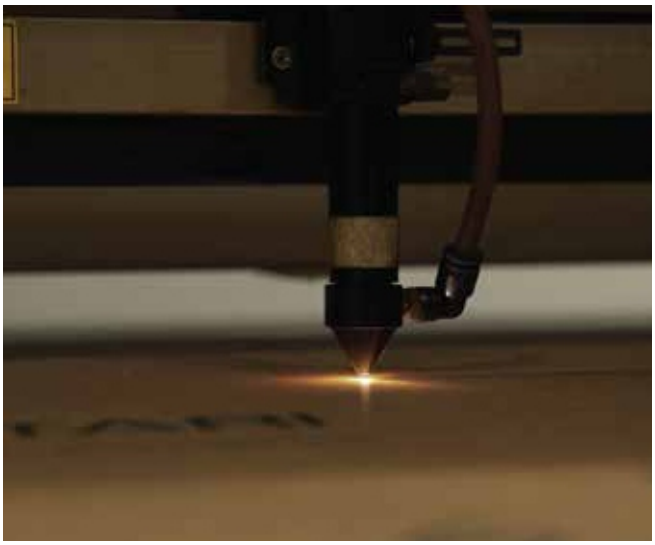
The journey of manufacturing begins with an essential phase: Introduction to CAM setups. Here, the foundation for bringing ideas to life is laid, encompassing the utilisation of Computer-Aided Manufacturing to streamline processes. Moving forward, the process entails Prototyping and Finalizing Designs, employing techniques like 3D printing and CNC machining. These technologies enable iterative improvements, ensuring designs are perfected before progressing to the next stage. Ultimately, the focus shifts to Production and Installation, where meticulously crafted designs materialize into tangible products, marking the culmination of efficient CAM-driven workflows.

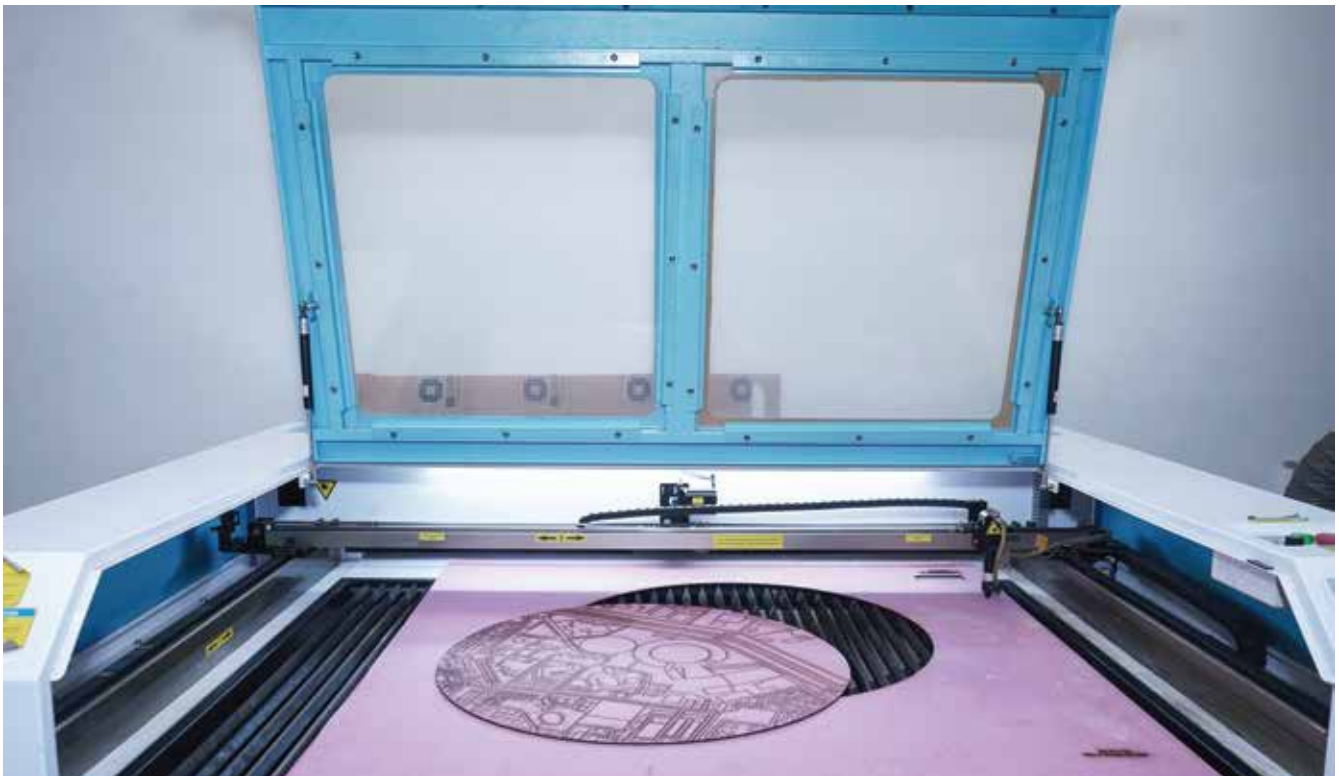
Programme Outcomes

- Innovation through Skill Development.
- Critical Thinking through Research and Innovation.
- In Depth understanding of building sciences and technology through direct engagement.
- Developing Multi-disciplinary thinking through exploration.
- Essential practice knowledge through application.
- Alignment with emergent design strategies.

Digital Fabrication Lab

Digital Fabrication Lab





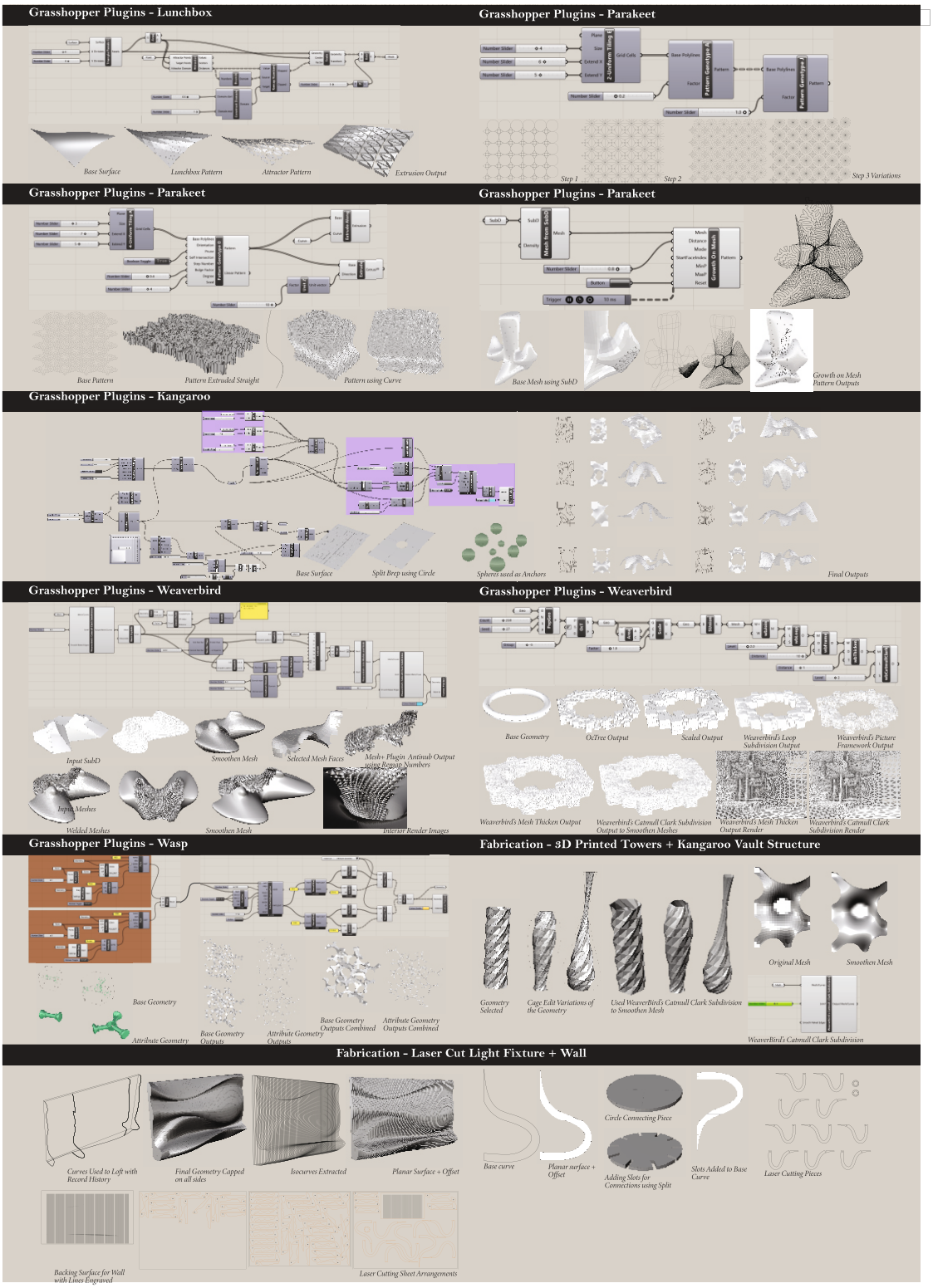
Mic Lab

WACOM LAB

Equipment and Infrastructure

Programme Outcomes

Student Work :- Sakshi Raturi, Batch 2024



Advisor

R. NURU KARIM

DYPU:SOA,Member of the Advisory Board

Mentors

AR. MAHEK KHAN

DYPU: SOA, Digital Lab Head,
Academic Head Computational Design Robotics IIT, Delhi (Pursuing)

AR. RIPPLE PATEL

M, Arch in architecture & Urbanism, AADRL
Entrepreneur,Researcher & Designer

AR. RAJAT PATIL

DYPU: SOA, Visiting Faculty
Msc. Computational Advance Design, Design Morphine (Pursuing)

AR. SAYALI PHANSEKAR

DYPU: SOA, Assistant Professor
M. Arch in Advance Architecture, NMIMS