

PROFESSIONAL WORKSHOP PROGRAMME

Applied Tool, Die & Mould Designs

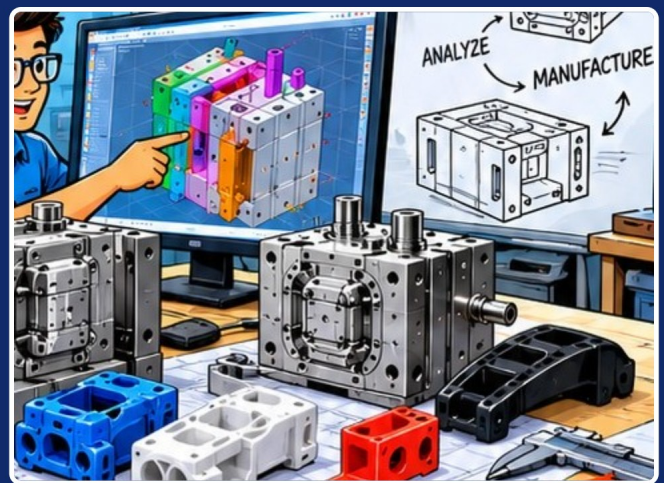
*From concept to
manufacturing.*

Design tools, jigs, dies and moulds that work on the shop floor, not just on screen. Taught by Tool, Die & Mould design experts with 26+ years of MNC and manufacturing experience.

DESIGN

ANALYZE

MANUFACTURE



DURATION

4 Months

12-16 weeks

LEARNING HOURS

150 Hours

focused & interactive

DELIVERY

Live

online workshops

COHORT

Max 30

participants

BATCH #1 BEGINS

15 November 2026

Inaugural fee • regular ₹39,900

₹9,900

01 / PROGRAMME OVERVIEW

Where design meets the shop floor

“ *A practical, application-oriented workshop on designing tools, dies and moulds for real-world manufacturing.* ”

You explore engineering fundamentals, design methods, manufacturing considerations and industry practice through instructor-led demonstrations, case studies and applied exercises.

Who should join?



Engineering students

UG and PG students seeking applied design exposure.



Working professionals

In design, tooling, production and manufacturing.



Aspiring entrepreneurs

Interested in tooling, dies, moulds and product realization.

Programme objectives

01 Connect engineering concepts with **manufacturable** tool, die and mould designs.

02 Interpret design requirements and translate them into **practical tooling solutions**.

03 Understand design standards, dimensional control, material selection and **manufacturing constraints**.

04 Build confidence to approach **real industrial** design and manufacturing challenges.

02 / DETAILED CURRICULUM

Six applied modules. One manufacturing mindset.

MODULE 01

01

Tool Design & Manufacturing

- Design of cutting and forming tools
- Tool components, materials and construction
- Process considerations and design trade-offs

You produce: tool concept and manufacturing checklist.

MODULE 02

02

Jigs & Fixture Designs

- Locating and clamping principles
- Jigs, fixtures and work-holding solutions
- Accuracy, repeatability, access and safe operation

You produce: concept layout for a work-holding fixture.

MODULE 03

03

Sheet Metal Die Design

- Blanking, piercing and bending
- Strip layout and basic die components
- Progressive die design principles

You produce: sheet-metal die design exercise.

MODULE 04

04

Injection Moulding Design

- Plastic part and mould design fundamentals
- Gates, runners and cooling systems
- Ejection mechanisms and mould construction

You produce: injection mould concept and component review.

MODULE 05

05

Die Casting Design

- HPDC and LPDC design principles
- Parting lines, core and cavity considerations
- Cooling and process parameter fundamentals

You produce: die casting concept assessment.

MODULE 06

06

GD&T & Tolerance Analysis

- Geometric dimensioning and tolerancing
- Fits, datum selection and interpretation
- Stack-up analysis and manufacturing considerations

You produce: drawing and tolerance analysis exercise.

03 / TEACHING PEDAGOGY & WORKSHOP MODE

Learn it the way industry does it

Instructor-led live workshops combine concept briefings, worked engineering examples, CAD and design demonstrations, interactive Q&A, guided exercises, industry case discussions and design reviews.

Every design assignment weighs the real trade-offs:



THE WORKSHOP FLOW

1

Concept
introduction

2

Engineering
demonstration

3

Guided practice

4

Case-study
discussion

5

Design review &
feedback

26+
YEARS

Faculty and industry perspective

Taught by experienced Tool, Die & Mould design experts with over 26 years of MNC and manufacturing experience.

Illustrative applied assignments

- | | |
|---|---|
| <p>A1 Prepare a jig or fixture concept for a selected machining or assembly operation.</p> <p>A3 Develop an injection mould or die casting concept with key component considerations.</p> | <p>A2 Compare two tool or die design alternatives for function and manufacturability.</p> <p>A4 Review a technical drawing and identify GD&T and tolerance risks.</p> |
|---|---|

04 / LEARNING OUTCOMES

What you will be able to do

- 01** Apply **core design principles** to common tools, fixtures, sheet-metal dies, injection moulds and die-casting dies.
- 02** Evaluate **design decisions** using manufacturability, process capability and tooling requirements.
- 03** Recognize **typical design risks** and opportunities for optimization.
- 04** Interpret **GD&T** and basic tolerance stack-up implications for tooling and assembly.
- 05** Communicate **engineering concepts** through sketches, models, drawings and design reviews.

Key benefits

- ✓ End-to-end exposure from concept to manufacturing
- ✓ Structured introduction to standards and best practices
- ✓ Confidence to take on industrial design projects
- ✓ Industry-relevant projects, examples and case studies
- ✓ Guided problem-solving with interactive expert feedback
- ✓ Certificate on successful completion



Certification & eligibility

Open to engineering students, working professionals and aspiring entrepreneurs. Basic engineering drawing knowledge and familiarity with manufacturing processes are helpful. A completion certificate is awarded to participants who meet the final assessment criteria.

Design it right. Make it once.

Batch #1 is limited to 30 participants. Reserve your seat at the inaugural fee.

BATCH #1 BEGINS 15 Nov 2026	FORMAT 4 months • 150 hours Live online • Max 30	INAUGURAL FEE • 75% OFF ₹9,900 Regular fee ₹39,900
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ENQUIRIES & ENROLMENT



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THE ACADEMY OF INNOVATION AND DESIGN, HYDERABAD



Please note: software access, assignment submission format, the detailed weekly timetable, faculty biographies, prerequisites and assessment criteria will be shared by the programme team before the batch begins.