

ady.
ADYAPAN

Adyapan School

Car Design



Duration - 2 months

Industry
Certification



Skill India Certified

250+
Partner Companies

From sketch to the street master car design.

From concepts to production-ready models - become industry-ready.

This immersive 8-week Car Design program takes you beyond theoretical concepts into real-world automotive design and engineering. Learn aerodynamics, chassis design, CAD modeling, and advanced powertrain systems through hands-on simulations and guided projects. With a strong focus on practical implementation and systems-level thinking, you'll graduate with the ability to design vehicle components, optimize performance parameters, simulate real-world conditions, and develop robust design strategies for modern automotive applications.

8

MODULES

30+

PROGRAM OFFERINGS

20,000+

STUDENTS

250+ PARTNERED COMPANIES



ABOUT ADYAPAN SCHOOLS

Where education meets real-world impact

Not just a course — a platform to launch
your career.

Adyapan Schools was built with a single conviction:
learning works best when it happens in the real world.
We partner with top companies, mentors, and industry
platforms to ensure every student graduates with a
portfolio of work that speaks louder than a certificate.

Our programs combine rigorous coursework with live
client projects, giving you the skills and proof-of-work
that employers actually want.

MISSION

To equip ambitious learners with
practitioner-level digital
marketing skills through mentor-
led, project-based education that
bridges the gap between learning
and earning.



VISION

To be India's most trusted
launchpad for the next generation
of marketing leaders — defined
not by degrees but by the real
work.



Everything you need to grow fast

PROGRAM HIGHLIGHTS

Live Industry Projects

Work on campaigns for real brands alongside your coursework. Build portfolio projects that prove your expertise to employers.

1-on-1 Mentorship

Dedicated mentors from Google, Microsoft, Mastercard and more. Get personalized guidance and industry connections.



AI-Powered Marketing

Learn cutting-edge AI tools alongside evergreen fundamentals. Stay ahead of the curve in a rapidly evolving landscape.



Dual Certification

Earn both a Course Completion and Internship Certificate – accredited by Skill India Digital Hub and NSDC.



Internship Guarantee

Graduate with an internship completion certificate from a live brand project. Concrete, resume-ready proof of work.



Industry Network

Join a network of alumni at Amazon, Google, Adobe, Microsoft. Access exclusive hiring events and referral opportunities.

8 weeks. 8 modules. Infinite impact.

WEEK 1

Introduction to Car Design

- Discussion of Curriculum
- Introduction to Car Design
- Understanding the car design process from concept to production.
- Key design principles in automotive engineering (aerodynamics, ergonomics, material selection).
- Emerging trends: EVs, Autonomous Vehicles, Smart Manufacturing.
- Passenger vehicles, trucks, electric vehicles (EV), and autonomous vehicles.
- Design requirements for different vehicle categories
- Overview of global regulations and standards.
- Design Philosophy and Engineering Principles
- Lorem ipsum
- Safety, sustainability, performance, and cost optimization.
- Introduction to the automotive design cycle: Concept, Design, Prototype, Testing, Manufacturing.



WEEK 2

CAD Software, Digital Tools & Sustainability

- CAD Software and Digital Tools for Car Design
- Introduction to AutoCAD other industry-standard software.
- Hands-on: Basic car component design using CAD tools.
- Engineering Materials and Manufacturing Techniques
- Material properties (steel, aluminum, composites, plastics).
- Manufacturing processes: Casting, molding, stamping, additive manufacturing (3D printing).
- Sustainability in Automotive Design
- Carbon footprint reduction, lightweight materials, recycling, and energy efficiency.
- Introduction to design for sustainability (Eco-design principles).
- Carbon-neutral manufacturing, EV battery recycling, and green car innovations.



8 weeks. 8 modules. Infinite impact.

WEEK 3

Chassis, Suspension, Steering & Engine Systems

- Design of Chassis and Support Systems, Structure and function of a chassis.
- Types of chassis (monocoque, body-on-frame).
- Hands-on: CAD modeling of a chassis.
- Types of suspension systems: Independent, dependent, multi-link, air suspension.
- Design considerations for ride quality, handling and durability, Steering System Design and Components
- Types of steering systems: Rack-and-pinion, recirculating ball, electric steering.
- Integration of steering with suspension for optimal handling.
- Key parameters in engine selection
- Introduction to electric powertrains in EVs.



WEEK 4

Transmission, Air/Exhaust Systems & Aerodynamics

- Transmission System Design
- Types of transmissions: Manual, automatic, CVT, dual-clutch, and electric drive units.
- Design considerations for performance, efficiency and reliability.
- Hands-on: Transmission design and integration with engine.
- Air Intake, Cooling, and Exhaust System Selection
- Air intake and filtration systems.
- Cooling systems: Radiators, intercoolers, and coolant management.
- Exhaust systems: Catalytic converters, mufflers, and emissions control.
- Vehicle Aerodynamics
- The role of aerodynamics in vehicle performance.
- Computational Fluid Dynamics (CFO) simulations for car design.



8 weeks. 8 modules. Infinite impact.

WEEK 5

Brakes, Tires, Electronics & HVAC

- Types of brake systems: Disc brakes, drum brakes, regenerative braking in EVs.
- Brake cooling, material selection, and integration with
- ABS (Anti-lock Braking System).
- Types of tires: Radial, bias-ply, and low rolling resistance tires for EVs.
- Wheel and tire design considerations: Load, grip, durability and noise reduction.
- ECUs, sensors, and control units.
- Power distribution, wiring harness design, and electrical architecture.
- HVAC (Heating, Ventilation, and Air Conditioning) System
- Principles of automotive HVAC systems.
- Designing efficient and compact HVAC systems.



WEEK 6

Safety Systems, Lighting & Infotainment

- Vehicle Safety Systems.
- Passive safety: Airbags, seatbelts, crumple zones.
- Active safety: Lane assist, collision avoidance, adaptive cruise control.
- Vehicle Lighting and Signaling Systems.
- Headlights, taillights, turn signals, and interior lighting.
- LED vs. OLED vs. traditional lighting technology.
- Infotainment and Connectivity.
- The role of infotainment systems in modern cars.
- Vehicle-to-Everything (V2X) communication, in-car Wi-Fi, and 5G connectivity.



8 weeks. 8 modules. Infinite impact.

WEEK 7

ECU, Autonomous Driving, EVs & Regulations

- ECU programming, vehicle dynamics, and performance tuning.
- Introduction to ADAS (Advanced Driver-Assistance Systems) and autonomous vehicle control.
- Basic concepts of autonomous driving
- Sensor fusion, object detection, and path planning.
- Key components in EV design: Battery packs, electric motors, and charging systems.
- Battery chemistries: Lithium-ion, solid-state, and emerging technologies.
- Vehicle dynamics simulation: MATLAB, Simulink, and multi-body dynamics (MBD).
- Crash simulation and safety testing.
- Understanding the vehicle homologation process and regulations



WEEK 8

Prototyping, Performance Testing

- Prototyping techniques: 3D printing, rapid prototyping, and CNC machining.
- Design for manufacturability and assembly (DFMA).
- Electric and autonomous car technologies.
- Smart cities, shared mobility, and vehicle electrification.
- 2025 Update: Vehicle-to-grid (V2G), solar-powered vehicles, and sustainable design practices.
- Project management in automotive design.
- Collaboration between design, engineering, and manufacturing teams.
- Case Study: Successful automotive design projects from leading manufacturers.



WHO THIS IS FOR

This course is perfect for

Students & Career Switchers

Aspiring Automotive & Vehicle
Design Professionals

Mechanical, Automobile &
Industrial Design Students

Working Professionals in
Automotive & Manufacturing
Industry

CAD, Surface Modeling & Product
Design Enthusiasts

Car Styling, Concept Design &
Mobility Innovation Aspirants

CERTIFICATIONS



ALUMNI NETWORK

Our alumni work at world-class companies

Amazon

Adobe

Google

Autodesk

Microsoft

Deloitte

Your career switch is one click away.

Ready to begin? Apply at adyapanschool.com or email us at support@adyapan.com

Apply Now