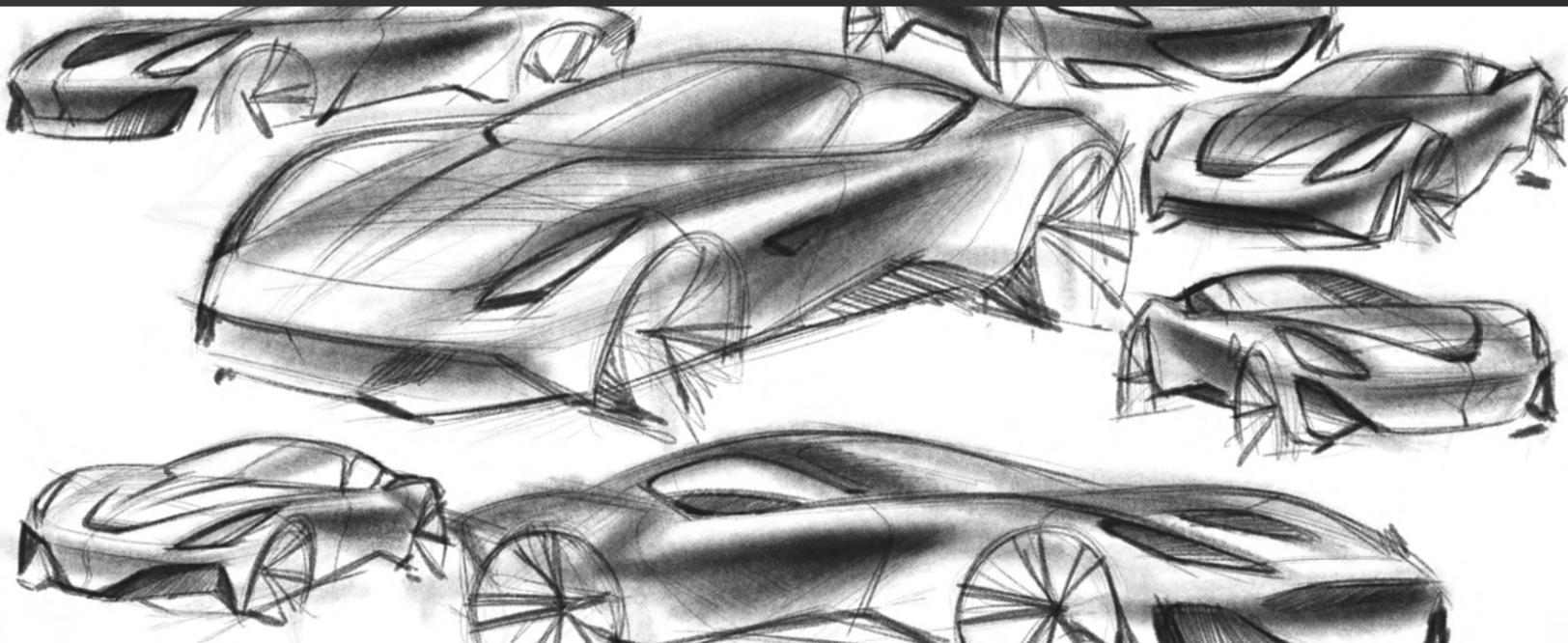


Essential
Sketching Skills: [CARDESIGN.ACADEMY](https://www.car-design-academy.com)
Car Design 101



This course is designed to set you on the path to building the necessary skills to become a professional automotive designer.

By the completion of this course, you'll be able to draw original car, SUV and truck design concepts in any perspective with confidence. You'll also learn the essential rendering skills to express shape and form through light, shadow and reflectivity. Traditional media like pencil, ball point pen and markers are the foundation for building a strong skill set, and this course requires only these basic supplies.

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Eric Stoddard
CARDESIGN.ACADEMY Founder & Principal Instructor

Live, Personal Mentorship is the Foundation.

All of our courses are built on the coaching business model. While the video tutorials communicate the core concepts, it is hard work guided by personal mentoring that will bring results. There are checkpoints throughout the course where you can schedule up to 60 minutes of live, personal mentoring to review your work and receive valuable feedback.

How it works:

01 Watch the tutorial videos.

02 Complete the assignments.

03 When you reach the next checkpoint, schedule your live, one-on-one review with our instructors.

Part 1: The Basics

Line Quality

The first exercise in the Car Design 101 series is to learn to draw straight and curved lines by hand, with boldness and confidence, by drawing with the whole arm from the shoulder.

Assignment: 5-10 pages of line practice in assorted straight and curved lines.

[Click here to watch the video](#)

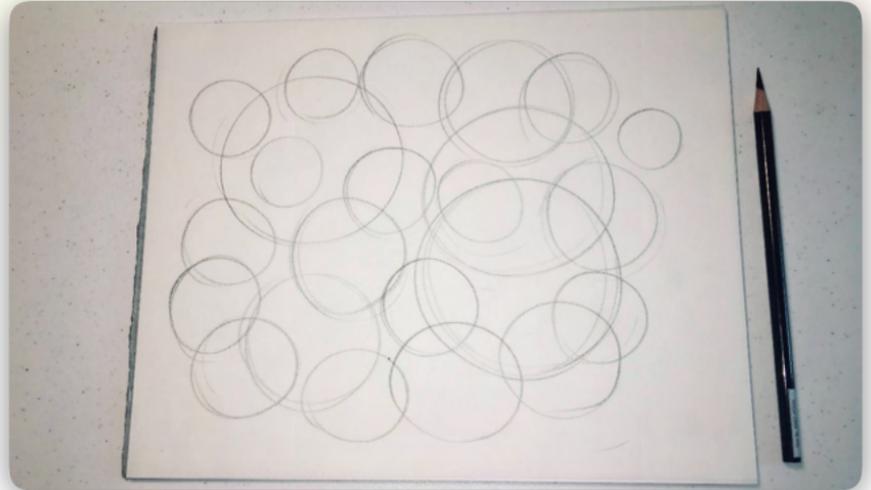


How to Draw Circles

Learn how car designers draw circles freehand, without templates or guides, with speed and confidence, using the whole arm from the shoulder.

Assignment: 5-10 pages of line practice in assorted straight and curved lines.

[Click here to watch the video](#)



How to Draw Ellipses

Learn how car designers draw ellipses by hand, without templates or guides, with speed and confidence and using the whole arm from the shoulder. This is one of the most critical aspects of any successful car sketch.

Assignment: 5-10 pages of ellipses, in assorted sizes and orientations.

[Click here to watch the video](#)

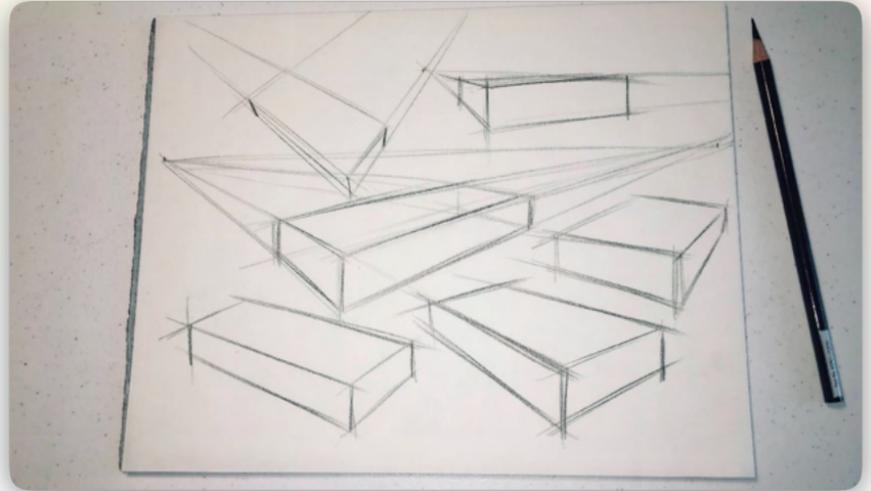


Basic Perspective

In this tutorial we learn how to draw objects in perspective, starting with cubes and rectangular boxes. Learning to set up boxes in space is the first step to drawing vehicles in perspective.

Assignment: 5-10 pages of box shapes in perspective, various sizes and proportion

[Click here to watch the video](#)

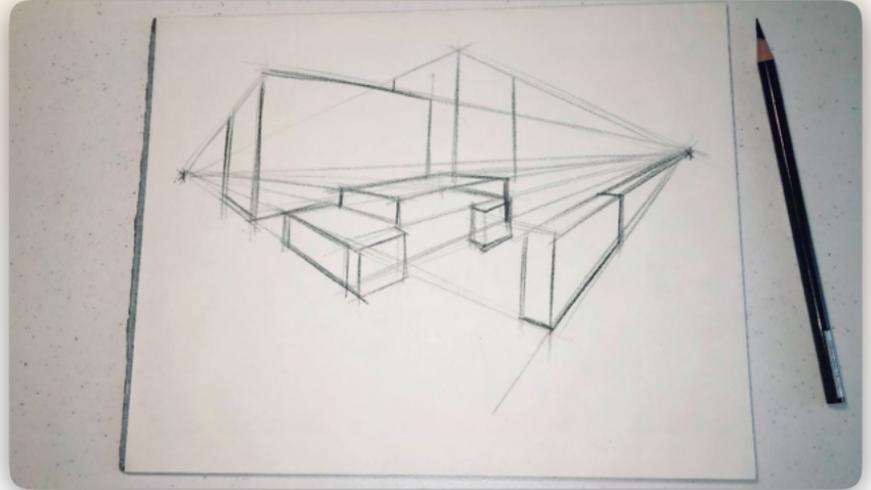


Perspective with Multiple Objects

In this lesson we demonstrate how to draw scenes with multiple objects in the same perspective environment.

Assignment: 5-10 pages of multiple box shapes in various sizes and proportions, in a shared perspective environment.

[Click here to watch the video](#)

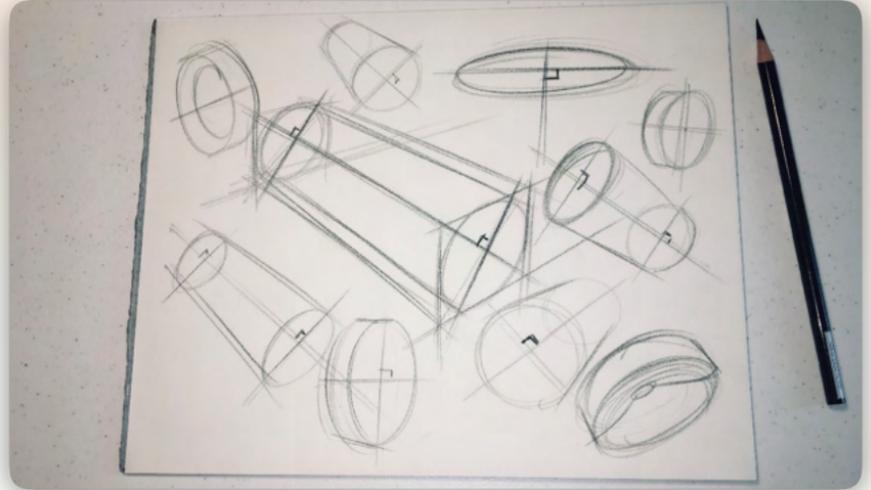


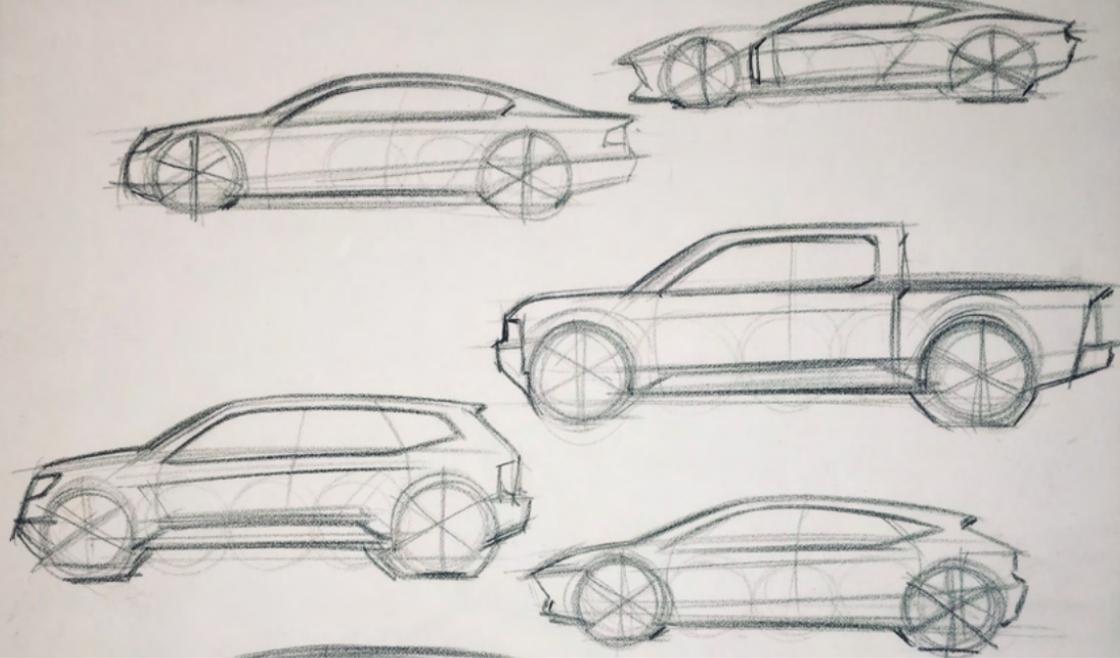
How to Draw Cylinders

In learning to draw cylinders, we combine what we've learned about drawing ellipses, with drawing boxes in perspective. This is a critical building block to setting up the proper perspective for wheels on a vehicle.

Assignment: 5-10 pages of cylinders, in various perspectives and orientations.

[Click here to watch the video](#)





Part 2: Sketching Cars in Side View

The next series of lessons will focus on side view proportions of common vehicle silhouettes.

Vehicles come in a wide range of silhouettes.

Car designers use the term 1-box, 2-box, and 3-box to describe silhouettes in terms of their primary volumes. For example, a sedan has a distinct engine, cabin and trunk volume, making it a 3-box shape. The same goes for pickup trucks. For SUV's and hatchbacks, cabin and cargo space are combined together, making them 2-box. Finally, an MPV combines engine, cabin and cargo areas into a single monovolume, making it a 1-box silhouette.

A wide range of proportional ratios between these volumes is possible to define the vehicle intent. A high performance sedan or coupe may prioritize the size of the engine volume relative to cabin and cargo. A compact hatchback must place greater priority on the cabin and cargo volume. A pickup clearly defines the engine, cabin and cargo areas as separate volumes, while an MPV combines them into a single volume with a clear emphasis on people and cargo space.

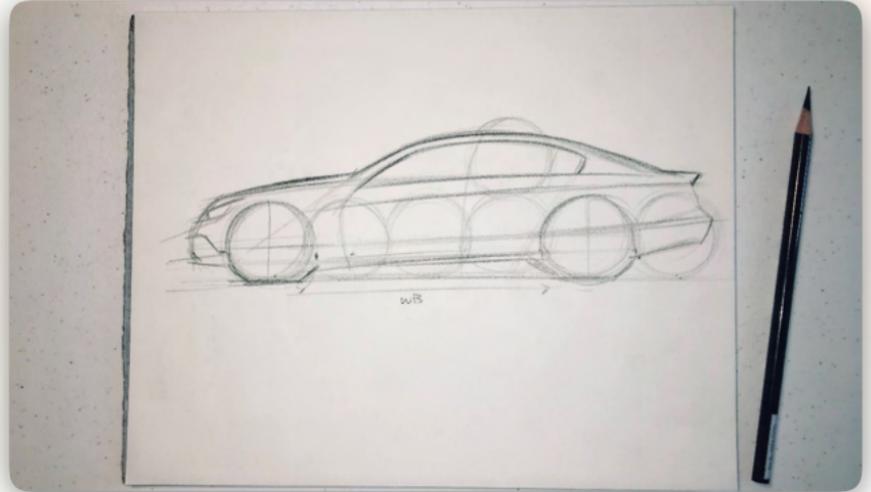
Designers can mix, match, and combine these volumes in new and different ways to find new, never before seen silhouettes and proportions.

Side View Proportions: Sedans

In this tutorial, we begin to cover the essential proportions of vehicles in side view, starting with a rear wheel drive performance sedan.

Assignment: 10-20 pages of sports sedans, in side view. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)

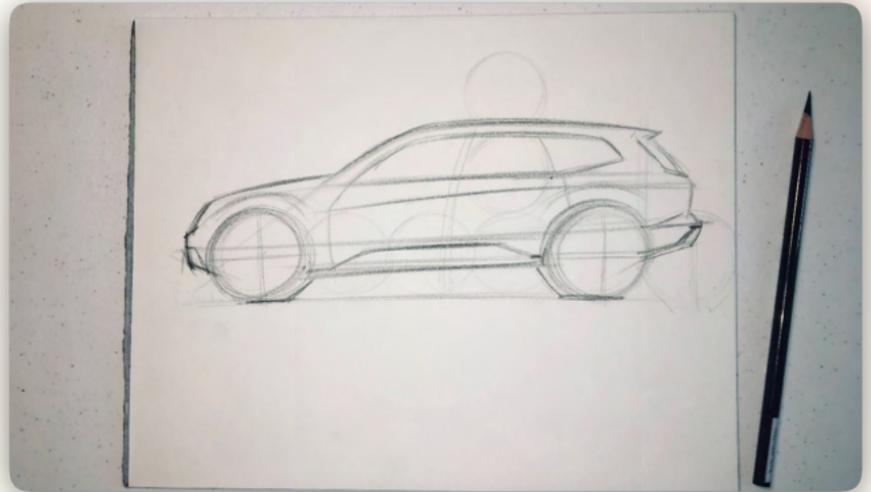


Side View Proportions: SUV

In this tutorial we demonstrate the essential side view proportions for SUVs and crossovers.

Assignment: 10–20 pages of SUVs and Crossovers, in side view. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)

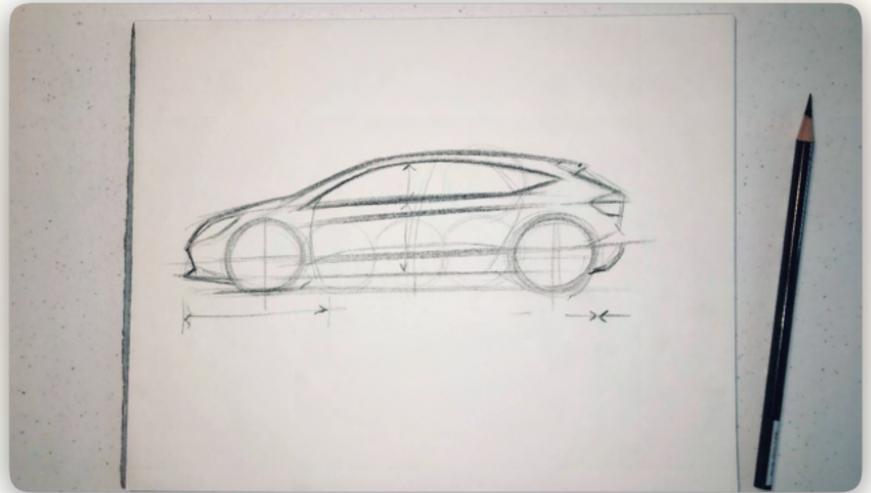


Side View Proportions: Hatchbacks

This tutorial covers the basic side view proportions of a front wheel drive, C-segment hatchback.

Assignment: 10–20 pages of Hatchbacks, in side view. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)

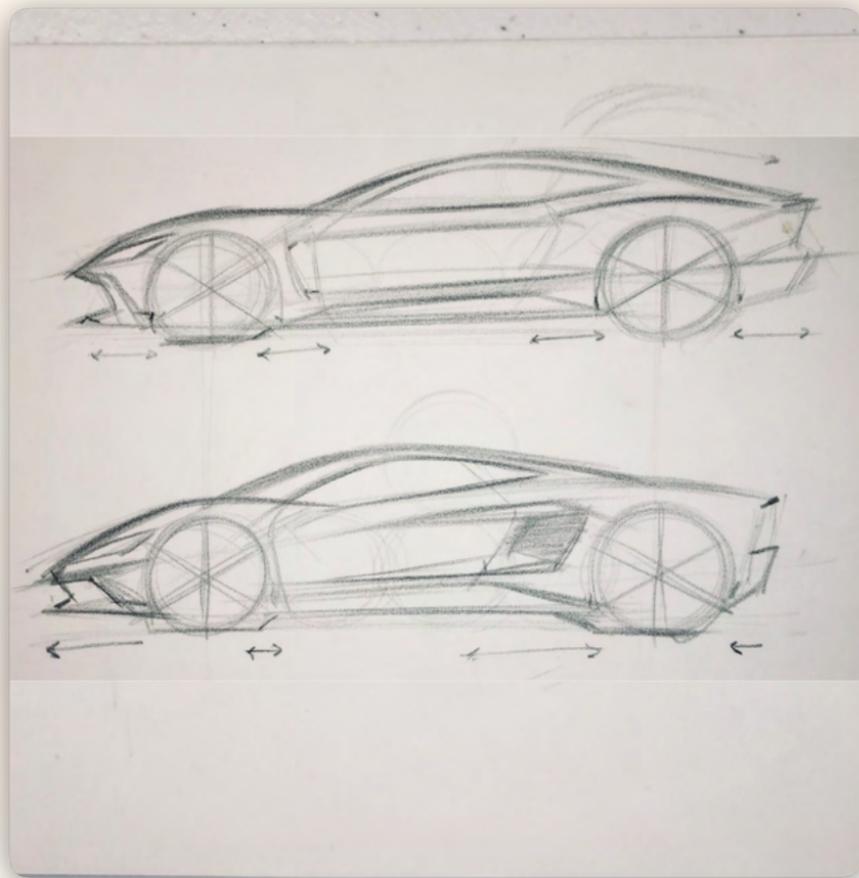


Side View Proportions: Sports Cars

Sports Cars are some of my favorite cars to sketch. This tutorial compares the side view proportions of a front engine, 2+2 coupe and a mid engine, exotic supercar.

Assignment: 10-20 pages of Sports Cars, in side view. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)

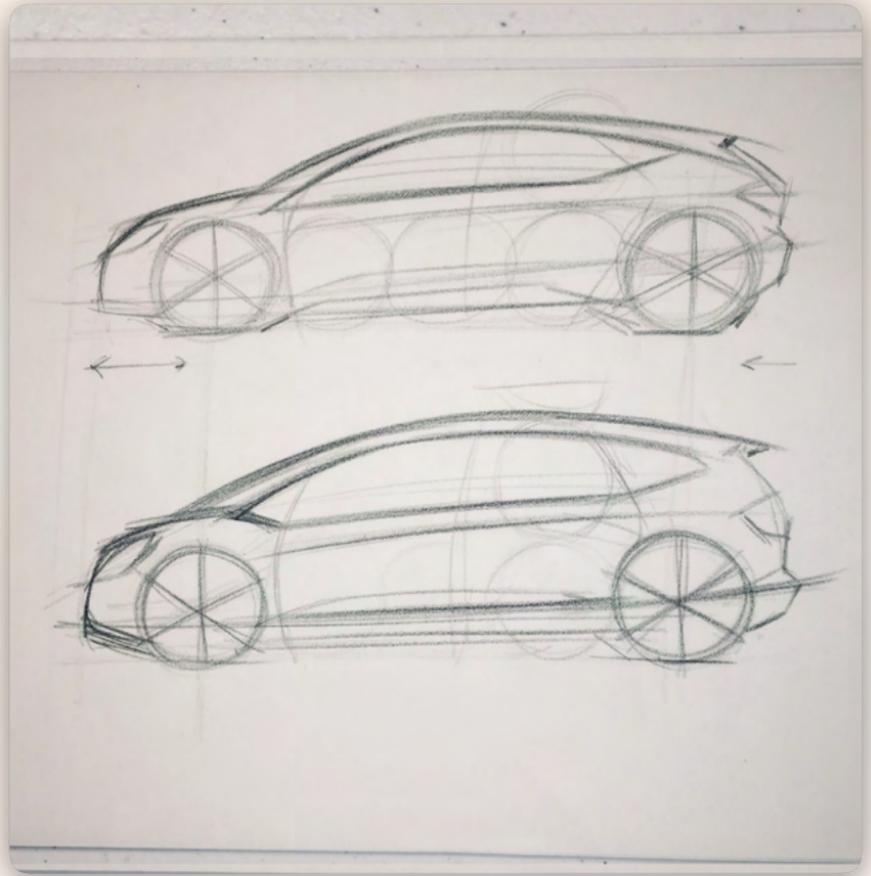


Side View Proportions: Hatchback vs MPV

This demo compares the side view proportions of a C-segment, front wheel drive hatchback versus a C-segment MPV.

Assignment: 10–20 pages of Hatchbacks and MPVs, in side view. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)

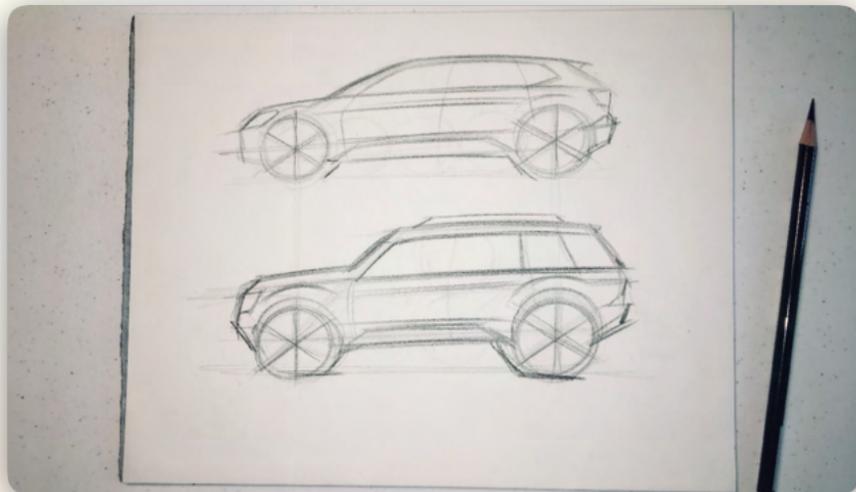


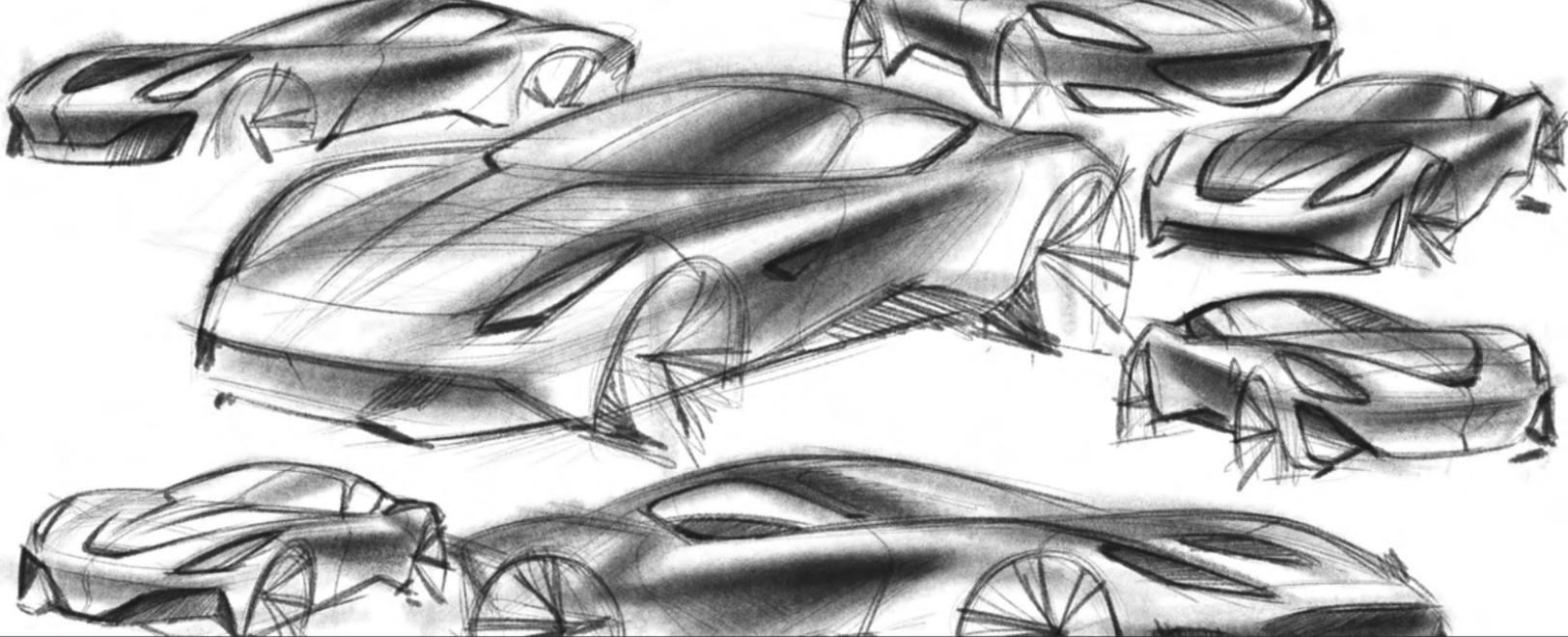
Side View Proportions: SUV vs Crossover

In this tutorial, we explore the proportional comparison between a crossover utility vehicle (CUV) and an off-road capable sport utility vehicle (SUV)

Assignment: 10-20 pages of SUVs and Crossovers, in side view. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)





Part 3: Drawing Cars in Perspective

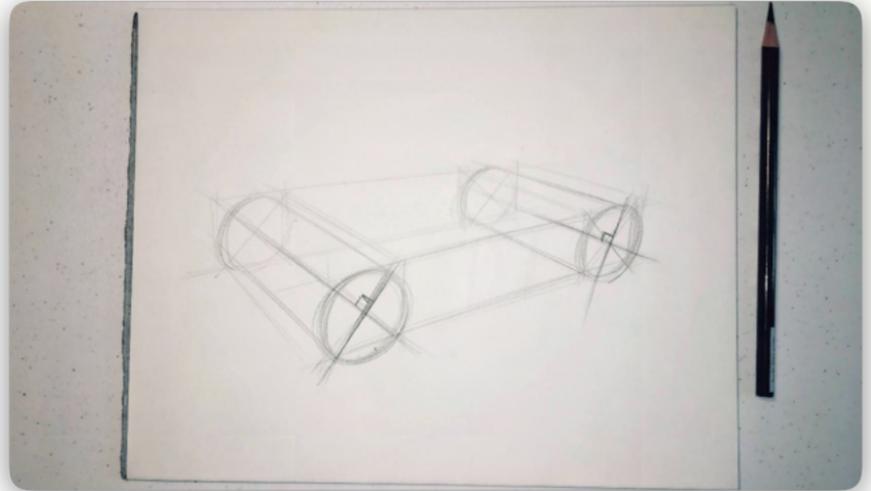
Using everything we've learned in Basic Drawing and Side View Proportions, you'll learn to draw cars in perspective with confidence.

Perspective Wheel Setup

In this tutorial we put everything we've learned together about drawing boxes, ellipses and cylinders to draw a set of wheels in perspective.

Over the next series of tutorials, we'll begin to draw cars of various body styles in perspective.

[Click here to watch the video](#)

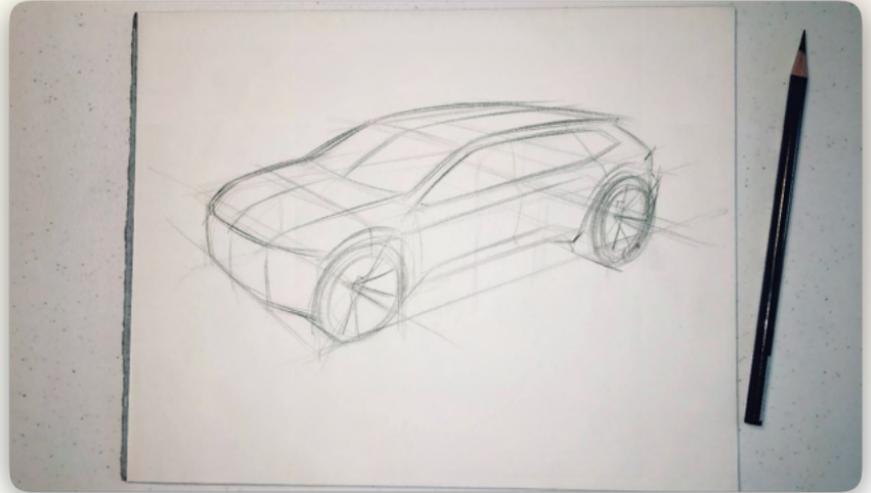


Drawing a CUV in Perspective

Using everything we've learned about basic perspective and ellipses, let's start drawing cars in perspective. We'll start with a basic Crossover.

Assignment: 10-20 pages of SUVs and Crossovers, in various front and rear perspectives. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)

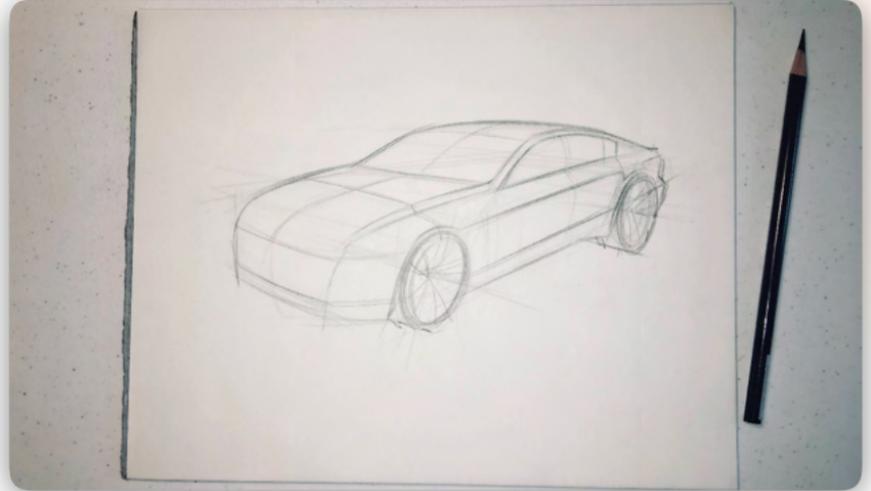


Drawing a Sedan in Perspective

In this tutorial we'll take everything we've learned in basic perspective and ellipses to draw a performance sedan.

Assignment: 10–20 pages of Sedans, in various front and rear perspectives. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)



Sketching an SUV

This tutorial demonstrates what it takes to sketch an SUV in a more frontal perspective, using everything we've learned so far. More attention is paid to the front end graphic and details.

Assignment: 10-20 MORE pages of SUVs and Crossovers, in various front and rear perspectives. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)

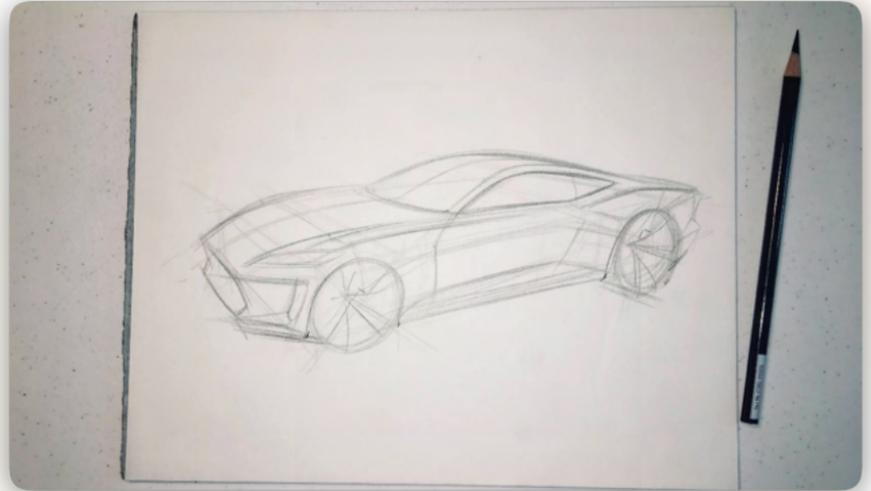


Sketching a Sports Coupe

This tutorial demonstrates what it takes to sketch a front engine, 2+2 sports GT in perspective, using everything we've learned so far in the Car Design 101 series.

Assignment: 10–20 pages of Sports Cars, in various front and rear perspectives. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)



Sketching a Hatchback

Taking everything we've learned so far in the Car Design 101 series, this tutorial demonstrates what it takes to sketch a front wheel drive, C-segment hatchback.

Assignment: 10-20 pages of Hatchbacks, in various front and rear perspectives. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)

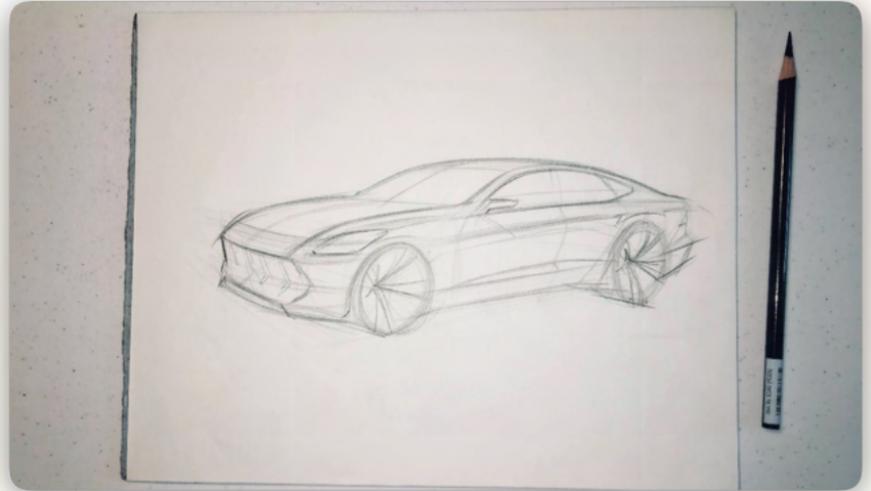


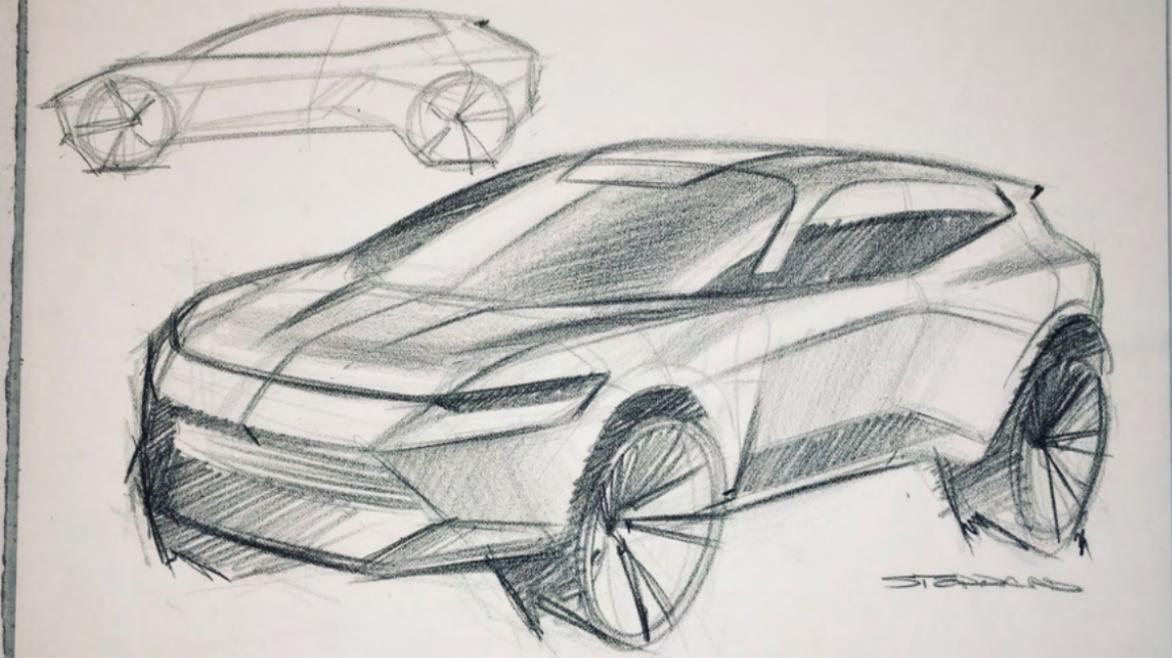
Sketching a Sports Sedan

Taking everything we've learned so far in the Car Design 101 series, this tutorial demonstrates what it takes to sketch a rear wheel drive, high performance sedan. This time, more attention is paid on front end details.

Assignment: 10-20 pages of Sports Sedans, in various front and rear perspectives. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)





Part 4: Basic Rendering Technique

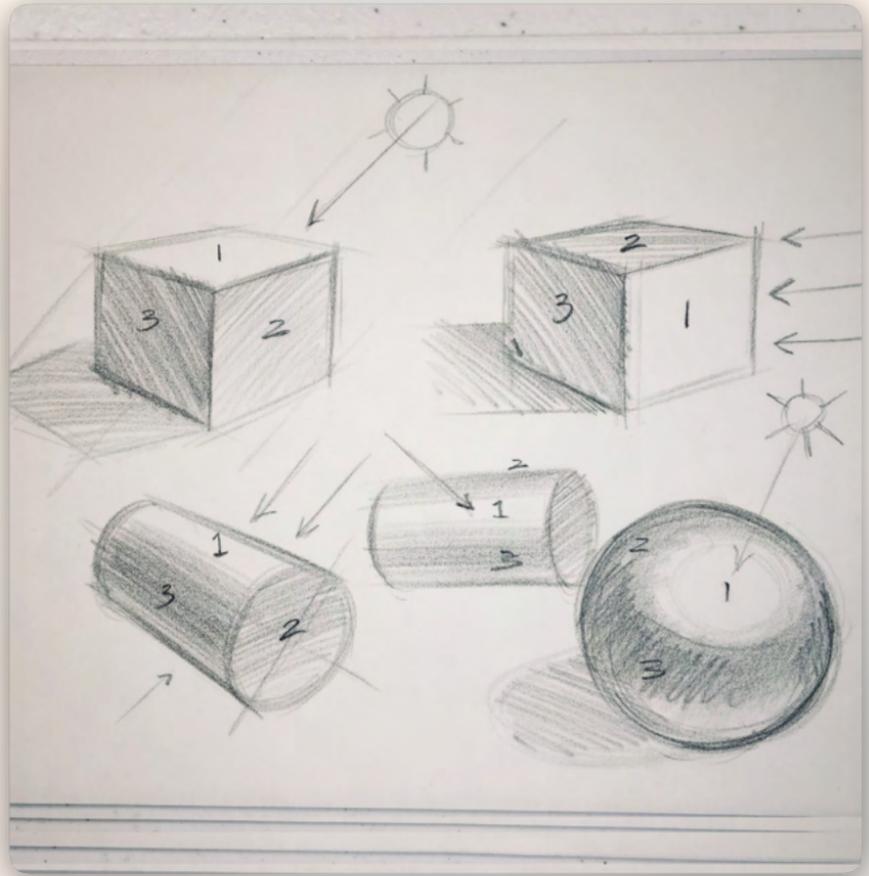
Now you'll learn the basics of expressing vehicle forms through light, shadow and reflectivity.

Basic Light & Shadow

Today we'll begin to develop our understanding of basic light and shadow, using simple basic shapes and a light source. Understanding how light and shadow play across shapes is a fundamental step in developing our rendering skills. Vehicles are more complex shapes and combinations of shapes, but the principles remain the same.

Assignment: 5 pages of assorted cubes, spheres and cylinders in different perspectives, rendered in pencil based on a defined light source.

[Click here to watch the video](#)

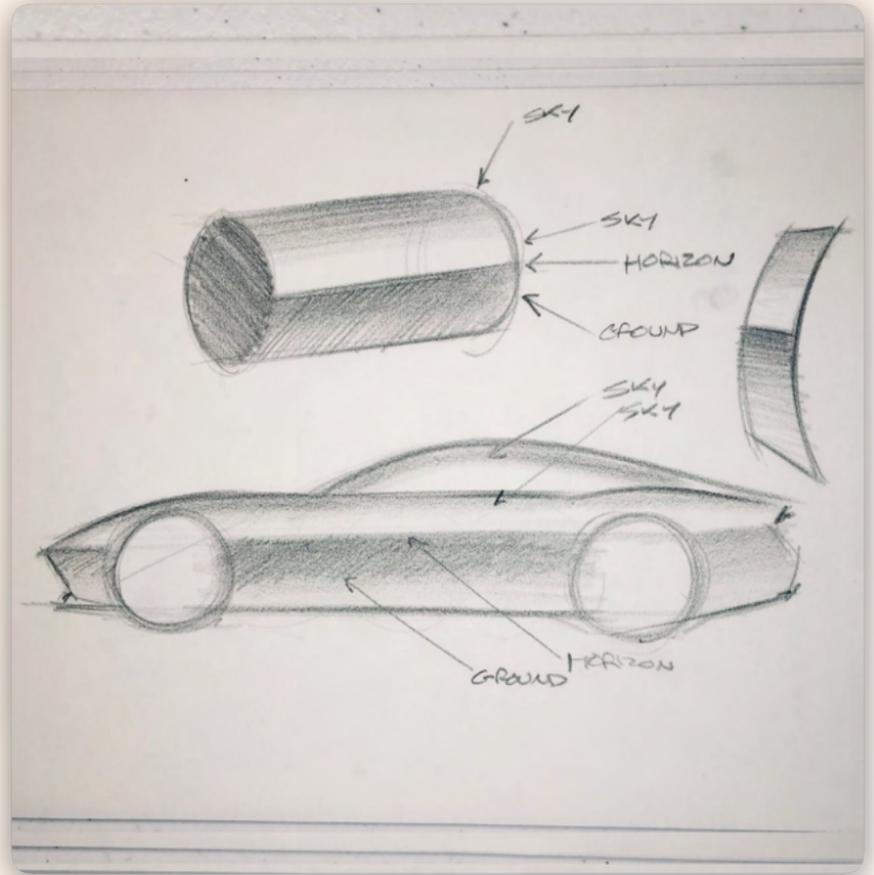


Basic Principles of Reflectivity

In this tutorial you will develop and practice a basic understanding of reflective surfaces, starting with a simple cylinder and progressing to a vehicle body side. Reflective surfaces mirror the world around the object, and distort the world in such a way as to define the form.

Assignment: 10 pages of assorted cars and SUVs in side view, rendered in pencil based on a defined light source, and defining the form through reflective surfaces. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)

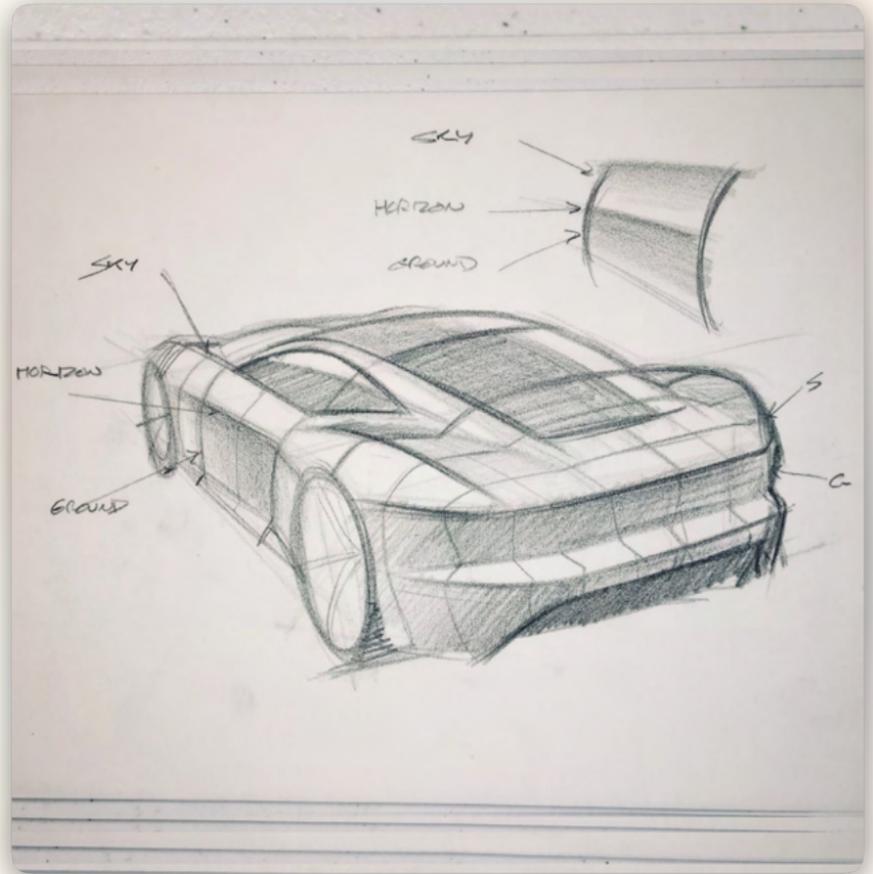


Vehicle Rendering Basics

Here we'll take what we learned in basic shading and reflectivity, and sketch out a beautiful coupe in the rear 3/4 view. First we'll map out the surfaces with section lines, and identify what surfaces are facing ground, horizon, and sky. You'll see how the principles of light, shadow and reflectivity are enacted in more complex, sculptural vehicular forms.

Assignment: 10 pages of assorted cars and SUVs in different perspectives, rendered in pencil based on a defined light source. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video](#)





Part 5: Creating New Vehicle Concepts

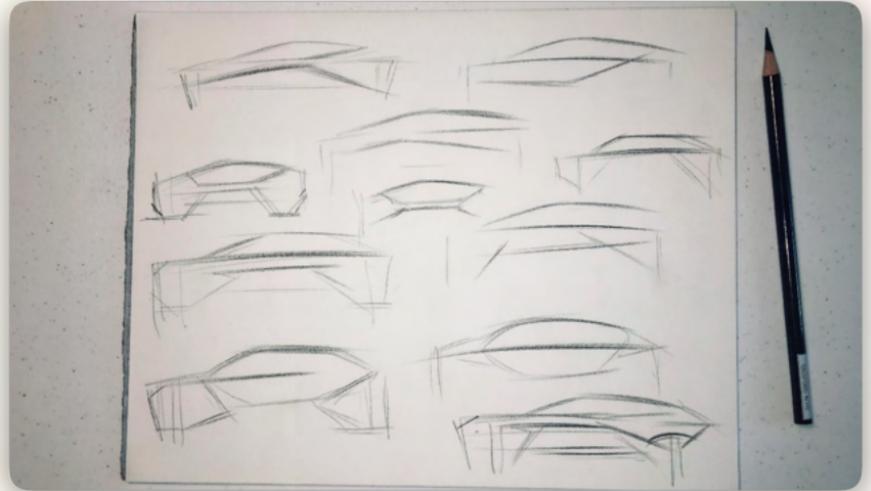
Now that you've learned the essentials of drawing vehicles, it's time to learn how to develop new, innovative vehicle concepts. You'll learn some of the creative methods I use to generate ideas, and develop them into original vehicle designs.

Idea Generation Through Soldier Sketches

It's time to develop some new, innovative vehicle concepts. Soldier Sketches are quick, loose, rapid-fire side views that explore new silhouettes, character lines, and gestures. As you get in the zone, your hand begins to work faster than your mind. Coming back the next day, you'll discover new opportunities to create amazing, futuristic vehicle concepts.

Assignment: 10–20 pages of side view soldier sketches. Try to develop a variety of original, futuristic designs for each drawing.

[Click here to watch the video.](#)

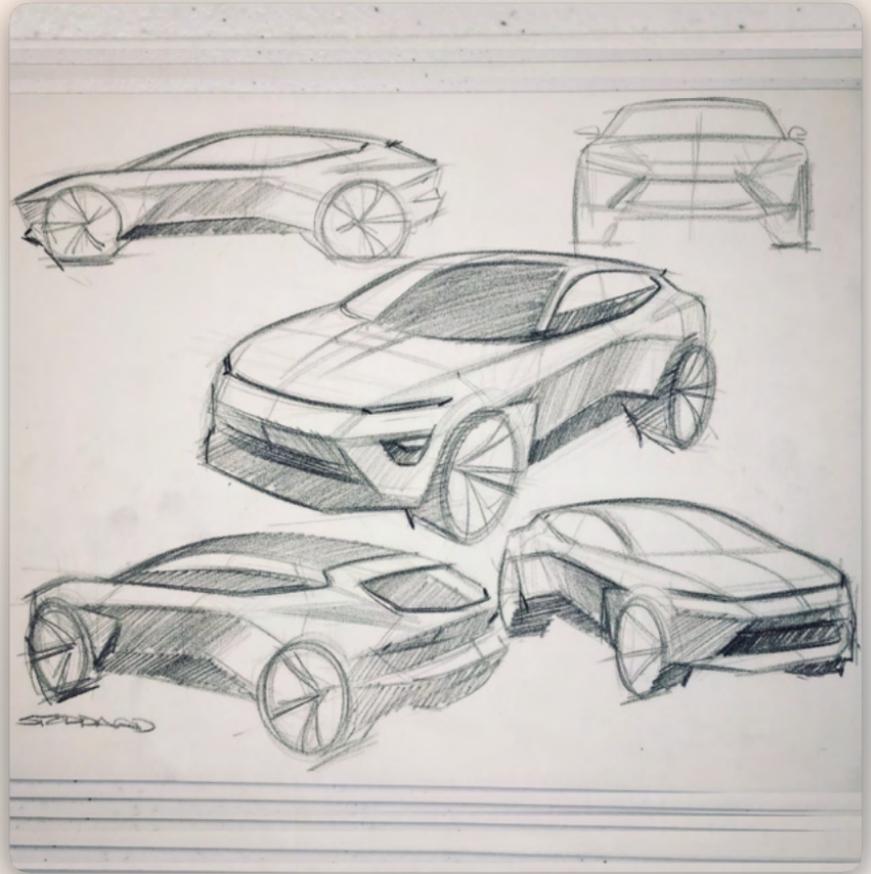


Developing a Complete Vehicle Concept

You'll learn how to sketch out a complete vehicle concept from the side, front, and rear on a single page, as if the viewer is walking around the vehicle, and gain confidence in the direction you intend to pursue. The ability to sketch the same vehicle from your mind, from multiple points of view, is the next essential skill car designers must develop.

Assignment: 10 pages of sketches, based on selected soldier sketches. Each page should walk the viewer around a complete vehicle design in multiple views.

[Click here to watch the video](#)

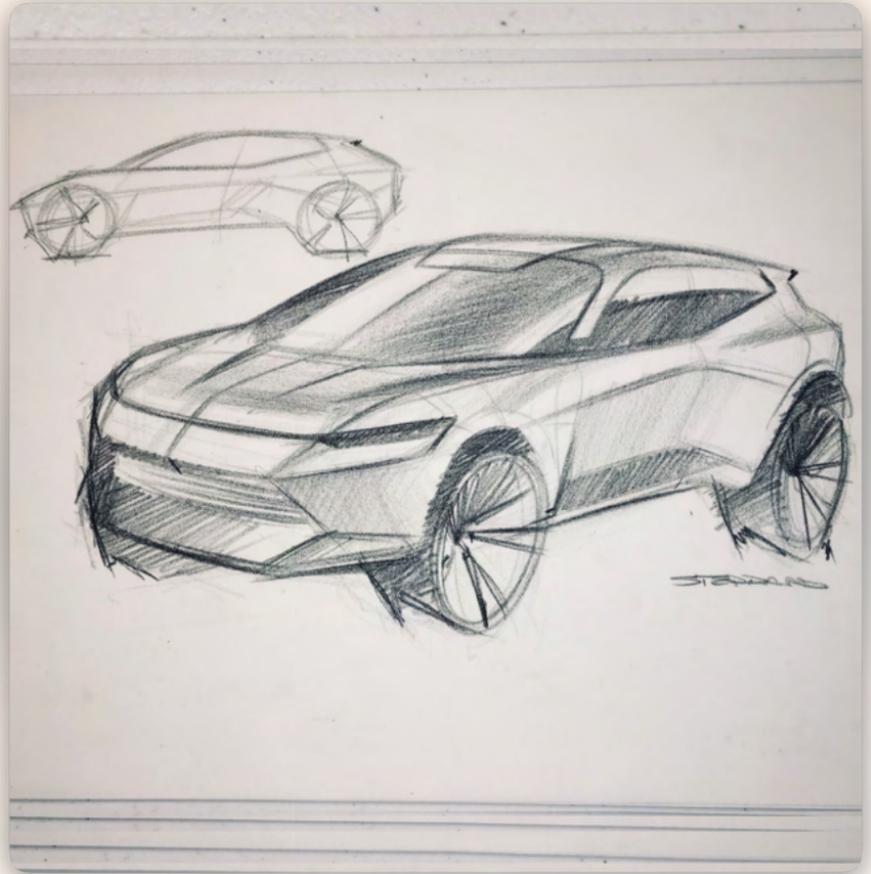


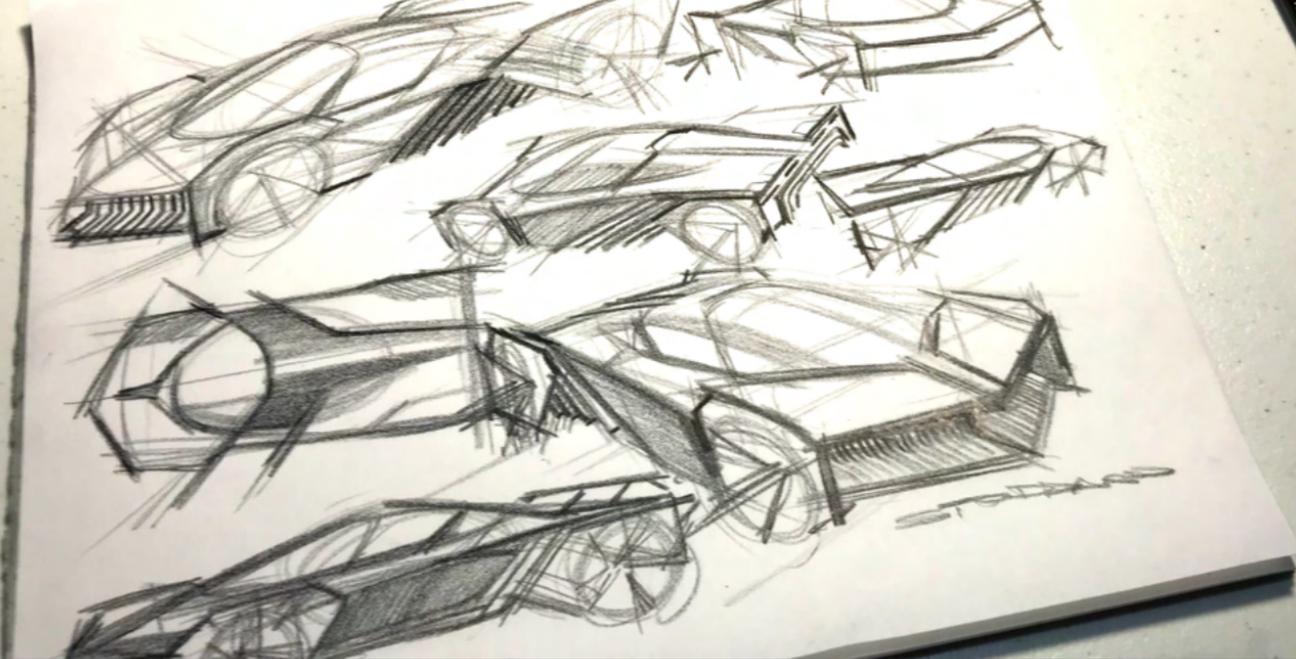
Sport CUV Final Sketch

Building on the previous tutorials in which we found an exciting silhouette through soldier sketches, and then walking around the vehicle in multiple perspective views, we now focus on the front 3/4 view in a more detailed, full page Prismacolor sketch.

Assignment: Select your best concept, and develop 3 final sketches in front 3/4, side and rear 3/4 views. The 3 views should maintain consistency of a single design theme.

[Click here to watch the video.](#)





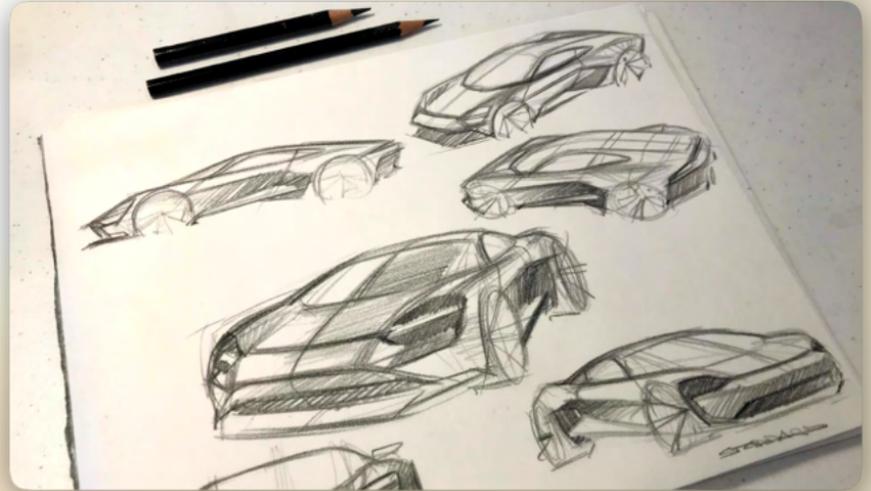
Part 6: Pedal to the Metal

It's time to take everything you've learned and practice, practice, practice! The next series of tutorials explore various vehicle styles. Your assignment is to develop as many vehicle concepts as you can!

Design a Future Porsche 911

Take your best
shot at designing
the next
generation
German Icon!

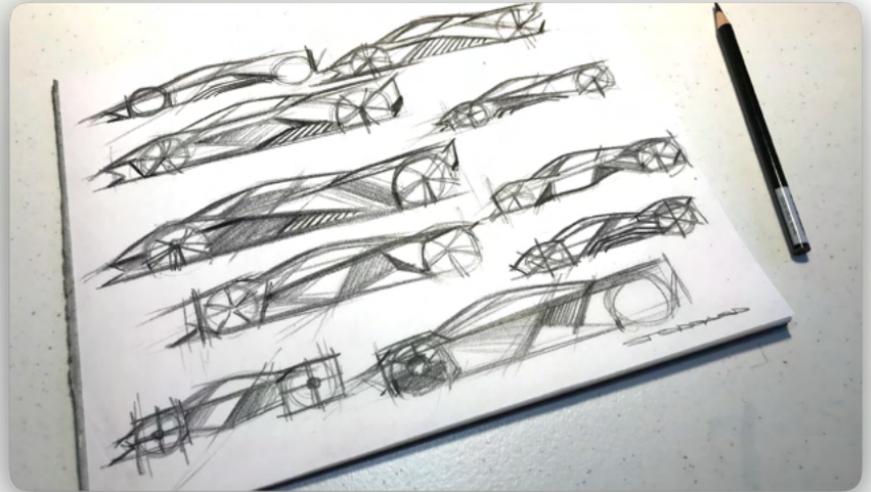
[Click here to
watch the
video](#)



Sketch Brainstorm: E-Corvette

What's your vision for
an all-electric, next
generation Corvette?
Start with side views.

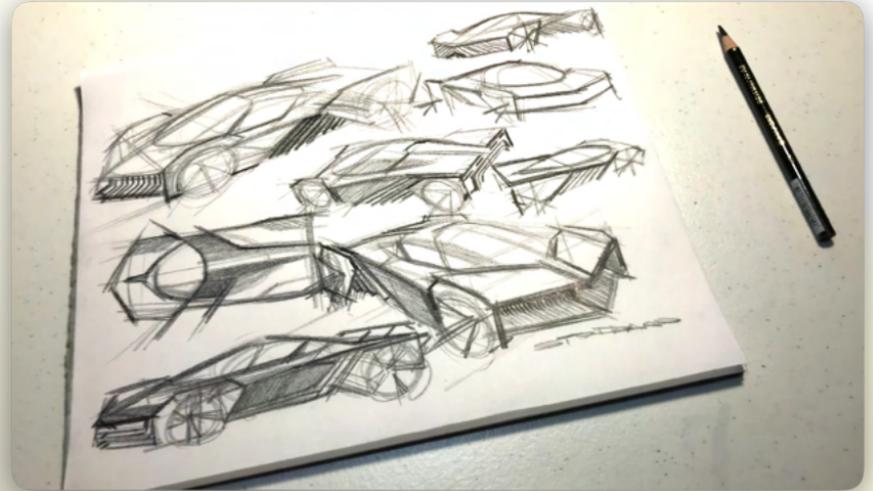
[Click here to
watch the video](#)



Sketch Brainstorm: E-Corvette

What's your vision for an all-electric, next generation Corvette? Now let's progress to perspective views.

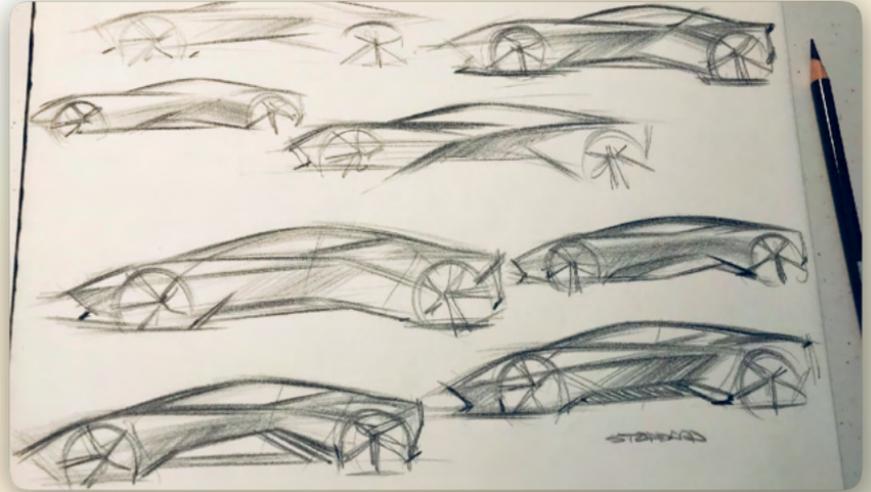
[Click here to watch the video](#)



Electric Sports Coupe

Let's see some a quick warmup sketches for sexy, electric sports coupes, including 2 and 4 door body styles.

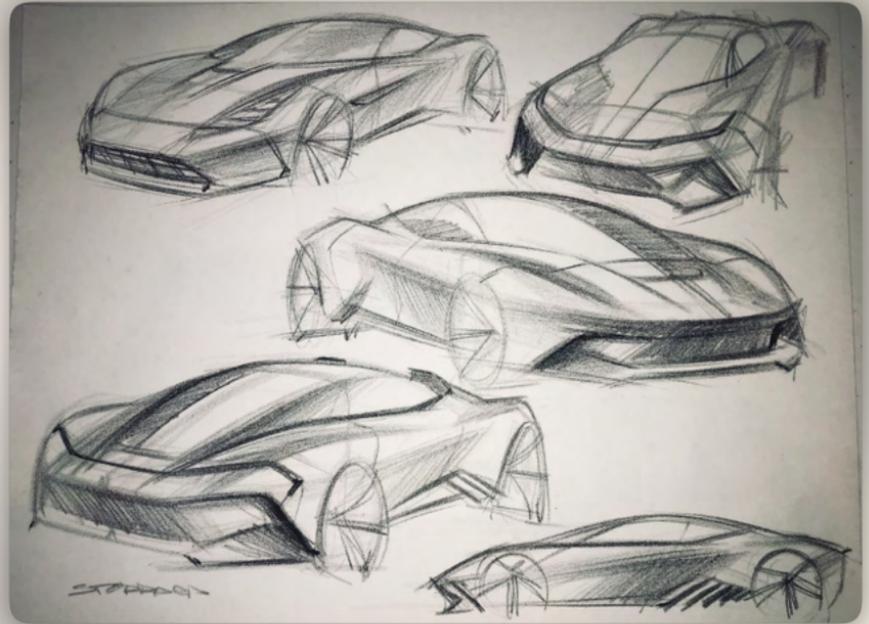
[Click here to watch the video](#)



Electric Sports Coupe

Now let's develop some sexy, electric sports coupes, including 2 and 4 door body styles, in various perspectives.

[Click here to watch the video.](#)



Congratulations!

You have completed Car Design 101, and you have a strong foundation on which to develop your digital 2D and 3D skills. Check out our courses in digital sketching, 3D modeling and AI workflows to turbocharge your design process. We hope to see you again soon!

[Check out our live online courses](#)