STEP 1: Open up SolidWorks 2008.
(a) Choose a new part to open.
(b) Click OK.

STEP 2: Go to top of page to Tools, then scroll down to Options.
STEP 3: Click on Document Properties and then click on Units.
(a) Set unit system to IPS (inch, pound, second), and in the tables set all decimals to .123, this will give a 3 decimal place for all measurements.
(b) Close the box.

STEP 4: Using the data for the Chevy Malibu (In this case from the tutorial) with Sketch Tools, draw the initial side dimensions for the vehicle
STEP 5: Using Sketch Tools draw the following 3 point arcs: Use the construction lines for reference.

STEP 6: Use the Trim Entities to trim the excess lines of the body;
STEP 7: Now erase all geometric Construction lines.

When completed, the drawing should look like this:
STEP 8: Extrude the body from the midpoint:

STEP 9: We will now have to shave a portion of the upper body to fit the contour of the vehicle:

(a) Draw a box that is 222.000 in in length, and 16.000 in width.
(b) Locate the box so that its inner side is 46.000 in from center of vehicle & outer side is 62.000 in from center of vehicle.
(c) Draw 2 construction lines, the first on the inner side of box, and the other 3.540 in away. Using 3 point arc, draw a contoured line as shown in the picture below.

(d) Now we are going to extrude cut this section.
(e) Go to features, extrude cut, and
Repeat for the other side of vehicle:
STEP #10: Fillet edges

We are now ready to fillet the edges. Click on the the two line edges on the side of the vehicle body. Go to Features then click on the fillet icon. Under “items to fillet” choose the diameter to be 150 in. and click the green check mark.

The body should now look like this:
Now click on all the side edges of the body from front to back. Click on the fillet icon and this time the radius will be 5.00 in, as shown below. This will round all the side edges of the body giving it a more realistic appearance.

STEP # 11: Creating the Fender Flares. We want to use the original plane that our drawing was created on. In my case I used the front plane. The original 2-D sketch will now be highlighted on the body.
Draw the outline of the fender flares and trim all unneeded lines. Now Extrude the flares out to 36 in from the original sketch plane. This will create the raw extended flares.

Now using fillet set at 2.00 in, round off the top edges as shown in fig below.
STEP #12: Create the wheel wells and fill in the center of the vehicle. Click on the sketch plane and draw the outline of the area that is going to be filled in. Using Extrude, fill in the wheel wells so that it is 15 in from the plane, on both sides, front to back.

Below is a bottom view showing what is being Extruded.
STEP #13: Now create the axles for the wheels:
Clicking on the sketch plane (in my case it is the front plane), then sketch draw at the center of the wheel wells an 8.00 in circle. Now Extrude this item out from the front plane 33.0 in on both sides as well as from front to back.
STEP # 14: Drawing the Wheels
Clicking on the front surface area of the wheel shafts, then draw three circles from the center of the shaft surface. The first is 8.00 in (dia), second is 16 in (dia), and third is 27.0 in (dia). Do this for both the front and the rear wheels.

With the sketch done for the wheels, Extrude the tire section for each wheel. I extruded from the end of the wheel shafts, 2.00 in out and 6.50 in inside.
Now redraw the circles from the end of the drive shafts again, this time just the 8.00 in and the 16.0 in diameter circles need to be sketched. Extrude the wheel rims so that it is 2.0 in from the mid plane.

Here is a closer area of the wheel after it has been extruded. Now fillet the edges of both the tires and the wheel rim edges (with an 3.0 in radius).
The car is now complete. It should look something like this now.

STEP #15: Final step is to color the vehicle. Go to Edit, Appearance, then scroll down to Color and choose the color you want to finish your vehicle in. As you can see I choose red for the body, and dark grey for the bottom of the vehicle. I also colored the front and rear window to give it a more realistic look. Finally I colored the tires black and the rims to be aluminum.
Last but not least I colored the area for front headlight and rear tail lights to give it a finished touch. This is the finished product.

This concludes the SolidWorks tutorial of how to draw a fairly accurate representation of a Chevy Malibu passenger car.