

Introduction to Photography

Topic 10 - Full Frame vs Crop Sensor

Learning Outcomes

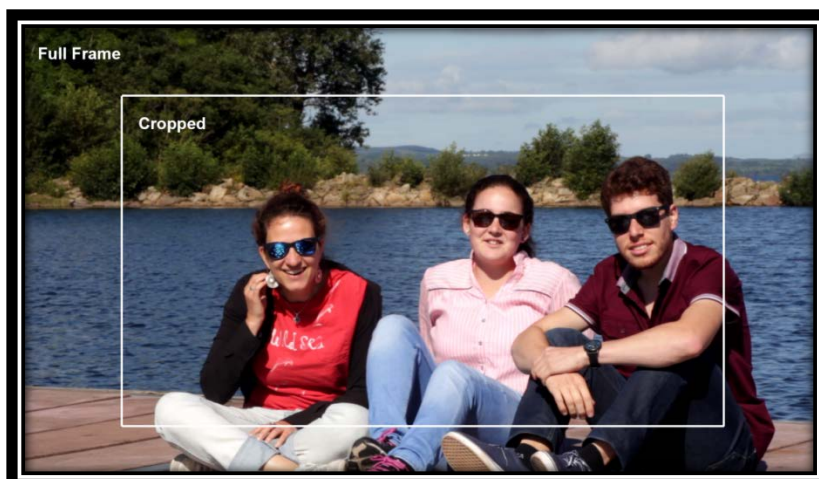
In this video, you will learn about the fundamental differences between the full frame sensors and crop sensors.

Full Frame vs Crop Sensor

The main difference between these two sensor types is the size difference. You can clearly see that the exposed sensor on the 5D Mark IV on the right is much wider and bigger than the sensor on the 650D on the left. The crop sensor will take a middle section of the image you are looking at while the full frame sensor allows you to see more of the image, hence the name.



Field of View



You will get a much wider field of view with the full frame sensor.

In order to calculate the cropped down field of view on a crop sensor body you simply take the focal length of your lens and multiply it by the crop factor.



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Low Light Conditions

Given the fact that the full frame sensor is bigger, each individual pixel will also be bigger. Pixels on full frame sensors can generally receive light more efficiently and, so, they generate much less additional noise at high ISOs compared with their cropped sensor counterparts. Generally speaking, cropped sensors give you much higher noise at high ISOs than what the full frame will give you.

Can I use a Crop Lenses on my Full Frame Camera?

Are crop lenses compatible with Full Frame bodies. The answer is quite simple: NO. However, full frame lenses can work perfectly fine on Crop bodies.



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What have we learned today? A Summary

We've learned about the difference between full frame and crop sensor.

Remember that if you put a cropped lens on a full frame sensor the image circle is too small to cover the entire sensor.

It is much better to use the designated lenses with the designated camera bodies because the sensors will perform much better and give you a cleaner image.

