

Zoom Meeting
Mon. Feb 12, 2024

10:08 - Unidentified Speaker
Bye.

16:23 - Cesar Martins
So a very good evening everyone. I hope you can all hear me. Yes.

16:35 - verol
I'm very happy that we are joined here.

16:39 - Cesar Martins
Some of you are here live with us. Some people are joining afterwards, just going to have the recordings. They're not going to join us live. And we still have one or two people who should join live, but we are going to get started because even though I am Brazilian, I do like to start things in their correct timing. So I'm very happy that you are all here. I checked the emails that you all sent me and I've seen some nice goals and objectives for our course and I'm very happy to try to help you all achieve them.

17:22 - Cesar Martins
Let's see how we can go about that. We do have a lot of ground to cover tonight so in some moments I am not going to go so deep into the details but please at any time feel free to jump in ask for more details be it during the presentation or afterwards. And since some of you answered that you can hear me properly, I will get this started. Just let me move the Zoom windows a bit away. And I will restart the sharing with you all. Hopefully you can all see the screen share. Yes. Yes. And so let's get this started.

18:39 - Cesar Martins
Before we really started, a couple of housecleaning that we need to do here before we go on. You all got the message that this is going to be recorded and something that is very important for whoever wants to have the privacy absolutely respected and please I am absolutely with you. All recordings are done separate. So all audio channels are separate and your camera, your name, whatever you want to remain private, you just need to tell me and it will be kept so. It will never be, even in the recordings, it will never show there, Charles, you want to have it this way.

19:28 - Cesar Martins
If you, just a second, we have, Somebody else coming with an email that I don't recognize. Let's see who. Well, Rosalie, do you hear me?

19:52 - Unidentified Speaker
Okay, now I see that's you, Rick. Yes. Welcome.

19:58 - Apfelrosalie
I'm sorry, so I hope you can hear me. Yes, yes, we can hear you loud and clear, yeah. That's perfect because my provider so web.de has some issues today so I

can't log in so I logged in via my mobile but it seems like it works so all good right now it's all good and we're just getting

20:17 - Cesar Martins

started I was just curious because I did not recognize the name but we are all good we were just starting and you probably also heard the message and read it that we are recording it and whoever wants Whatever it is, your voice, your webcam, your name, to remain in private and never be in any part of the recordings, you just need to tell me. You can tell it now, you can text me, you can send a WhatsApp message, email, send it on the chat, as it suits you best. But I am totally committed to preserving your privacy.

20:52 - Cesar Martins

Even in writing, if you want, I'm willing to sign it for you. And if I ever publish anything with your name on it, you can just come after me. No worries at all. It is absolutely very important. I would like that if possible.

21:05 - Emilie

Of course, absolutely.

21:07 - Cesar Martins

Everything with your name on, even if you want to change your name on the Zoom screen, so it will never be there. It's also, otherwise I will change it for you. If you ask or whatever you say is going to be removed from, I'm not going to use the audio channel that's reserved to you. So it will never be here. No worries at all. And I'm happy that you're joining, even though we are recording it. Thank you. And the final result from this is going to be compiled in the recording that is going to be available to you.

21:38 - Cesar Martins

So if you want to come back to this recording afterwards, if you want to review something, you will have the chance to do this as video. Hopefully if the AI companion works as it usually does, you will have also the transcripts from everything that we are going to discuss this evening. And Going further, the online access to this is going to be sent to you afterwards. I'm going to send you when it is because Zoom needs to process it afterwards. I need to process it, export and then save to the provider and then I will send you the link with the access to the recordings.

22:23 - Cesar Martins

And to everybody who's not participating live, you can also participate as if you were here. You just need to send me questions. You can use this email. You can shoot them over WhatsApp, however works best for you. Also, who is here live, if you want to send your questions some other way, feel free to use whatever channel you prefer. And this is supposed to be a lifetime access to you all. Supposing that YouTube is never going to be broke or taken off the air or whatever might happen to Google, which is mostly unlikely, at least in the next very many years.

23:03 - Cesar Martins

And this is something also important. You don't need to worry about taking notes

from what is being displayed to you. I'm going to send also a link to a PDF with the presentation and every material that we discuss online. I am also going to make the transcripts available and some extra materials that I'm going to put in a shared folder for you. So this includes some cheat sheets, which will show some easy ways to remember some of the concepts, names of the parts of the equipment and whatnot.

23:38 - Cesar Martins

There's a lot of extra things that I am going to put in this folder for you. Also your homework was not dreaming of having homework and the boring teacher asking you to do your stuff. I'm going to send also as we finish here some ideas of what would be nice if you could experiment with and try. To exercise a bit so you can not only learn better but also get some new questions and doubts and problems that we can solve together in the second online meeting and afterwards in our learning photo walk.

24:20 - Cesar Martins

For who is new, this is just a very quick way around our contacts. So I do have a newsletter that I send almost once a month and it has some interesting industry news. I sent the details of the meetings before they are published. So if you want to RSVP, sometimes the, I mean, almost always the photo walks are completely fully booked months in advance. So whoever subscribes gets to know before they are published. If you guys like the services I provide, I would be really, really thankful if you could at some point submit a feedback.

25:03 - Cesar Martins

If you find it is good, please submit the feedback using the second link. If you find issues, please tell them to me so we can work upon them and maybe already improve for the next time we have something together. There's the blog where I publish a lot of random things. Our Facebook group is a very nice forum in which we can share images, ideas, projects, and get to know the other people from the group. And Instagram, I mean, it's just nice so we can follow each other, but it's really inactive right now.

25:33 - Cesar Martins

And you will get all these links afterwards on a PDF. And it would be amazing if you would like and share some of these things because then we can bring more people that are like us and we can grow our community and make all of these activities even nicer. So with all that out of the way, anybody has any kind of comments about those things? Any questions, ideas so far? Okay, so let's move on. What's on tonight's menu? This is the part one. We're going a little bit on the basics and please, basic here means the base, the foundation in which we're going to build the knowledge that will prepare you to be able to make the most of what you want with your camera, your lenses, your photography.

26:27 - Cesar Martins

So this is not just some basic things in the bad way to talk about them. This is really the foundation. And we're going to go a little bit quick on the history of photography, going to talk a bit about equipment and understand what the equipment that we have is and how to change some settings. We're going to understand

exposure, which is the core behind photography, because if we don't understand how to make the correct exposure, there's no way we can make a photo and really know what it is that we are doing.

27:05 - Cesar Martins

We're going to learn about metering modes and how to allow the camera to understand the light in front of it as you wish it would do. We're going to focus on depth of field and understand focus. We're going to go about white balance and color in your photos. And discuss a bit light, which is the key element in photography. And afterwards, we're going on part two, which is homework. I'm going to send your way some exercises. Then we have the second online session in which we will go about your questions and the homework you did and enter a bit into how to make what's inside the photo expressive and really what you want to express with it.

27:51 - Cesar Martins

So we're going to about that and composition, which I think is the most important thing we need to learn about photography. We're going to dedicate a lot of time to that. And then some tips and tricks from photography overall. Then after that, we're gonna have the learning photo walk, and then we close it with the last online session in which we discuss what we've learned, what is still open questions, problems and whatnot, and what we might do as next steps. I removed the dates briefly from the online platform because it was at some point I might need to run to Brazil to visit my family because of some family issues, but it seems it's absolutely all sorted out, so I'm coming back with the dates.

28:40 - Cesar Martins

If any of these dates does not work for you, let me know afterwards and we will find a way to make this right. But what we had planned in the beginning was the 20th of February, the second online session, same time as now, in a little bit more than one week. So you have some time to work on the homework, which is quite easy. And then the learning for the walk would be in the second half of March, which is probably flexible, but that might be a good timing because of temperature also. So I would probably stick to that.

29:21 - Cesar Martins

And again, if you have any issues with those dates, let me know and we'll find a way to make this work for everyone. A last couple of suggestions. This is an open space, so if you have any questions, ideas, suggestions, or you want to share some problems you had with a specific topic that we are discussing, just let me know. Jump in at any time. You don't need to wait until the time to ask or stop to ask if anybody has questions. Something very, very important. Write down. It doesn't matter if it is in a piece of paper, in a notepad.

30:02 - Cesar Martins

Just write down if you have ideas. Oh, this is interesting. I would like to experiment with it afterwards. Because you will have many insights during the presentation, and then you will forget many of them afterwards. So if you have some ideas that you would like to experiment, or things that you want us to tackle together on the photo walk, just write them down and let's make sure that we go

about that subject for you. And please share whatever experiences and difficulties you have during the exercises or whatever, because maybe somebody else has the same issue as you had, and then everybody can benefit together from your presentation of that.

30:50 - Cesar Martins

So let's start into it and start a bit understanding what is photography and how did it come to be very, very quickly. The word, if you want to look fancy in front of your friends, photography comes from Greek and it was coined in late 1830s. And it means to draw with light. And I put this here mostly because I want to invite you all to play a bit with this because more than learning how to operate your camera the idea here is to learn exactly that drawing with light so this is an actual photo and just to represent that we can have fun and really draw with light it does not need to be as extreme as this but it should be something that will allow you to draw in your pictures exactly what you had in your mind and that scene that you saw in front of you.

31:46 - Cesar Martins

Because many times we see something beautiful, put the camera on the magic automatic mode and we photograph and well, crap, it does not show anywhere near as beautiful as the scene was in front of you. So this is something that I invite you. Let's play a bit with that and learn how we can experiment and draw and be creative with photography. This is the very beginning. This is the first entrance into the photography world. And you can go into so many directions. You could go onto, it looks like Ulrike got back with her provider, sorry.

32:28 - Cesar Martins

You could go towards macro photography and take photographs of very small, tiny things like ants or flowers. You could learn product photography. You could go on aerial drone images, night photography. There's a lot. Here, we are starting to get the foundation that will allow you to discover which side you prefer, you would like to go. And even post-processing, which some of you wrote to me on the emails that you would like to go into that. On the end of the second session, we will start a bit with that.

33:01 - Cesar Martins

On the third online session, we discuss it a little bit more. But it is not in the scope of this course to go too much into post-processing because that is a quite long course just in itself. But we are going to talk a little bit about it later in the course. So objectives, and I don't mean the objective of your camera, but our objectives here in the course. The first idea is we will learn the concepts behind the photo and the equipment. We get to know some of the techniques that will allow us to operate the equipment according to those concepts.

33:47 - Cesar Martins

And then we will practice with your equipment. And this is quite important. If you do not have your equipment and you need some equipment, let me know and we will get something arranged for you because then on the practical lessons, you will have the chance to practice and be hands-on with it. But whoever has your own equipment, you'll get the chance to go and train with your equipment. With my

help, we will make the path for you to go as deep as you want in your equipment because I'm quite sure your camera is a very capable one.

34:21 - Cesar Martins

And then we will train a bit our eyes to understand the scenes in front of us and to see how we want to portrait them in the picture. And this is mostly with the composition discussion afterwards. And this is what really makes photography special for me. And the idea is that we can really learn what we can do and then use this in whatever creative ways we can go. It does not need to be just in the frame of the photo, but we can go in so many different directions and allow the creativity to flow freely.

35:01 - Cesar Martins

This is the barrier that I invite you to break away with me. Some of you already play outside of the auto, but my invitation for you is to make the journey from auto to manual. And please bear with me, do not believe whenever these pro people come to you and say you need to shoot in manual, only manual is the real photography. That is crap. A lot of very famous photographers operate in the other two modes, S and A, that we are going to learn afterwards why they can help you. But it's important.

35:41 - Cesar Martins

Imagine this like a calculator. You need to know math so you can really operate a calculator properly. But after you learn how to operate a calculator, you're not going to do math on a piece of paper, mostly. So this is a little bit like that. We will learn how we can make the camera capture what we want in manual so we can use the semi-auto modes to our best advantage. So before we get into very tiny bits of the history of photography, any comments, fears, complaints already?

36:19 - Unidentified Speaker

Please, one at a time. No, thank you. All good.

36:26 - Multiple Speakers

Just joking.

36:27 - verol

Everything's fine.

36:28 - Multiple Speakers

Yeah, thanks for welcoming me back now, finally. Yes.

36:33 - ulrike

Thank you.

36:36 - Cesar Martins

So just jumping into the story behind photography, it is not that long, years only, actually years. And in technology terms, that is like a billion years. A gazillion years, but it is not that long ago. And I will show you how it has been evolving very quickly. Again, if you want to know more of those details, we can jump into them afterwards, or if you all would like right now, but it's a lot of

story and it will take away some of the time of the most important things for us. So a very quick and brief timeline.

37:15 - Cesar Martins

Actually, the concept behind photography started in the fifth century with a Greek philosopher that observed that the image or the scene in front of him, when the light was passing through a small hole, it was projecting upside down on the other side. It was a cave or something. And that is the concept that much later would lead to what we understand as the first photograph, which was in It was captured in a very completely different process that was a little bit afterwards. You might hear this name now and then, which is the daguerreotype, was this guy in And the way it worked here was not even with film, it was with a silver plate.

38:08 - Cesar Martins

So it would like capture the image with this insane huge camera, which was basically a box with a hole on one side and a plate holder on the other side. And the images that were captured were on a silver plate and were like this amazing things for the time. And the process behind this was insane because you had to prepare the silver plates and put them with some fluids were based on silver. And then it was a very complex process until you will have this image printed, so to say, on a silver, on a metal plate.

38:48 - Cesar Martins

And it took, sometimes it could take days for the exposure to be done. There was no way to calculate it. So it was very, very primitive, let's call it that way. And from then on, just quickly, there was another process that was similar to that, but was finally with this idea of the negative that was later translated into the film. And in the God Have His Soul Kodak was introduced and they really changed photography in many ways back then, because they were making it more portable. And in the 1900s, these guys from Kodak, I don't know if you guys can see in the camera with my, hopefully you can, they invented this tiny camera here, which is the Brownie, and I love it.

39:42 - Cesar Martins

And that is what started making photography popular. Because before it was made always with huge cameras, complex, it was difficult to do anything with it. So they started with the brownie and film, and then they revolutionized the whole industry. Afterwards that comes Leica and Leica was responsible for popularizing photos for the commercial shooters and for photojournalists. And that's why many people still say that that is the go-to camera for photojournalism. Then comes the first film, color film, was just from So it's not that long ago that we actually put color in photography.

40:30 - Cesar Martins

Then comes Polaroid, which is the instant photo that came just in And if we think about it, that was the start of this immediate wish to see what we photographed right away. Then comes afterwards, the digital sensor is something that started in was developed afterwards for the digital cameras. In Adobe created the bad boy, Adobe Photoshop, that changed a lot the whole industry afterwards, and it has come a very long way. In the 90s, the digital single lens reflex, which are the lenses

that had a mirror inside of them, the bigger ones, started to be popularized, but they were so bulky, big, expensive, and with very low resolution that they took a long time to be really accepted as decent substitutes for film cameras.

41:36 - Cesar Martins

And in the 2000s, we started with smartphone photography. Please do not allow the so-called pro guys tell you that a smartphone is not a camera. It is a very capable camera and maybe the only one you have at times. So if you learned the concepts behind photography, you can make amazing photos with almost anything. And just to finish this, so you guys have the idea, the mirrorless that nowadays people talk so much about them. They actually started in which is already years. And they started with this phenomenal Epson Read, which had six amazing megapixel resolution way back years ago.

42:22 - Cesar Martins

And it's quite fancy if you think that was years ago. Jumping into equipment because I don't imagine you have many questions about the history of photography. This is the part that we're starting to understand what the equipment you have can do and how we can make it do. Before we do it, it's important that we understand and talk about the parts with the same names. So quickly going about this. I hope you can see the mouse cursor, which is tiny. So of course you have the lens in front of the camera and if you look from the top you can see some cameras have this other display here which is a very nice thing to have but we're not touching this right now.

43:06 - Cesar Martins

We're talking about the mode dial before because this is where you change the camera from manual to A to S to B to whatever you want and not to auto please. Have the shutter release button which is the thing you press to take the photo on top of the camera you might have a flash inbuilt flash and you might have a shoe which might be a hot shoe or cold shoe the difference here is that a cold shoe only has the holder for the flash and the hot shoe has the contact so the camera can talk so to say with the flash and they can agree on the exposure and how to go about the light.

43:50 - Cesar Martins

This is the first time we're touching a point that is each brand has its own way of going with the equipment so you probably need to buy a lens or a flash that was made for your camera specifically probably your camera brand maybe to your camera model. Because if you put a Canon flash on a Nikon camera, they're going to fight and they're not going to agree on communicating and it is not going to work with the digital communication between them. But you can get flashes or third party equipment, for an example of flashes from Godox, which is an amazing brand that will work with another brand, but it has to be specific for that brand.

44:34 - Cesar Martins

And on the back of the camera, you have usually two ways to see the images. You might have only one, which is the LCD. It's the bigger one. It's a beautiful screen, super shiny and bright and colorful. That might trick you at times because it might show the picture in very bright conditions. And when you look at it

afterwards, it was not as bright as you thought. And because it is very tiny, it might show as if the photo were beautiful, perfect, on focus and very well exposed and with no camera shake.

45:10 - Cesar Martins

But when you look at it in a bigger screen, it might have issues still. So proceed with caution with the images there. And you have the visor which can be electronic or it can be an analog one like the cameras with mirrors like this one on the slide. You actually see what the camera has in front of it through the lens because there's a mirror in the middle making all the way for the light to get to your eyes. Or it can be electronic like the most modern cameras and the mirrorless ones. They have an electronic way to go with this viewfinder, the visor.

45:47 - Cesar Martins

And depending on the camera, you might have a little bit of a lag. So if you're shooting quick action, it might be tricky, but that's way ahead of our conversation right now. Which is the best camera? Anybody would take a guess. Best camera in the world that you could have with you. Some people would go about Nikon, Canon and this Eternal Fight or Sony. Joël, you were about to say something. Please go ahead.

46:20 - ulrike

I would say the one you own and you love. So the one you just love to take photos with, no matter what the technique is about. I love your answer.

46:34 - Cesar Martins

And you will see that we are quite aligned. Joël, you were about to say something, if I'm not mistaken. We cannot hear you so well. Are you still there? Your mic is not agreeing with you, Joe. We cannot hear you, absolutely.

46:59 - Unidentified Speaker

Sorry.

47:03 - Cesar Martins

If you can fix it, come back and we'll go with what you were about to say, or if you want to text it, because we cannot hear you. Sorry, mate. And so coming back to this, regardless of what people say that my camera or my brand or this brand or that brand or those fancy, super expensive cameras, digital, medium format or the super, some of these gadgets can cost upwards of But all of that makes no sense if you don't have it with you. So I go with you, ulrike. The best camera sometimes is just your phone, because it is right there with you.

47:43 - Cesar Martins

And the cameras that you have, unless you bought them years ago, that Epson old thingy, they are probably extremely capable cameras. So we can do a lot with whatever equipment you have, provided that we learn here together how to use that equipment. And in a way cameras are just tools so this goes in line with what you said or nobody asks a painter what was the What do you call that in English?

48:15 - Unidentified Speaker

I cannot say any languages anymore.

48:17 - Cesar Martins

Nobody asks the people from the construction, what was the hammer? Which brand is this hammer that you have? Because it doesn't matter. That's a tool. If you know how to use the tool, you can make something special with it. And that goes also for cameras. That said, Let's come to something important. Do you think size matters? And please take that smile from your face. I'm not talking about that. I'm talking about sensors. You will hear a lot of people saying, no, because you need full frame cameras, because that is the pro level camera and whatnot.

48:58 - Cesar Martins

Of course, this has some impacts in photography, but just so you understand that what people say when they're saying things like full frame cameras, crop sensor, micro four thirds. If you look at the red rectangle here, that is the size of a full frame. That is the size of film in the old days which is around x and that's what people call full frame because it represents what was the frame of the film camera. If you look at the blue rectangle, that is what Nikon has as a crop camera because what they've done is they reduced a little bit the size of the sensor because it has some cost advantages.

49:45 - Cesar Martins

You can have smaller equipment and whatnot. So mostly it's because they can cut costs and can sell cheaper equipment. And you see in yellow is the cannon crop and if you go a little bit smaller and you can see the gray one is the micro four thirds. What this represents for us and why is this important? Every single one of these cameras is enormously capable and the size of the sensor, even from Micro Four Thirds, can do a lot. What kind of impact the size of the sensor has? First of all, the size of the camera and the size of the lens, because the lens needs to project the image on a smaller area, so the lenses can be smaller.

50:33 - Cesar Martins

They can take less glass, they can take less crystals, less materials overall. The camera can be smaller. So you have a small compact light kit that you can carry with you everywhere. So that's an advantage on one side. On the other side, when you have the sensor that is a little bit smaller, what happens is that it magnifies the lens. So if the lens in a full frame it will see, between quotes here, the scene a little bit wider than the same lens on a crop sensor because it would take just a small part of that reflected image.

51:13 - Cesar Martins

What else? You have the pixels. They are not related directly to the size of the sensor. You can have a full frame with less pixels than you can have in a Micro Four Thirds camera. What happens is if you have more pixels, which are the small dots that make the sensor and capture the light to capture a photo, They're a little bit more crammed inside a smaller space. They're all packed together. And this makes, I mean, this can cause some issues with noise in the photos. So you can have more grain with photos that are not too well exposed.

51:52 - Cesar Martins

You can have issues with color that were not there and the sensor ends up seeing them a little bit wrong because they were all packed too much together. So it can have a little bit of influence in the quality of the image. Without going too much into the details, usually a full frame camera will have better than a micro four thirds, it will have a larger dynamic range. What does that mean? It's the difference between the lighter area and the darker area of an image. That your camera can capture.

52:29 - Cesar Martins

Because you can only capture a band, a small part of what is really in front of you. The wider it is, the better you can represent that image in your photo afterwards. The Micro Four Thirds will have it a little bit not as wide as you have on a full frame. So you can represent less nuances between the brighter and the darker areas. And that is also reflected on the low light capability. So if you're photographing in a very dark situation, the full frame camera can produce cleaner images than a smaller sensor because of the noise that is less present in a bigger sensor than in a smaller one.

53:15 - Cesar Martins

Since this is a little bit of a not so easy subject, anybody has anything about it, any questions?

53:25 - Unidentified Speaker

So let's move on.

53:29 - Cesar Martins

So another time the same question, does size matter when we consider megapixels? That's another point then you will see a lot of photographers because we have this buying the newest gear syndrome always and then you have megapixels and then the newer camera comes with Oh, I need to buy now the newer one and then it's and then it's it's We have now megapixels and it does not come directly to better photos or better quality, anything like that. Something that is very important to understand is megapixels will only be really important maybe in two cases.

54:15 - Cesar Martins

If you want to print your images very big, or if you are really cropping, taking small parts of your image and enlarging them a lot. Those are the only two situations in which a huge megapixel count will actually make a difference for your photography. Trying to exemplify this a little bit better, let's imagine that we are printing and all these images were big prints from a photo that was what It was megapixels and they are perfect. You cannot tell that that's an old camera. Imagine that we have a photo like this which is a very old photo which is pixels per pixels.

55:03 - Cesar Martins

This means you would be able to print this in the extreme maximum resolution. You would have per centimeters which is a quite big photo to print. And this is only megapixels. I am guessing all of you have more megapixels on your phone. And that means it is way more than you need. Don't worry about the table, you'll have it. It's just so you can understand that with a low megapixel count, you can still

display your images in huge TVs or print them quite largely without losing much on details.

55:42 - Cesar Martins

So megapixels, they are nice to a point. It doesn't need to be the extreme most new camera with huge megapixel count to, especially if you're putting your photos online on Instagram, Facebook or whatever, you cannot even see this density of pixels inside the image because they are going to show much less than your camera can produce. And this also comes to the point of, okay, before we move there, any question regarding megapixels and the megapixels in your camera? So let's keep moving.

56:29 - Cesar Martins

File types. Most cameras can shoot in JPEG. And if you were to choose to photograph in JPEG, we will get to this on the second online session a little bit more in depth. But if you choose to shoot JPEG with your camera, please select the fine adjustment for the JPEGs. Do not use the other ones, they're called a lot of different names like normal, basic, you have Canon with M1, M2s and other ones. Why is that? On fine, I mean, let's take two steps back. JPEG, it is an image that goes with what your camera captures and then it processes this and compacts it into a more digestible, so to say, file.

57:18 - Cesar Martins

And this file is compressed it does not have all the details that was originally in front of your camera so if you are going to shoot in jpeg choose the highest setting in your camera and I'm happy to help you with that in our photo walk you do not need to find this or by yourself but choose the highest setting for jpeg or even better choose the RAW format because there you have all the information, all the resolution, all the color details that your camera can offer you with one caveat.

57:54 - Cesar Martins

You will need to process this image afterwards. So right now you might choose still JPEG, but keep in mind that it will be interesting to have more quality in your photos if you go for the heavier format, which is the RAW. Quickly about lenses, we do have a bunch of different kinds of lenses that go from the wider angle to the telephoto end of the spectrum. And they can be called fisheye, which is like this viewer on your door that shows all the images distorted, but a very wide view. You can have a wide angle which is still very wide but does not go so deep and does not zoom so much.

58:41 - Cesar Martins

Some lenses that cannot zoom are called prime and they are usually of a higher quality but they cannot zoom. You have the zoom lenses or the telephoto lenses and you have the super crazy zoom lenses that can be huge, so heavy that you cannot hold them and upwards of Important for us is the effect on the photo. So all these photos are from the same person that you're going to see now. This is the fish eye. A fish eye will show everything around you and with this distorted perspective. If we start going into the wide angle you don't have the distortion anymore but you start to see more of the surroundings and please notice how far

the model appears to be from the bridge that you can barely see in the background.

59:34 - Cesar Martins

If you start zooming a little bit more and then a little bit more you will see that you can see the model better you can see less of the area around her because you are compressing it a bit and this background compression starts to show as if the bridge were closer to the model if we keep on zooming you will see that it appears that the bridge is very much closer to the model than it was on the

1:00:02 - Unidentified Speaker
beginning.

1:00:03 - Cesar Martins

And this, especially for portraits, is a very nice technique to use. You compress the background, you make it a little bit more blurry, and then the portraits are way nicer to look at. But that's, again, something for the next online session. This is just so you can have in the material what kind of angle, how much coverage each lens will give you, and the zoom level that it would give you, but it's not important for right now. On the lenses, also very quickly, you have a lot of information that might be interesting for you to understand, the ones that are important for us.

1:00:40 - Cesar Martins

If you look, and I hope you can see the mouse cursor. Yeah, now you should see. You see here millimeters on the lens on the left. That is the zoom level that this lens has. And since it has only one number here, this is a prime lens. If you look on the lens in the middle, it has this to millimeters. That means this is a zoom lens that goes from to millimeters. And this one is another zoom lens that goes, the one on the right, from to millimeters, meaning it's a less zoom, so to say, than the middle one.

1:01:25 - Cesar Martins

And this one on the left is a prime lens that does not zoom. Still on the lens on the left, we have this other number here which is This is the description of the maximum hold that this lens can allow the light to pass through, meaning that it can allow more light to come inside the sensor. If we look at the lens on the right, it is also and this means this is a little bit a smaller hole because just to make it more difficult the smaller the number the larger the hole because it's a fraction so is a smaller hole than which is the lens on the left meaning that the lens on the full right lets a little bit less light come in than the one on the full left And the last part of the lenses, one before the last, sorry.

1:02:25 - Cesar Martins

You have here on the lens in the middle one, and then it is to This is most common to see in the zoom lenses, because on the wider end, on the open side of the lens, you have the larger hole allows more light to come in and then you start zooming in because they want to keep it a little bit cheaper and with less materials when you start to zoom in this hole closes a little bit so when you are all the way zoomed to millimeters with this lens in the middle the largest hole is not anymore it is Last quick information You also might need to know that your lens has this

other one here, usually in the front element.

1:03:14 - Cesar Martins

This one is a millimeter. If you were to need to buy the lens cap to your lens at some point, or filters to it, this is an important information for you to have. It means the diameter of your lens is in this case on the right, millimeters. Almost about to end this equipment part of our talk. Let's talk quickly about maintenance because this is what will keep your images coming well and maybe your camera working and even better the images coming without a lot of small dots on a sensor because they can ruin a photo.

1:03:58 - Cesar Martins

Maintenance is quite simple. There is this amazing quick and easy way to clean your equipment, and I'm going to do it with your equipment for you, if you are okay with that. Of course, that's not how we are going to do it. I will go quickly about this here, so you have the materials afterwards anyways. What we will usually do to clean up a camera, if we're talking about cleaning the body of a camera, You can go with a dampened cloth or even this silk ones and just go and take away any kind of dirt or a thing that might have fallen on it.

1:04:45 - Cesar Martins

You don't have to worry too much about it. I would be careful not to scratch it too much, but this is an easy way to clean it. Do not use any kind of cleaning products on this. Just use water at the most and a little bit of water. Do not come with a soaking wet tissue. Most cameras are not waterproof. Some of them can take a little bit of droplets of rain, but really you cannot submerge your camera unless it is really for diving or waterproof camera. So just go about it with a lightly dampened cloth.

1:05:21 - Cesar Martins

Or the sensor the sensor if you guys can see it here on my The sensor is here inside I would recommend that you do not touch it in any ways. I cleaned my sensor. I learned it by myself. It is not rocket science, but you can damage your camera and it might cost more than the camera to repair it. So I would go with a really careful here. If you guys want to go and try to do it, it is possible and it's quite easy, but be aware you can damage it. The better thing to do is every maybe one year, two years, five years, depending on how extreme is your usage of the camera, have it professionally cleaned.

1:06:06 - Cesar Martins

There are many places you can have it done. If you have trouble with it, you can ask me and I can point you to something like that. For the lenses, the body of the lens, pretty much like the body of the camera. You can just rub it with a dampened cloth. What is nice if you're going to clean the glass, the way I used to do it to prevent any kind of problems. Let me even stop the share so you can see my full screen here. Hopefully you can see it now. So if you're going to clean your lens, what I will do very quickly is I will have a blower, which is this nice little rocket here.

1:06:50 - Cesar Martins

Just blow the front element so you don't have any particles, any sand, any grains. And then you can, if you were extremely careful as I am, you can go with a couple of steps. After doing that, I still come with a small brush and very lightly brush away. To remove whatever might have been left very very lightly and then I would use either such a wipe or you can have this fluid that you just spray on it and then with a very clean microfiber cloth you would go here and clean it. And I always do round and circular movements because they're less prone, if you scratch it in a straight line, it might be, you might see that in the pictures.

1:07:43 - Cesar Martins

Scratches on the front element are quite hard to see if you have them, unless you really scratch it with too much strength, but they're very difficult to see. If you are going to clean the inside, and this part is okay if you do it, we can do that together if you want. If you're going to clean the inside of the lens, you still use the blower. Turn your lens with the opening pointing downwards and just blow it with air. You can do the same with your camera. You have a cleaning mold in your camera.

1:08:20 - Cesar Martins

Enter the cleaning mold, point the opening downwards and just blow it with air. And that's pretty much all I would recommend that you do if you need to remove some dust spots from your sensor. Otherwise, I would not do this. This is absolutely safe procedure, but I would only do that if you have some dust spots on your photos. Otherwise, just shoot ahead. The sharing here. Questions, fears, complaints, anything that you guys might have and want to share with us? Let's go forward.

1:09:08 - Cesar Martins

Some important and not so difficult to follow things. Store your camera in a cool and dry place. Don't leave it barbecuing in the sun. Don't put it in a boiler room. Don't put it in a very wet place. Be careful when the temperature is extreme. High humidity might be an issue but one of the extremes that makes more sense for us to be aware of is if you are shooting outside in winter and it's very cold and you bring your camera back inside your car with the warm temperature or inside your house, what happens when you take a cold drink from the fridge and put it on top of your Table on the summer it gets all this droplets of moisture right this is something that also can happen in your camera.

1:09:56 - Cesar Martins

So if you are coming back from the outside of a very cold environment and back into warm environment. Let your camera adapt to the temperature again inside the same bag in which it was before. Allow it to come to room temperature and then you operate the camera again. Otherwise you might have inside the lens, you might be able to see some foggy thing which is the condensation of the moisture and that might really disturb your photos. Uh this tiny thingy the lens cap please keep it on at all times when not obviously when you're not photographing because this is going to preserve the different element of your lens and if you are photographing something I always recommend always have the lens hood on Regardless of what you're going to do with the photos, have the lens hood on, because it will protect if you just bump it at something, it will prevent it from hitting the front

element.

1:10:57 - Cesar Martins

And even if it falls, it will probably not allow something to impact directly the front element. So when photographing, I recommend always keep the lens hood on. That's pretty much, yeah, be nice to your camera. Just don't ogle up and do anything with force because it's probably not going to like that. Questions, issues, problems? If nobody has something to add, let's go and discuss some concepts. Now we're really starting to go into what makes photos happen and how we can impact that.

1:11:48 - Cesar Martins

With this animation here, this is how a photo happens in a camera that has the mirror, which are the bulkier and older ones. So whatever is in front of the lens, the light comes through the lens and more or less light comes depending on how big or small the hole of the lens is. In this case, it hits the mirror and goes through the viewfinder on top or when you press the shutter release, the mirror lifts and the light comes to the sensor. Mirrorless cameras, they do not have the mirror, so the light goes straight into the sensor and that is what produces the photo or the file with the information that was in front of the camera.

1:12:36 - Cesar Martins

How do we go about with our photos to make them good? We have three things mostly that we have to think about. First of all, is the proper exposition. What is that? Exposure, not exposition. Sorry, this is proper exposure. Now it should read correctly. Exposure means it has enough light so you can understand what's in the photo and you can display as you want the difference between the lighter and the darker parts of your image. It needs to be in focus unless you decided to do something out of focus, there must be a reason for that.

1:13:19 - Cesar Martins

But you need to have a good focus and the focus needs to be in a specific place. We will discuss this afterwards. And you have to plan what do you want to display in your photo and that's why the composition is so important it probably has happened to you if you didn't also do it to others as I have done more than my share you come back from that amazing trip with photos and then you start showing them photos to somebody and the person is about to collapse on the floor and sleep because it's boring to see because the person does not see those emotions that you had and you do not have enough in that photo to really attract this person to keep looking at the photo.

1:14:05 - Cesar Martins

So we need to understand how we can make our photos more interesting and tell a story or draw the viewer's eyes through the photo and that's what's in composition. If you understand how to go about these three items you can make amazing photos and really get people interested and keep on looking at your photos. Let's go to the first one which is the proper exposure. I don't know where this was. Let's try that again. Proper exposure. Here we need to consider how the light is going to enter the photo and how the camera is going to react to that and how we let just enough light to get into the sensor.

1:15:01 - Cesar Martins

So let's understand the basic concepts behind that. First of all, aperture is the size of the hole through which the light is going to go through. And as I said this is a fraction so the smaller the number the bigger the hole so if you look at the full right and the bottom f2 means it's one over two which is a fraction so it is the largest hole in this series if you and this is nice so you can start to understand the the jargon on the industry if you step down means if you close one step from to you're actually increasing the bottom of the fraction so the number is smaller and then you have a smaller hole here so you start closing down the aperture until all the way in this drawing to f16 which is the smallest hole we will see in a bit how this affects the photos But right now, this will affect how much light can go through and get to the sensor.

1:16:06 - Cesar Martins

So if we imagine that you press the shutter button, the lens opens, the sensor is exposed, and then it closes again. So you have how long it is open and how much light is coming through. The second concept is the shutter speed, is how long this is open. So aperture is how big the hole and shutter speed is for how long, in milliseconds maybe, it is going to be open and the sensor is going to be exposed. One way for us to try to understand this a little bit better is imagining this is water coming out and you want to fill this cup beneath it and imagine green here is the correct exposure that we want to achieve.

1:16:56 - Cesar Martins

The cup here is our sensor and all the rest is how we are handling the exposure for this sensor. So if I open this Just a little bit less water comes and then it takes more time until the water comes to the green level. If I open it more, it means that the water will come quicker to that green level. Or even if I keep it almost closed, but I let it open for more time, I will again make sure that the water comes to the level that I desire. If you consider this level, the desired level, the correct exposure, the rest is like opening more the lens or less, and keeping it open for more or less time, so you allow the correct amount of light to come into the sensor.

1:17:50 - Cesar Martins

Is this clear for you all? Because this is absolutely important to understand the photos. I will invert the question. Has anybody got any issues with this or wants me to explain it better? No, thanks.

1:18:05 - Unidentified Speaker

All clear. Thank you. Okay.

1:18:10 - Cesar Martins

And this is how I make sure also that you guys are not sleeping too much because I tend to speak a little bit like sleeping pills. Okay, proper exposure. Let's go again with this concept of the size of the opening of the lens. The same, the cameras here, they have exactly the same motive in front of them, but by opening more, so if I go for or two, as we saw on the previous one, instead of I allow much more light to get to the sensor. But in both cases, I allow the same amount

of light.

1:18:48 - Cesar Martins

Regardless of the size of the opening of the lens the time is going to compensate so I can have exactly the same amount of light which is the correct exposure which we call exposure value or EV for short. And that brings us to something that you all will see sometimes in photography, which is the exposure triangle. Why do we call that? Because it has three points that really drive it and that make it to the exposure value that we want. On one of those vertices, we have the aperture.

1:19:26 - Cesar Martins

Again, the size of the whole of the lens. On the other side is the shutter speed. How long is the sensor going to be exposed? And the other one is the ISO. ISO is the ancient ASR. Each one says it in a different way from film, which is the sensibility of the sensor. Imagine that this is a normal sensor. With a normal sensor, you can see so much light, but then I will raise the ISO. I will make this eyes be like an owl's. Because then it can capture much more light. This is sort of the same thing we're doing when we raise the ISO.

1:20:05 - Cesar Martins

We digitally increase the sensibility of the sensor, meaning it can capture more light. This has a limit because this is done artificially, so to say. It is electronically enhancing the light capturing from the sensor, so it can introduce some artifacts, some false colors, some noise. But we'll get to this later on. Last thing that I will try to explain how we can play with this concept and this is maybe just one concept that you take from the whole talk tonight. This next one is the most important thing still building on this exposure triangle.

1:20:46 - Cesar Martins

Let's imagine that we have aperture, size of the hole, and shutter speed, the length, the duration of time, the span of time that the sensor is going to be exposed. So on the middle is our sensor, and then down is the darker image, and up is the brighter image. This green part is our desired exposure. These numbers are the size of the holes. This is the aperture. So F1.4 is the largest hole. F22 is the smallest hole for this lens. On the other side, oh, sorry, not on the other side yet. If we move upwards so the numbers are getting smaller that means the hole is getting bigger so more light is coming in.

1:21:43 - Cesar Martins

Each step in this scale is double as much of light that is coming in. If you go down from sorry not yet dead so shutter speed shutter speed is the speed and the same kind of effect if you go upwards it means it's going to stay double as much open so double the amount of light is coming in if you go down You have it and then it's coming half of the light is coming in. In this example to achieve this perfect exposure that I want, I need to pair these two things. The size of the opening is and the speed is over This is a crazy example.

1:22:28 - Cesar Martins

Don't worry too much, but the important is I pair these two numbers and then if I want to keep the exposure, but increase the or decrease in this the amount of time

I increase the amount of time that is going to be open it means it is going to get more light in so it's going to be brighter than the desired exposure so I'll do this again This is the perfect exposure. It is the size of the hole the aperture and over 1000th of a second. So this gives me the green exposure value that I wanted. Now I'm going to increase the time.

1:23:10 - Cesar Martins

So I'm going to leave it on over which is a lot more time open. This is going to make the resulting photo much brighter than the previous one. Again, if you consider the same photo from before, I still want to get the same exposure, but I want more time with the shutter speed or the shutter open. So I want to move from one thousandth of a second to one fifteen hundredth of a second. I also need to decrease the exposure and allow, sorry, the aperture. And allow for a bit less light. So it's more light on the right on the shutter speed side and less light on the aperture side.

1:23:51 - Cesar Martins

So this seesaw is going to keep always the middle balanced. Does this make sense to you?

1:24:05 - Unidentified Speaker

Yes.

1:24:09 - Cesar Martins

Everybody just ran away. Yeah, we're still alive.

1:24:13 - ulrike

No, thanks. Makes sense.

1:24:14 - Cesar Martins

This is the most important concept that we need to understand, how to play with those settings on the camera. Because if you increase one side and you want to keep the same amount of light, you have to decrease the other side. And just keeping on with some of the examples here, Not updating on my computer. Okay, yeah. And then if that wasn't enough, we add another thing to here, which is the sensitivity of the sensor coming with the ISO. Because back with the previous example, the green was there on the middle, but maybe there was not enough light in the situation in which we were.

1:24:59 - Cesar Martins

So we could achieve this green desired exposure value. So maybe we need to have more light. I cannot increase the aperture anymore. I'm already on the maximum of my lens. I cannot, for other reasons that we'll discuss afterwards, I cannot allow the camera to stay open for more time. So we artificially, we digitally increase the sensitivity of the sensor. So we can keep the same pair of aperture and shutter speed, but still allow more light to come in if we raise the ISO. If we decrease the ISO on the other way, we will make the photo darker.

1:25:41 - Cesar Martins

And if we increase the ISO, we will make with the same pair of aperture and

shutter speed, we will make the photo brighter. And then we could achieve the same kind of exposure desired if we go for a different pair by raising the ISO. If you need to choose, first you have to choose one of the two, aperture and shutter speed. We will learn how we choose what we want a little bit later. But then after you choose one, you set the other one. To the limit that you can if you cannot do with this two and then you raise the ISO only then because you just raise the ISO and add noise if you don't have another way to increase the brightness of this photo.

1:26:30 - Cesar Martins

All the life still because this was the most complicated and important concept in the whole discussion. I hope you're still alive in there. And this is how it affects the photos. In this example, we see on the horizontal axis, left is a faster shutter speed, so it stays open for less time. Right is a slower shutter speed, so it stays open for more time and allows more light to come in. On the vertical axis we have the f-stop the aperture on top is a smaller aperture which allows less light to come in and down is the larger aperture that allows more light to come in.

1:27:15 - Cesar Martins

What is important in this one if you go with this diagonal here from bottom left to top right the exposure is the same so the photos are exactly have exactly the same light in it. Because you are moving both sides of the seesaw together, the exposure remains the same. On the other hand, if I go from the middle, just up, meaning I make it a smaller opening, a smaller aperture, the photo is darker. Sorry, wrong screen that I'm showing you guys. So if I go from the middle one to the top one, I am just making a smaller opening, a smaller aperture so the photos gets darker.

1:28:01 - Cesar Martins

If I move from this top middle photo to the right, I am just allowing the camera to stay open a little bit more and expose the sensor for more time, more light comes in, so the photo gets brighter. And this is the concept of this seesaw, that you move both sides together, the photos are the same. If you move just one of the sides, you're making the photo brighter or lighter. Moment, there's a question here, give me a second. The question is, so while you set aperture and shutter speed, at which value is the ISO originally?

1:28:43 - Cesar Martins

Good one. I always keep the ISO to the lowest value possible. Usually it is or so this is the the easiest way to go about it go for the lowest value some cameras will have an artificial iso for an example or that is artificial that is not the original iso you can see that in the manual of your camera but usually you have to go to other settings to enable this non-native ISO. If you just go towards the lower side of the ISO you will hit the end usually around or My suggestion is keep this one until you need to increase it for another reason.

1:29:28 - Cesar Martins

If you can, keep it as low as your camera allows you to. Because then you have the photo with the lesser amount of noise or grain or artificial colors that you might

be able to achieve. Great. Moving on. So this is what I've just said. You keep the pair and you keep a constant EV, which is this diagonal from bottom left to top right of this table. And how do we see the exposure of a photo? There are a lot of ways on your camera that you can see it. So this camera here is set to manual, and you have a couple of different ways that the camera is going to show you the exposure.

1:30:13 - Cesar Martins

On the top left image, you have this tiny, let me just write on it for you.

1:30:28 - Unidentified Speaker

So you have it, this red one here.

1:30:30 - Cesar Martins

It's horrible. Let me increase the size of this. Let's make it quite bigger. So you have this red ellipse that is showing you here. There's a dot in the middle that is a bold dot. And to the left, you have minus one, minus two with two dots in the middle. And to the right, you have plus one and plus two with two dots in the middle. What this means, you have this tiny thing in the, you have this little bar here. All right. Zoom is not happy with my drawings.

1:31:19 - Unidentified Speaker

So you have this. Zoom is not allowing me to draw.

1:31:26 - Cesar Martins

Zoom knows I am a crappy at drawing, so it's not allowing me to do it. Weird. Okay, I give up. Otherwise, I will waste your time trying to draw here. For some reason, it does not allow me to at all. Okay, I think I'm back. Yeah. I just need to change the color now. Yeah, so you can see this little thing here that I just painted red. This is not in the middle. It means it is to the left. It is to the underexposed. It is telling you that your photo is too dark in this case. If you look on the right, you have a lot of other information, but you have the same thing here.

1:32:20 - Cesar Martins

And in the middle of it, you have exactly the same display that is showing you that your photo is properly exposed. So this tiny bar below is exactly in the middle. This is telling you how the camera is measuring it now. We will learn afterwards how it measures. By the way, the camera measures it right now. This photo is well exposed. If this moves to the right, in this case, because it can be the opposite direction on some Nikon cameras, if it goes towards the plus side, it is overexposed, meaning too bright.

1:32:52 - Cesar Martins

If it goes towards the minus side, it is underexposed and too dark. At some point, we want this to be out. Most times, we want it to be in the middle, meaning a properly exposed image. And there's another way that we can see this, not in all cameras, but in some of them.

1:33:18 - Unidentified Speaker

You have the Beard Histogram.

1:33:21 - Cesar Martins

I don't know how many of you have heard about the histogram. And most people look at this and what the heck is this? I'm back in my statistical analysis classes. On this graph, what you see is the distribution of the light on your camera. If the peak of this, so the one on the top, the first of the three graphs, it has a peak that is in the middle, so to say, not one side or to the other. That means this photo is well exposed or balanced. So you have to the left, a little bit more area in the photo.

1:34:03 - Cesar Martins

Zoom is not happy with drawing today. So you have here to the left a little bit more than you have to the right, meaning this photo is a little bit more towards the dark than to the bright. But the most of it is to the middle. And this means this photo is well exposed. If you go for the middle one, it is completely to the right. Meaning this photo is overexposed or it has very bright parts on it probably overexposed and the opposite for the bottom histogram it is way to the left meaning there's a lot of dark which probably means it is underexposed.

1:34:43 - Cesar Martins

You might also have, as you see on the photo on the right, a colorful histogram that shows with every one of the RGB colors. I would recommend on your camera, I would never have this one. I would maybe have the ones on the left.