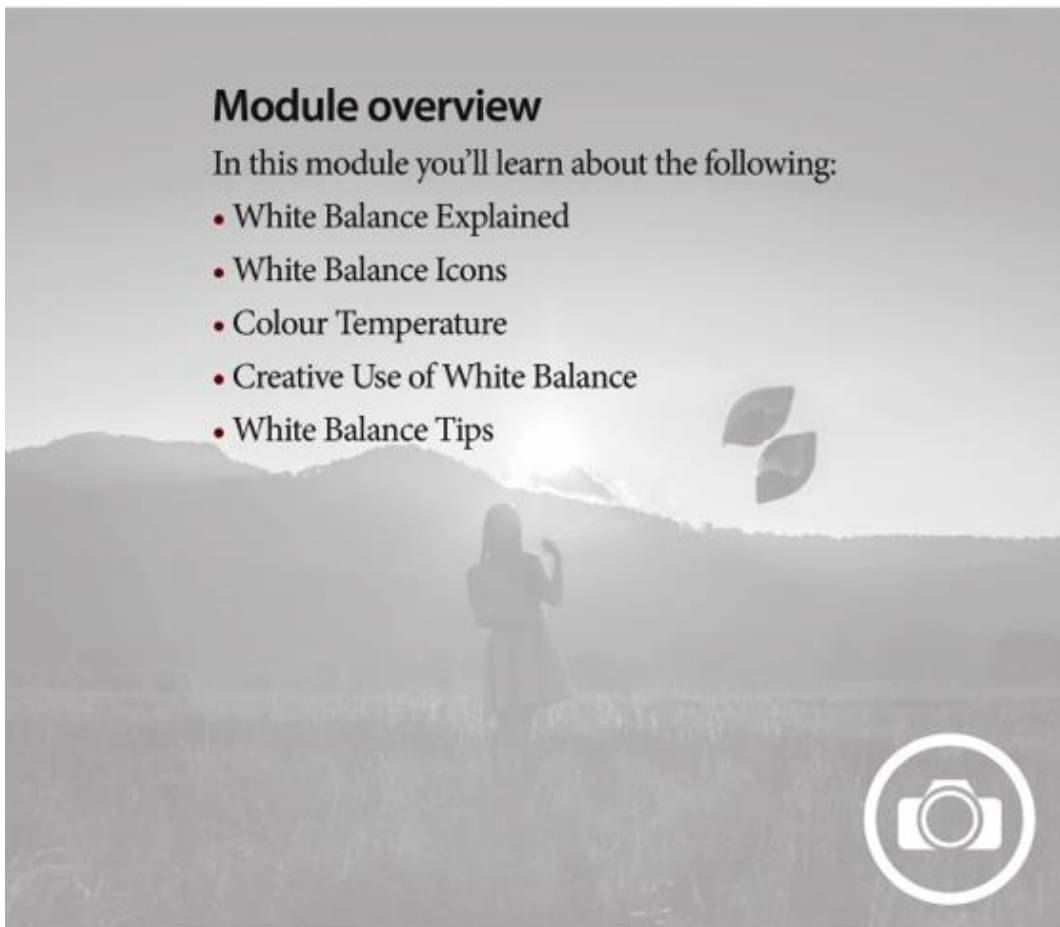# Module 6:
White Balance

Module overview

In this module you'll learn about the following:

- White Balance Explained
- White Balance Icons
- Colour Temperature
- Creative Use of White Balance
- White Balance Tips

"The more pictures you see, the better you are as a photographer."
Robert Mapplethorpe
(1946 – 1989)

6.1 White Balance Explained

*Tip: if you shoot in JPEG mode and your white balance is incorrectly set, it's very difficult to fix with editing software.

If you shoot in RAW format, though, it is possible to adjust your images to the correct setting.

However, it's better to try and get everything right "in camera", as it saves time later.

Different light sources can create different colour casts on images. The white balance feature on digital cameras essentially tries to make sure that any white in your image looks white.

Most people are happy to use auto white balance setting, and in most cases it's reasonably accurate. However, if you notice that some of your photographs have a strange colour cast, then you will probably have to calibrate your white balance manually before you start shooting. It's not as difficult as it sounds: you just need to find the manual white balance setting, point the camera at something white and half press the shutter button. As with most cameras, each brand has a different way of doing this, so you will probably have to consult your manual (or look it up online).

Here we can see all the white balance settings and the difference it can make to the colours.

Auto white balance   Tungsten white balance

With auto white balance, everything looks fine; but an incorrect setting like Tungsten creates a blue colour cast over the image.

Let's look at the setting individually and see how each one can affect the colour of your photographs.

Tip: if you are uncertain about which setting to use, then auto mode is the best choice. It's not always 100% accurate, but if you shoot in RAW format, it will be easy to adjust later.

6.2 White Balance Icons

Auto:
Camera sets the white balance

Daylight:
Camera adds warm tones

Cloudy:
Camera adds warm tones

Shade:
Camera adds warm tones

Tungsten:
Camera adds cool tones

Fluorescent:
Camera adds cool tones
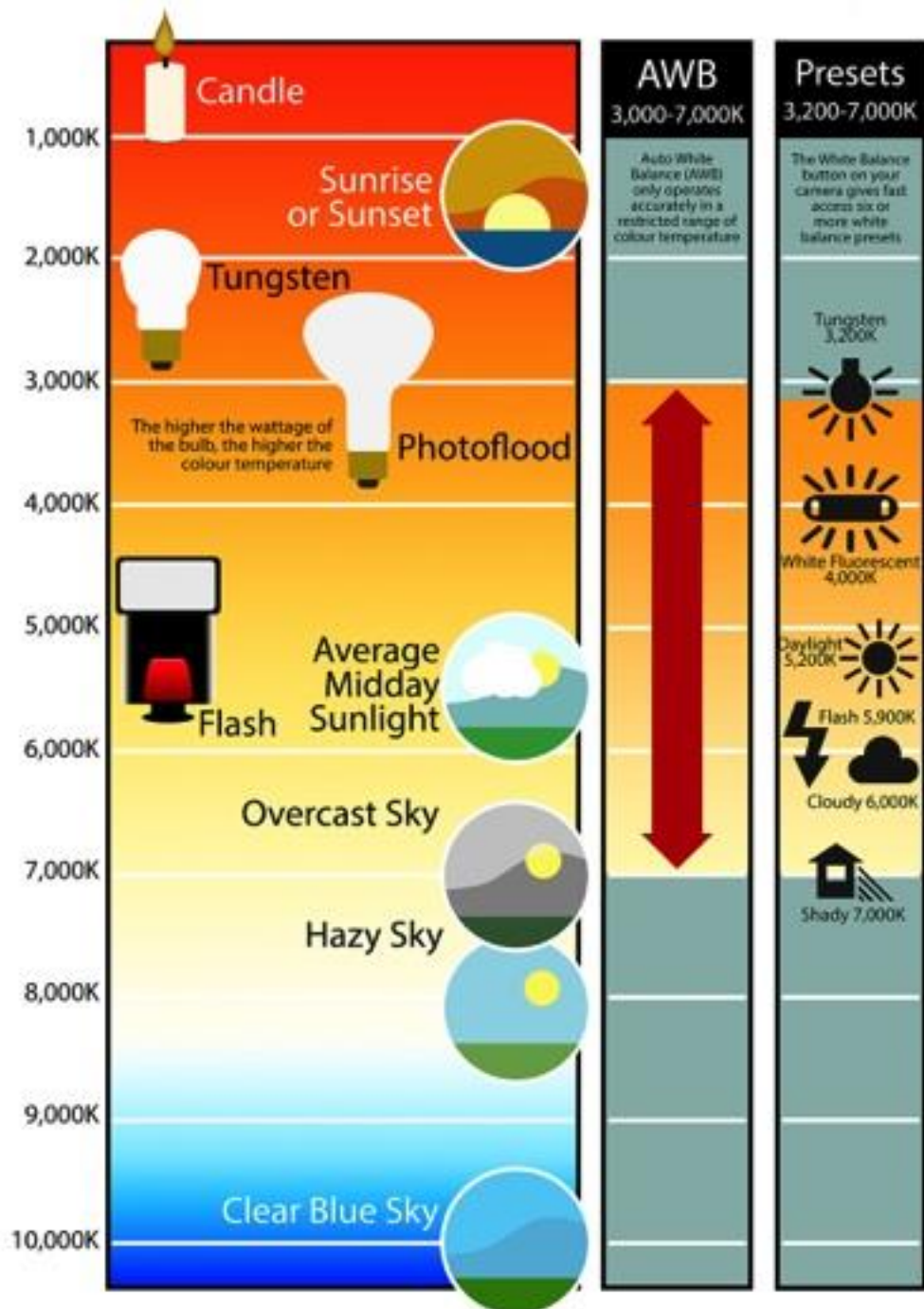
Flash:
Camera adds warm tones

Custom:
Photographer sets the white balance

6.3 Colour Temperature

Every light source has a different temperature, which is measured in Kelvins.

The illustration below show the different colour temperatures of different light sources.

So it helps to know how the colour temperature scale works; and remembering how the colour temperature of different light sources can affect the colour will help you to take control of your white balance settings.

Remember that a high colour temperature can create a warm-colour cast (red or orange) and that a low colour temperature can create a cooler-colour cast (blue).

Tip: if you are shooting a sunrise or sunset, the automatic white balance setting can be unreliable and often adds a blue-colour cast.

Check the live view screen first; and if you think the image is too blue, then switch to custom white balance and increase the colour temperature to make the colours look warmer.

This photograph was taken using auto white balance; the colour temperature is 4450K, which makes the colours have a natural look.

As you can see from the example above: depending on the light source, a low colour temperature can add a blue-colour cast and a high colour temperatures can add an orange-colour cast.

Therefore, using manual white balance can drastically alter the colours in your photographs.

Tip: think about how colour creates mood.

For example, many photographers like to explore and photograph abandoned buildings. Pushing the white balance into a lower-colour temperature can add a sense of coldness and desolation, which can give the images a greater impact.

6.4 Creative Use of White Balance

Using the incorrect white balance settings isn't always a bad thing. Sometimes it can happen by accident; for example, if you've been shooting outdoors and then switch to indoors without changing your white balance settings.

Correct White Balance   Cloudy White Balance

With the correct white balance, the image looks fine; but with the white balance set to cloudy, it creates an orange-colour cast, which gives the image a much warmer tone.

6.5 Summary

- Different light sources have different colour temperatures.
- Colour temperature is measured in Kelvins.
- White balance is used to achieve accurate colour.
- Your camera has different settings to compensate for different light sources.
- When using the correct white balance, the whites in the image should look white.
- Auto white balance is the recommended setting, but sometimes it helps to set the white balance manually.
- Deliberately using the wrong white balance can add either warm or cool tones to your photographs, depending on your preference.

Assessment 6

1) True or False? White balance settings only affect the whites in the image.

2) Is it possible to customise the white balance setting?

3) True or False? Colour temperature is measured in Centigrade.

4) If your white balance is set to tungsten and you shoot outdoors with natural light, what will happen to your photographs?

5) If your white balance is set to shade and you shoot indoors with artificial light, what will happen to your photographs?

6) If you are shooting by candlelight, would you need to set the white balance manually?

7) If the sky is overcast and you were manually setting your white balance, what colour temperature would you use?

8) Does the wattage of a light bulb affect the colour temperature?

9) Which colour temperature setting would be used for fluorescent light?

10) Which colour temperature setting would be used for tungsten light?

6.7 Assignment

Select a white object and photograph it using as many different light sources (natural and artificial) as possible. For each light source you use, take one shot on auto and one shot using custom white balance. While you're setting the custom white balance, use the live view screen; this will help to increase the accuracy.

Compare the images and see which ones have the more realistic colours – the auto setting or your custom setting. If you're not sure, look at the white object; if it appears to be pure white, then the setting was correct.

The image with the most accurate colour gets one point. Keep a score and see who wins – you or your camera.