ICPMM321B:
Capture a Digital Image

Student Handbook
**Modification History – Competency Handbooks**

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<th>Version</th>
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**Forms Control:**

All documents related to the delivery or assessment of ICA20105: Cert II in Information Technology will have a version number displayed in the footer of the document. This Modification History page will appear after each title page of a handbook to ensure that the materials involved in the delivery and assessment of the certificate remain in a constant state of ongoing review and improvement. Comments on changes will only show sufficient detail to enable a user to identify the nature and location of the change. Documents will be reviewed at least on an annual basis at the official internal review and fellow instructors and industry representatives will be consulted throughout the year in informal discussion.
UNIT CODE: ICPMM321B  
UNIT TITLE: Capture a Digital Image

Description
This unit describes the performance outcomes, skills and knowledge required to use digital camera technology for the production of colour separated images.

Elements of Competency

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<td>1.2 Pixel resolution of the camera is matched to the required quality and resolution of outcome.</td>
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<td>1.3 The RAM capacity of the camera is checked to be appropriate to the number of images required to be captured.</td>
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<td>1.4 Shutter speed, focal lengths and camera feature modes (eg flash, scrollage, icon menu, close-up, wide angle and telephoto capacity) are assessed suitable for the quality and use of photographic images required.</td>
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<td>1.5 Lithium batteries are handled and stored according to OHS requirements</td>
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<td>4.2 The computer card interface/disk is uploaded onto the relevant computer and the image saved on hard disk</td>
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<td>4.4 Photographic images are enhanced, cropped and altered electronically to deliver the required image</td>
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<td>4.5 Photographic images are checked for fitness of purpose and conformance to the job brief</td>
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<td>4.6 Photographic images are assessed fit for the relevant delivery mode (eg print, CD-ROM) and delivered appropriately</td>
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Digital Photography

Introduction

A digital camera has become the choice of equipment for many professional photographers. Digital photography has become an important element of many IT-based multimedia productions. There is a lot more to learn than just “point and shoot” concepts. Types of cameras, resolution, software, lighting, shutter speed etc. are all important elements.

Activity 1

Common Mistakes with Digital Cameras

Visit the following website and list the five common problems and some tips on how to fix these. http://www.picturecorrect.com/photographytips/solving_digital_photography_problems.htm

Batteries

Digital cameras consume battery power at a very fast rate. Especially Alkaline batteries do not last very long in digital cameras. Newer types have been improved but only by about 30%. The reason is that alkaline batteries are intended to deliver their full capacity if the power is used slowly. Since digital cameras place a constant high power drain on batteries, lithium batteries are much more suitable.

Lithium batteries and NiCd or NiMh rechargeables do not leak and can safely be left in place in your camera when it is not in use. This will also help preserve the small back-up battery or condenser which is present in almost all digital cameras and serves to remember the internal time and date.

Since many digital cameras consume some power even when switched off, recharge NiMh batteries about once a month during long periods of non-use. This will prevent damage through total discharge and ensure the camera’s clock has a reliable current supply.

Contrary to NiMh batteries, NiCds suffer from “memory effect” and should be fully decharged before charging as they “remember” their last state of charge and will hold less power after time. Many batteries contain harmful materials, so dispose of them safely.

Software

Software included with your digital camera will enable you to connect your camera to a computer, so images can be downloaded and stored but it usually also includes a browser to view images on screen, arrange them in folders or print them.

It is quite common for other programs to be included such as Panorama software for stitching images, programs for cataloguing them, photo albums or photo manipulation software. The latter usually consist of limited edition versions of larger professional programs, such as Paintshop Pro or Photoshop.
Photoshop Elements, is a firm favourite as it allows a whole range of manipulations and adjustments to be made. Its user interface may take some getting used to, as it is a downsized copy of the full version which is clearly aimed at professional use and does not work with simple to understand pictograms or ready made functions. Among professional users Photoshop is considered to be the very best, although some might argue that cheaper alternatives are available with the same functions and possibilities.

Activity 2

Open a Word document and answer the following questions:

1. Which type of battery is best recommended for use in a digital camera?
2. Why?
3. Which type is it safe to leave in your camera when not in use? Why is it recommended that you do this?
4. Why is it important to dispose of batteries safely?
5. Access the school’s network. What photo editing software packages are available for use?

Activity 3

Digital Photography Terminology

Access the following website and define the following terms:
http://www.digital-photography-tips.net/digital-photography-terminology.html#s

- Shutter speed
- Pixel
- Resolution

Tips for taking good photos:

The one thing all effective photos have in common is good composition. Here are a few tips in composing a photo:

- **Pay attention to what is in the frame:** Avoid distracting elements in the background; be aware of what else is going on around photo’s subject; watch out for poles, trees and power lines, and look all the way around the edges of the frame, asking “Is this really what I want in my photo?”
- **Use the rule of thirds:** Imagine the frame is divided into thirds horizontally and vertically, place your subject where the lines intersect instead of in the centre of the frame (see picture on sheet).
- **Choose an interesting angle of view:** A shot from low down, or high up, can give a fresh perspective, and make for a more dramatic photograph...
- **Look for interesting elements:** Look for elements that draws a viewer’s eyes through the photo; a winding path, a row of telephone poles or even a line of chairs at the beach can serve as elements in a good photo.
Be aware of the role of the foreground and background: A person in focus in the foreground with a blurred background makes a good portrait; alternatively a subject in the foreground but with the background also in focus gives more information about the subject.

Look for patterns: In nature or man-made objects as subjects for interesting photos.

Get in close: Look for texture in the wrinkles of a face or the bark of a tree; hands can say a lot about a person; pay attention to the details.

Cropping can bring a photo to life: Look at each photo carefully and think about what you really want people to see and react to, then crop everything else away.

Activity 4

1. In groups of two:
   - Take a series of photos of a member of your group
     - With flash on and position straight in front of your subject
     - With flash off and position straight in front of your subject
     - Position yourself lower than your subject and take at an up angle
     - Position yourself higher than your subject and take at a down angle
   - Download your photos into a photo folder in your home directory.
   - Decide on an object, such as the tables outside F13/14. Take a series of photos at different distances – close, middle, far. DO NOT USE THE ZOOM FUNCTION. Move closer to your subject instead.
   - Download these photos and compare what is framed in the photos.
   - Insert all photos into a Word document and resize so that they fit onto one page.
2. You are to create a montage of school photos. The set of three photos should be on the topic "Life at Aldridge State High School". Think about three subjects that can capture this theme. Before starting the assignment, you must consider:

- The photos should be of high resolution (for the purpose of printing as enlargements)
- Ensure that the lighting is suitable and that light intensity is set for the correct exposure

After uploading the pictures, use available software to:

- Crop the image if required
- Adjust the tone, light, sharpen (if required)
- Enhance with other filters and colour balance
- Use red eye removal (if required)
- Ensure that the photos are checked for their appropriateness and that they fit the design requirements.