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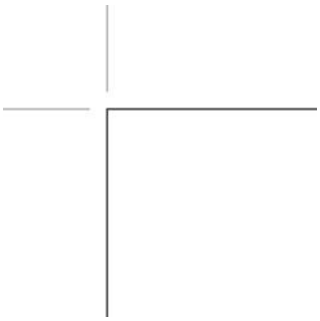
Irvine Royal Academy—Technical Department

Graphic Communication—Advanced Higher

Printing Specifications

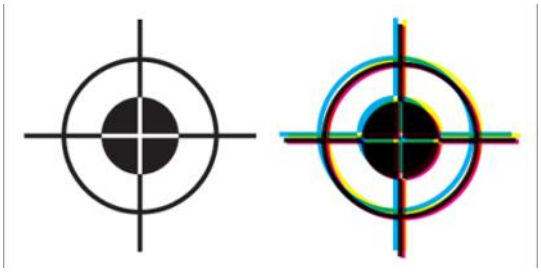
In Advanced Higher Graphics, the work you do is to be produced to a standard that would be acceptable to the trade. For example, of you are asked to design a banner, it should be saved in a format that is ready for the printer to produce, without them having to sort the file.
An examples of a print specification is shown to the right.

Supplying Artwork
Please provide Crop Marks around your supplied artwork
Artwork should be 300dpi
Colour—CMYK
Embed all fonts
Convert Text to Curves
Save as either .tif, .pdf, . Jpg, .eps.,
Do not impose files or supply as 'printer pairs'
Bleed—3mm



Crop Marks

Crop marks are shown on the corner of pages to indicate where the page should be trimmed to. A Crop Mark is often just two little lines at the four corners of the page. They are shown at the position of the final page size, once the extra has been cut off.



Registration Marks

When printing, a four-colour process is usually used (CMYK). Each of these colours is printed individually, and they need to printed exactly in line, to ensure blacks come out perfectly black. Registration marks are used to align printing plates to get the alignment correct. Registration marks usually look like targets or gun-sights. If the four colours are printed correctly, it will be sharp like the image to the left. If the printing plates are slightly out of line, a blurry image like the one to the right will appear.

Resolution

Images should be supplied at the correct resolution for the object. In most print objects, eg brochures, banners, etc. images such as photographs will be supplied at 300dpi. This refers to dots per inch. When you want to have something printed professionally or need a high-quality print at home, 300 DPI is the standard for print resolution because it accommodates high detail in graphics. If the resolution is too low, eg. 50dpi, the image will pixelate, or look blurry. If the dpi is too high, this will only affect the size of the file, and not make the final picture any easier to see. Although 72dpi is not good enough for printed items, it is the standard for images used on monitors and screens, eg websites.

Bleed

If you wish a coloured background or image to go right to the edge of the paper, you will need a Bleed. This is often set at 3mm. This refers to the amount of paper that will be trimmed off (to the Crop Marks). If you tried to print to the edge of a piece of paper, the ink would spill onto the roller and would rub off onto the next piece of paper that passed through, causing dirty prints. Also, if you stop your images at a page edge, the printer's trimmer may not cut it exactly, leaving a white edge.

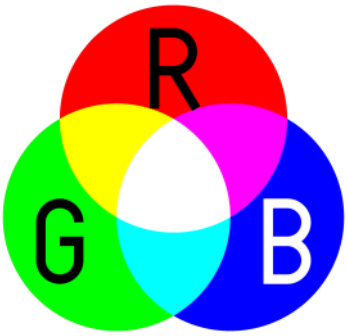
Printing Specifications

Colour Space

Colour Space is a term used to describe the range of colours that can be used in a graphic design. This range is fixed, depending on what format you are using. Examples are CMYK, RGB, Hexadecimal and Pantone.

CMYK

The CMYK colour model (also known as process colour, or four colour) is a subtractive colour model, based on the Cyan Magenta Yellow colour model, used in colour printing, and is also used to describe the printing process itself. CMYK refers to the four ink plates used in some colour printing: cyan, magenta, yellow, and key (black). When converting RGB colours to CMYK, there may not be an exact match.



RGB

The RGB colour model is an additive colour model in which red, green, and blue light are added together in various ways to reproduce a broad array of colours. The name of the model comes from the initials of the three additive primary/secondary colours, red, green, and blue. Computer monitors, phones and other screens use RGB colours.

Pantone

The Pantone Matching System (PMS) is an international standard way of identifying a colour. Printers will have Pantone colour books which will identify a colour with a code which can be matched with inks.

The Ultra Violet colour to the right is identified as Pantone 18-3838 TCX.

Designers will inform printers what pantone colour they want an item to be, to ensure colour consistency, especially if different printers producing different items (eg paper, t-shirt, stickers, etc) are being used. For example, every Coca-Cola item uses the exact same colour of red, which is Pantone 484 C.

The Coca Cola colour would be converted to other systems as follows:

Hex	#F40009
RGB	R244 G0 B0
CMYK	C4 100 Y95 K0
Pantone	484C

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Font

Most printers will ask you to either **Embed Fonts** or convert fonts to **Curves** or **Vectors**. This is to ensure that the font or typeface you have used will appear exactly as you expect it to. If you design something and use a particular font, perhaps a specially-designed one, such as the 'F' here, if the printer does not have that font on their computer system, they will be unable to print it. They will have all of the standard fonts, eg Times New Roman,e tc., but probably don't have an individually designed font such as *.

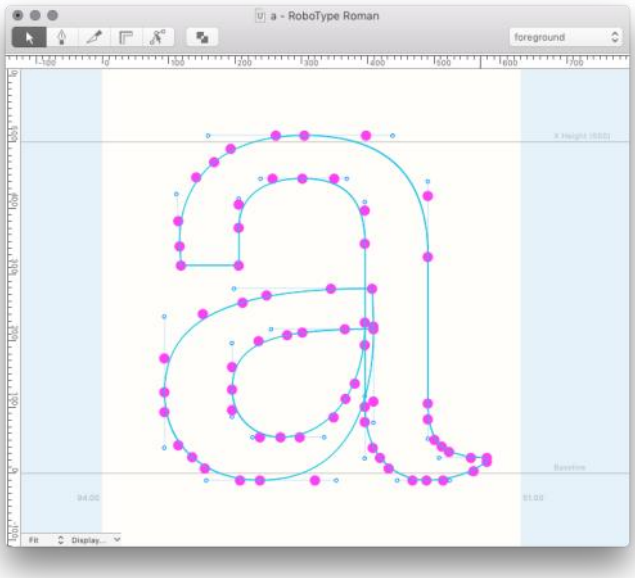
Embed Fonts

This simply means that a copy of the font file has been included within the sved graphic file supplied. When the printer opens up the image, the font can be downloaded and used.

Convert to Curves or Vectors

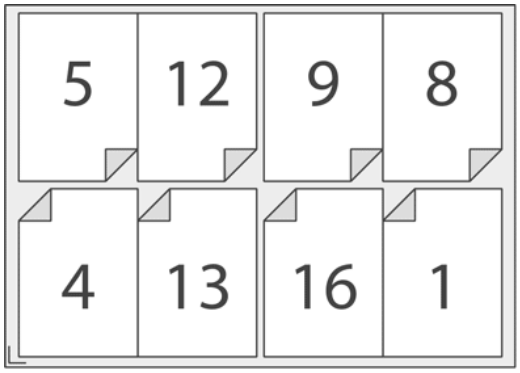
An unusual font could be converted to a vector file and saved as a shape within the image, rather than a font of its own. This means that every letter is treated as a small picture with a shape that happens to look like a letter. In this way, the printer will just accept the letters as shapes and can treat them accordingly.

If your printer does not have the font you specified, the programme may substitute a random font in its place. The letter 'a' to the right has been converted into vectors.

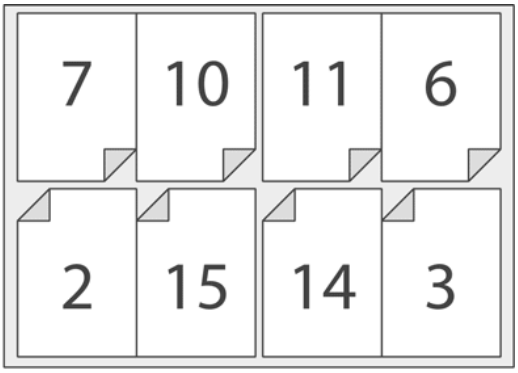


Imposition

Printers will not print single pages of a book or leaflet at a time, like an A4 printer used at home or in school. They will print on large rolls of paper, often with 16 or 32 pages on a single sheet. These sheets are then folded to mak up part of a book or magazine. To make sure the correct page ends up in the correct place, the print will use imposition software to work out where it goes, and if it should be printed upside down. When supplying pages to a printer for printing, you do not know what format they want this to be, so don't try to give them a 'two-page spread' file, etc. They will want your file saved as single pages. They will then arrange these pages like the pattern below, print eight pages on one sheet, print the reverse, fold then cut them.



Front



Back

File Types

Most printers will want your files to be supplied in a suitable style. They will specify a file type, e.g. **eps, png, tif, png, jpg,** etc. More on file types can be found on **TechShop** data sheets **5** and **6**.