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About this Booklet

“But that’s not how it looked on my screen!”

You may have found yourself saying this if you’ve ever sent something to be printed. Printing is a complex process and many things can go wrong. But the good news is that there are several things that you can do to help avoid unpleasant surprises, delays and cost overruns. We hope you’ll take a few minutes to acquaint yourself with some of the general information in this booklet, especially the technical specifications. We’ve included information about printing-compatible software, file formats, as well as lists of design tips, things to avoid, and a final checklist to look at before you send a file to be printed.

As always, if you have any questions, feel free to give us a call at 405-325-4176.

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Scans and Color

“What is CMYK and why should I care?”

RGB and CMYK

Your computer monitor, like a television set, generates color by projecting and mixing the primary colors of light: Red, Green and Blue, referred to as **RGB**. This color arrangement works great on your screen. However, the printing process doesn't use projected light, it uses ink. Color photographs and graphics are printed by using four ink colors: Cyan (a light blue), Magenta (a purply pink), Yellow and Black. These four colors are referred to as **CMYK**. You'll notice that digital imaging programs such as photoshop give you the option of saving images in either RGB or CMYK mode. While RGB may look better on your monitor and on the internet, images must be in CMYK mode in order to print in color. Converting RGB to CMYK yourself will avoid the extra time and expense of having us do it, as well as avoiding unpleasant surprises such as color images printing as black and white or not printing at all.

Process and Spot

The colors comprising CMYK are often referred to as **process** colors because they use the four-color process to print the color spectrum. But what if your print job only uses 2 colors, for example Crimson and black? **Spot colors** are inks that are already mixed to specific colors in their manufacturing process. They are designated using the **Pantone Matching System** and assigned a number. OSU orange, for example, is printed in PMS 166. Using spot colors saves you money because it limits the amount of plates and film needed to print them on the press. Spot colors can be separated into the four process colors as well, so feel free to design using a spot color in a 4-color process job. Just be sure to change the designation from spot to process in your file. But what if you have a job that uses color photographs and has a specific spot color that you want to be consistent throughout? Printing Services can also print jobs in 5 colors, using both the CMYK process colors and also an additional spot color. This gives you the most control and consistency.

Colors and the printing process can be a little confusing, but understanding the basics can help you eliminate the most frustrating and costly problems and avoid unpleasant surprises.

A note about monitors:

Since all monitors use RGB and all monitors are different, your screen is not a good representation of how things will print. Use a color swatch or the color percentages in your file to judge how it will look when printed.

One last thing - if you're not using a color in your document, we don't need it. Please remove all unused colors from your color palette.

File Formats & Resolution

“But the picture looked fine on the internet”

Graphics Formats

There are many different ways of saving graphics before placing them into your page layout file. Not all of them will have the same results. Gifs, for example, work fine when viewed on your monitor for displaying on the internet, but don't generally have the required resolution for printing. Preferred formats for graphics are:

TIF (short for Tagged Image Format).

EPS (or Encapsulated Postscript)

Several other formats (such as JPGs) are also acceptable. Call Printing Services if you have a question about one.

Resolution

If you look at any printed piece under a magnifying glass, you'll notice that it is made up of little dots. The more dots used, the higher the quality. A home or office laser printer, for example, might print 600 dots per inch (DPI). Images displayed on computer monitor (such as gifs on the internet) might only be 72 dpi, which is fine since your computer monitor displays at lower resolution than printed pieces. A high quality press such as the ones we use at University Printing Services, however, will print at 2,450 dots per inch. The more dots per inch, the sharper the image. The quality of the images becomes more important at higher resolutions, so it is important to remember to keep graphics at higher resolutions when sending them to be printed than you might if you were emailing it to a friend or printing it off your office printer. Line screen (LPI) is the number of lines per inch of a printed piece. Newspapers print at 85 or 100 lpi, printing presses at 150 lpi. What does this have to do with your artwork? A good rule of thumb is to save your graphics at a dpi that is two times the lpi it will print at. So, when sending us graphic files, suggested resolutions of artwork are: Photos and grayscale (one-color) graphics: 300 dpi (dots per inch)

Lineart (anything solid - no grays. Referred to as bitmap mode in photoshop) 1,200 dpi

Check your artwork before sending it to us. If it is 72 dpi, you may be unpleasantly surprised with the quality.

Important note: The resolution of your graphics decreases if you increase the size of it in your page layout program. For example, a perfectly fine 300 dpi Photoshop tif, if blown up to 250% in Quark XPress or InDesign, will look about like a 72 dpi scan. Keep the final size of the graphic in mind when scanning or creating it. Shrinking the size of the graphic in your page layout program will not effect the quality of the results.

Fonts

“Why does my type look like this?”

Fonts

Perhaps the most common and frustrating causes of unsatisfactory printing results stem from font issues. That headline that looked elegant or sporty on your monitor and laser proof comes back looking like a 1940s typewriter. That story that ended precisely at the end of the page now has two paragraphs cut off. What happened?

Fonts are small software programs that control and manage type. They come in many different categories; truetype, postscript and multiple master are a few of the more common. Countless thousands of fonts have been created over the years, resulting in enhanced creative possibilities. The downside is that all these fonts can get mixed up, especially since many companies will create fonts with similar names (such as Times and Times New Roman) or even different fonts with the exact same name. This can cause problems because the font that you have on your computer might not be the same font that someone else has on theirs. The best thing you can do to ensure that fonts print the same way from our computers as they do on yours is simple but extremely important: **Send the fonts with the job!** We will use yours.

Send your fonts just like you send a page layout file or graphic support files, by copying them onto the disk you send or adding them to the folder you upload to our server. It is important that you know where your fonts are located on your computer so that you can copy them easily. If you're using Quark, use the “Collect for Output” function (in the file menu). In InDesign, use the “Package” function (in the file menu). For Microsoft Publisher jobs, use the Pack and Go Feature. These will gather all the fonts and graphics that your file needs and put them in one folder to send to us.

Nesting Fonts

One thing to look out for is nested fonts. This occurs when a font is used in a graphic such as an EPS generated in a program such as Illustrator or Freehand and is placed into a page layout program. The font will not appear to be missing on screen and will not show up as missing in your Quark Usage utility, but if it is not loaded on to our computer, it will not print correctly. The way to avoid this is to open the graphic with the correct fonts open and convert all type to outlines or paths. This will resolve any font problems by turning the type into a graphic.

Send your fonts just like you send a page layout file or graphic support files.

More About Fonts

Screen Fonts

Postscript fonts, unlike truetype fonts, come in two pieces: screen fonts and printer fonts. You need the **screen font** in order for your type to display correctly on your screen. The printer needs the **printer font** to print the type correctly (hence their names). When you send your job out to be printed, it is important to send both parts of the font to us. They should be stored close together in the same folder on your computer, so it shouldn't be too difficult to find both halves. Otherwise, your job may print looking very fuzzy or jaggedy.

Attention Macintosh Users:

Many programs allow you to make a font bold, italic, shadowed or outlined by simply clicking on a button such as a square with a **B** or *I* in it. This is called **stylizing**. **DON'T DO THIS!** Often times this will work just fine on your screen but simply doesn't work when printed to film or plate. Instead, select the bold or italic font from the font menu. For example for Times New Roman Bold font, use the Times New Roman Bold rather than using Times New Roman and clicking on the B button.

Font problems can cause major headaches, delays, and even costly reprints. But you can avoid most problems if you remember the following tips.

Tips for avoiding costly and frustrating font problems

Send all fonts with the job

Don't stylize any fonts if you are a Macintosh user

Utilize "Collect for Output" (Quark), "Package" (InDesign), or "Pack & Go" (Microsoft Publisher)

Font problems can cause major headaches, delays, and even costly reprints. But you can avoid most problems.

Design Tips

“Where do I start?”

The boss dumps a pile of papers on your desk and says, “Make a booklet out of this and make it look nice.” Of course, nothing was said about sending you to design school. Before panic sets in, keep in mind that there are several simple things that you can do to turn a plain and boring design into a snappy one.

A good place to start is by avoiding some common bugaboos that cause unsatisfactory results as well as grumpy people at the print shop.

1. Build your document in the correct page size. For example, a business card should be built on a 3½" x 2" document, not on an 8½" x 11" page. Adding crop marks to a small thing on a big page isn't really helpful.
2. Don't run type and graphics up to the edge of the page. A good rule of thumb is to leave ½" margin on the page, unless the image bleeds off the page.
3. **Bleed** is what you give a document when you want the artwork to go to the edge of the page. Rather than have the artwork stop right at the very edge, it is best to have it go off the side by ⅛" to ¼". This allows for a margin of error when trimming the document to its final size by printing a little extra.
4. You may be tempted to build your document in **spreads**. This is when you build two pages together side by side on one page. Resist this temptation. Build your document with page one followed by page two followed by page three and so on.

There are several simple things that you can do to turn a plain and boring design into a snappy one.

More Design Tips

Here are some simple ideas for creating an artistically-pleasing design.

Choose your weapon well

Programs like Quark XPress, Pagemaker and InDesign are made for laying out pages. Illustrator and Freehand are made for designing graphics. Photoshop is made for editing photos. Trying to put a book together in a program like Freehand or Illustrator can be time-consuming and frustrating.

Call in the cavalry

Don't be afraid to call us if you have questions. We would much rather help you avoid problems than have to fix them after the fact.

Use fonts judiciously

The best designs might use one **serif font** (one that has “feet” like Times New Roman or this one) and one **sans serif font** (one that doesn't have feet such as Arial or **this one**). Using two fonts per document is perfectly acceptable. More than four can be too many.

Use color wisely

Too much color, especially bright and clashing colors, can make the reader dizzy.

Use white space

White space around information can set it apart and attract the eye to the stuff you want people to see.

We can design it for you!

Don't be afraid to call us if you have questions

Top 10 Troubles To Avoid

“How can I solve problems before they happen?”

Here's a list of 10 things that cause headaches, delays, added expense, and unsatisfying results.

10. Hairline rules

Make your lines big enough that we can see them, at least .5 points.

Here's an example of a .5 point rule. _____

Hairline rules have a tendency to disappear completely in the printing process.

9. Wrong software

We can't use it if we don't have it. If the program you want to use is not on the list of acceptable programs (see page 1), it would be a good idea to call first for advice.

9a. Wrong software

Using the wrong software for the job can be time-consuming and bring about bad quality. See design tips on page 6 or call for advice.

8. Building your document in spreads

Page 1, then 2, then 3, etc...

7. Incorrect page size

Build your document the size you want it to be.

6. Stylizing fonts (Mac Users)

Keep your hands off the B button Apple people.

5. Blowing up graphics, especially photographs

Blowing up graphics in the page layout program causes loss of resolution.

4. RGB Graphics

If it's going to be printed, it needs to be CMYK.

3. Not sending hard copy

We need to have something to compare our proofs to.

2. Not sending graphics

Any graphic used in your document must be sent to us. If you're not sure, send it anyway. Better to have it and not need it than need it and not have it. Also, try not to embed graphics; it's better to link them and send them.

1. Not sending fonts

Please send all your fonts please.

Printing Software

“But it came out fine on my printer!”

Not all software programs are created equal. Some are built with the printing process in mind, others aren't. Some programs will print fine to a home or office printer, but go haywire when faced with the complicated printing process. Professional programs generate the most appropriate, trouble-free files. Printing Services is able to work with many other programs, but using a professional printing program will save you time and money in the long run. Give us a call if you need help in locating good software. Many software companies offer substantial discounts for academic purchases, so designing like a pro can be less expensive than you might think. We can even give you some tips to get you off and running!

Professional applications used at Printing Services are:

InDesign

Quark XPress

Pagemaker

Photoshop

Freehand

Illustrator

All software in latest versions!

Other programs that we can work with include:

Corel Draw

Microsoft Publisher

(Be advised. Microsoft Publisher, while an easy and low-cost option, has many problems and may result in extra time and work done on our end. Give us a call for details)

Microsoft Word

(please be advised that Microsoft Word is best used for word processing and not as a page layout program)

Adobe Acrobat PDFs (see page 9)

Professional programs generate the most appropriate, trouble-free files.

A Final Word

We hope this booklet has been helpful. The printing process is more complicated than many people think and there are many things that can and do go wrong. The good news is that you don't have to handle it all yourself.

Think about what happens when your car breaks down. Sometimes you might be able to fix it yourself; other problems call for a mechanic. Printing Services is here to be your professional help when you need us. Whether you need us to design it for you, or just need some technical advice, give us a call, we like to help.

One more thing to keep in mind. **Don't forget to have fun!** Watching your ideas make the journey from your imagination to a printed piece is exciting. Even in our time of mass communication and information technology, words and pictures on paper is still the best way to get your information into the hands of the people you want to have it.

Thanks and good luck,

University Printing Services

A Word About PDFs

When generating a pdf for us to print, it's best to use Adobe Acrobat Distiller. **Distiller settings are very important!** PDFs can be distilled for printing (larger files) or for emailing or displaying online (smaller files). It is good to remember to distill at press quality and to embed fonts. If you have any questions about distiller settings, give us a call and we'll be glad to help!

Before you send it...

“How can I have peace of mind?”

Avoid hassle!

Before you send us your files, please check the following:

- Has the document been checked for spelling and other typos?
If you don't catch it, we might not either.
- Have you printed out a hard copy?
If it won't print for you, it probably won't print for us.
- Is the file in a printing-compatible program? (see page 2)
Save yourself time and trouble if you can.
- Are graphics in the correct file format? (see page 3)
Be a hero - send a cmyk tif.
- Is the document the correct size? (see page 3)
Because paper doesn't shrink.
- Have you included all fonts? (see page 4)
If you don't send yours, you might get this ugly font.
- Are there any stylized fonts? (see page 4)
Back away from the “B” Button.
- Have you included all the graphics used in the file? (see page 5)
Our computer can't reach all the way to your computer.
- Are all colors defined correctly? (page 5)
Avoid dull colors and dingy whites. Delete unused colors too.
- Are pdfs distilled correctly? (page 8)
All pdfs are not created equal.

When you get your proof...

- Mark changes on proof.** No need to send another file unless there are drastic changes. Better to just use a pen.
 - Check your proof thoroughly.** The earlier in the process changes are made, the less hassle, delay and expense you'll encounter.
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