ART PREPARATION GUIDELINES
CRC Press/Taylor & Francis Group
Camera Ready and LaTeX formatted Manuscripts

These guidelines have been provided to best ensure that your artwork is of the highest quality. Please follow the below guidelines when preparing your art in order to provide artwork of the optimum quality for printing. **Artwork prepared outside of these guidelines may result in poor quality reproduction.**

SOFTWARE INFORMATION

All figures in your manuscript must be camera-ready art and fully in place within your text on final submission.

As you will note within the Text Submission Guidelines, all fonts must be embedded in your final PDF. This is required for both text and figures. Figures should be created in an application that has the ability to embed fonts such as Adobe Illustrator. (Matlab and similar programs will not embed fonts.)

Artwork should be prepared as vector graphic files (such as .ai, .eps, .PDF) or halftones (such as .tif, .psd, .jpeg, .gif).. These will always provide the best results and are the ideal format. Bit-mapped graphics can result in poor quality and should be avoided.

REGARDING MICROSOFT PROGRAMS: Microsoft programs are not suitable for figure creation. Please do not create your artwork within (or import your artwork into) Microsoft programs such as Word, PowerPoint or Excel as this can result in low resolution, poor quality images. Importing artwork from the native application into Microsoft automatically makes that image a 2nd generation piece, decreasing the quality.

Clear, sharp electronic line art and original photographs are ideal as these can be reproduced well and will enhance the quality of your book.

GENERAL GUIDELINES:

Preparing your artwork at the correct size and resolution is critical to ensuring the optimum quality for printing. Resolution is the fineness of detail attained by a printer in producing an image. Resolution quality for printing is expressed in dpi (dots per inch), so the higher the resolution is, the higher the quality of the image will be (300 dpi is the preferred resolution for proper reproduction). Although an image may look good when viewed on a computer screen (at resolution of only 72 dpi), it cannot be reproduced effectively for printing at such a low resolution.

Please follow the below parameters when creating your images.

<u>LINE ART:</u> Scanned Line Art must be a minimum resolution of 1200 dpi or greater. For optimum results, line-art files should be created in vector graphics programs**,** such as Adobe Illustrator, and saved as .eps files. Do not create within or import your images into any Microsoft programs. If the native application is unable to save as .eps file, then it should be saved as a PDF at the highest resolution possible.

<u>PHOTOGRAPHS OR HALFTONES:</u> A halftone is a printed reproduction of a photograph (or illustration other than line art). It uses evenly spaced dots of varying sizes to simulate shades of gray. Dense patterns of larger dots produce dark shades, and less dense patterns of smaller dots create lighter shades.

Art files containing grayscales or photographs should be created in Adobe PhotoShop. They should have a minimum resolution of 300 dpi and a width of at least 35 picas. Do not import photographs or halftones into Microsoft applications as these formats can compress the file and reduce the detail.

Photographs taken with digital cameras must contain at least 2 million pixels (2 mega pixels).

<u>LABELING:</u> All labeling within the artwork must be legible.

<u>SIZING:</u> All figures and tables should be sized accordingly within the appropriate live area for the trim size of your book. The Latex style file settings will account for this.

<u>LINE THICKNESS:</u> Every stroked line must be at least 0.5 points. This ensures that the lines do not appear broken or jagged. **Note:** If you are scaling your images, you must account for the difference when you check your line weights. For

example, if your .eps file is 40 picas wide and your thinnest line is 0.75 points and you place the art as 20 picas wide, your thinnest line is now 0.38 points.

SCANS: Scan results are only as good as the item being scanned. Please scan from the original photograph or a high quality printout. **Line art resolution:** scans must be created with a resolution of no less than 1200 dpi; **Photos/halftones: s**cans from hardcopy originals must be created with a resolution of at least 300 DPI.

SCREEN SHOTS: These are typically low resolution images as they are dependent on the resolution of the monitor which is usually 72-96 dpi. The quality of these images will typically be poor and should be avoided if possible.

COLOR IMAGES (if contracted for inclusion)

Do not use RGB mode to prepare any color images, they will be converted to CMYK mode and some color shift may result. If the below color profiles are not followed, the results will be delays and increased costs in Production.

- *Black and white:* Images intended to print in black and white should be submitted in grayscale mode.
- *Full color:* Images intended to print in color should be in CMYK mode.
- *Two color:* Images intended to print in two color (PMS & black) should be built in the specific PMS color and black with the PMS color number clearly defined. (If there is difficulty in building your file with the PMS in LaTeX,, please prepare them using either the Cyan or Magenta channels only and indicate the PMS color you wish to use).

Note: **your art file may appear to be black and white but may actually be in color.** If you have scanned your art, note that all scanners will automatically create a file in the RGB color mode (RGB—red/green/blue). Even black and white figures will scan as color. The art will still appear to be black and white on your screen and will print black and white on any b/w printer, but it is in color. The easiest way around this is to convert to grayscale before you scan. To do so, go to Scanner Mode dialog box and choose "grayscale tiff."

PROVIDING COLOR IMAGES WITHIN LATEX SOFTWARE

Figures created in a program outside of LaTeX (.pdf, .eps, etc.) and then included in the typeset PDF by LaTeX will need to be created in/converted to CMYK within their external program.

However, some figures can be created entirely within LaTeX and don't exist as separate outside files. In those cases, the colors used have to be declared as CMYK inside the LaTeX source code. We recommend using the xcolor package with the cmyk option: \usepackage[cmyk]{xcolor}

Basic instructions on how to use color and different color models in LaTeX. http://en.wikibooks.org/wiki/LaTeX/Colors Detailed and complete instructions on how to use the xcolor package can be found here: http://www.ctan.org/pkg/xcolor

Embedding fonts

The embedding of fonts within your text and figures is an essential step when you are creating your PDF. If this step is missed or not done correctly, the file cannot be printed. To embed your fonts when creating the PDF, use Adobe Acrobat Distiller. In Distiller, go to job options, fonts, and select "Embed all fonts" and "Embed subsets 100%." For more details, see the *Embedding Your Fonts* document provided by your Project Coordinator or Acquiring Editor.

If you have any questions concerning the font embedding process within Latex, please contact the Latex helpdesk at texhelp@talorandfrancis.com.

FURTHER INFORMATION

VECTOR GRAPHICS FORMATS *(IDEAL FORMAT)*

A vector file creates an image as a collection of lines rather than as a pattern of individual pixels (bit-mapped graphics). Vector files are much easier to edit than bit-mapped graphics (objects can be individually selected, sized, moved, and otherwise manipulated) and are preferred for professional illustration purposes. Because they are scale- and resolution-independent, vector images can be enlarged without loss of sharpness. Vector file formats are listed below in order of preference:

Adobe Illustrator (.ai)	The vector graphics program best suited for creating high-quality professional graphics.

PDF (portable document format)	Allows a document to be transferred to another computer system without losing the original formatting. In order to print or view a .pdf file, the user must use **Adobe Acrobat.**
EPS (encapsulated PostScript file)	A high-resolution graphic image stored in the PostScript language. The .eps format allows users to transfer high-resolution graphics images between applications. The images can also be sized without sacrificing quality.

PHOTOSHOP INSTRUCTIONS

PhotoShop (.psd) is a powerful tool if used correctly. It can scan photographs (continuous tones) and original art. **(.psd)** format stores an image with support for most imaging options available in Photoshop. These include layers with masks, color spaces, transparency, text alpha channels and spot colors, clipping paths and duotone settings. This is in contrast to many other file formats (e.g., .tif or .jpeg) that restrict content to provide streamlined, predictable functionality. Photoshop's popularity means that the .psd format is widely used and supported to some extent by most competing software.

All scans must be at least 300 dpi resolution (600 dpi is ideal)
Line art and type cannot be scanned in PhotoShop. If an original illustration is not available and cannot be redrawn, it must be scanned at 8 times the continuous tone resolution (8x300 = 2400 dpi). The process is very slow and generates huge files.
Do not scan any illustration in bitmap mode.
Scanned black-and-white images should have a minimum highlight dot of 8% and a maximum shadow dot of 90% (this can be adjusted in the Curves dialog).

BIT-MAPPED GRAPHICS FORMATS *(NOT IDEAL)*

A bit-mapped file forms an image as a pattern of pixels (square dots) and is limited in resolution (sharpness) to the maximum resolution of the screen on which it is displayed. Bit-mapped images are inferior to vector graphics for most applications because they tend to have aliasing (also called jaggies and stairstepping), which causes a staircase distortion due to the square shapes of the pixels. Enlarging bit-mapped images accentuates the distortion and jagged edges.

A bit-mapped graphic is stored as a group of bits that represent an image to be displayed on a computer screen. The image on the screen is composed of pixels (dots), similar to the dots in a photograph in a newspaper. Each bit in an image corresponds to one pixel in the screen, so the number of pixels that composes a monitor image determines the quality of the image. Because monitor screen resolution is only 72 dpi (dots per inch), and the resolution needed for printing is 300 dpi, a bit-mapped image limited to 72 dpi cannot be used to produce a quality image for printing.

Although their use is discouraged, the following bit-mapped graphics formats are listed in order of preference:

GIF (graphics interchange format) - a bit-mapped format that was developed to exchange graphics files over the Internet. Although .gif files are widely used, the .jpg format reduces graphics files to about one-third the size of a .gif file, leading to faster Internet transmission. GIF files are more efficient than JPEG files if an image contains many solid areas.
JPEG (Joint Photographics Expert Group)- a graphics format specifically designed for photographic images and other complex pictures such as realistic artwork. It is not well suited to line drawings, text, or simple cartoon illustrations.
TIFF (tagged image file format) - a bit-mapped graphics format commonly used for the scanning, storage, and interchange of grayscale graphic images. (TIFF may be the only format available for older programs, but most current programs can save images in other formats such as .psd, .jpg, .gif, .pdf, etc.)