

Optimizing Files for Delivery in Blackboard 6.3



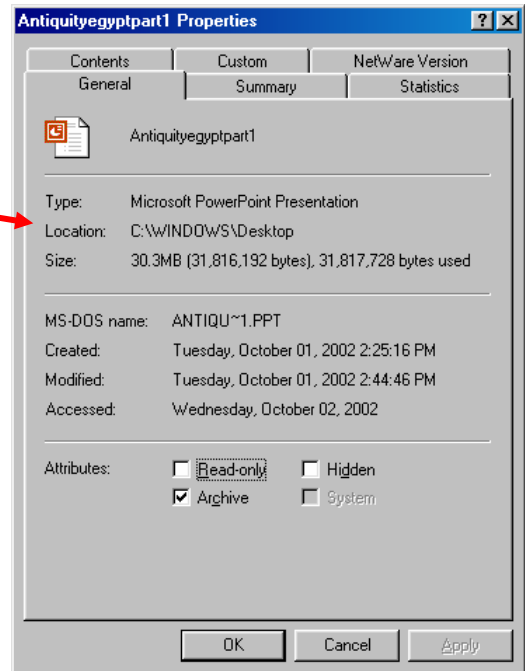
File sizes have a tremendous impact on your Blackboard courses for all users. It's a good idea to optimize all files you upload into your courses to obtain the smallest file sizes possible, at the best quality possible.

Bits, Bytes, & Megabytes

The size of files can be measured in various ways. A file size of 1,000,000 bytes, 1000 kilobytes (kb), and 1 megabyte (MB) are all roughly the same size. For example, the file below is roughly 31,799,296 bytes, or about 30.3 MB (megabytes). It would take approximately an hour to download the file using a 56k modem. A handy byte-megabyte converter can be found at: <http://www.frii.com/support/knowledgebase/viewArticle.php?articleID=236>.

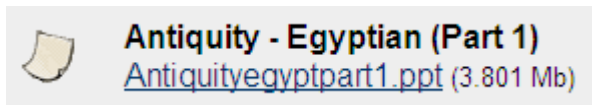
How to determine the size of a file on your computer:

- 1) Right click on the icon or name of the file
- 2) Select *Properties*
- 3) The *General* tab shows the size of the file. In this example, the file is 30.3 MB.



How to determine the size of a file in Blackboard

If you upload files to Blackboard, you can easily determine the size of the file in your course view. A file that is uploaded to Blackboard 6.3 will show the size of the file in kilobytes, megabytes, or gigabytes. In the example below, the file is 3.801 megabytes, or 3,986,000 bytes.



File Size & Download Time

The file size of a document or presentation has a significant impact on the download time. It is important to try to minimize the file size so that students do not become frustrated when trying to download course materials. Some network connections will timeout before a document is transferred if the process takes too long. A handy calculator for estimating the download time for different file sizes can be found at: <http://www.kolias.com/computers/downloadtime.htm>

Estimated Download Times for Different Connection Types

File Size	28.8 Modem	56k Modem	512k Cable Modem	T1 (Campus Network)
30 k	8 sec	4 sec	0 sec	0 sec
500 k	2 min 22 sec	1 min 13 sec	8 sec	2 sec
1 MB	4 min 51 sec	2 min 29 sec	16 sec	5 sec
5 MB	24 min 16 sec	12 min 28 sec	1 min 21 sec	26 sec

Images: GIF vs. JPG

The most universally supported file formats on the Web are GIF (Graphics Interchange Format) and JPEG (Joint Photographic Experts Group) format. Converting your images from TIFF to JPG format allows you to reduce file size without sacrificing clarity.

- Use the gif format for graphics that have few colors, graphics that contain text or type, or graphics that have large areas of a single color.
- Use the jpg format for graphics that have many colors and lots of fine detail, such as photos.
- You can convert existing image files from other formats to the gif or jpg format using an image manipulation application, such as Photoshop, before uploading them to Blackboard.

Image Optimization and Compression

Many files can be reduced in size through optimization or compression. By choosing a lower-quality image or sample rate, the final product can take up far less space, and the difference is often unnoticeable for users viewing the files on computer monitors.

- Set the resolution of your flatbed scanner to no more than 150 dpi.
- Save scanned images as jpg, rather than as a tiff or bmp file (jpg images are already compressed).
- Convert tiff and bmp images into jpg format before inserting into PowerPoint or other applications.
- Scan documents or images in black & white rather than in color where possible.
- Resize (scale) large images BEFORE you insert them into PowerPoint or Word - **don't use the picture formatting options in Word or PowerPoint to reduce the size of your image.** You can resize images using an image editing application like Photoshop.
- Use the *Compress Picture* feature in Word or PowerPoint to compress the image file size in your document or presentation **before** uploading the file to Blackboard.

Optimizing Word and PowerPoint Files

- Convert PowerPoint presentations and Word documents to PDF with Adobe Acrobat or other PDF creation software.
- If students only need the outline from the presentation, use the *Send to* option (File, Send To, Microsoft Office Word) in PowerPoint to extract the presentation outline to Word.
- Use the *Compress Picture* feature in Word or PowerPoint to compress the image file size in your document or presentation.
 - To compress pictures go to **View, Toolbars, and Picture.**
 - On the **Picture** toolbar click **Compress Pictures.**
 - In the **Apply To** section, select the resolution based on the destination of the image, either **Web/Screen** for uploading to Blackboard, or **Print** if you intend to print the image.
 - If you compress pictures in this manner, you cannot restore the images to their original resolution.

Comparing File Formats

Original PowerPoint Presentation	Original Presentation Converted to PDF	Original Presentation with Compressed Images	Presentation with Compressed Images Converted to PDF	Text Outline in Word
14,310,912 bytes 13.6 MB	3,617,236 bytes 3.44 MB	4,908,544 bytes 4.68 MB	4,340,590 bytes 4.13 MB	43,520 bytes .04 MB