



## Masters of Science in Business Analytics Student Laptop Requirements

The Masters of Science in Business Analytics (MSBA) Program requires extensive computing and requires a laptop with suitable capabilities. You are making a significant investment in your education by pursuing a business analytics degree so you should own a computer that will have the capability for you to complete all coursework in a timely fashion with high quality results. This document gives guidance to ensure that your existing computer or a new computer that you may purchase will enable your success in the MSBA Program. Requirements for a laptop computer are outlined later in this document, but these points summarize the general content of this document:

- Please pay close attention to the laptop requirements below: a computer that does not meet the requirements listed below will either run slow or not at all.
- Some software used in the MSBA program will run only on a Windows operating system, and so it is mandatory to run a Microsoft Windows operating system on your laptop.
- While we recommend a laptop whose native operating system is Windows, you may use a Mac laptop that meets the requirements below providing it has Apple Boot Camp and that program is configured to run one of the approved Windows operating systems listed below. Other issues to consider regarding the use of a Mac in the MSBA Program are these:
  - Current Apple offerings do not include NVIDIA graphics cards which are required for this program. If you need a new computer, then you, therefore, must purchase a native Windows computer. One computer meeting MSBA specifications is referenced below.
  - Some older Mac laptops do have NVIDIA graphics cards and may be sufficient in that regard providing they meet the other requirements below and have sufficient disk space that can be dedicated to this program
- If your computer is more than three years old, then we recommend that you replace it even if it might satisfy the requirements in the table below: older computers tend to slow down which will compromise your ability to do coursework at a reasonable pace.
- To eliminate possible security and software conflicts, it is highly recommended that your Windows environment be dedicated for Mason School coursework only, and not be used for personal or business purposes.
- Keep in mind that your computer will execute programs faster if your processor is faster and has more cores, and as RAM is increased, both of which will allow you to complete your coursework more efficiently and with higher quality solutions (by permitting more improvement iterations).
- Note that Home and Student versions of Windows operating systems are not permitted. The Professional version of Windows will be available to you through William and Mary once you are admitted and have submitted a deposit with your intention to enroll.



**Computer Requirements Specifications**

Computer Attribute	Minimum Specifications	Recommended
Processor	Intel i7 2.4 GHz, 64-bit, with 4 cores	Intel i7 3.0 GHz, 64-bit, with 4 cores
RAM	8 GB	16 GB
Hard Drive Capacity	750 GB (Mac users must have at least 500 GB on the Windows partition of their hard drive)	1 TB
Graphics Card*	NVIDIA Graphics Card from the list on the web page below	NVIDIA Graphics Card from the list on the web page below
	<a href="https://developer.nvidia.com/cuda-gpus#collapse4">https://developer.nvidia.com/cuda-gpus#collapse4</a>	
Wireless Connectivity	802.11 b/g	802.11 b/g
Ethernet Wired Connection	Yes	Yes
Ethernet Cable	Yes	Yes
	3-ft or 6-ft Ethernet cables are available at a low cost.	
CD ROM/DVD Drive	8X DVD+/- RW drive	8X DVD+/- RW drive
Operating System	64-bit Windows 7, 8, 8.1, 10 No Home or Student versions	64-bit Windows 7, 8, 8.1, 10 No Home or Student versions

**Notes on Satisfying Computer Requirement**

*NVIDIA Graphics Card Requirements*

The graphics card requirement is driven by the needs for the Artificial Intelligence course which includes neural networks. You will not be able to complete the activities for the Artificial Intelligence course without such a card so please pay attention to this part of the requirements. Directions for checking the specifications of the graphics card on your computer and comparing it to the list of acceptable graphics cards on the web page above can be found at this link: <http://bit.ly/1ribf8W>. Keep in mind that a variety of operating systems exist so, if these directions do not work, please contact us. In addition to this web resource, here are a couple pointers:

- Windows 7: The link to Device Manager mentioned is located in the upper left area of the System Properties window.
- Mac: a useful quote from the web page above: “Typically, Apple makes it even easier to view specs. In OS X just click the Apple icon, and choose 'About this Mac'.”

*CD ROM/DVD Drive & Ethernet Connection*

If your laptop does not have an integral CD ROM/DVD Drive and/or Ethernet port, then you may satisfy these requirements by purchasing an external CD ROM/DVD Drive and/or a Gigabit USB Ethernet adaptor, respectively. This point is particularly pertinent for those who own a netbook or Ultrabook



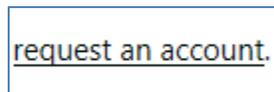
computer. It is important for speed that these adapters support the USB 3.0 standard and that some of your computer's USB ports support USB 3.0 as well. External hard drives may be used as well and they should support USB 3.0.

### Windows Operating System for Mac Owners

To successfully operate a Mac computer in the MSBA program you will need to configure Boot Camp, which is a program that comes with Mac operating systems that allows you to run a Windows operating system on a Mac computer. You will not need to purchase a Windows operating system because the College of William and Mary has purchased licenses for all its students. Once you are admitted to the MSBA program and submit a deposit, you will be issued a William and Mary email address and password. This will enable you to obtain a copy of Windows by going to this web site, <https://masonweb.wm.edu/dreamspark>, and requesting an account by clicking on the "Register" link on the right hand side of the page as indicated here with the red rectangle:



On the page following click the "request an account" located in the body of text.



Once Windows is downloaded, this site offers directions on configuring Boot Camp and installing Windows: [apple.com/support/bootcamp](http://apple.com/support/bootcamp). You may contact Technology Services if you have any issues with this installation:

e-mail: [help@mason.wm.edu](mailto:help@mason.wm.edu)  
Phone 757-221-3401  
Office: Miller Hall Room 2012  
Hours: Monday - Friday (except holidays)  
9:00 a.m. - 4:00 p.m.



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### **New Computer Purchase**

To our knowledge Apple does not currently offer a computer with an NVIDIA graphics card. So, if you have a Mac already it may have an NVIDIA card. If not, you will need to purchase a new machine that runs a Windows operating system natively.

Laptop computers running Windows natively which meet the minimum specifications above are available at a reasonable cost. For example, as of 4/27/2016 an HP Pavilion Gaming Notebook - 15-ak010nr, with an i7-6700HQ 2.6GHz processor, 8GB memory, 1 TB hard drive, and a NVIDIA GeForce GTX 950M was available from hp.com for less than \$1,000. Here is a link to that computer which was active as of 4/27: <http://bit.ly/1qTUUrl>.

If you purchase a new computer, there is no need to purchase Microsoft Office Live or a resident installation of Microsoft Office. Microsoft Office will be available to you free of charge when you arrive at the Mason School.