

Getting Software

Software Acquisition Office

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Business Hours: 8:30 am to 4:30 pm

Software Pickup Hours: 9:00 am to 4:30 pm

1 SAS

In recitation, we will practice using statistical software and about half of the exercises will use SAS. You may complete these exercises during recitation using one of the lab computers.

Alternatively, you can complete these exercises on your own personal machine, but to do this you will need to be able to run SAS on your computer. At UNC, SAS is provided free of charge for all students. There are several options for running SAS to complete lab assignments and for your other SAS needs.

Options	Advantages	Disadvantages
Use a campus computer lab	-No maintenance required -Have access to H: drive	-Have to come to campus -Labs have limited hours -Availability may be limited (especially during lab!)
Use UNC’s virtual computing lab	-Run SAS from PC w/ internet -Have access to your data	-Have to reserve time on server -Only SAS and Adobe available
Log on to a virtual lab machine	-Run SAS from PC w/ internet -Available at any time -Have access to H: drive	-Have to download software from ITS
Install SAS on your own computer	-Use SAS anywhere -Don’t need internet connection	-Lengthy installation process -Doesn’t run on all platforms -Requires maintenance

Unfortunately, SAS is not available for Macs. If you want to learn SAS, you’ll have to use one of the first three options.

1.1 Campus Computer Labs

Campus lab computers all have SAS 9.2 installed and provide access to your AFS space (H: drive). All lab computers are the same across campus. For a list of locations and their hours, see <http://help.unc.edu/1908>.

1.2 Virtual Computing Lab (VCL)

As long as you have an internet connection, you can run SAS on the VCL. To do this you must make a reservation by either planning ahead or requesting an immediate reservation, which often goes through in less than 10 minutes. Use the following instructions to access the VCL.

1. Go to <http://vcl.unc.edu>. Click ‘Proceed to Login’ using Shibboleth.
2. Sign in with your Onyen.
3. Click on New Reservation.
4. Choose SAS 9.2, WinXP (vmware) as the environment. Enter the time, date and duration of your desired reservation. Then click Create Reservation.
5. When your reservation is ready, click the Connect! Button on the Current Reservations page. On the Connect! page, note the password you have been given, and click on Get RDP File. Save the RDP file on your local drive.
6. Open the RDP file to bring up the virtual session, then enter the given password. You are now remotely logged into an ITS Lab computer.
7. Open SAS 9.2 using the icon in the lower left corner of the remote desktop.
 - * If you can’t see the SAS 9.2 icon or the Start button, enlarge the remote desktop window.
8. To access your data, double-click the SAS 9.2, WinXP (vmware) icon in the upper left corner of the remote desktop where you will see your accessible drives, including AFS space if you have AFS client running on your PC.
 - * Use a LIBNAME statement to assign a libref to any of these drives and use their data remotely.
 - ** On the remote machine, path references to local drives need to be prefixed with `\\tsclient`. E.g., to assign a libref to `C:\bios600\YourData`, submit
`LIBNAME bios600 \\tsclient\C\bios600\YourData` at the top of your program.
9. To end the session, simply close the window. To reconnect before your session time is over, repeat Step 6.

This logs you into a SAS environment, so no other application will be available except Internet Explorer and Adobe Reader. But you can save files to your drive and access them as usual on your PC. For help using the VCL, see https://help.unc.edu/CCM3_007377

1.3 Virtual Lab Machine

The Virtual Lab allows students to access the same programs and resources found in ITS Labs from any computer with an internet connection. This is a very good option for Mac users! To access the Virtual Lab, complete the following.

1. Go to <https://virtuallab.unc.edu>
2. Read and accept the security message.
3. Login with your ONYEN.
4. Download and install the Citrix client, if you have not already.
 - * If you are prompted to allow access to your personal computer, select the level of access that you wish to grant the Virtual session.
5. Press ‘Click to connect’. When the Citrix Virtual desktop pops up, start a SAS session by going to Start → Programs → Statistical Applications and selecting SAS.

Working in the Virtual lab should be exactly like working in the computer lab, including access to your AFS space as the H: drive. If you need more help with Virtual Lab, see http://its.unc.edu/TeachingAndLearning/computerLabs/Virtual_Lab_Beta/index.htm.

1.4 Installing SAS 9.2 - Windows XP/Vista/7

The UNC-CH license covers UNIX (Solaris, AIX, and Linux), Windows Workstation 32/64 bit XP/Vista/7/2003/2008 and Windows Server 32/64 bit 2003/2008. SAS 9.2 is NOT supported on Windows XP Home edition, Vista Home Basic and Vista Home Premium.

To obtain your personal copy of SAS, use the following instructions.

1. Go to SA website
2. Using the menu at left, under the ‘Software Acquisition’ heading, click ‘Student Ordering’. Sign in with your Onyen, if prompted.
3. In the ‘Find Software’ box, type ‘SAS Complete Set’ in the Search bar.
4. Select an entry with **Version 9.2 TS2** and that corresponds to the operating system (platform) on your computer. Click ‘Add to Cart’.
5. If you are done ordering software, click ‘Checkout’.
6. Enter the course name (BIOS 600) and press ‘Submit Order’.

You should then receive two emails from the SA office - an order receipt and a notice that your order has been processed with further instructions. Once you pick up the SAS installation DVD, follow the installation instructions provided by the UNC ITS help group at https://help.unc.edu/CCM3_008925.

The installation should take about 30 minutes to an hour. During this process, you will have to choose which products to install. The default set is fine, with a couple of exceptions. I recommend that you **OMIT** Enterprise Guide and **ADD** SAS/GRAPH ODS Graphics Editor.

2 Microsoft Excel

The other half of recitation exercises will practice statistical computing using Microsoft Excel. Specifically, we will be using Excel's 'Analysis ToolPak'. The Analysis ToolPak is an Excel add-in, or supplemental program that adds custom commands or custom features to Excel. Analysis ToolPak is available when you install Microsoft Office or Excel. However, before you can use it in Excel, you need to load it.

I'm assuming you have Microsoft Excel (in some form or other) already installed on your personal computer. If you don't currently have this software, but would like to install it, students can

- a) purchase the software from the Student Stores Ram Shop by either visiting the RAM Shop or by placing an order through the UNC Student Stores website <http://store.unc.edu>.
- b) have the ITRC Walk-In Service install the software at one of their two Walk-In Locations (Undergraduate Library or SASB South). Choosing this option means that you will have the software installed but you will not receive any installation media.

2.1 Excel 2010 - Windows

1. Click the File tab, and then click Options.
2. Click Add-Ins, and then in the Manage box, select Excel Add-ins.
3. Click Go.
4. In the Add-Ins available box, select the Analysis ToolPak check box, and then click OK.
 - * If Analysis ToolPak is not listed in the Add-Ins available box, click Browse to locate it.
 - ** If you get prompted that the Analysis ToolPak is not currently installed on your computer, click Yes to install it.

5. After you load the Analysis ToolPak, the Data Analysis command is available in the Analysis group on the Data tab.

Note: To include Visual Basic for Application (VBA) functions for the Analysis ToolPak, you load the Analysis ToolPak - VBA add-in the same way that you load the Analysis ToolPak. In the Add-ins available box, select the Analysis ToolPak - VBA check box, and then click OK.

2.2 Excel 2008 - Mac

I do not have access to a Mac, so I have absolutely no idea how to use Excel:mac 2008. **Lab exercise instructions pertaining to Excel will therefore only apply to versions of Excel found on Windows' machines.** Feel free to play around with Excel:mac and figure out how to modify lab exercises. If you write out modified instructions and email them to me, I am happy to post them on Blackboard for others to use and/or update my handouts to include them. Otherwise, you may simply use the version of Excel found on the lab computers.

Unlike Windows' versions of Excel, Excel:mac 2008 does not have the Analysis ToolPak. Instead, you can use StatPlus:mac LE to perform many of the functions that were previously available in the Analysis ToolPak. You can download StatPlus:mac LE for free from AnalystSoft, and then use StatPlus:mac LE with Excel 2008.

1. Visit the AnalystSoft website and follow the instructions on the download page.
<http://www.analystsoft.com/en/products/statplusmacle/>
2. After you have downloaded and installed StatPlus:mac LE, open the workbook that contains the data that you want to analyze.
3. Open StatPlus:mac LE.
4. From the StatPlus:mac LE menu, select the function that you want.
5. In StatPlus:mac LE, select the workbook data you want to work with, set your parameters and any options that you want, and then click OK.

Note: Excel 2008 does not include Help for StatPlus:mac LE. Help for StatPlus:mac LE is provided by AnalystSoft.

2.3 Excel 2007 - Windows

1. Click the Microsoft Office Button (top left corner), and then click Excel Options.
2. Click Add-Ins from menu at left, and then in the Manage box (bottom), select Excel Add-ins.

3. Click Go.
4. In the Add-Ins available box, select the Analysis ToolPak check box, and click OK.
 - * If Analysis ToolPak is not listed in the Add-Ins available box, click Browse to locate it.
 - ** If you get prompted that the Analysis ToolPak is not currently installed on your computer, click Yes to install it.
5. After you load the Analysis ToolPak, the Data Analysis command is available in the Analysis group on the Data tab.

Note: To include Visual Basic for Application (VBA) functions for the Analysis ToolPak, you load the Analysis ToolPak - VBA add-in the same way that you load the Analysis ToolPak. In the Add-ins available box, select the Analysis ToolPak - VBA check box, and then click OK.

2.4 Excel 2003 - Windows

1. On the Tools menu, click Add-Ins.
2. In the Add-Ins available box, select the check box next to Analysis Toolpak, and then click OK.
 - * If Analysis Toolpak is not listed, click Browse to locate it.
3. If you see a message that tells you the Analysis Toolpak is not currently installed on your computer, click Yes to install it.
4. Click Tools on the menu bar. When you load the Analysis Toolpak, the Data Analysis command is added to the Tools menu.

Note: To include Visual Basis for Application (VBA) functions for the Analysis Toolpak, you can load the Analysis Toolpak - VBA Add-in the same way you load the Analysis Toolpak. In the Add-ins available box, select the check box next to Analysis Toolpak - VBA.