

### Software installation guide for Mac users

The following steps can be performed on your personal computer or the virtual machine you have set up. If you already have R and RStudio installed skip to step 4.

- 1) Download R from the link <https://cran.r-project.org>. Click on **Download R for (Mac) OS X**. Choose the most up to date version R-4.0.3.pkg. Install the package by double-clicking on it and working through the prompts. Leave all default settings in the installation options.
- 2) Download the free RStudio Desktop for mac from <https://rstudio.com/products/rstudio/download/>. Double click the downloaded DMG file. Drag RStudio icon to the Applications folder.
- 3) Verify that RStudio and R are working together by double-clicking the RStudio icon. You should see a RStudio window with three panes.
- 4) If have already installed R and RStudio just open RStudio and check for any updates. In your console type

*version*

This will show the R version you are running. If you need to update **R** you can use package **updateR**. This is the R code you will need to type in your console:

```
install.packages('devtools') #assuming it is not already installed  
library(devtools)  
install_github('andreacirilloac/updateR')  
library(updateR)  
updateR()
```

You will then be prompted to enter your admin password.

Another way to do it is just downloading the new version as in Step 1. Then restart your RStudio. The new R version will be loaded automatically. Then run the following command to update packages.

```
update.packages()
```

Also check if you have the latest version of **RStudio**. Just navigate to Help > Check for updates and you be redirect to the website in Step 2 if needed.

- 5) Some functions in R require a “X11 server”. You can get this using XQuartz. Download the latest version from <https://www.xquartz.org>. Open the downloaded DMG file and then double-click on the XQuartz.pkg. Follow the installation steps.

- 6) Some packages in R requires compilation. Download and install **Xcode** (developer tools to create applications for Mac). You can download it from your App Store or use the link: <https://apps.apple.com/us/app/xcode/id497799835?mt=12>. This will take a while!
- 7) Now you need to install a package manager for macOS called **Homebrew**. From your **Terminal** type (or paste) the following command:

```
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install.sh)"
```

- 8) Install **git**. Since you have Homebrew this will be simple. From your **Terminal** use the following command:

```
$ brew install git
```

This command you automatically update Homebrew and run the brew clean up. If git is successfully installed you should see a message like this:

```
==> git
The Tcl/Tk GUIs (e.g. gitk, git-gui) are now in the `git-gui` formula.

Bash completion has been installed to:
  /usr/local/etc/bash_completion.d

Emacs Lisp files have been installed to:
  /usr/local/share/emacs/site-lisp/git
```

You also need to install git-gui, git's commit GUI and interactive history browser, use the command

```
$ brew install git-gui
```

- 9) R has functions tied to **latex**. And we will use them in this class to generate pdf files. You will need to install **MacTeX**. Download *MacTeX.pkg* from <https://tug.org/mactex/mactex-download.html> . Double-click the pkg installer and follow the prompts. Leave all default settings in the installation options. This will also take a while!

And you are all set! Your computer is ready to do run any packages and functions you will need for this class.