Computer Software Setup

### Please complete these 2 main tasks before our first class:

1. Install *current* [**R**](https://cran.rstudio.com/) on your laptop
2. Install *current* [**RStudio**](https://www.rstudio.com/products/rstudio/download/) on your laptop

Read below for more detailed information on installing the pieces of software we’ll need, and platform specific instructions.

## R & RStudio

**R** and **RStudio** are separate downloads and installations. **R** is the underlying statistical computing environment. **RStudio** is a graphical integrated development environment (IDE) that makes using R much easier and more interactive. You need to install R before you install **RStudio**. Download and install both of these but in this order:

1. [**R**](http://cran.rstudio.com/): Get the most current version version appropriate for your machine. It’s free.
2. [**RStudio**](http://www.rstudio.com/products/rstudio/download/) is a great platform to work with R (note you need R before you can use RStudio). Please install the most recent version. It’s free. It does lots of cool things. We’ll talk more about it in class.

### Windows

#### If you already have R and RStudio installed

* Open RStudio, and click on *Help* > *Check for updates*. If a new version is available, quit RStudio, and download the latest version for RStudio.
* To check which version of R you are using, start RStudio and the first thing that appears in the console indicates the version of R you are running. Alternatively, you can type sessionInfo(), which will also display which version of R you are running. Go on the [CRAN website](https://cran.r-project.org/bin/windows/base/) and check whether a more recent version is available. If so, please download and install it. You can [check here](https://cran.r-project.org/bin/windows/base/rw-FAQ.html#How-do-I-UNinstall-R_003f) for more information on how to remove old versions from your system if you wish to do so.

#### If you don’t have R and RStudio installed

* Download R from the [CRAN website](http://cran.r-project.org/bin/windows/base/release.htm).
* Run the .exe file that was just downloaded
* Go to the [RStudio download page](https://www.rstudio.com/products/rstudio/download/#download)
* Under *Installers* select **RStudio x.yy.zzz - Windows XP/Vista/7/8** (where x, y, and z represent version numbers)
* Double click the file to install it
* Once it’s installed, open RStudio to make sure it works and you don’t get any error messages.

### macOS

#### If you already have R and RStudio installed

* Open RStudio, and click on “Help” > “Check for updates”. If a new version is available, quit RStudio, and download the latest version for RStudio.
* To check the version of R you are using, start RStudio and the first thing that appears on the terminal indicates the version of R you are running. Alternatively, you can type sessionInfo(), which will also display which version of R you are running. Go on the [CRAN website](https://cran.r-project.org/bin/macosx/) and check whether a more recent version is available. If so, please download and install it.

#### If you don’t have R and RStudio installed

* Download R from the [CRAN website](http://cran.r-project.org/bin/macosx).
* Select the .pkg file for the latest R version
* Double click on the downloaded file to install R
* It is also a good idea to install [XQuartz](https://www.xquartz.org/) (needed by some packages)
* Go to the [RStudio download page](https://www.rstudio.com/products/rstudio/download/#download)
* Under *Installers* select **RStudio x.yy.zzz - Mac OS X 10.6+ (64-bit)** (where x, y, and z represent version numbers)
* Double click the file to install RStudio
* Once it’s installed, open RStudio to make sure it works and you don’t get any error messages.

### Linux

* Follow the instructions for your distribution from [CRAN](https://cloud.r-project.org/bin/linux), they provide information to get the most recent version of R for common distributions. For most distributions, you could use your package manager (e.g., for Debian/Ubuntu run sudo apt-get install r-base, and for Fedora sudo yum install R), but we don’t recommend this approach as the versions provided by this are usually out of date. In any case, make sure you have at least R 3.4.3
* Go to the [RStudio download page](https://www.rstudio.com/products/rstudio/download/#download)
* Under *Installers* select the version that matches your distribution, and install it with your preferred method (e.g., with Debian/Ubuntu sudo dpkg -i rstudio-x.yy.zzz-amd64.deb at the terminal).
* Once it’s installed, open RStudio to make sure it works and you don’t get any error messages.