

Advanced Survival Analysis Course

Guide to download and install the R package and related software

Please notice: these instructions and all the syntax that will be distributed in the Advanced Survival Analysis Course are validated for Windows systems, however they should be applicable in Mac systems, with minor modifications.

R is a reliable statistical software package that is distributed freely on the web from the main webpage, <http://www.r-project.org>. This website provides links for the R software, general manuals, and other useful material. One major feature of R is that several advanced statistical methods are available as additional packages (libraries), also for free.

R will be used with RStudio, a user friendly interface for R that makes working with R much easier.

In the Advanced Survival Analysis Course, additional libraries will be used. For survival analysis we will use the `survival`, `prodlim`, `cmprsk`, `mstate`, `relnsurv`, and `dynpred` libraries, which contain functions not implemented in SPSS.

Install R:

- Go to <http://www.r-project.org>
- From the left-hand side menu, choose CRAN; you will get a list of mirror websites
- Choose a location close to you
- From the main window, choose the download option suitable for your computer (Linux, Mac or Windows)
- Follow the instructions
- A guide to installation is provided as webpage and as pdf file: see below (*)

Install RStudio:

- Go to <https://www.rstudio.com/products/rstudio/download/>
- Scroll down until you find a list of 'installers for supported platforms'
- Choose the installer for your platform, select RStudio version 1.2.1335
- Follow the installation instructions

Install a library (e.g. survival):

Alternative 1:

- Run RStudio: one of the panels you will see when it opens, is the console window (this is indicated at the top of the panel).
- Make sure your internet connection is working
- In the console panel, type or copy `install.packages('survival')`
- To load the library type: `library(survival)`

Alternative 2:

- Run RStudio: one of the panels you will see when it opens, is the console window (this is indicated at the top of the panel).
- Make sure your internet connection is working
- From the top menu choose 'Tools' > 'Install Packages...'
- In the text box type: `survival`, select the library that is highlighted
- Click 'Install'
- To load the library, in the console panel type: `library(survival)`

Alternative 3:

- Make sure your internet connection is working
- Go to <http://www.r-project.org>
- From the left-hand side menu, choose CRAN; you will get a list of mirror websites
- Choose a location close to you
- From the left-hand side menu, choose 'Packages'
- (*) Notice: under "Installation of Packages" you can find the link to an R manual "Installation and Administration" (webpage or PDF file)
- To install a library, choose "Table of available packages, sorted by name"
- Choose the library you want (e.g. `cmprsk`)
- Choose the download option suitable for your computer (Mac or Windows): you will store a compressed file on your computer
- Notice: from the same webpage you can download the complete Reference Manual for the library as pdf file
- Run R: a window "R console" is opened
- From the top menu choose 'Tools' > 'Install Packages...'
- From the 'Install from:' drop down box choose "Package Archive File"
- Select the compressed file previously saved
- To load the library, in the console panel type: `library(survival)`