EDUC 263: Things to do before class

Please skim through all of the instructions before getting start.

Note: R bootcamp (Step 5 below) walks you through installing R and RStudio if you would like to skip to that section for Steps 2 and 3.

1. Create a piazza account

- We will be conducting all class-related discussion on this platform instead of using CCLE.
- We have added your email to the Piazza site for this class.
- Course resources have not been posted. We will post more information as the quarter approaches
- If you did not receive an email invitation to join our class piazza page follow-up with me.

2. Install R

- Go to https://cran.r-project.org/
- Select "Download R for Windows"
  - Click "install R for the first time"
  - Click "Download R 3.5.1 for Windows"
- Select "Download R for (Mac) OS X"
  - Click "R-3.5.1.pkg"

3. Install RStudio

- Go to https://www.rstudio.com/products/rstudio/download/
- Select "RStudio 1.1.456 - Windows Vista/7/8/10" for Windows users
- Select "RStudio 1.1.456 - Mac OS X 10.6+ (64-bit)" for Mac users

4. Create R Markdown file that "knits" HTML document in RStudio

- What do we mean by this?
  - We will use R Markdown for lectures and turning in problem sets (homeworks).

  - R Markdown allows us to create documents in a variety of formats (HTML, pdf, word, etc.). For example, this document was created using R markdown (pdf).

  - Here is a link to more information on R Markdown outputs.

- Steps to follow to create R Markdown file that knits HTML document

  - Load RStudio

  - At the top left corner select "File" ->"New file" -> "R Markdown"

  - Select "HTML", title your markdown file (optional), and click "OK"

  - Now select the "Knit" tab (icon with blue yarn ball) or scroll down and "Knit to HTML"

  - Give your file a name and save (can delete later) in place that is easy to locate (Desktop, Dowonloads, etc.)

  - You should have a saved HTML file (extension .HTML) and an R markdown file (extension .Rmd)

5. Complete free R bootcamp tutorial here

- Follow the link and select "Try for free"
- Create an account
- This tutorial may take 2-4 hours
- We encourage you all to complete this tutorial and run code on your own RStudio to get some practice.

6. Watch videos on relative and absolute filepaths

- Absolute versus relative file paths Youtube link
- Relative paths and working directory in R Youtube link

7. Install MikTeX/MacTeX

- Why are we asking you to do this?
  - You will need to install LaTeX (lah-tech or lay-tech) on your computer to create pdf documents in R Markdown.

  - **You do not need to know how to use LaTeX.** LaTeX is used in the background to compile pdf documents for you.

  - This step may take a while and you may run into some problems.

  - Here is a helpful article on creating PDf reports using R, R Markdown, LaTeX, and knitr.
    Note: Article is directed towards Mac users.

- **Instructions to install MacTeX (Mac Users)**
  Here is a youtube tutorial on how to install MacTeX
  1. Follow this link for MaxTeX installation
  2. Select MacTeX Download
  3. Select MacTex.pkg (This may take a while)
  4. Once downloaded double click on package
  5. Follow instructions to install (May take a while)
  6. Open your applications
  7. Should have a folder titled "TeX"
- **Instructions to install MikTeX (Windows Users)**
  Here is a youtube tutorial on how to install MikTeX (watch first 10 minutes if needed)
  1. Follow this link for MikTeX installation
  2. Search for "Download" tab
  3. Select "All downloads"
  4. Choose net installer (64-bit version)
  5. Download file
  6. Large file may take a while
  7. Once download is complete (close browser)
  8. Proceed to corresponding folder in Downloads
  9. Start the MiKTex Net installer
  10. Agree to conditions
  11. Choose download MixTex and click next
  12. Select "Complete MikTex" and click next
  13. Choose a server and click next (usually any server is fine)
  14. Choose download destination on your computer
  15. Create a new folder by clicking on bottom left "Make New Folder" (give folder a name like so "MikTex_downloads" etc)
  16. Initiate download (this may take a while) if you receive an error, close application and start the download process again– this time choosing a different server.
  17. Once download is complete, close window and open previous download destination

18. Open net installer from downloads again
19. Make sure to select “Install MikTeX” this time
20. Select “Complete MikTex” and continue
21. Select “Install MikTeX only for me” and continue
22. Leave default installation as is
23. Leave settings as is
24. Start the installation process (again this may take a while. . .)
25. If you receive an error, start the installation process again with step 1 and choose another server from the list
26. After installation, close MikTex setup application
27. Search for MikTek 2.9 on your computer and open MikTeK Console
28. Open “Window Command Prompt” (black square with green > sign)
29. Type “latex” and hit “Enter” on your keyboard
30. You want to see (MikTeX and some version number)
31. Close Windows Command Prompt and MikTeX console
32. Go back to download destination and delete MikTeX stepup file

8. Create R Markdown file that “knits” PDF document in RStudio

- Why are we asking you to do this?
  - We will ask you to submit problem sets (homeworks) as pdf documents.
- Steps to follow to create R Markdown file that knits PDF document
  - Once MikTeX or MacTeX are installed, return to RStudio
  - At the top left corner select “File” -> “New file” -> “R Mardown”
  - Select “PDF”, title your markdown file (optional), and click “OK”
  - Now select the “Knit” tab (icon with blue yarn ball) or scroll down and “Knit to PDF”
  - Give your file a name and save (can delete later) in place that is easy to locate
  - You should have a saved pdf file (extension .pdf) and an R markdown file (extension .Rmd)
  - If you receive an error shoot me an email and we can troubleshoot together

9. Create R Markdown file that "knits" (PDF) beamer presentation in RStudio

- Why are we asking you to do this?
  - Beamer is essentially a pdf presentation created by latex.
  - Lectures will be in beamer format and we want you to be able to run lecture slides on your own.
  - Once MikTeX/MacTeX are installed, create R Markdown file that knits to (PDf) beamer presentation.
- Steps to follow to create R Markdown file that knits beamer presentation
  - Return to RStudio
  - At the top left corner select "File" -> "New file" -> "R Mardown"
  - Select "Presentation" on the left table, then "(PDF) Beamer", and click "OK"
  - Now select the "Knit" tab (icon with blue yarn ball) or scroll down and "Knit to PDF (Beamer)"
  - Give your file a name and save (can delete later) in place that is easy to locate
  - You should have a saved pdf file (extension .pdf) and an R markdown file (extension .Rmd)
  - If you were unable to knit to pdf in the step above, this may not work for you
  - If you receive an error shoot me an email and we can troubleshoot together

We understand that installing MikTeX/MacTeX can be challenging and time-consuming and for that reason, we would like you to come to class with all the software installed. Please reach out to me if you are running into problems. I am happy to help.

Disclaimer: I am a Mac user and will do the best I can assisting with Windows issues