

## Assessment rules for the subject

### Advanced R programming (2019/2020)

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The following topics (tools) will be presented during the course:

1. Writing own functions in R (including defensive programming)
2. Object-oriented programming - creating own classes, methods and generic functions of the S3, S4 and R6 systems
3. Advanced data processing with dplyr, dtplyr, tidyr
4. Automation of scripts and reports (RMarkdown)
5. Shiny basics
6. Creating analytical dashboards
7. Use of C++ in R (Rcpp)
8. Vectorization of the code
9. Creating own R packages

**The final grade** for the course will take into account:

- final project: 60%
- activity assessment (solving so called "homeworks"): 40%

As so called "homeworks" we understand exercises included at the end of each lab materials. Course participants will have to prepare solutions and send them (in the form R script) to the email address [pwojcik@wne.uw.edu.pl](mailto:pwojcik@wne.uw.edu.pl) or [pcwiakowski@wne.uw.edu.pl](mailto:pcwiakowski@wne.uw.edu.pl) the latest within one week after a particular lab took place (i.e. before the next class).

Final projects should be prepared in teams of **at most 3 people**. They can refer to any topic, but they should use **at least four of the tools listed above** (NOTE - **at least two tools for each person in the team**, so a team of three people should use at least the six tools above).

**The team members and a short initial description of the project should be sent to the teacher(s) by April 30, 2020 at the latest.**

**The deadline for submitting projects is midnight ending the day 2.06.2020.**

Each team should provide a presentation (prepared in RMarkdown, no more than 15 slides) + complete R codes.

Project presentations (about **10 minutes** per team) will take place during the last classes on 4.06.2020.