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| **Engelsk titel:** | Special course in R package development |
| **Sprog:** | Engelsk |
| **Point( ECTS )** | 5 |
| **Kursustype:** | PhD special kursus |
| **Undervisningens placering:** | Campus Lyngby (selvstudie) |
| **Undervisningsform:** | Læsning, programmering |
| **Evalueringsform:** | Publicere og få godkent R applikation på CRAN netværket |
| **Bedømmelsesform:** | Bestået / ikke-bestået |
| **Anbefalede forudsætninger:** | Indgående forståelse programmerings sproget R. |
| **Deltagerbegrænsning:** | 1 |

**Overordnede kursusmål:**

Package development is great way to make the latest statistical research available to a broader audience and opens for the research to applied. This course documents the experiences aquired by the student within R package development.

**Læringsmål:**

En studerende, der fuldt ud har opfyldt kursets mål, vil kunne: (begreber står anført på engelsk)

* Use S3-objects and generic methods
* Understand namespaces, enviroments and search paths
* Dynamic scoping
* Writing valid documentation
* Version control: Git and/or SVN
* Automatic package checking
* Efficient computing: Understand the bottlenecks of fast computing in R, use of parallel computing and integration with C++
* Defining package meta-data

**Kursusindhold:**

Litteratur liste:

[1] Team, R. Core. "Writing R Extensions." *R Foundation for Statistical Computing*(1999). – 176 pages

[2] Eddelbuettel, Dirk, et al. "Rcpp: Seamless R and C++ integration." *Journal of Statistical Software* 40.8 (2011): 1-18. – 19 pages

[3] Weston, Steve, and Rich Calaway. "Getting Started with doParallel and foreach." *Available on https://cran. r-project. org/web/packages/doparallel/vignettes/gettingstartedparallel. pdf* (2015). – 6 pages

[4] Rstudio. 2016. Using Version Control with RStudio. [ONLINE] Available at: https://support.rstudio.com/hc/en-us/articles/200532077-Version-Control-with-Git-and-SVN. [Accessed 22 June 2016] ~4 pages

[5] Leisch, Friedrich. "Creating R Packages: A Tutorial." (2008)..- 20 pages

**Kursusansvarlig:**  
[Per B. Brockhoff](http://www.dtu.dk/Service/Telefonbog.aspx?id=27751&type=person&lg=showcommon) , Lyngby Campus, Bygning 324, Tlf. (+45) 4525 3365 , [perbb@dtu.dk](mailto:perbb@dtu.dk)