Statistical Computing

Course Title: Statistical Computing						
Course Code: CIE60061	**Student Workload:** 8.50 Hours/ Weeks	**Credits:** 3 Credits (4.50 ECTS)	**Semester:** 7th Semester	**Frequency:** Odd Semester	**Duration:** 16 Weeks/ Semester (*Lecture*: 14 weeks; *Midterm assessment*: 1 week; *Final assessment*: 1 week)	
1	**Types of Courses:** Content Knowledge Course	**Contact Hours:** *Lecturing*: 2.50 Hours/ Week; *Practical Work*: 0.00 Hours/ Week	**Independent Study:** *Self-study:* 3.00 Hours/ Week; *Structured Assignment*: 3.00 Hours/ Week	**Class Size:** 40 Students		
2	**Prerequisites for Participation** (If Applicable)**:** -					
3	**Learning Outcomes:** 1. M1: Able to design programming in statistical methods (ILO-4) (0,2) 2. M2: Able to explain and create programming algorithms (ILO-8) (0,2) 3. M3: Able to explore data both univariate and multivariate (ILO-10) (0,2) 4. M4: Able to use Open Source Software (ILO-4) (0,2); (ILO-8) (0,2)					
4	**Subject aims/Content:** At the end of the course, students are expected: 1. L1: Able to explain statistical computing with R program (M1) 2. L2: Able to compile algorithms and programs to perform Exploratory Data Analysis (M2) 3. L3: Able to compile algorithms and programs to perform univariate and multivariate probability distribution fit tests (M3) 4. L4: Able to manage files and data in R (M4) 5. L5: Able to compile GUI-R application programs for non-parametric regression models (M4)					
5	**Teaching Methods:** Lecturing, Group Discussion, Case-Based Learning					
6	**Assessment Methods:** Multiple-choice, essay, product assessment, anecdotal record/logbook					
7	**This Course is Used in The Following Study Programme/s as Well:** -					
8	**Responsibility for Course:** Satrio Hadi Wijoyo, S.Si., S.Pd., M.Kom. Dr.Eng. Fitra Abdurrachman Bachtiar, S.T., M.Eng.					
9	**Other Information:** Bibliography: 1. Suhartono, 2008, Analisis Data Statistik dengan R, Graha Ilmu, Yogyakarta. 2. Venables, W.N. and Smith, D.M., 2012, An Introduction to R Version 2.15.2, The R Development Core T 3. Albert, J., 2009, Bayesian Computation with R, Springer Science + Business Media, New York. 4. Eubank, R.L., 1988, Spline Smoothing and Nonparametric Regression, Marcel Dekker Inc, New York. 5. Peter Dalgaard, Introductory Statistics with R, 2004, Springer 6. Paul R. Wellin, Programming with Mathematica: An Introduction, 4th revised ed, 2013, Cambridge University Press. 7. Venables, S. dan R Development Core Team, 2012, "An Introduction to R Version 2.15.2"					