

Integration of Sustainability into STAT430: Introduction to Statistical Computing with SAS

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This course is an introduction to statistical and graphical techniques of data analysis and their implementation in the SAS programming language/platform. The course reviews ideas and concepts from statistical theory and develops computational skills for data analytics.

This course will explore sustainability ideas on the basis of statistical analyses of real-world data sets. In particular, such sustainability ideas as Tragedy of the Commons, Interconnectedness and Interdependence, and Systems Thinking will be explored on the basis of the dataset used in the paper “Environmental predictors of pre-European deforestation on Pacific islands” by B. Rolett & J. Diamond, *Nature*, Vol. 431. Various regression models and correlation techniques will be employed in class presentations and homework assignments to investigate what factors have contributed to the most extreme deforestation of Easter Island and to consequent social and population collapse.

Sustainability Learning Objectives. By the end of the course students will be expected to

- (i) understand the importance of sustainable living practices for the society;
- (ii) understand how data analysis can help to identify and solve monumental challenges related to sustainability;
- (iii) master a set of tools necessary for statistical analysis of sustainability datasets.

Outcome Measurement and Assessment.

- (i) At least 2-3 homework assignments will be related to the analysis of sustainability datasets;
- (ii) Some of the datasets for the final project assignment will be related to sustainability.