

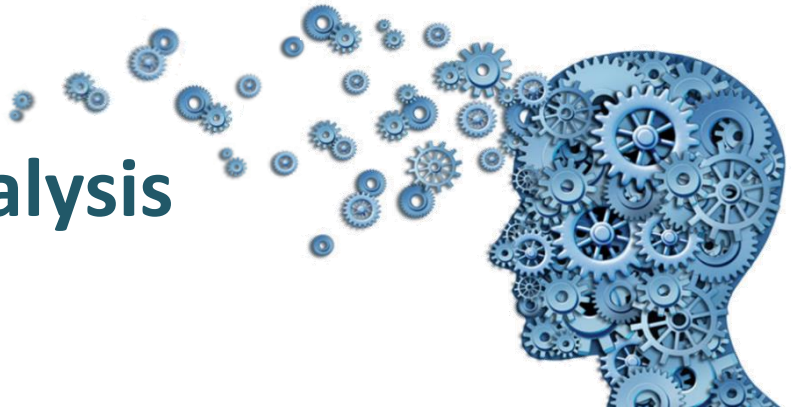


ACRN PY-REG Course 3 Days

01. – 03.04.2019



Research Methods: Regression Analysis with Python



In this course you will learn how to use Python with the most salient libraries to gain data driven insights into typical research problems from various disciplines. This course is not a complete beginners' course, yet it allows you to enter with just some fairly-basic statistics knowledge. This course is also not meant to comprehensively cover programming and algorithms, yet we will introduce you to some important concepts and show how these can be applied for novel approaches to your data.

The course focuses on one of the most important tools in your data analysis arsenal: regression analysis. Using the freely available, easy-to-learn, yet powerful Python language, you will begin with linear regression and then learn how to adapt when two variables do not present a clear linear relationship. You will examine multiple predictors of your outcome and be able to identify confounding variables, which can tell a more compelling story about your results. You will learn the assumptions underlying regression analysis, how to interpret regression coefficients, and how to use regression diagnostic plots and other tools to evaluate the quality of your regression model. Throughout the course, you will share with others the regression models you have developed and the stories they tell you.

Organized by the **ACRN Oxford Academic Research Network** | <http://www.acrn.eu/courses/>

Location: Worcester College of the University of Oxford, Oxford, UK

Fee: EU academic rate GBP 660,- | standard fee GBP 920,-

Application: <http://www.acrn.eu/courses/application/>

Travel, accommodation and food are not included in the course fee! Please bring your own laptop



What you'll learn

- How to apply regression/Python to your data
- Easy and hands-on approach to Python as programming language for your tasks
- Create valid regression models
- How to interpret the outcome
- Beautiful visualizations of the data
- How to setup and maintain an easy to work environment on your computer
- Apply your knowledge to real-world problems in afternoon lab sessions
- Tips and tricks and lots of networking...



Course Outline

- Introduction to Python
 - easy setup of your environment
 - overview and templates to start
 - helpful Libraries for Statistics and Data
- Introduction to Regression
 - conceptual background about types of data
 - confounding variables
 - describing your data
- Basics of Linear Regression
 - testing, interpreting and visualizing associations
 - predicting the response variable
 - statistical assumptions
- Multiple Regression
 - applying, interpreting and visualizing multiple regression
 - nonlinear associations
 - regression diagnostic techniques
- Logistic Regression
 - testing a categorical explanatory variable
 - testing, interpreting and visualizing logistic regression



Course Venue

Worcester College of the University of Oxford
Oxford
United Kingdom



Lecturer

Prof Dr Othmar Lehner
Austria and London

Doctor of Science in Business and Economics



Organized by the

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