# COURSE DETAIL

| INTRODUCTION TO STATISTICAL LEARNING |
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| **Country**<br>Taiwan |
| **Host Institution**<br>National Taiwan University |
| **Program(s)**<br>National Taiwan University |
| **UCEAP Course Level**<br>Upper Division |
| **UCEAP Subject Area(s)**<br>Statistics |
| **UCEAP Course Number**<br>106 |
| **UCEAP Course Suffix** |
| **UCEAP Official Title**<br>INTRODUCTION TO STATISTICAL LEARNING |
| **UCEAP Transcript Title**<br>STATISTCAL LEARNING |
| **UCEAP Quarter Units**<br>3.00 |
| **UCEAP Semester Units**<br>2.00 |

**Course Description**

Statistical learning is the process of extracting regularities from data using statistical models with the goal of finding a predictive function based on existing data to be able to make prediction on unseen data of similar type. The course introduces the concepts and analytical tools of statistical learning, it emphasizes “learning by doing“ with the use of R programming language to perform analysis on empirical data. The first part of the course starts with a refresher on the fundamentals of statistics—mean, variance, distribution, probabilities—before proceeding to more specialized topics. The first part of this course also gives a gentle introduction to R programming, during which issues of dimensionality and balance are discussed with their diagnostic and preprocessing tasks implemented in R. The second part of the course introduces families of binary, penalized, discriminant, and mixture models, along with performance evaluation metrics. The course concludes with the trendy topic on text mining, that is, drawing inference from text data.

**Language(s) of Instruction**
English

**Host Institution Course Number**
PS5696

**Host Institution Course Title**
INTRODUCTION TO STATISTICAL LEARNING

**Host Institution Campus**

**Host Institution Faculty**

**Host Institution Degree**

**Host Institution Department**
Statistics

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