

## R Programming

Course title – Intitulé du cours	R Proqraming
Level / Semester – Niveau /semestre	Master 1 S1
School – Composante	Ecole d'Economie de Toulouse
Teacher – Enseignant responsable	Sébastien PARENTY
Other teacher(s) – Autre(s) enseignant(s)	
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Other teacher(s) – Autre(s) enseignant(s)	
Lecture Hours – Volume Horaire CM	15
TA Hours – Volume horaire TD	
TP Hours – Volume horaire TP	7.5
Course Language – Langue du cours	English
TA and/or TP Language – Langue des TD et/ou TP	English

**Teaching staff contacts – Coordonnées de l'équipe pédagogique :** [sebastien.parenty@ut-capitole.fr](mailto:sebastien.parenty@ut-capitole.fr)

**Course Objectives – Objectifs du cours :** The aim of this course is to discover the world of data science with R software, with a particular focus on techniques useful to economists. It is broken down into 10 sessions of 1h30 each, during which you will learn to manipulate, transform and analyze all types of data, with the aim of acquiring a basic general knowledge of data science. 5 examples of practical work will be carried out, including some from the great data classics.

**Prerequisites – Pré requis :** Laws of probability and common statistical theorems. No knowledge of computer coding is necessary.

**Practical information about the sessions – Modalités pratiques de gestion du cours :** This is a fully interactive, computer-friendly course. Students are expected to bring their computers and run the codes at the same time as the teacher.

**Grading system – Modalités d'évaluation :** Final Exam

**Bibliography/references – Bibliographie/références :** R for Data Science at <https://r4ds.had.co.nz/>

**Session planning – Planification des séances**

- 1. Introduction
- 2. What R can do
- 3. Data I
- 4. Data II

- 5. *Statistics*
- 6. *Loops and functions*
- 7. *Econometrics I*
- 8. *Econometrics II*
- 9. *DataViz*
- 10. *The great data classics*