

Data Analytics

Course title – Intitulé du cours	Data Analytics
Level / Semester – Niveau /semestre	M2 / S1
School – Composante	Ecole d'Economie de Toulouse
Teacher – Enseignant responsable	NYAWA Serge
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	
Course Language – Langue du cours	English
TA and/or TP Language – Langue des TD et/ou TP	

Teaching staff contacts – Coordonnées de l'équipe pédagogique :

Serge NYAWA Tél : 0561294730 / s.nyawa@tbs-education.fr Modes d'interaction privilégiés: sortie de cours et par mail

Course Objectives – Objectifs du cours :

In today's data-rich environment, students need the ability to collect data from multiple sources, transform it into structured and meaningful insights, and use those insights to support informed business decisions. Data analytics has become essential across a wide range of business activities, including marketing, finance, economics, operations, and service management. Data analytics draws on several complementary disciplines to improve decision-making. Social sciences and management sciences help identify, formulate, and model business problems; information systems provide the tools and methods required to collect, organize, and manage data; and statistics and quantitative methods enable the analysis, interpretation, and visualization of data to generate actionable insights. This course adopts a practical, hands-on approach using readily available computer software and real-world datasets. By the end of the course, students should be able to: collect data from diverse structured and unstructured sources; clean, transform, organize, and manage datasets for analysis; understand the fundamental concepts and principles of data analytics; apply appropriate analytical techniques to business problems. interpret and visualize analytical results effectively. translate data-driven insights into informed business decisions.

Prerequisites – Pré requis :

Students should have followed R Programming, Business statistics or modelling classes or its equivalent.

Practical information about the sessions – Modalités pratiques de gestion du cours :

Computers are allowed;

- The class is interactive and collaborative;
- Students are not allowed to join the class after 20 minutes from the start.

Grading system – Modalités d'évaluation :

Evaluation 1st part: Students are evaluated through class participation and a group project. No more than 03 students per group.

Bibliography/references – Bibliographie/références :

- Data Science and Big Data Analytics by EMC Education Services
- In Lee (2018), Social media analytics for enterprises: Typology, methods, and processes, Business Horizons, Volume 61, Issue 2, March–April 2018, Pages 199-210.
- Nathan Danneman and Richard Heimann (2014), Social Media Mining with R, Packt Publishing Ltd (Book).
- Matthew Ganis and Avinash Kohirkar (2015), Social Media Analytics, IBM Press Pearson plc. EMC Education Services, Data Science and Big Data Analytics (2015), WILEY (Book).

Session planning – Planification des séances

The class made up of six chapters.

1. Association rules;
2. Classification;
3. Clustering;
4. Data Collection using a selector Gadget;
5. Data collection using Octoparse;
6. Text Analytics.

Distance learning – Enseignement à distance :

If necessary, online learning will be provided with:

1st part: - Interactive online classes and tutorials; - Multiple Choice Questions and online exercises.

2nd part: - Interactive online classes - Multiple Choice Questions and online exercises. - Remote (online) tutorials - Chatrooms