



SYLLABUS

COURSE DESCRIPTION	
Type of the course:	(x) Normal () Teaching Assistant (TA) () Thesis/Dissertation
Course Title:	Data Science Applied to Accounting
Periodicity:	(x) Annual () Semestral () Sporadic
Academic term:	Trimester

WORKLOAD		
Workload: 60-hour course		Credits: 4
Theoretical: (1 credit = WL 15)	Research: (1 credit = WL 15)	Theoretical-empirical: (2 credits = WL 30)
Academic Degree: () Master () PhD (x) Master and PhD		
Course Type:		
Master: (x) Elective - () Compulsory		Doctorate: (x) Elective - () Compulsory

COURSE INSTRUCTOR

AREA OF CONCENTRATION / LINE OF RESEARCH
Research Area: Controllershhip and Governance
Research Line: Management Control and Performance Evaluation Financial Accounting and Governance

COURSE PURPOSE
a) Knowledge – provide the student with knowledge about data science and its relationship with the various areas of accounting; b) Skills – to develop critical and questioning skills on the constituent elements of data science and its different applications in accounting; and c) Approach – motivate the student to advance in the knowledge of data science applied to accounting and encourage him to overcome experiences of previous studies.

COURSE DESCRIPTION
Data science and its applications in accounting. Acquisition and preprocessing for accounting data. Data analytics and accounting data visualization. Financial forecasting and modeling. Machine learning for detecting fraud and anomalies in accounting. Risk identification and compliance analysis. Audit analytics and audit processes. Business Intelligence for financial data analysis and reporting. Text mining and natural language processing (NLP). Big data analytics for business performance evaluation.

COURSE CONTENT
1. Data science and its applications in the field of accounting. 2. Data acquisition and preprocessing techniques for accounting data. 3. Exploratory data analysis and data visualization in the context of accounting. 4. Statistical analysis and predictive modeling for financial forecasting and analysis. 5. Machine learning techniques for fraud detection and anomaly detection in accounting. 6. Risk identification and compliance analysis using data science methodologies. 7. Audit analytics and the application of data science techniques to audit processes. 8. Business intelligence (BI) tools and techniques for financial data analysis and reporting. 9. Text mining and natural language processing (NLP) for analyzing financial documents. 10. Big data analytics for business performance evaluation and decision-making in accounting.



METHODOLOGY

Readings and discussions of themes with the active participation of students and additions of recent references by them. Demonstration of financial and managerial accounting practices with application of data science. Socialization of news about data science applications in the accounting of public and private, national and foreign organizations. Seminars on previously selected points of the discipline.

GRADING POLICY

Contributions to class participation/discussions (20%). Demonstration of data science applied in accounting practices of organizations (20%). Seminars: Presentation and Debate (30%). Elaboration and presentation of a research project with: contextualization, problem, justification, theoretical foundations and methodological procedures (30%).

MAIN REFERENCES

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