

# Master of Science (MS) in Data Science

Learning Outcomes: Knowledge and Understanding, Cognitive Skills, Practical Skills, Transferable Skills	
<b>1. Knowledge and Understanding (outcomes, teaching, assessment):</b>	
Learning Outcomes:	<p>K1. Critically evaluate the techniques for storing and processing big volumes of data, including transaction business data, text data and images and to apply the relevant tools.</p> <p>K2. Analyze the basic machine learning techniques and apply the relevant tools.</p>
Teaching/Learning Methods:	Lectures, demonstrations, workshops; Laboratory sessions; Group work and group discussions (tutor- and student-led); Supported self-study and directed reading of books and articles; Independent online- and library-based research and critical reading; Case studies analyses; Collaborative learning via asynchronous discussion boards and wikis with peers in Blackboard with tutor input/moderation; Presentation preparation; Individual assignment writing; Team or individual project planning and execution.
Assessment:	Written assignments; Examinations; Presentations (individual or team); Reports
<b>2. Cognitive and Practical Skills (outcomes, teaching, assessment)</b>	
Outcomes	<p>C1. Articulate business problems using data science techniques.</p> <p>C2. Design a comprehensive data science solution and assess it both from a technical and a business perspective.</p> <p>C3. Successfully complete a research project in big data or in data science.</p>
Teaching/Learning Methods:	Lectures, demonstrations, workshops and seminars; Laboratory sessions; Group work and group discussions (tutor- and student-led); Supported self-study and directed reading of books and articles; Independent online- and library-based research and critical reading; Case studies analysis; Collaborative learning via asynchronous discussion boards and wikis with peers in Blackboard with tutor input/moderation; Individual assignment writing; Research project planning and execution.
Assessment:	Written assignments; Exams; Presentation (individual); Reports; major projects.
<b>3. Transferable Skills (outcomes, teaching, assessment)</b>	
Outcomes	<p>T1. Formulate ideas and arguments and communicate them effectively both in writing and orally in an academic or business context</p> <p>T2. Undertake programming at an advanced level: use advanced algorithms, practice distributed computing, use of no-SQL databases.</p>

Teaching/Learning Methods:	Lectures; Labs; Supported self-study and directed reading of books and articles; Independent online- and library-based research and critical reading; Reflective learning tasks & blogs; Presentation preparation; Individual assignment writing; Research project planning and execution.
Assessment:	Written assignments; Exams; Presentations (individual); Reports.