

Syllabus

Course description

Course title	ARTIFICIAL INTELLIGENCE AND FINANCIAL DECISION MAKING (AIFD)
Course code	25407
Scientific sector	SECS-P/09
Degree	LM-77 Accounting and Finance
Semester and academic year	2nd semester 2019-2020
Year	2
Credits	6
Modular	No

Total lecturing hours	36
Total lab hours	-
Total exercise hours	-
Attendance	<p>Highly recommended, although not compulsory as per national regulation.</p> <p>Student planning to regularly attend course, must register through UNIBZ course OLE (Open Learning Environment) platform as attending student in order to be able to actively participate in class blog, coursework upload, and other classroom related activities.</p> <p>Student not attending course must register through UNIBZ OLE platform as not attending student in order to be able to download teaching material required to study for final exam preparation. However, AIFD is an elective course designed as a project class and so, is not suitable for students that have little time to meet instructor and guest lecturers to discuss the set-up and progress in their AIFD project work.</p>
Prerequisites	<p>Undergraduate introductory courses in finance, and in addition graduate/master level first year classes in Advanced Corporate Finance, Financial Mathematics, and Data Analytics, Big Data and Blockchain. Further, attendance of second year master classes in Asset Management and Performance Analysis as well as the Lab in Financial Trading is also recommended.</p>
Course page	<p>https://www.unibz.it/en/faculties/economics-management/master-accounting-finance/study-plan-finance-and-financial-markets/</p>

Specific educational objectives	<p>Artificial Intelligence and Financial Decision Making (AIFD) is a second-year elective course for students attending the M.Sc. in Accounting and</p>
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	<p>Finance. AIFD is a graduate course designed to introduce students to understand how to implement and reaping the benefits of AI technology in finance and banking. As customers demand smarter, more convenient and safer ways to access, spend, save and invest their money, the financial industry is looking to artificial intelligence to give them what they want. New market entrants are promising to change the way consumers and firms borrow, save, invest and transact. Financial industry incumbents enjoy substantial market power but are struggling to keep up technologically as they wrestle with antiquated core infrastructure.</p> <p>AIFD will begin by providing students with some background on the basics of network economics as specifically applied to financial services. Next, it will cover topics where new technologies are to be used in financial activities such as retail banking, shadow banking credit solutions, online lending, investment, trading and risk management. The solutions adopted in new technology-driven finance and banking business models to be presented in class span Automated machine learning platforms, Robot advising, Analytical combinations of cloud computing and natural language processing and more general AI-powered computers to analyse large and complex data sets.</p>
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Lecturer	Maurizio Murgia Office SER E501 Tel. 0471/013110 maurizio.murgia@unibz.it https://www.mauriziomurgia.com
Lecturer Scientific sector	13/B4 - SECS-P/09
Teaching language	English
Office hours	18 - Please refer to the lecturer's web page
Guest Lecturers	AIFD will host several Guest Lecturers that will present specific finance and banking business solutions that rely on AI technology.
Teaching assistant	-
Office hours	-
List of topics covered	The main subject areas covered in the course are: a) Network economics; b) Economics and finance of fintech; c) Applied AI technology in finance and banking.
Teaching format	Classroom activity will alternate background lectures, case study examples and professional expert presentations.

	<p>LEARNING OUTCOMES:</p> <p><u>Knowledge and understanding:</u> Knowledge and understanding of network economics and economies of scale and scope in financial industry. Fintech: how technology is affecting financial services and businesses.</p> <p><u>Applying knowledge and understanding:</u> Ability to use background in fintech economics to distinguish winners and losers in the fierce competitive arena that battle for customers and market share. Students will apply basic cost benefit analysis in fintech project evaluation.</p> <p><u>Making judgments:</u> The course combines the latest academic thinking with hands-on business practice and its main goal is that attending students should develop by the end of classroom activity an expanded ability to analyze and think about sound fintech solutions and to defend these decisions with analytical reasoning.</p> <p><u>Communication and Learning skills:</u> Students are expected to attend classes, actively participate in discussion and be able to communicate their views on fintech business solutions. They can expect to be asked in class to present their proposal and ideas and how to implement them. Exercises, Case studies and supplemental readings (to be found in the Library course shelf and Online Reserve Collection) are detailed in the course detailed syllabus and outline available in course OLE platform.</p>
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<p>Assessment</p>	<p>AIFD assessment is done through an individual final Project. The final project assignment consists of three parts. The first is the paper: it is a 4 to 6-page paper (page count not including any figures or references, and its format is a standard 1.5 spacing at 11 pt. font). The paper must be submitted by the penultimate AIFD course session through uploading into OLE platform. A detailed timetable and outline of the course will be posted in the OLE platform.</p> <p>The second is the powerpoint or pdf presentation of final project that must be submitted the day before the scheduled exam session date.</p> <p>The third is the 15' individual presentation at the exam session date.</p> <p>Student final grade will be a mixture of evaluating the contents and written paper and individual</p>
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	presentation.
Assessment language	English
Evaluation criteria and criteria for awarding marks	<p>AIFD final project detailed guidelines will be provided to attending students through OLE platform. However, students may consider at least three type of topics for their final project: a) Starting a FinTech business; b) Advising an existing FinTech business; c) Analysis of a particular industry/niche/business model within Financial Technologies. In either selected case the student can pick a space and discuss how she/he expects it to evolve in the next 3-5 years. This project is intended to bring out all the material the student learnt when attending the master's in accounting and finance and showing how she/he can manage a complex task such a fintech project. Student final project and course mark grade will be a mixture of evaluating the contents, written paper and individual presentation at exam date.</p>
Required readings	<p>Class readings and notes could be available in course UNIBZ Library Reserve Collection (ULRC) or handed out in advance of specific class sessions. However, ULRC could be accessed through Course OLE Platform.</p> <p>However, there are several good references to start learning about topics covered in AIFD.</p> <p>At illustrative level see:</p> <ul style="list-style-type: none"> - B. Nicoletti, <i>The future of Fintech</i>, Palgrave 2017. <p>For a more in-depth economics analysis of AI and Fintech see:</p> <ul style="list-style-type: none"> - T. Philippon, <i>The Fintech opportunity</i>, NBER #22476, August 2016 <p>Also, the collection of research papers in:</p> <ul style="list-style-type: none"> - A.K. Agrawal-J.Gans-A.Goldfarb, <i>The economics of artificial intelligence: an agenda</i>, University of Chicago Press, 2018.
Supplementary readings	Teaching Slides and case studies to be downloaded from course UNIBZ OLE Platform. Some further teaching material could be handed out during class sessions.