

# UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

### **SYLLABUS DEL CORSO**

## **Metodi Matematici**

2122-2-E1802M118

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#### Learning objectives

The aim of the course is to give the main tools for the basics of series, integrals and linear algebra. Furthermore, it

#### **Contents**

Matematica Generale II: Sequences and series, integrals and linear algebra.

**Matematica Finanziaria:** The course presents the basic principles of traditional financial mathematics (also known as \_\_\_\_\_\_

## **Detailed program**

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2) Integrals: definitions, main results and computation.

3) Linear algebra: matrices, vectors and linear systems.				
Matematica Finanziaria:				
Capitalization Laws Financial transactions. Amounts, interest, discount. Capitalization laws and				
Annuities and their classification. Value of an annuity in an instant t. Calculation of present and				
Accrued capital. Repayment of a loan. Depreciation.				
Financial operations in general: investments / financing, narrowly, side, general, pure. Selection				
Bonds and their valuation: characteristics of a bond and profitability indicators. Term structure,				
Prerequisites				
Prerequisites are considered indispensable knowledge and mastery of the typical topics of the				
Student who do not intend to subscribe to the HONOR CODE can write to their teacher to agree				
Teaching methods				
Assessment methods				
Matematica Finanziaria:				
In the emergency period Covid-19 exams will be only remotely managed. They will be carried				

The exams, after the health emergency, will be	delivered in ways that will be, subsequently,
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### **Textbooks and Reading Materials**

- "Successioni, serie e integrali", Manuale modulare di Metodi Matematici, vol. 5, a cura di Giovanna Carcano, edizioni Giappichelli Torino
- "Algebra lineare", Manuale modulare di Metodi Matematici, vol. 4, a cura di Maria Ida Bertocchi, edizioni Giappichelli Torino
- S. Stefani, A. Torriero, G.M. Zambruno: "Elementi di Matematica finanziaria e cenni di programmazione lineare" Giappichelli, 5 a ed., 2017