

**MATHEMATICS PREPARATORY COURSE – Academic Year 2025/2026****Degree Programs in Management & Business Analytics - Udine**

During August/September 2025, the Mathematics Preparatory Course for first-year students of the Bachelor's Degree Programs in Economics (based in Udine and Pordenone) will be held online via the Microsoft Teams platform. This course will cover the prerequisites for the Matematica Generale and Mathematics for Business courses.

Both students who have already enrolled and those awaiting completion of their enrollment can participate.

Students who are already enrolled and have an institutional email address (surname.name@spes.uniud.it or studentnumber@spes.uniud.it) can participate by accessing Microsoft Teams, Team "Percorso di matematica 2025", using the access code: **s1v3hwhf**

Students who have not yet completed their enrollment may request access by emailing Prof. Gaudenzi (marcellino.gaudenzi@uniud.it) or Prof. Apicella (giovanna.apicella@uniud.it), who will then add them to the Team and authorize their participation in the course.

To attend the lessons, simply log in to Microsoft Teams on the days and times specified in the course schedule.

The topics covered in the preparatory course will be considered as prior knowledge and will **not** be reviewed during the General Mathematics course. Therefore, **all students are strongly encouraged to participate**. These topics include: basic logic, sets, functions, equations and inequalities, analytic geometry, trigonometry, exponential and logarithmic functions.

At the end of the course, there will be a **final assessment test** on the content covered. Participation in this test is recommended; those who pass will be awarded **one bonus point** on the *Mathematics for Business* exam.

Lessons will be held in Italian. International students can ask questions in English and receive answers in English. The **final assessment test** will be in English.

LECTURES (*)			
Date	Room	Location	Time
27.08.2025	Videoconference	online	14:30 – 17:30
29.08.2025	Videoconference	online	14:30 – 17:30
02.09.2025	Videoconference	online	14:30 – 17:30
03.09.2025	Videoconference	online	14:30 – 17:30
05.09.2025	Videoconference	online	14:30 – 17:30
08.09.2025	Videoconference	online	14:30 – 17:30
09.09.2025	Videoconference	online	14:30 – 17:30
10.09.2025	Videoconference	online	14:30 – 17:30



Final assessment test	
Day	Time
19.09.2025 – Aula 2	14:30 – 16:00

(*) Any changes to the above schedule or to the date of the final test will be communicated during the online lessons.

PREPARATORY COURSE CONTENT

Basic Elements

- Sets
- Functions
- Powers and roots
- Necessary and sufficient conditions

Equations and Inequalities

- Basic algebraic operations
- Polynomials
- Polynomial division
- First- and second-degree equations and inequalities
- Polynomial equations and inequalities
- Rational, radical, and absolute value equations and inequalities
- Systems of two linear equations in two unknowns

Analytic Geometry

- Coordinates on the line and plane
- Linear equations
- Sets of points as solutions to equations, inequalities, and systems in two variables
- Circle and its equation
- Parabolas, ellipses, and hyperbolas and their equations
- Overview of conics in canonical form

Elements of Trigonometry

- Angles and angle measurement in radians
- Sine, cosine, and tangent functions and their main properties
- Basic relationships between trigonometric functions
- Addition, subtraction, and trigonometric formulas
- Trigonometric equations and inequalities



Exponential and Logarithmic Functions

- The exponential function and its properties
- The logarithmic function and its properties
- Equations and inequalities with exponentials and logarithms

Lecturer

Prof.ssa Giovanna Apicella

Prof. Marcellino Gaudenzi