

Sapienza University of Rome
Faculty of Economics
Degree Programs EPOS, FINASS, HE
MATHEMATICS CRASH COURSE
Academic year 2025-2026 (1-12 September)

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Course objectives

This is an intensive course of instruction covering the basics of mathematics and aim at preparing students for the beginning of classes.

Attendance is not mandatory but **strongly recommended** in order to ensure a common foundation of basic knowledge for all students who will begin regular classes starting September 15.

Pre-course lessons will be delivered **in person** Faculty of Economics Room 1D (6th floor) and online at the [Zoom link](#):

Timetable

| Date | Time | Topic |
|---------------|-------------|---|
| <i>Week 1</i> | | |
| 01/09/2025 | 14:30-16:30 | Vectors: operations, linear dependence and independence Matrices: basic operations |
| 02/09/2025 | 14:30-16:30 | Matrices: determinant, rank Linear systems of equations |
| 03/09/2025 | 14:30-16:30 | Functions of one variable: domain, zeros, sign |
| 04/09/2025 | 09:00-11:00 | Limits: computation rules, indeterminate forms Continuity of functions |
| 05/09/2025 | 09:00-11:00 | Derivatives Differentiable functions |
| <i>Week 2</i> | | |
| 08/09/2025 | 14:30-16:30 | Functions of one variable: sign, monotonicity, convexity, asymptotes |
| 09/09/2025 | 14:30-16:30 | Functions of one variable: sign, monotonicity, convexity, asymptotes |
| 10/09/2025 | 14:30-16:30 | Integrals: indefinite and definite integrals |

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| | | Geometric interpretation of definite integrals |
| 11/09/2025 | 14:30-16:30 | Functions of two variables |
| 12/09/2025 | 14:30-16:30 | Test |
| | Total: 20 hours | |