# Syllabus

## *Course Description*

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| **Course Title** | Preparatory course in Mathematics - Mathematics for Economists |
| **Course Code** | 30152 |
| **Course Title Additional** | |
| **Scientific-Disciplinary Sector** | STAT-04/A |
| **Language** | English |
| **Degree Course** | Bachelor in Tourism, Sport and Event Management |
| **Other Degree Courses (Loaned)** | |
| **Lecturers** | Dott. Benjamin Weißing,<br>Benjamin.Weissing@unibz.it<br>https://www.unibz.it/en/faculties/economics-management/academic-staff/person/35796 |
| **Teaching Assistant** | |
| **Semester** | Not defined |
| **Course Year/s** | not defined |
| **CP** | 0 |
| **Teaching Hours** | 20 |
| **Lab Hours** | - |
| **Individual Study Hours** | - |
| **Planned Office Hours** | - |
| **Contents Summary** | This course offers a review of key mathematical concepts to support students as they begin undergraduate studies in economics. It covers mathematical logic, sets, number systems, fractions, polynomials, powers, logarithms, and basic combinatorics. The course also revisits solving equations and inequalities, working with algebraic expressions, and analysing and graphing elementary real functions such as quadratic, polynomial, rational and exponential functions. The course combines short lectures with exercises and active participation to reinforce understanding. |

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| **Course Topics** | The course starts with propositional logic, students learn about statements, logical connectives, and the construction of truth tables. The course then introduces set theory, including different ways to represent sets as well as the operations of union and intersection. A section on number systems explores the natural numbers, integers, rational numbers, and real numbers, highlighting their properties and relationships. Finally, the course examines key types of functions, focusing on linear, quadratic, polynomial, exponential, and logarithmic functions, and developing an understanding of their algebraic forms and graphical behavior. |
| **Keywords** | Propositional Logic, Sets, Numbers, Functions |
| **Recommended Prerequisites** | |
| **Propaedeutic Courses** | |
| **Teaching Format** | synchronous in person lecture and exercises |
| **Mandatory Attendance** | optional course, no mandatory attendance |
| **Specific Educational Objectives and Learning Outcomes** | ILO (Intended Learning Outcomes)<br><br>ILO 1 - Knowledge and understanding<br>ILO 1.1 Basic mathematical concepts (sets and operations on sets, relationships and their properties, general functions, numbers and elementary equations/inequalities)<br>ILO 1.5 Mathematical terminology in English.<br><br>ILO 2 - Ability to apply knowledge and understanding<br>ILO 2.1 Basic concepts useful for attending courses in economics, business administration and management |
| **Specific Educational Objectives and Learning Outcomes (additional info.)** | |
| **Assessment** | The written test (ILO 1-2) at the end of the preparatory course serves to assess students' initial knowledge in mathematics. If the assessment is negative, the student will be assigned additional educational requirements (OFA) to be fulfilled within the first study year. |
| **Evaluation Criteria** | Correctness of answers in the written test. |
| **Required Readings** | • none |

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| Supplementary Readings | |
| Further Information | |
| Sustainable Development Goals (SDGs) | Quality education |