# Syllabus
## Course description

<table>
<thead>
<tr>
<th><strong>Course title</strong></th>
<th>Preparatory course in Mathematics – Mathematics for Economists TSE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course code</strong></td>
<td>30152</td>
</tr>
<tr>
<td><strong>Scientific sector</strong></td>
<td>SECS-S/06</td>
</tr>
<tr>
<td><strong>Degree</strong></td>
<td>Tourism, Sport and Event Management</td>
</tr>
<tr>
<td><strong>Semester and academic year</strong></td>
<td>25.09 – 29.09.2023</td>
</tr>
<tr>
<td><strong>Year</strong></td>
<td>1st year</td>
</tr>
<tr>
<td><strong>Credits</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Modular</strong></td>
<td>No</td>
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<table>
<thead>
<tr>
<th><strong>Total lecturing hours</strong></th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total lab hours</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Total exercise hours</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Attendance</strong></td>
<td>recommended, but not required</td>
</tr>
<tr>
<td><strong>Prerequisites</strong></td>
<td>not required</td>
</tr>
<tr>
<td><strong>Course page</strong></td>
<td><a href="https://www.unibz.it/en/faculties/economics-management/bachelor-tourism-sport-event-management/course-offering/?academicYear=2023">https://www.unibz.it/en/faculties/economics-management/bachelor-tourism-sport-event-management/course-offering/?academicYear=2023</a></td>
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### Specific educational objectives

The course refers to the educational activities chosen by the student and belongs to the scientific area of Statistics-Mathematics. It is directed towards 1st year students and has two broad objectives:

1) Refresh mathematical knowledge
2) Prepare for the course "Mathematics for Economists"

### Lecturer

Dr. Benjamin Weißing  
E-mail: Benjamin.Weissing@unibz.it  
Campus Bruneck- Brunico, 1st Floor, Room 1.11;  
https://www.unibz.it/it/faculties/economics-management/academic-staff/person/35796-benjamin-weißing

### Scientific sector of the lecturer

SECS-S/06

### Teaching language

English

### Office hours

https://www.unibz.it/en/timetable/?department=26&degree=13009%2C13134

### Lecturing assistant

-

### Teaching assistant

-

### List of topics covered

- Sets & Operations on Sets
- Functions
- Numbers
  - Natural numbers
  - Real number
- Combinatorics
- Polynomials
  - Expanding and factorizing algebraic expressions
- Equations & Inequalities
  - Solving linear and quadratic functions
- Visualisation of Functions (plotting graphs)
  - Sketching graphs of elementary real functions like absolute value, quadratic and exponential functions
  - Solving systems of linear inequalities in two variables graphically

**Teaching format**
Lectures and moderated discussions.

**Learning outcomes**

**Knowledge and understanding:**
Basic mathematical knowledge will be revisited and consolidated, familiarity with elementary solution procedures (e.g., for quadratic equations or defining an equation for a straight line) will be generated.

**Applying knowledge and understanding:**
With elementary examples from economic theory, a basic understanding for the necessity of mathematical modeling in economics is aimed for.

**Making judgments:**
The ability to make fundamental distinctions in Mathematics (linear vs. nonlinear, first order vs. higher order etc.) is aimed for. Moreover, a first intuition for quantitative vs. qualitative models should be provided.

**Communication skills:**
Basic abilities to apply a mathematical language in an economical framework will be aimed for. The students will be challenged to discuss with the professor and among each other about mathematical constructions.

**Learning skills:**
Prepares for the course ”Mathematics for Economists” requiring a solid understanding of mathematical concepts.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Informal assessment: tests at the beginning and at the end of the course</th>
</tr>
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<tbody>
<tr>
<td>Assessment language</td>
<td>English</td>
</tr>
<tr>
<td>Evaluation criteria and criteria for awarding marks</td>
<td>No marks/grades.</td>
</tr>
</tbody>
</table>

**Required readings**
No required reading.

**Supplementary readings**
Will be announced at the beginning of the course.