Objective
The GRADE Center GSEFM opens its „pre-semester courses", held by advanced PhD candidates, to all PhD candidates registered at GRADE. These courses cover different topics.

Description
1. Introduction to MATLAB
2. Matrix Algebra (Theory and Numerical Illustration in MATLAB)
   - Rank, Determinant and Inverse
   - Eigenvalues and Eigenvectors
   - Similarity Transformations
3. Systems of Static Linear Equations (Theory and Numerical Illustration in MATLAB)
4. Systems of Linear Difference Equations (Theory and Numerical Illustration in MATLAB)
   - Autonomous Systems: Diagonalization, Jordan Normal Form and Real-Valued Representations
   - Backward and Forward Solutions
5. Vector and Matrix Differentiation (Theory and Numerical Illustration in MATLAB)

Conditions
Participants are expected to have a solid undergraduate background in mathematics. Those missing some of this background are expected to have worked through the following reference prior to the beginning of the course:


Organizational Information
<table>
<thead>
<tr>
<th>Language</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target group</td>
<td>Doctoral Candidates at all stages from all faculties</td>
</tr>
<tr>
<td>Date</td>
<td>Tuesday-Friday, 21-24 September 2021, 10:00 – 12:00 &amp; 13:00 – 15:00</td>
</tr>
<tr>
<td>Registration</td>
<td>For registration click here</td>
</tr>
</tbody>
</table>