

## Mathematics 1

**ECTS** : 3

**Volume horaire** : 36

### **Description du contenu de l'enseignement :**

We present the basics of linear algebra and matrix computation.

Week 1 : definition of linear combination

Week 2 : Matrix computation

Week 3,4 : Linear system

Week 5,6 : Square Matrix

Week 7 : Determinant

Week 8 : Basis of  $\mathbb{R}^n$

Week 9,10 : Rank of a matrix

Week 11,12 : Diagonalisation

### **Compétence à acquérir :**

On completion to this module, students will be able make some computation with matrix useful in econometrics, statistics, machine learning ...

### **Mode de contrôle des connaissances :**

- Midterm 1 : 25%
- Midterm 2 : 25%
- Final Exam : 50%