

2021-2022	Common Trunk	Year 1 - Sem. 1
MATH103	Descriptive Geometry	Mandatory
ECTS: 2	Instructors : Dr. Bassam Khoury, Dr Hatem Haidar	Language : English/French
Total Hours: 27 h	Period: October-February	

### Course Description

This course introduces basic concepts of descriptive geometry to solve space problems using graphical solutions through orthographic projection dealing with line, plane, circle, and basic geometric surfaces.

### Learning Outcome

- Understanding technical drawings
- Solving spatial geometrical problems graphically with application in engineering
- Constructing special views of objects in space
- Manipulating objects in space
- Producing technical drawing for simple objects

### Content

- Introduction: historical sketch; definition; objectives; applications
- General concepts: concepts of projection and rendering; parallel orthographic projections; planes of projection; representing a point in space; rendering; drawing of a point; representing an object; position of a point in space analysis; change of projection plane
- Lines: representation of lines; particular lines; concurrent, parallel and skewed lines; determination of lines; determination of points on lines; obtaining special views of lines; determination of distances on lines
- Planes: determination of planes; plane represented par by its traces; particular planes; particular lines of a plane; parallelism; intersections; perpendicularity
- Solution tools: use of tools; change of view and projection plane; rotation; Rebatement
- Circle: representation of a circle; finding the projections of a circle
- Geometric surfaces: General geometric Surface, surfaces of revolution; representation of basic geometric surfaces; planar sections through surfaces

### References

- Descriptive Geometry: Course Notes, by B. N. Khoury, 2016
- Géométrie Descriptive : Du Point aux Surfaces de Révolution et aux Ombres by A. Faure, 2009
- Descriptive Geometry: An Integrated Approach Using Auto CAD by K. and D. Standiford, 2006
- Applied Descriptive Geometry by K. Holliday-Darr, 1998

### Evaluation Method

The final grade is computed based on class participation (10 %), minimum grade of Final and Midterm (40 %), and maximum grade of Final and Midterm (50%).

**Description**

Ce cours envisage les concepts de base de la géométrie descriptive afin de résoudre des problèmes d'espace en utilisant des solutions graphiques à travers la projection orthographique pour traiter la droite, le plan, le cercle, et les surfaces géométriques de base.