

- General Engineering Program
- A&M - Year 3
- Semester 5
- Mechanical Design Upgrade

Mechanical Design Upgrade

Données Générales		
Programme Académique	General Engineering Program	
Type de module : Unité d'Enseignement	Mechanical Design Upgrade (LIIAem05UMANConc)	
Crédits (ECTS)	2	
Effectif maximum	300	
Durée totale : 78h00	Periode Semester 5	Langue d'enseignement :
	Responsable(s) Module BARNOUSSI Sana	

- General Engineering Program
- A&M - Year 3
- Semester 5
- Mechanical Design Upgrade
- Design For Beginners

Design For Beginners

Données Générales

Programme Académique	General Engineering Program		
Type d'EC : Cours	Design For Beginners (LIIAem05EMANCon1)		
TD : 54h00 Durée totale: 54h00	Statut	Periode Semester 5	Langue d'enseignement : French

Acquis d'apprentissage

The student should be able to:

- Read , interpret and analyze a plan
- Know the standards and rules of technical drawings
- Know the different components of a mechanical system (name, material, characteristics ...)
- Understand how it works
- Justify the technological choices
- Size the mechanical components
- Set up and choose technological solutions

Contenu

- "1) Basic elements, rules and standards of industrial design
- 2) Mechanical connections
 - 2.1 Embedding links
Constructive solutions and sizing of standard elements (screws, pins, keys, etc.)
 - 2.2 Pivot connections
Plain bearings, assembly rules and dimensioning of bearings
 - 2.3 Helical Connections
Constructive solutions and sizing
 - 2.4 Slide Links: constructive solutions and sizing
 - 2.5 Ball Joints: constructive solutions
- 3) Classification of materials and designation of alloys
Criteria for choosing materials for mechanical parts / Real cases
- 4) Dimensional tolerances, fits and functional dimensioning
- 5) Sealing and lubrication

Prérequis

None

Bibliographie

- « Guide du dessinateur industriel » de A. Chevalier
- « Mémotech Ingénierie & Mécanique – Conception et Dessin » de C. Barlier et R. Bourgeois

Évaluation(s)

N°	Nature	Coefficient	Objectifs
1	Continuous Assessment	0,2	
2		0,8	Written exam

- General Engineering Program
- A&M - Year 3
- Semester 5
- Mechanical Design Upgrade
- Cad For Beginners

Cad For Beginners

Données Générales

Programme Académique	General Engineering Program		
Type d'EC : Cours	Cad For Beginners (LIIAem05EMANCAO)		
TP : 24h00 Durée totale: 24h00	Statut	Periode Semester 5	Langue d'enseignement : French

Acquis d'apprentissage

The student will acquire the knowledge of the CAD tool necessary for the definition and use of a digital model and know how to use this computer tool to produce an exploitable technical drawing.

Contenu

"The student will acquire the knowledge of the CAD tool necessary for the definition and use of a digital model and know how to use this comp
Classes :

- Through the Creo software, discovery of the main functions allowing the modeling of a part (extrusion, revolution, sweeping, smoothing ...) and parameterization of a digital model for easy use.
- Creation of a 3D assembly of a mechanical system by numerical modeling and interference analysis.
- Creation of 2D plans (definition drawing and overall drawing).
- Integration of CAD data into a server ensuring the lifecycle management of a PLM product (Product Life Management).

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Prérequis

Fundamentals of Industrial Design 1

Bibliographie

Évaluation(s)

N°	Nature	Coefficient	Objectifs

Évaluation(s)			
1		0,8	Continuous Assessment
2	Project	0,2	