2021-2022	Mechanical Engineering	Year 3 - Sem. 5
LABGM305	Laboratory V-GM	Mandatory
ECTS: **3**	*Coordinators:* Pr Gilbert Accary, Pr Georges Challita, Dr Jihad Sahili	*Language:* English/French
Total hours: **60 h**		

Description:

The teaching method leaves plenty of room for experimentation in practical work to supplement the theoretical lessons for each of the mechanical engineering disciplines taught. The content of this lab is based on the fundamental notions acquired in the theoretical courses of the current semester, with a general objective to develop the capacities of the students to build a reasoning based on an experimental approach. Also, a part of the lab content is devoted to initiate the students to useful softwares in many fields of mechanical engineering. This lab covers the following independent parts: Technical drawing, Measurements and errors, AutoCAD (3D), Strength of materials, and Electronic circuits.

Learning outcomes:

- Complete the theory knowledge learned in class.
- Put the acquired theory knowledge into practice.
- Be able to implement an experimental plan and conduct an experiment.
- Be able to use measuring devices and assess transmitted errors.
- Analyze experimental results.
- Learn useful engineering softwares.

Content:

The lab content consists of the following independent parts:

- Technical drawing tutorials (12 h).
- Measurement and errors (12 h).
- Computer-Aided Drawing: AutoCAD 3D (18 h).
- Strength of materials (12 h).
- Electronic circuits (6 h)

Evaluation Method:

Assessment in the following areas will be converted to points, to compute your final grade in this course:

- Students' attendance,
- Performance and behavior of the students on the day of the practical work,
- Evaluation of acquired skills,
- Written experiment report.
- Project or proctored examination for the software part.

Description :

La pédagogie laisse une large place à l'expérimentation dans les travaux pratiques qui vient complémenter les enseignements théoriques pour chacune des disciplines du génie mécanique enseignées. Le contenu de ce TP s'appuie sur les notions fondamentales acquises dans les cours théoriques du semestre en cours, avec un objectif général de développer les capacités des étudiants à construire un raisonnement basé sur une approche expérimentale. De plus, une partie du contenu du laboratoire est consacrée à initier les étudiants à des logiciels utiles dans de plusieurs domaines du génie mécanique. Ce laboratoire couvre les parties indépendantes suivantes : Dessin technique, Mesures et erreurs, AutoCAD (3D), Résistance des matériaux et Circuits électroniques.