

Course Syllabus

1. **Course number and name:** 020MC2NI3 Mechanics 2
2. **Credits and contact hours:** 4 ECTS credits, 2x1:15 course hours
3. **Instructor's or course coordinator's name:** Marwan BROUCHE
4. **Text book:** *Physique tout-en-un MP, Salamito, J'intègre-Dunod, 2014*
5. **Specific course information**
 - a. **Catalog description:** Kinematics of rigid bodies, Center of mass, moment of Inertia, Newtonian dynamics, mass, Momentum, work, Energy, Power, Pendulum, Free fall, Screw, contact, Laws of Conservation
 - b. **prerequisites or co-requisites:** 020MC1NI1 Mechanics I
 - c. **Required/Elective/Selected Elective:** Required
6. **Specific goals for the course**
 - a. **Specific outcomes of instruction:**
 - Define the basic concepts in mechanics of rigid bodies, the concepts here are for example center of mass, velocity, acceleration, angular velocity, angular acceleration, force, mass, moment of inertia, and moment of force.
 - Understanding the concept of moment of inertia and how it is used.
 - Explain the laws of conservation.
 - b. **KPIs addressed by the course:**

KPI	a1	a2	b1	b2	b3
Covered	x		x		
Assessed	x				
Give Feedback	x				

7. **Brief list of topics to be covered and approximate number of lectures:**
 - Kinematics of a Rigid Bodies (6 Lectures)
 - Newtonian dynamics (10 Lectures)
 - Energy, Work, Power (8 Lectures)
 - Laws of conservation (4 Lectures)