

MECHANICAL ENGINEERING AND MATERIALS SCIENCE (GMM) DESIGN AND MODELLING TRACKS - 2025 2026				
YEAR 2 (M1) OF ENPC MSc IN ENGINEERING				ECTS
DEPARTMENT INCEPTION WEEKS (mandatory)				3
Sept. 8th to 12th	Seminar of the department - O2SEM*			1
Sept. 15th to 19th	Department study trip			1
Feb. 2nd to 6th	Seminar "Innovation and Design" - O2SCO			1
SCHOOL CORE CURRICULUM (mandatory)				10
S3	Numerical statistics and data analysis - STNUM (IMI)**			1,5
S3	Course to be chosen in the Humanities and Social Sciences Department			3
S3	Business management - O2GE2 (MOOC + in person day on September 15th)			0,5
S4	Introduction to law - DROA			3
S4	Coaching and career guidance - AOP2			0,5
S4	Foresight and uncertainty			1,5
DEPARTMENT MANDATORY COURSES				16,5
S3	Introduction to physics of solid state - SOLID			3
S3	Structural mechanics - MECST			3
S3	Fluid mechanics for incompressible flows - MECA 1 OR Fluid mechanics and aerodynamic design - FLUCO			1,5
S3	Computer-aided design with CATIA - CATIA			1,5
S3	Finite elements modeling with Abaqus - ABAQU			3
S4	Sustainable engineering design - COECO			3
S4	Statistical learning for mechanics - MLEMEC			1,5
COURSES SPECIFIC TO THE TRACKS				12
Design Track		Modelling track		
S3	Computational fluid dynamics. Fluid structure interaction - STAR	2	Mechanical behaviour of materials - PMEMA	2
S3	Flying Structure Designing - OVNI	2	Heterogeneous materials and structures - MAHET	2
S3	Advanced Catia - CATI2	2	Fracture mechanics / - RUPTU	2
S3	Department project Part 1 - GMMP1	3	Department project Part 1 - GMMP1	3
S4	Department project Part 2 - GMMP2	3	Department project Part 2 - GMMP2	3
ELECTIVE COURSES				11
Choose courses for a minimum of 11 ECTS. Courses from other departments must not exceed 4,5 ECTS				
S4	Knowledge of materials and their production - CONME			3
S4	Compressible flows and thermal transfer - AEROD			3
S4	Smoothed particle hydrodynamics - SPHYD			1,5
S4	Numerical simulation of aeraulics and air quality in urban areas - SATUR			1,5
S4	Dynamics of Structures and Constructions - DYSTR (GCC)			3
S4	Energy production engineering - INRGY			1,5
LANGUAGES				4
SPORT				1
ENGINEER INTERNSHIP				2,5
TOTAL YEAR 2 (M1)				60

* This code is the course's code in our online catalogue (<http://gede.enpc.fr/Programme/Default.aspx?Langue=en>)

** Letters in brackets in course's name stand for the department (other than GMM) which delivers the course :

GCC : Génie Civil et Construction - Civil and Structural Engineering
IMI : Ingénierie Mathématique et Informatiques - Applied Mathematics and Computer science
SEGF : Sciences économiques, Gestion, Finance - Economics, Management, Finance
VET : Ville Environnement Transport - City, Environment, Transportation