

Studies Plan

Mineur : Génie mécanique 2025-26

Minor : Mechanical Engineering

Courses				Exam Session	Exam	Credit
Lang.	Code	Sect.	Teacher			
Advanced control systems						
E	ME-524	GM	Karimi	Sum	Written	3
Advanced energetics						
E	ME-451	GM	Florez Orrego Maréchal	Win	Oral	5
Advanced heat transfer						
E	ME-465	GM	Haussener	Sum	Written	3
Aerodynamics						
E	ME-445	GM	Mulleners	Win	Written	4
Aeroelasticity and fluid-structure interaction						
F	ME-435	GM	Farhat	Win	Written	3
Applied mechanical design						
E	ME-403	GM		Win	During the semester	5
Biomechanics of the cardiovascular system						
E	ME-481	GM	Stergiopoulos	Sum	Written	3
Biomechanics of the musculoskeletal system						
E	ME-482	GM	Pioletti	Sum	During the semester	5
Cavitation and interface phenomena						
F	ME-462	GM	Farhat	Win	Oral	3
Compressible-fluid dynamics						
F	ME-343	GM	Gallaire	Sum	Written	4
Continuous improvement of manufacturing systems						
E	ME-498	GM	Kaboli	Sum	During the semester	5
Control systems + TP						
E	ME-321	GM	Jones Salzmann	Win	Written	4
Discrete-time control of dynamical systems						
F	ME-324	GM	Müllhaupt	Sum	Written	2
Discretization methods in fluids						
F	ME-371	GM	Burzio	Sum	Written	3
Dynamical effects in mechanical design						
F	ME-311	GM	Schiffmann	Sum	Written	3
Dynamic finite element analysis of structures						
E	ME-473	GM	Burzio	Win	Oral	3
Engines and fuel cells						
E	ME-551	GM	Van Herle	Win	Written	4
Finite element method						
F	ME-372	GM	Burzio Gallaire	Win	Written	3
Finite element modelling and simulation						
F	ME-373	GM	Boujo	Sum	During the semester	3
Fluid mechanics (for GM)						
E	ME-280	GM	Schneider	Sum	Written	4
Foundations of artificial intelligence						
E	ME-390	GM	Kamgarpour	Win	Written	3
Heat and mass transfer						
E	ME-341	GM	Tagliabue	Sum	Written	4

Heat pump systems						
E	ME-459	GM	Schiffmann	Sum	Written	3
Hydraulic turbomachines						
E	ME-453	GM	Vagnoni	Win	Written	4
Hydroacoustic for hydropower plants						
E	ME-443	GM	Nicolet	Sum	Oral	3
Hydrodynamics						
E	ME-444	GM	Gallaire	Sum	Written	5
Instability						
E	ME-466	GM	Gallaire	Win	Written	3
Introduction to additive manufacturing						
E	ME-413	GM	Boillat Brugger Moser	Win	Written	3
Introduction to nuclear engineering						
E	ME-464	GM	Scolaro	Sum	Written	2
Introduction to turbomachinery						
E	ME-342	GM	Yim	Sum	Written	2
Liquid-gas interfacial heat and mass transfer						
E	ME-446	GM	Lu	Win	Written	3
Mechanical product design and development						
E	ME-410	GM	Paik	Win	During the semester	5
Mechanical vibrations						
F	ME-332	GM	Villanueva	Win	Written	4
Mechanics of slender structures						
E	ME-411	GM	Reis	Win	Written	5
Mechanics of soft and biological matter						
E	ME-470	GM		Win	During the semester	4
Mechanobiology: how mechanics regulate life						
E	ME-480	GM		Win	During the semester	4
Micro/Nanomechanical devices						
E	ME-426	GM	Villanueva	Win	Written	4
Micro/Nano robotics						
E	ME-436	GM	Sakar	Sum	During the semester	3
Modelling and optimization of energy systems						
E	ME-454	GM	Maréchal	Win	Oral	4
Model predictive control						
E	ME-425	GM	Jones	Win	Written	4
Multiagent decision-making and control						
E	ME-429	GM	Kamgarpour	Sum	During the semester	4
Multivariable control						
E	ME-422	GM	Ferrari Trecate	Win	Written	4
Nano-scale heat transfer						
E	ME-469	GM	Tagliabue	Sum	During the semester	4
Networked control systems						
E	ME-427	GM	Ferrari Trecate	Win	Written	3
Nonlinear Control Systems						
F	ME-523	GM	Müllhaupt	Win	Written	3
Numerical flow simulation						
E	ME-474	GM	Boujo	Win	During the semester	5
Numerical methods in biomechanics						
E	ME-484	GM	Terrier	Sum	Written	3
Product development and						

engineering design						
E	ME-320	GM	Hughes	Win	During the semester	3
Production management						
E	ME-419	GM	Kaboli	Win	During the semester	5
Renewable energy (for ME)						
E	ME-460	GM	Haussener Van Herle	Sum	Written	4
Solar energy conversion						
E	ME-468	GM	Haussener	Win	Written	4
Solid mechanics						
E	ME-331	GM	Reis	Sum	Written	4
System identification						
E	ME-421	GM	Karimi	Sum	Written	3
Thermal power plants						
E	ME-458	GM	Van Herle	Sum	Written	3
Thermodynamics and energetics II						
E	ME-351	GM	Raju Natarajan	Sum	Written	3
Turbulence						
E	ME-467	GM	Schneider	Sum	During the semester	5