

Course «Contact Mechanics and Elements of Tribology»

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Janvier 22-26, 2024

Hybrid mode: @ Centre des matériaux, Evry and in Zoom.

Monday, January 22

Time CET (Paris)

9h00 – 10h30	Lecture: «Mechanical Contact I»
10h45 – 12h15	Practice: «Integration of Flamant solution»
13h30 - 15h00	Lecture: «Mechanical Contact II»
15h15 – 16h45	Practice: «Study stress field induced by frictional sliding»

Tuesday, January 23

Time CET (Paris)

9h00 – 10h30	Lecture: «Contact and Mechanics of Materials»
10h45 – 12h15	Practice: «Plastic deformation in indentation» or «Indenter sliding on viscoelastic solid»
13h30 - 15h00	Lecture: «Surface roughness and contact of rough surfaces»
15h15 – 16h45	Practice: «Practical work on characterisation of rough contact»

Wednesday, January 24

Time CET (Paris)

9h00 – 10h30	Lecture: «Fretting and Wear» (H. Proudhon)
10h45 – 12h15	Practice: «Solving fretting problem using Flamant solution»
13h30 - 15h00	Lecture: «Computational contact mechanics: Finite Element Method»
15h15 – 16h45	Practice: «Coding your contact element in a toy-FEM code»



Thursday, January 25

Time CET (Paris)

9h00 – 10h30	Lecture: «Computational contact mechanics: Boundary Element Method»
10h45 – 12h15	Practice: «Solving rough contact problem in Tamaas code»
13h30 - 15h00	Lecture: «Lubrication and sealing»
15h15 – 16h45	Practice: «Solving Reynolds equation with finite differences»

Friday, January 26

Time CET (Paris)

9h00 – 9h50	Academic talk (invited)
9h50 - 10h40	«Tribology of Tyres» (P. Bussetta) 
11h00 – 11h40	«Contact-related problems at Safran Aircraft Engines» (R. Demmou) 
11h40 – 12h30	Academic talk (invited)
13h45 - 16h30	Online written exam
16h30 - 16h40	Conclusion & farewell