

Course «Contact Mechanics and Elements of Tribology»

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February 6-10, 2023

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

Monday, February 6

Time CET (Paris)

9h00 – 10h30	Lecture: «Industrial Applications»
10h30 – 10h45	Break ☺
10h45 – 12h15	Lecture: «Mechanical Contact I»
12h15 - 13h30	Lunch break
13h30 - 15h30	Lecture: «Mechanical Contact II»
15h45 – 16h45	Practice «Flamant's problem»

Tuesday, February 7

Time CET (Paris)

9h00 – 10h30	Lecture: «Contact and Mechanics of Materials I»
10h30 – 10h45	Break ☺
10h45 – 12h15	Lectures: «Contact and Mechanics of Materials II»
12h15 - 13h30	Lunch break
13h30 – 16h00	Lecture: «Surface Roughness»
16h00 - 17h00	Practical work «Numerical Integration of Flamant's Solution (Python)»

Wednesday, February 8

Time CET (Paris)

9h00 – 10h30	Lecture: «Fretting and Wear» (by H. Proudhon, MINES Paris)
10h30 – 10h45	Break ☺
10h45 – 12h15	Practical work «Numerical Integration of Flamant's Solution (Python)»
12h15 - 13h30	Lunch break
13h30 - 14h45	Lecture: «Computational Contact Mechanics I»
15h00 - 17h00	Practical work «Implementation of finite element contact algorithms (Python)»


Thursday, February 9

Time CET (Paris)

9h00 – 10h30	Lecture: «Computational Contact Mechanics II»
10h30 – 10h45	Break ☞
10h45 – 12h30	Lecture: «Contact at Small Scales»
12h30 - 13h45	Lunch break
13h45 - 15h45	Lecture: «Transport in Contact Interfaces»
16h00 - 17h00	Lecture: «Lubrication & Sealing»

Friday, February 10

Time CET (Paris)

9h00 – 9h50	«Elastodynamic friction»
9h50 - 10h40	«Tribology of Tyres» (P. Bussetta & A. Perriot, )
10h40 – 11h00	Break ☞
11h00 – 11h50	«Wear, fretting and 3rd body» (P. Arnaud, MINES Paris, France)
11h50 – 12h40	«Nanoscopic wear» (R. Aghababaei, Aarhus University, Denmark)
12h30 - 13h30	Lunch break
13h30 - 16h30	Online written exam