

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

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

Tuesday, February 7

9h00 – 10h30	Lecture: «Contact and Mechanics of Materials»
10h30 – 10h45	Break ☞
10h45 – 12h15	Lecture: «Surface Roughness»
12h15 - 13h30	Lunch break
13h30 - 14h45	Lecture: «Contact at Small Scales: Mechanics»
15h00 - 16h30	Practical work «Numerical Integration of Flamant's Solution (Python)»

Wednesday, February 8

9h00 – 10h30	Lecture: «Fretting and Wear» (by H. Proudhon, MINES)
10h30 – 10h45	Break ☞
10h45 – 12h15	Lecture: «Computational Contact Mechanics I»
12h15 - 13h30	Lunch break
13h30 - 14h45	Lecture: «Computational Contact Mechanics II»
15h00 - 16h30	Practical work «Implementation of finite element contact algorithms (Python)»

Thursday, February 9

9h00 – 10h30	Lecture: «Lubrication and Sealing»
10h30 – 10h45	Break ☞
10h45 – 12h15	Lecture: «Contact at Small Scales: Transport I»
12h15 - 13h30	Lunch break
13h30 - 14h30	Lecture: «Contact at Small Scales: Transport II»
14h45 - 16h30	Practical work «Analytical and numerical solving of contact problems (Blackboard+Python)»

Friday, February 10

9h00 – 9h40	Industrial seminar
9h45 - 10h30	Industrial seminar
10h30 – 10h45	Break ☞
10h40 – 11h25	Academic seminar
11h30 - 12h15	Academic seminar
12h30 - 13h30	Lunch break
13h30 - 16h30	Online written exam

FYI: all slides and scripts of the course are available on www.yastrebov.fr/teaching.html