

**Materials science and engineering**  
**Disciplinary Minor "Materials science and engineering"**  
 Person in charge: Dr Béatrice Marselli

Teachers, credits, and semesters could be modified

| Courses (indicative list)                               | Teachers                 | Course book | Credits | Semester |
|---|--------------------------|-------------|---------|----------|
| Advanced metallurgy                                     | Leinenbach               | MX          | 3       | MA1-3    |
| Assembly techniques                                     | Plummer/Leinenbach       | MX          | 2       | MA2      |
| Ceramic and Colloidal Processing                        | Testino                  | MX          | 3       | BA5      |
| Composites polymères + TP                               | Bourban/Michaud          | MX          | 4       | BA5      |
| Composites technology                                   | Bourban/Michaud          | MX          | 3       | MA1-3    |
| Corrosion et protection des métaux + TP                 | Mischler                 | MX          | 3       | BA6      |
| Crystalline materials: structures and properties        | Stolichnov               | MX          | 5       | BA6      |
| Déformation des matériaux                               | Logé                     | MX          | 4       | BA5      |
| Fracture of materials                                   | Plummer                  | MX          | 4       | MA2      |
| Fundamentals of solid-state materials                   | Marzari                  | MX          | 4       | MA1-3    |
| Introduction à la microscopie+TP                        | Cantoni/Hessler          | MX          | 5       | BA5      |
| Nanomaterials   | Tileli                   | MX          | 3       | MA1-3    |
| Materials selection                                     | Vaucher/Michler/Siegmann | MX          | 2       | MA2      |
| Milieux continus  | Drezet                   | MX          | 4       | BA3      |
| Organic electronic materials                            | Frauenrath               | MX          | 4       | MA2      |
| Phénomènes de transfert en science des matériaux        | Amstad                   | MX          | 3       | BA4      |
| Science des polymères                                   | Görl/Plummer             | MX          | 5       | BA5      |
| Projet Matériaux  | Divers                   | MX          | 6       | BA6      |
| Propriétés fonctionnelles des matériaux                 | Fontcuberta i Morral     | MX          | 2       | BA5      |
| Recycling of materials                                  | Leterrier                | MX          | 2       | MA2      |
| Résistance des matériaux                                | Bourban                  | MX          | 3       | BA4      |
| Rhéologie et mécanique des fluides                      | Leterrier                | MX          | 4       | BA4      |
| Properties of semiconductors and related nanostructures | Piazza                   | MX          | 5       | MA2      |
| Soft matter   | Amstad/Klok              | MX          | 4       | MA1-3    |
| Statistical mechanics                                   | Cerioti                  | MX          | 4       | MA2      |
| Surface analysis  | Igual Muñoz/Stolichnov   | MX          | 3       | MA1-3    |
| Surfaces and interfaces                                 | Stellacci                | MX          | 3       | BA5      |
| Sustainability and materials                            | Abitbol                  | MX          | 3       | BA6      |
| Thermodynamics for materials science                    | Tileli                   | MX          | 4       | BA3      |
| Transformations de phases                               | Cayron                   | MX          | 3       | BA6      |
| Tribology   | Mischler                 | MX          | 2       | MA1-3    |
| Wood structures, properties and uses                    | Pichelin                 | MX          | 2       | MA2      |

1 semester includes 14 weeks