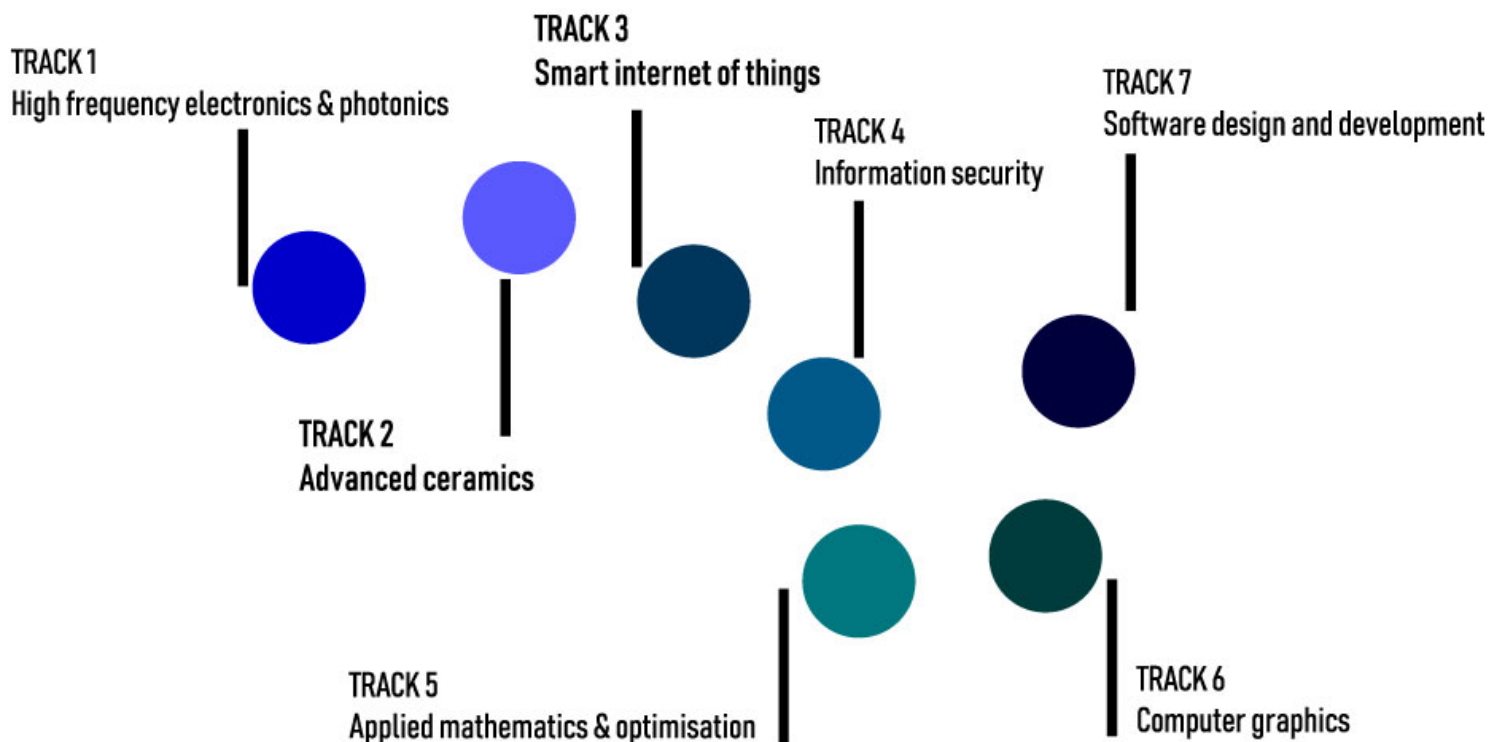


Ceramics & ICT

TACTIC GRADUATE SCHOOL



- Disciplinary courses giving strong skills and a high level of **specialisation** in one of the 7 disciplinary domains.
- **Interdisciplinary** teachings comprising theoretical and practical courses at the interface between the 7 tracks (cybersecurity, photonics for health, additive manufacturing for 5G...).
- Long research/industry working group projects: to get **transverse** skills and interdisciplinary vision through thinking and working approach: **innovation**, creativity processes, co-design...

Contact and registration
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Advanced Ceramics ACe



Advanced Ceramics - Overview

This master track at Ceramics & ICT Graduate School has the objective to train high-level specialists in the field of ceramic materials and processes for professional integration into the industry (engineering level) or research (R & D, academic, ...).

The training is mainly based on fundamental and thematic courses covering in a transversal way the physical and chemical aspects of functional ceramic materials and their processes of elaboration, shaping, surface treatments and control. The addressed themes concern the current socio-economic issues of Energy, Health and ICT. The training provides students with knowledge of the socio-economic world and the relational and behavioral skills needed for teamwork.

MAJOR COURSES – 63 ECTS*

Core courses - 57 ECTS Core teachings

- Advanced ceramic materials for energy, health and ICT
- Synthesis and elaboration processes of bulks and films
- Measurement of Physical Properties of Materials
- Structural and microstructural characterization of materials
- Solid State Physics and Chemistry
- Modelling and simulation of materials at different scales

In-depth disciplinary courses - 6 ECTS 2 elective courses among

- Physico-chemical characterizations of surfaces and interfaces
- Fluid Dynamics
- Physics of condensed Matter and Quantum Mechanic
- Structure and properties of complex functional materials

MINOR COURSES – 11 ECTS*

Interdisciplinary Courses Bridging courses

- Electromagnetism,
- Laser radiation,
- Actives and passives devices in RF and microwaves

Interdisciplinary Courses 2 elective courses among

- Materials and nonlinear optics
- Additive manufacturing and RF technology processes
- Materials and light sources
- Material properties and characterization
- Bio-engineering

Interdisciplinary scientific project

With a Graduate School's multidisciplinary team, interdisciplinary workshop of one day/year

INTENSIVE SUPPORT FOR PROFESSIONAL PROJECT – 46 ECTS*

Soft skills 12 ECTS

- Innovation economy,
- Creativity processes,
- Foreign languages (English or French)

International mobility 3 ECTS

Full time internship in a foreign lab or compagny

Research labworks 6 ECTS

Research Climbing Ropes programme

Research Internship 24 ECTS

Master thesis in a R&D company or in a lab

*1 ECTS = ~10 hours of classes