Studies Plan

EDMX - Materials science and Engineering 2023-24

Core courses

Courses				Exam	Credit
Language	*Code*	*Section*	*Teacher*		
21Intro Scanning electron microscopy techniques					
(Next time: November 29-December 11, 2023)					
E	*MSE-609*	*EDMX*	*Maeder Michler*	*Written*	*1*
3D Electron Microscopy and FIB-Nanotomography					
E	*MSE-704*	*EDMX*	*Cantoni Navratilova*	*Project report*	*1*
Additive Manufacturing of Metals and Alloys					
E	*MSE-666*	*EDMX*	*Leinenbach Logé*	*Oral presentation*	*2*
CCMX Advanced Course - Advanced X-ray Diffraction Methods for Coatings: strain, defects and deformation analysis of thin films					
(Next time: November 22-24, 2023)					
E	*MSE-628*	*EDMX*	*Dommann Neels*	*Written*	*1*
CCMX Advanced Course - Instrumented Nanoindentation					
(Next time: September 13-15, 2023)					
E	*MSE-656*	*EDMX*	*Bourban Bushby Randall*	*Written*	*1*
CCMX - ScopeM Advanced Course - Advanced Characterization of Materials at the Micro, Nano and Atomic Scales					
(Next time: 2024)					
E	*MSE-655*	*EDMX*	*Various lecturers*	*Written*	*2*
CCMX Summer School - Characterisation of Materials					
(Next time : August 22-25, 2023)					
E	*MSE-805*	*EDMX*	*Michaud Oveisi Various lecturers*	*Written*	*1*
CCMX Tribology and Surfaces Interactions					
(Next time: July 3-7, 2023)					
E	*MSE-667*	*EDMX*	*Igual Muñoz Mischler Molinari Various lecturers*	*Project report*	*2*
Computation, Modeling and Visualization					
(Summer 2023)					
E	*MSE-671*	*EDMX*	*Carter*	*Oral*	*1*
Crystal growth by epitaxy					
(Will not be given during this academic year)					
E	*MSE-649*	*EDMX*	*Fontcuberta i Morral*	*Multiple*	*2*
Crystallography of structural phase transformations					
(Next time 2025)					
E	*MSE-651*	*EDMX*	*Cayron*	*Written*	*1*
Effects of radiation on materials					
(Next time: Fall 2023)					
E	*MSE-600*	*EDMX*	*Bertsch Dai Pouchon Schäublin Seifert Spätig*	*Oral*	*2*

Electrochemistry in Corrosion Research
(Will not be given during this academic year)

E	*MSE-658*	*EDMX*	*Mischler* *Various lecturers*	*Project report*	*1*

Fundamentals of STEM Imaging and Spectroscopy

E	*MSE-715*	*EDMX*	*Alexander* *Boureau* *Cantoni* *Invited lecturers* *Oveisi*	*Oral*	*2*

Laser Materials Processing

E	*MSE-662*	*EDMX*	*Hoffmann* *Leinenbach* *Wasmer*	*Oral*	*2*

Limestone-Calcined Clay - Cement : Characterisation methods
(Next time: February 5-9, 2024)

E	*MSE-660*	*EDMX*	*Scrivener* *Various lecturers* *Zunino Sommariva*	*Written*	*2*

LNM Workshop 2023

E	*MSE-672*	*EDMX*	*Cozzo Dai* *Malgorzata Grazyna Pouchon*	*Oral presentation*	*1*

Nanofabrication with focused electron and ion beams

E	*MSE-619*	*EDMX*	*Hoffmann* *Utke*	*Oral presentation*	*2*

Non-destructive methods for industry and research
(Next time: November 16, 17, 20 and 21, 2023)

E	*MSE-668*	*EDMX*	*Hardy* *Parrilli*	*Oral presentation*	*2*

Optical Materials: Fundamental concepts and recent developments
(Next time: Spring 2024)

E	*MSE-643*	*EDMX*	*Sorin*	*Oral*	*1*

Powder Characterisation and Dispersion
(Next time 2024)

E	*MSE-709*	*EDMX*	*Sereda*	*Written*	*1*

Powder Diffraction School - Modern Syncrotron Methods
(Next time: September 11-15, 2023)

E	*MSE-663*	*EDMX*	*Casati* *Testino* *Van Petegem* *Various lecturers*	*Oral*	*2*

Scanning and Analytical Transmission Electron Microscopy

E	*MSE-735*	*EDMX*	*Boureau* *Cantoni* *Oveisi* *Reyes Vasquez*	*Oral presentation*	*1*

Scanning electron microscopy techniques (a)

E	*MSE-636(a)*	*EDMX*	*Cantoni* *Navratilova* *Oveisi*	*Written*	*1*

Scanning electron microscopy techniques (b)

E	*MSE-636(b)*	*EDMX*	*Cantoni* *Navratilova* *Oveisi*	*Written*	*1*

Science and technology of UV-induced polymerization
(Ne sera pas enseigné durant l'année académique 2023-2024)

E	*MSE-703*	*EDMX*	*Dalle Vacche Leterrier Nouzille Sangermano*	*Term paper*	*1*

Statistical methods in atomistic computer simulations
(Next time: 2025)

E	*MSE-639*	*EDMX*	*Ceriotti*	*Project report*	*2*

Thin film and small scale mechanics
(Next time: November 7-10, 2023)

E	*MSE-669*	*EDMX*	*Michler Schwiedrzik*	*Written*	*2*

Transmission electron microscopy and diffraction (a)
(Next time: November 6-8, 2023)

E	*MSE-637(a)*	*EDMX*	*Boureau Cantoni Oveisi*	*Written*	*1*

Transmission electron microscopy and diffraction (b)

E	*MSE-637(b)*	*EDMX*	*Boureau Cantoni Oveisi*	*Written*	*1*

X-Ray Analysis for thin films
(Next time: October 10-13, 2023)

E	*MSE-627*	*EDMX*	*Dommann*	*Written*	*2*

Other doctoral courses (EDOC)

Courses *Language*	*Code*	*Section*	*Teacher*	***Exam***	***Credit***
Lecture series on scientific machine learning *(Next time: Fall 2024)*					
E	*PHYS-754*	*EDPY*	*Carleo Ceriotti De Los Rios Mathis Schwaller Wyart Zdeborová*	*Oral presentation*	*2*

Master courses

Courses *Language*	*Code*	*Section*	*Teacher*	***Exam***	***Credit***
Error control in scientific modelling					
E	*MATH-500*	*MA*	*Herbst*	*During the semester*	*5*
Material science at large scale facilities					
E	*MSE-435*	*MX*	*Liebi Van Petegem*	*Oral*	*4*
Seminar series on advances in materials (autumn) *(You are most welcome to follow the seminar series each semester. However, you can only obtain ECTS credit points during one single semester.)*					
E	*MSE-470(a)*	*MX*	*Abitbol Raju Natarajan*	*Written*	*2*
Seminar series on advances in materials (spring) *(You are most welcome to follow the seminar series each semester. However, you can only obtain ECTS credit points during one single semester.)*					
E	*MSE-470(b)*	*MX*	*Abitbol Jotzu*	*Written*	*2*