

## Studies Plan

### EDMX - Materials science and Engineering 2023-24

#### Core courses

Courses	Language Code	Section	Teacher	Exam	Credit
<b>21Intro Scanning electron microscopy techniques</b> (Next time: November 29-December 11, 2023)					
E	MSE-609	EDMX	Maeder Michler	Written	1
<b>3D Electron Microscopy and FIB-Nanotomography</b>					
E	MSE-704	EDMX	Cantoni Navratilova	Project report	1
<b>Additive Manufacturing of Metals and Alloys</b>					
E	MSE-666	EDMX	Leinenbach Logé	Oral presentation	2
<b>Beyond the Lab</b> (June 25-28, 2024. Location: White House, Beatenberg (CH). Inscription via <a href="https://beyondthelab2024.epfl.ch">https://beyondthelab2024.epfl.ch</a> )					
E	MSE-808	EDMX	Grundler	Project report	2
<b>CCMX Advanced Course - Advanced X-ray Diffraction Methods for Coatings: strain, defects and deformation analysis of thin films</b> (Next time: November 22-24, 2023)					
E	MSE-628	EDMX	Dommann Neels	Written	1
<b>CCMX Advanced Course - Instrumented Nanoindentation</b> (14-16 February, 2024 / EPFL)					
E	MSE-656	EDMX	Bourban Bushby Randall	Written	1
<b>CCMX - ScopeM Advanced Course - Advanced Characterization of Materials at the Micro, Nano and Atomic Scales</b> (Next time: 2024)					
E	MSE-655	EDMX	Various lecturers	Written	2
<b>CCMX Summer School - Characterisation of Materials</b> (Next time : August 22-25, 2023)					
E	MSE-805	EDMX	Michaud Oveisi Various lecturers	Written	1
<b>CCMX Tribology and Surfaces Interactions</b> (Next time: July 3-7, 2023)					
E	MSE-667	EDMX	Igual Muñoz Mischler Molinari Various lecturers	Project report	2
<b>Computation, Modeling and Visualization</b> (Summer 2023)					
E	MSE-671	EDMX	Carter	Oral	1
<b>Crystal growth by epitaxy</b> (Will not be given during this academic year)					
E	MSE-649	EDMX	Fontcuberta i Morral	Multiple	2
<b>Crystallography of structural phase transformations</b> (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 Spaetig	Oral	2
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**Electrochemistry in Corrosion Research***(Will not be given during this academic year)*

E	MSE-658	EDMX	Mischler Various lecturers	Project report	1
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**Fundamentals of STEM Imaging and Spectroscopy**

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

E	MSE-662	EDMX	Hoffmann Leinenbach	Oral	2
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**Limestone-Calcined Clay - Cement : Characterisation methods***(Next time: February 5-9, 2024)*

E	MSE-660	EDMX	Scrivener Various lecturers Zunino	Written	2
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**LNM Workshop 2023**

E	MSE-672	EDMX	Cozzo Dai Malgorzata Grazyna Pouchon	Oral presentation	1
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**Nanofabrication with focused electron and ion beams**

E	MSE-619	EDMX	Hoffmann Utke	Oral presentation	2
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**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
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**Optical Materials: Fundamental concepts and recent developments***(Next time: Spring 2024)*

E	MSE-643	EDMX	Sorin	Oral	1
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**Powder Characterisation and Dispersion***(Next time 2024)*

E	MSE-709	EDMX	Sereda	Written	1
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**Powder Diffraction School - Modern Synchrotron Methods***(Next time: September 11-15, 2023)*

E	MSE-663	EDMX	Casati Testino Van Petegem Various lecturers	Oral	2
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**Scanning and Analytical Transmission Electron Microscopy**

E	MSE-735	EDMX	Boureau Cantoni Oveisi Reyes Vasquez	Oral presentation	1
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**Scanning electron microscopy techniques (a)**

E	MSE-636(a)	EDMX	Cantoni Navratilova Oveisi	Written	1
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**Scanning electron microscopy techniques (b)**

E	MSE-636(b)	EDMX	Cantoni Navratilova Oveisi	Written	1
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**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
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**Statistical methods in atomistic computer simulations***(Next time: 2025)*

E	MSE-639	EDMX	Cerioti	Project report	2
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**Thin film and small scale mechanics***(Next time: November 7-10, 2023)*

E	MSE-669	EDMX	Michler Schwiedrzik	Written	2
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**Transmission electron microscopy and diffraction (a)***(Next time: November 6-8, 2023)*

E	MSE-637(a)	EDMX	Boureau Cantoni Oveisi	Written	1
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**Transmission electron microscopy and diffraction (b)**

E	MSE-637(b)	EDMX	Boureau Cantoni Oveisi	Written	1
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**X-Ray Analysis for thin films***(Next time: October 10-13, 2023)*

E	MSE-627	EDMX	Dommann Maeder	Written	2
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**Other doctoral courses (EDOC)**

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

**Master courses**

<b>Courses</b>				<b>Exam</b>	<b>Credit</b>
Language Code	Section	Teacher			
<b>Error control in scientific modelling</b>					
E	MATH-500	MA	Herbst	During the semester	5
<b>Material science at large scale facilities</b>					
<i>(pas donné en 2023-24)</i>					
E	MSE-435	MX		Oral	4
<b>Seminar series on advances in materials (autumn)</b>					
<i>(You are most welcome to follow the seminar series each semester. However, you can only obtain ECTS credit points during one single semester.)</i>					
E	MSE-470(a)	MX	Abitbol Raju Natarajan	Written	2
<b>Seminar series on advances in materials (spring)</b>					
<i>(You are most welcome to follow the seminar series each semester. However, you can only obtain ECTS credit points during one single semester.)</i>					
E	MSE-470(b)	MX	Abitbol Jotzu	Written	2