

MSE-671

Computation, Modeling and Visualization

Carter W. Craig

Cursus	Sem.	Type
Materials Science and Engineering		Opt.

Language of teaching	English
Credits	1
Session	
Exam	Oral
Workload	30h
Hours	25
Lecture	9
Exercises	6
Project	10
Number of positions	25

Frequency

Every year

Remark

Summer 2023

Summary

The student has been exposed to the use of modelling, coding, and visualization as a means to understand a research problem more deeply. The student will have experience in symbolic and numerical of Mathematica. The student has been exposed to data analysis and visualization.

Content

Students will use modelling, coding, and visualization as a means to understand a research problem more deeply--or at least differently. The class will be given using Mathematica, but the examples translate to any high-level language. Students will be exposed to symbolic and numerical computation, simulation algorithms, data analysis, and visualization. Students are encouraged to use the opportunity to extend their thesis research.

Keywords

Materials Science, Computation, Data Exploration, Visualization, Symbolic and Numerical Calculations.

Assessment methods

Oral exam

Resources**Websites**

- <https://www.epfl.ch/schools/sb/research/iphys/our-services/computer/software/software-faq/mathematica-license/>