- Faculté des sciences économiques
- www.unine.ch/seco

Programming (5AF2029)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en finance	**Cours: 2 ph**	**écrit: 2 h**	3
Master en sciences économiques, orientation politique économique	**Cours: 2 ph**	**écrit: 2 h**	3
Master en statistique	**Cours: 2 ph**	**écrit: 2 h**	3

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Printemps

Equipe enseignante:

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Objectifs:

a) Understanding the basic concepts of structured programming.
b) Being able to use basic data structures.
c) Developing basic programs to manipulate and analyse data.
d) Developing simple solutions for managing data in the context of research applications.

Contenu:

a) Introduction to MATLAB (operators, variables, assignment statements).
b) Definition and use of the main MATLAB data structures (scalars, vectors, matrices).
c) MATLAB Programming (selection statements, loop statements, vectorized code, scripts, functions).
d) Advanced MATLAB data structures (cell arrays, structures)
e) Plotting techniques (two-dimensional and three-dimensional plots)
f) Data Import and Export
g) Statistics and Mathematics (built-in statistical functions, matrix representation of equation systems)
h) Introduction to Financial Toolbox (portfolio optimisation, risk analysis)

Forme de l'évaluation:

2-hour written exam during the last lecture of semester.
Re-take exam: 2-hour written exam during session.
During exam:
- Only accepted documentation : course slides with annotations
- All connected objects (smart-phones, watches, tablets, etc.) are forbidden. In case of violation of this rule, the students are in a situation of fraud and the unauthorized items will be removed. The exam could be deemed as failed.

Documentation:

Online MATLAB documentation
S. Attaway. MATLAB A Practical Introduction to Programming and Problem Solving, Elsevier 2012

Forme de l'enseignement:

Lectures: 2 hours per week.