

- Faculté des sciences économiques
- [www.unine.ch/seco](http://www.unine.ch/seco)

## Computational Thinking (5MI2012)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en développement international des affaires</b>	<b>Atelier: 1 pg</b>	Voir ci-dessous	3
<b>Master en économie appliquée</b>	<b>Atelier: 1 pg</b>	Voir ci-dessous	3
<b>Master en finance</b>	<b>Atelier: 1 pg</b>	Voir ci-dessous	3
<b>Master in General Management</b>	<b>Atelier: 1 pg</b>	Voir ci-dessous	3
<b>Master of Science en innovation</b>	<b>Atelier: 1 pg</b>	Voir ci-dessous	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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### Contenu

During this course, students will become familiar and will be able to apply computational thinking concepts to interdisciplinary problems. Furthermore, they will be able to design solutions using Python.

Computational thinking is a problem-solving process that involves concepts such as:

- Formulating problems so a computer can solve them,
- Representing data and processes through models
- Finding patterns and reducing complexity through decomposition
- Generate creative solutions

The course will provide an introduction to Python that will include the following concepts:

- Basics (conditions, loops)
- Lists
- Dictionaries
- Functions
- Classes and objects

### Forme de l'évaluation

90% Individual assignment  
10% Participation (no live presence required)

In the case of a re-take exam, the evaluation is based on an individual written assignment.

### Documentation

Beecher, Karl. Computational thinking: A beginner's guide to problem-solving and programming. BCS, The Chartered Institute for IT,

URLs	1) <a href="https://moodle.unine.ch/course/view.php?id=5807">https://moodle.unine.ch/course/view.php?id=5807</a>
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### **Computational Thinking (5MI2012)**

31/08/2017.

#### **Pré-requis**

None

#### **Forme de l'enseignement**

Interactive lecture with exercices.

#### **Objectifs d'apprentissage**

Au terme de la formation l'étudiant-e doit être capable de :

- Produce an algorithmic solution
- Formulate a problem computationally
- Evaluate an algorithmic solution

#### **Compétences transférables**

- Generate new ideas
- Apply knowledge to concrete situations