

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

## Data Management (5MI2017)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en développement international des affaires</b>	<b>Cours: 4 ph</b>	Voir ci-dessous	6
<b>Master en économie appliquée</b>	<b>Cours: 4 ph</b>	Voir ci-dessous	6
<b>Master en finance</b>	<b>Cours: 4 ph</b>	Voir ci-dessous	6
<b>Master en statistique</b>	<b>Cours: 4 ph</b>	Voir ci-dessous	6
<b>Master in General Management</b>	<b>Cours: 4 ph</b>	Voir ci-dessous	6
<b>Master of Science en innovation</b>	<b>Cours: 4 ph</b>	Voir ci-dessous	6

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

### Période d'enseignement:

- Semestre Automne

### Equipe enseignante

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### Contenu

The course will present advanced notions of Extracting, Transforming and Loading (ETL) of data from various sources including:

- databases (sqlite, mysql, postgresql, etc)
- tabular text and document files (csv, excel)
- structured data sources (json, html, xml, etc)
- webscraping (html, json, API)

It also presents how to

- automate of the ETL process, with logging and reporting
- keep data up-to-date, various updating techniques (delta, or full snapshot)
- keep data history
- annotate data (add time/calendar annotations, etc)
- make data available (database, csv, excel files with linked data).

### Forme de l'évaluation

- E+EI E: 2-hour written exam during the session (60%) EI: project/exercises (40%)
- Retake exam E: 2-hour written exam during the autumn session (100%)

- Online exam E+EI E: 1-hour written exam during the session (60%) EI: project/exercises (40%)
- Online retake exam E: 1-hour written exam during the autumn session (100%)

- Allowed documents during exams: course slides with annotations. Online documentation is also allowed.
- No communication with other people is permitted during the exams. In case of violation of this rule, the students are in a situation of fraud and the unauthorised items will be removed. The exam could be deemed as failed.

### Documentation

Course documentation on moodle

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## **Data Management (5MI2017)**

### **Pré-requis**

Database knowledge and some knowledge in Python programming language are recommended, however not mandatory.

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

4h Interactive course with exercises and projects

### **Objectifs d'apprentissage**

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

- Identify necessary data from various data sources
- Design an algorithm to extract the data from different data sources
- Explore the results of an ETL project
- Develop scripts to extract and manipulate data from various sources
- Test the results of ETL scripts
- Communicate with team members
- Integrate different scripts in a projectw

### **Compétences transférables**

- Manage a project
- Develop hands-on, pro forma modelling skills using Excel
- Design projects
- Apply knowledge to new situations