

| Data science (DS) |                  |  | DS   |                      |      |
|-------------------|------------------|--|--|----------------------|------|
| Type              | Module           | Nom complet  |  | Descriptif           | ECTS |
|                   |                  |  | Le profil DS permet de se spécialiser dans des domaines du Data Services, Data Analytics et Data Engineering |                      |      |
| TSM               | TSM_AnSeqDa      | Analysis of Sequential Data                                    | R  | <a href="#">Lien</a> | 3    |
| TSM               | TSM_AdvNLP       | Traitement automatique des langues avancé                      | R  | <a href="#">Lien</a> | 3    |
| TSM               | TSM_DataMgmt     | Data Management  | R  | <a href="#">Lien</a> | 3    |
| TSM               | TSM_MachLeData   | Machine Learning and Data in Operation                         | R  | <a href="#">Lien</a> | 3    |
| TSM               | TSM_AdvDaBa      | Advanced Database  | O  | <a href="#">Lien</a> | 3    |
| TSM               | TSM_CloudSys     | Cloud Services & Systems                                       | O  | <a href="#">Lien</a> | 3    |
| TSM               | TSM_SoftwEng     | Software Engineering and Architectures                         | O  | <a href="#">Lien</a> | 3    |
| FTP               | FTP_AppStat      | Applied Statistics and Data Analysis                           | R  | <a href="#">Lien</a> | 3    |
| FTP               | FTP_CompAlg      | Numerical Analysis and Computer Algebra                        | R  | <a href="#">Lien</a> | 3    |
| FTP               | FTP_DeLearn      | Deep Learning  | R  | <a href="#">Lien</a> | 3    |
| FTP               | FTP_MachLe       | Machine learning   | R  | <a href="#">Lien</a> | 3    |
| FTP               | FTP_Optimiz      | Optimization   | R  | <a href="#">Lien</a> | 3    |
| FTP               | FTP_Alg          | Algorithms   | O  | <a href="#">Lien</a> | 3    |
| FTP               | FTP_DigImPro     | Digital image Processing                                       | O  | <a href="#">Lien</a> | 3    |
| FTP               | FTP_SmartMachine | Intelligent and hyperconnected machine                         | O  | <a href="#">Lien</a> | 3    |
| CM                | CM_QRM           | Quality and Risk Management                                    | R  | <a href="#">Lien</a> | 3    |
| CM                | CM_AcWritPre     | Academic Writing and Presenting                                | R  | <a href="#">Lien</a> | 3    |
| CM                | CM_InnChang      | Innovations and change management                              | R  | <a href="#">Lien</a> | 3    |
| CM                | CM_PrivLaw       | Privacy and Law  | R  | <a href="#">Lien</a> | 3    |
| CM                | CM_AdvProjMgmt   | Advanced project management                                    | O  | <a href="#">Lien</a> | 3    |
| CM                | CM_CmplPro       | Management of Complex Processes (commun avec ZH)               | O  | <a href="#">Lien</a> | 3    |
| CM                | CM_Entrepr       | Corporate management and entrepreneurship                      | O  | <a href="#">Lien</a> | 3    |
| CM                | CM_SustDev       | Sustainable developments                                       | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_BDA           | Big Data Analytics   | R  | <a href="#">Lien</a> | 3    |
| MA                | MA_GPU           | GPU, IA and Robotics   | R  | <a href="#">Lien</a> | 3    |
| MA                | MA_IoT           | Internet of Things   | R  | <a href="#">Lien</a> | 3    |
| MA                | MA_MLBD          | Machine Learning on Big Data                                   | R  | <a href="#">Lien</a> | 3    |
| MA                | MA_NTDA          | New technologies in Data Analysis - Applied ML                 | R  | <a href="#">Lien</a> | 3    |
| MA                | MA_NTDE          | New technologies in Data Engineering                           | R  | <a href="#">Lien</a> | 3    |
| MA                | MA_VI            | Visualisation de l'Information                                 | R  | <a href="#">Lien</a> | 3    |
| MA                | MA_WEM           | Web Mining   | R  | <a href="#">Lien</a> | 3    |
| MA                | MA_AdMoApp       | Advanced Mobile Applications                                   | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_ASAD          | Advanced Software Architecture and Design                      | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_AUI           | Advanced User Interface  | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_CSEL1         | Construction de systèmes embarqués sous Linux                  | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_EHK           | Ethical Hacking  | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_GT            | Games Technologies   | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_ITProMan      | Management des projets IT                                      | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_LPSC          | Logiques programmables pour systèmes complexes et performants. | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_NSA           | Network Security and Architecture                              | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_ParaDis       | Parallel & Distributed Computing                               | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_GesSec        | Identité et confiance : gestion sécurisée                      | O  | <a href="#">Lien</a> | 3    |
| MA                | MA_SIMI          | Simulation multiphysique en ingénierie                         | O  | <a href="#">Lien</a> | 3    |
| PA                | PA               | Projet d'Approfondissement                                     | Oblig.   | <a href="#">Lien</a> | 6    |
| PI                | PI_x             | Projet Interdisciplinaire en groupe                            | Oblig.   | <a href="#">Lien</a> | 6    |
| TM                | TM               | Travail de Master  | Oblig.   | <a href="#">Lien</a> | 30   |

## Légende

|     |                                     |
|-----|-------------------------------------|
| TSM | Modules Technico-Scientifiques      |
| FTP | Principes Théoriques Fondamentaux   |
| CM  | Modules Contextuels                 |
| MA  | Modules d'Approfondissement         |
| MAP | Modules d'Apprentissage par Projet  |
| PA  | Projet d'Approfondissement          |
| PI  | Projet Interdisciplinaire en groupe |
| TM  | Travail de Master                   |
| R   | Module Recommandé                   |
| O   | Module Optionnel                    |