

| Computer science (CS) |                |   | CS               |                  |               |                       | Descriptif           | ECTS |
|-----------------------|----------------|---|------------------|------------------|---------------|-----------------------|----------------------|------|
| Type                  | Module         | Nom complet   | Soft Engineering | Embedded Systems | Cybersecurity | Communication Systems |                      |      |
| TSM                   | TSM_AdvComArc  | Advanced Communication Architectures                            | O                | O                | O             | R                     | <a href="#">Lien</a> | 3    |
| TSM                   | TSM_AdvDaBa    | Advanced Database   | R                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| TSM                   | TSM_AdvEmbSof  | Advanced Embedded Software (with elements of T-EmbReal)         | O                | R                | O             | O                     | <a href="#">Lien</a> | 3    |
| TSM                   | TSM_CloudSys   | Cloud Services & Systems  | R                | O                | O             | R                     | <a href="#">Lien</a> | 3    |
| TSM                   | TSM_CyberSec   | Cyber Security  | O                | O                | R             | O                     | <a href="#">Lien</a> | 3    |
| TSM                   | TSM_EmbHardw   | Design of Embedded Hardware and Firmware                        | O                | R                | O             | O                     | <a href="#">Lien</a> | 3    |
| TSM                   | TSM_SoftwEng   | Software Engineering and Architectures                          | R                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| TSM                   | TSM_AnSeqDa    | Analysis of Sequential Data                                     | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| TSM                   | TSM_DataMgmt   | Data Management   | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| TSM                   | TSM_DeLearn    | Deep Learning   | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| FTP                   | FTP_Alg        | Algorithms  | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| FTP                   | FTP_CryptCod   | Cryptography and Coding Theory                                  | O                | O                | R             | O                     | <a href="#">Lien</a> | 3    |
| FTP                   | FTP_Optimiz    | Optimization  | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| FTP                   | FTP_DigImPro   | Digital image Processing  | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| FTP                   | FTP_MachLe     | Machine learning  | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| CM                    | CM_AcWritPre   | Academic Writing and Presenting                                 | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| CM                    | CM_Entrepr     | Corporate management and entrepreneurship                       | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| CM                    | CM_QRM         | Quality and Risk Management                                     | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| CM                    | CM_AdvProjMgmt | Advanced project management                                     | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| CM                    | CM_CmplPro     | Management of Complex Processes                                 | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| CM                    | CM_InnChang    | Innovations and change management                               | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| CM                    | CM_PrivLaw     | Privacy and Law   | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| CM                    | CM_SustDev     | Sustainable developments  | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_AdMoApp     | Advanced Mobile Applications                                    | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_AdvProg     | Advanced Programming Paradigm                                   | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_ASAD        | Advanced Software Architecture and Design                       | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_AUI         | Advanced User Interface   | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_CSEL1       | Construction de systèmes embarqués sous Linux                   | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_EHK         | Ethical Hacking   | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_GT          | Games Technologies  | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_ICR         | Industrial Cryptography   | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_IPR         | Design du routage IP avancé                                     | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_ITProMan    | Management des projets IT                                       | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_NSA         | Network Security and Architecture                               | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_ParaDis     | Parallel & Distributed Computing                                | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_PCM         | Programmation concurrente multicore                             | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_RCID        | Réseau de confiance et Identité numérique                       | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_SEE         | Systèmes d'exploitation et environnements d'exécution embarqués | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_SeS         | Secure Embedded System  | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_SRE         | Software Reverse Engineering and Protection                     | R                | R                | R             | R                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_ADVCL       | Advanced Cloud  | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_BDA         | Big Data Analytics  | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_GPU         | GPU, IA and Robotics  | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_IoT         | Internet of Things  | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_LPSC        | Logiques programmables pour systèmes complexes et performants.  | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_MLBD        | Machine Learning on Big Data                                    | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_QSelf       | Quantified Self   | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| MA                    | MA_WEM         | Web Mining  | O                | O                | O             | O                     | <a href="#">Lien</a> | 3    |
| PA                    | PA             | Projet d'Approfondissement                                      | Oblig.           | Oblig.           | Oblig.        | Oblig.                |                      | 6    |
| PI                    | PI_CS          | Projet Interdisciplinaire en groupe                             | Oblig.           | Oblig.           | Oblig.        | Oblig.                |                      | 6    |
| TM                    | TM             | Travail de Master   | Oblig.           | Oblig.           | Oblig.        | Oblig.                |                      | 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                    |

Sous réserve de modifications