

Exchange Program at Efrei Paris List of Programs and Courses 2024-2025

Table of contents

Undergraduate Programs	4
Third Year (L3)	4
General overview of the Program	4
Semester 5 – Program	4
Programs taught in French	4
Semester 6 – Program	5
Programs taught in French	5
Programs taught in English	6
Graduate Programs	7
Master 1 – Fourth Year	7
General overview of the Programs	7
Semester 7A – Programs	7
Semester 7B – Programs	8
Semester 8 – Programs	9
DATA SCIENCE TRACK	9
Data and Artificial Intelligence (EN)	9
Data Engineering (EN)	9
Bio-informatics (EN/FR)	9
Business Intelligence & Analytics (EN)	9
INFORMATION TECHNOLOGY TRACK	10
Digital Transformation (EN)	10
Software Engineering (EN)	10
IT for Finance (EN)	10
Image and Virtual Reality (FR)	10
EMBEDDED SYSTEMS TRACK	11
Robotic Systems and Drones (FR)	11
Intelligent Transport Systems (FR)	11
SECURITY AND NETWORKS TRACK	11
Networks & Cloud Architecture (EN)	11
Cybersecurity, IS, Internet Governance (CSIG) (FR)	11
Cybersecurity, Infrastructure, Computer Software (CIL) (FR).....	12
Cybersecurity and Cloud (FR)	12
General Education Modules	12

English cultural courses	12
French as a Foreign Language	13
Management.....	13
Master 2 – Fifth Year.....	13
General overview of the Programs.....	13
Semester 9 - Programs.....	13
DATA SCIENCE TRACK	13
Data and Artificial Intelligence (EN)	13
Data Engineering (EN)	14
Bio-informatics (FR)	14
Business Intelligence and Analytics (EN).....	14
INFORMATION TECHNOLOGY TRACK	14
Digital Transformation (EN)	14
Software Engineering (EN)	14
IT for Finance (EN)	15
Image and Virtual Reality (FR).....	15
EMBEDDED SYSTEMS TRACK.....	15
Transports Intelligents (FR)	15
Robotic Systems and Drones	15
SECURITY AND NETWORKS TRACK	16
Cybersecurity, IS, Internet Governance (FR)	16
Cybersecurity, Infrastructure, Computer Software (CIL) (FR).....	16
Cybersecurity and Cloud (FR)	16
Elective Scientific Modules.....	16
General Education Modules.....	17
French as a Foreign Language	17
Management.....	17

Undergraduate Programs

Third Year (L3)

General overview of the Program

Semester	Period	Courses
Fall (S5)	2 nd September 2024 – 11 th January 2025	Scientific courses only in French
Spring (S6)	13 th January 2025 – 24 th May 2025	Scientific courses in French & English (common modules and 1 Elective)

Semester 5 – Program

Programs taught in French

Code	Module	Hours	ECTS
Mathématiques appliquées		75	
SM501	Automates finis, Expressions rationnelles, Graphes	45	3
SM502	Recherche Opérationnelle	30	3
Informatique - Fondamentaux		105	8
TI505N	Programmation Orienté Objet en Java	30	2
TI503N	Base de données	30	2
TI504N	Programmation Web	30	2
TI507N	Introduction au système Linux	15	2
Physique et électronique		60	6
TE506	Conception de Systèmes numériques en VHDL 1	30	2
TE508	Systèmes de transmission	30	2
Formation générale		105	8
FH501	Dissertation et communication orale	30	3
FE507	Culture économique et financière de l'ingénieur 1	15	1
FE508	Théorie des organisations et culture d'entreprise	30	3
FL501	English 5 – Job Market Skills	30	3
LV2ALL	LV2 - Allemand	15	1
LV2ANG	LV2 - Anglais	15	1
LV2CHN	LV2 - Chinois	15	1
LV2ESP	LV2 - Espagnol	15	1
LV2JAP	LV2 - Japonais	15	1
	Participation à la vie de l'école		
Projet transverse		15	2
TI550	Initiation à la recherche et Projet Transverse	15	2

Electives

Choose 1 Elective option below.

Harmonisation sciences (4 ECTS)			
TE503	Electronique	30	2
SM505	Probabilités	15	2
OR			
Harmonisation informatique (4 ECTS)			
TI500N	Algorithmique et Programmation	45	4

Semester 6 – Program

Programs taught in French

Common modules

Code	Module	Hours	ECTS
Mathématiques appliquées		60	5
SM601	Théorie des graphes	30	2,5
SM602	Recherche Opérationnelle	30	2,5
Informatique - Fondamentaux		60	4
TI603	Base de données avancées	30	2
TI608	Introduction à l'apprentissage Machine	15	1
TI609	Les fondamentaux du Cloud Computing	15	1
Physique et électronique		75	5
SP601	Canaux de transmission	30	2
TE601	Théorie du signal 1	30	2
TE606	Conception de circuit numérique 1	15	1
Formation générale		105	6
FE608	Théorie des organisations et culture d'entreprise	30	3
FH601	Dissertation et écriture créative	30	3
FE607	Culture économique et financière de l'ingénieur 1	15	1
LV2ALL	LV2 - Allemand	15	1
LV2ANG	LV2 - Anglais	15	1
LV2CHN	LV2 - Chinois	15	1
LV2ESP	LV2 - Espagnol	15	1
LV2JAP	LV2 - Japonais	15	1
	Participation à la vie de l'école – International Day		
Projet transverse			
TI650	Initiation à la recherche et Projet Transverse	15	2

Electives

Choose 1 Elective option below.

Signaux et communication			
TE602	Théorie du signal 2	30	2
TE608	Conception de circuit numérique 2	15	2
OR			
Informatique			
TI616	Green IT	45	4

Programs taught in English

Common modules

Code	Module	Hours	ECTS
Mathématiques appliquées		60	5
SM601I	Graph Theory	30	2,5
SM602I	Operations Research	30	2,5
Informatique - Fondamentaux		60	3
TI603I	Advanced Databases	30	2
TI609I	Les fondamentaux du Cloud Computing	15	1
Physique et électronique		90	18
TE601I	Signal Processing 1	30	6
TE606I	Digital Systems Design with VHDL 1	30	6
TE609I	Transmission Systems	30	6
Formation générale			
FE607I	Financial and Economic Culture of Engineer 1	15	1
FE608I	Organization Theory and Corporate Culture	30	3
FL601	English 6 - Job Market Skills	30	3
LV2ALL	LV2 - Allemand	15	1
LV2ANG	LV2 - Anglais	15	1
LV2CHN	LV2 - Chinois	15	1
LV2ESP	LV2 - Espagnol	15	1
LV2JAP	LV2 - Japonais	15	1
PAVE	Participation à la vie de l'école – International Day		2
Projet transverse			
TI650	Initiation à la recherche et Projet Transverse	15	2

Electives

Choose 1 Elective option below.

Signaux et communication (FR) (4 ECTS)			
TE602I	Signal Processing 2	30	3
TE608I	Digital Systems Design with VHDL 2	15	3

OR			
Informatique (EN) (4 ECTS)			
TI616I	Green IT	45	4

Graduate Programs

Master 1 – Fourth Year

General overview of the Programs

The Master 1 Program is divided into 2 semesters: Fall Semester (S7A) and Spring Semester (S7B and S8). These semesters are composed of two periods each.

Fall semester: Academic program + Project and Language Modules

Semester	Period	ECTS
Semester 7A	16 th September 2024 – January 12 th 2025	30 or 20
Semester 7B	January 13 th 2025 – March 28 th 2025	10
Semester 8	31 st March 2025 – 26 th July 2025	30

Semester 7A – Programs

UE Mathematics (12 ECTS or 8 ECTS)		Language	Hours	ECTS*	ECTS**
ST2DA	Data Analysis	EN	30	3	2
ST2PS	Probability and statistics	EN	30	3	2
ST2GT	Graph Theory	EN	30	3	2
ST2NMC	Numerical Matrix Calculation	EN	30	3	2
UE Computer Science (12 ECTS or 8 ECTS)		Language	Hours	ECTS*	ECTS**
ST2DB	Databases	EN	30	3	2
ST2WP	Web programming	EN	30	3	2
ST2OOPJ	Object Oriented Programming with Java	EN	30	3	2
ST2PW	Python for Database	EN	30	3	2
UE Formation générale (6 ECTS or 4 ECTS)		Language	Hours	ECTS*	ECTS**
EN-M1NEW	Business English	EN	30	3	2
FL2FLE7A	French as a Foreign Language	FR	30	3	2
FH2STCM1N	Projet Voltaire	FR	15	1.5	1
FH2ADS	Art de synthétiser	FR	15	1.5	1

*If the student stays for Fall only: 30 ECTS

** If the student stays for the Academic year: 20 ECTS

Semester 7B – Programs

UE Data Science (8 ECTS)		Language	Hours	ECTS
ST2MDSP	Data Science with Python	EN	30	2
ST2MDV	Data Visualization	EN	30	2
ST2MML	Machine Learning	EN	30	2
ST2MDATA	Database : administration and NoSQL	EN	30	2

OR

UE Security & Networks (8 ECTS)		Language	Hours	ECTS
ST2MNS	Networks Security	EN	30	2
ST2MIS	IT Security	EN	30	2
ST2MEH	Ethical Hacking	EN	30	2
ST2MVS	Virtualisation & Stockage	EN	30	2

+

FP2IP	IMPULSE PROJECT	EN	60	2
--------------	------------------------	----	----	---

+

UE Formation générale (2 ECTS)		Language	Hours	ECTS
FL2FLE7B	French as a Foreign Language	EN	30	2

Semester 8 – Programs

DATA SCIENCE TRACK

Data and Artificial Intelligence (EN)

Code	Module	Language	Hours	ECTS
ST2CXO	Convex Optimization	EN	30	3
ST2AIC	Cloud Computing	EN	30	3
ST2FPS	Functional Programming with Scala	EN	30	3
ST2ML2	Machine Learning II	EN	30	3
ST2NOS	NoSQL Databases	EN	30	3
ST2DLS8	Neural Networks and Deep Learning	EN	30	3

Data Engineering (EN)

Code	Module	Language	Hours	ECTS
ST2MDE	Machine Learning for Data Engineers	EN	30	3
ST2AIC	Cloud Computing	EN	30	3
ST2DML	DevOps and MLOps	EN	30	3
ST2APIWS	API and Web services	EN	30	3
ST2NOS	NoSQL Databases	EN	30	3
ST2DLDI	Data Lakes and Data Integration	EN	30	3

Bio-informatics (EN/FR)

Code	Module	Language	Hours	ECTS
ST2MPGP	Metagenomics, Population Genetics and Phylogenomics	EN	30	3
ST2GEA	Genomics, Epigenetics and Applications	EN	30	3
ST2TBS	Biosignal Processing	EN	30	3
ST2BDMT	Cloud Computing for Health	EN	30	3
ST2MIV	Medical Image Processing and 3D Modeling	EN	30	3
ST2NDL	Neural Networks and Deep Learning	EN	30	3

Business Intelligence & Analytics (EN)

Code	Module	Language	Hours	ECTS
ST2ERPBI	Enterprise Resource Planning	EN	30	3
ST2MOD	Information System Modeling	EN	30	3
ST2DMBI	Data Mining	EN	30	3
ST2DSBI	Enterprise Data Warehousing	EN	30	3
ST2ABI	Advanced Business Intelligence	EN	30	3
ST2NOS	NoSQL Databases	EN	30	3

INFORMATION TECHNOLOGY TRACK

Digital Transformation (EN)

Code	Module	Language	Hours	ECTS
ST2MLE	Machine Learning for IT Engineers	EN	30	3
ST2CT	Collaborative tools	EN	30	3
ST2CBD	From Relational to Non-Relational Data Management	EN	30	3
ST2KM	Knowledge Management and Semantic Web	EN	30	3
ST2MOD	Information System Modeling	EN	30	3
ST2IOT	Internet of Things	EN	30	3

Software Engineering (EN)

Code	Module	Language	Hours	ECTS
ST2MLE	Machine Learning for IT Engineers	EN	30	3
ST2CBD	From Relational to Non-Relational Data Management	EN	30	3
ST2SDM	Software Design and Modeling	EN	30	3
ST2DCD	DevOps and Continuous Delivery	EN	30	3
ST2FUP	Functional Programming	EN	30	3
ST2DSY	Distributed Systems	EN	30	3

IT for Finance (EN)

Code	Module	Language	Hours	ECTS
ST2IBO	Investment Banking Operations: Backoffice, Middle, Frontoffice	EN	30	3
ST2CPP	Advanced C++ in Finance	EN	30	3
ST2EFA	Empiric Financial Analysis (in Python)	EN	30	3
ST2FIR	Risk Management in Modern Finance	EN	30	3
ST2ECN	Introduction to Econophysics: Financial Modelling with Natural Science	EN	30	3
ST2SPL	Scientific Programming Languages and Linux in Finance	EN	30	3

Image and Virtual Reality (FR)

Code	Module	Language	Hours	ECTS
ST2SNE	Simulation numérique pour les entreprises	FR	30	3
ST2IAI	Reconnaissances de formes et apprentissage machine	FR	30	3
ST2IHM	Réalité virtuelle et interaction homme-machine	FR	30	3
ST2ITI	Introduction au Traitement d'images	FR	30	3
ST2MPG	Modélisation géométrique pour la réalité mixte	FR	30	3

ST2TIM	Synthèse d'images	FR	30	3
---------------	-------------------	----	----	---

EMBEDDED SYSTEMS TRACK

Robotic Systems and Drones (FR)

Code	Module	Language	Hours	ECTS
ST2AIR	AI & ROS	FR	30	3
ST2CC	Contrôle commande	FR	30	3
ST2RMA	Robotique mobile avancée	FR	30	3
ST2VRA	Vision robotique et analyse	FR	30	3
ST2ECE	Eco-Conception Electronique	FR	30	3
ST2SEA	Systèmes Embarqués Avancés	FR	30	3

Intelligent Transport Systems (FR)

Code	Module	Language	Hours	ECTS
ST2ECE	Eco-Conception Electronique	FR	30	3
ST2RCTR	Réseaux de Communication Temps-Réel	FR	30	3
ST2SEA	Systèmes Embarqués Avancés	FR	30	3
ST2SMP	Simulation Multi-Physique	FR	30	3
ST2VSI	Vision pour les systèmes intelligents	FR	30	3
ST2BDSI	Big Data et systèmes intelligents	FR	30	3

SECURITY AND NETWORKS TRACK

Networks & Cloud Architecture (EN)

Code	Module	Language	Hours	ECTS
ST2BDNS	Big Data and Artificial Intelligence for Network and Security	EN	30	3
ST2CLI	Cloud Infrastructure	EN	30	3
ST2NSS	Network Services and Security	EN	30	3
ST2COS	Containers Orchestration and Security	EN	30	3
ST2QSV	Quality of Service	EN	30	3
ST2MSS	Windows administration	EN	30	3

Cybersecurity, IS, Internet Governance (CSIG) (FR)

Code	Module	Language	Hours	ECTS
ST2ARS	Architectures sécurisées	FR	30	3
ST2CDO	Classification des données	FR	30	3
ST2IAM	Gestion des identités - IAM	FR	30	3
ST2ISO	ISO 27005 & EBIOS-RM	FR	30	3

ST2PSCL	Projet sécurité (architecture sécurisée / cloud)	FR	30	3
ST2SCLO	Sécurité cloud	FR	30	3

Cybersecurity, Infrastructure, Computer Software (CIL) (FR)

Code	Module	Language	Hours	ECTS
ST2APM	Forensics et analyse post-mortem	FR	30	3
ST2CLV	Sécurité cloud et virtualisation	FR	30	3
ST2LXA	Sécurité Linux avancée	FR	30	3
ST2PENT	Pentest	FR	30	3
ST2PWAD	Projet sécurité (Windows/Forensics)	FR	30	3
ST2SWAD	Sécurité windows avancée & AD	FR	30	3

Cybersecurity and Cloud (FR)

Code	Module	Language	Hours	ECTS
ST2ACL	Architecture Cloud	FR	30	3
ST2COR	Containers Orchestration	FR	30	3
ST2GID	Gestion des identités – IAM-PKI	FR	30	3
ST2PTEST	Pentest	FR	30	3
ST2SOC	SOC Overview (SIEM/EDR)	FR	30	3
ST2SWD	Sécurité des identités hybrides	FR	30	3

General Education Modules

English cultural courses

Code	Module	Hours	ECTS
FL2BPL	Business Plan	15	1
FL2CB8	Capacity Building	15	1
FL2PS8	Critical Thinking and Public Speaking	15	1
FL2DW8	Developing World and Emerging Economies	15	1
FL2GF8	Issues in Global Finance	15	1
FL2MS8	Media Studies and Democracy	15	1
FL2GS8	Preparation for Graduate Studies Overseas	15	1
FL2TA8	Technology and Arts	15	1
FL2TSCF8	Technology and SciFi	15	1
FL2TS8	Technology and Society	15	1
FL2TSP8	Technology and Sports	15	1
FL2TWW8	Technology and the Written Word	15	1
FL2TW8	Technology and Well-being	15	1
FL2TC8	Technology in the Cinema	15	1
FL2CW8	Trends in the Corporate World	15	1

French as a Foreign Language

Code	Module	Hours	ECTS
FL2FLE8A	French as a Foreign Language	15	1
FL2FLE8B	French as a Foreign Language	15	1

Management

Code	Module	Language	Hours	ECTS
FE2MGMT	Management	FR	15	1
FE2MKTG	Marketing	FR	15	1

Master 2 – Fifth Year

General overview of the Programs

Semester 9 is an **academic program** running from beginning of November 2024 to early March 2025.

Semester	Period	ECTS
Fall (S9)	4th November 2024 – 8th March 2025	30

Instead of an academic program, exchange students have the possibility of conducting a **Research Project** from mid-September to mid-January or from mid-January to late May.

Semester	Period	Research Project	ECTS
Fall (S9)	16 th September 2024 – 13 th January 2025	Research project related to the student's scientific background and Efrei Paris' research fields.	30
Spring (S10)	13 th January 2025 – late May	Students will write a scientific article and highlight their research project and international mobility through a presentation or report	

Semester 9 - Programs

DATA SCIENCE TRACK

Data and Artificial Intelligence (EN)

Code	Module	Language	Hours	ECTS
ST2BDP	Big Data Ecosystem	EN	30	3
ST2CRS	Chatbots and Generative AI	EN	30	3
ST2DLAI	Natural Language Processing	EN	30	3
ST2DMG	Data Management and Ethics	EN	30	3
ST2ML3	Reinforcement Learning	EN	30	3
ST2MLP	Machine Learning in Production	EN	30	3

Data Engineering (EN)

Code	Module	Language	Hours	ECTS
ST2ABD	Applications of Big Data	EN	30	3
ST2BDF2	Big Data Frameworks II	EN	30	3
ST2CCBD	Cloud Certification for Big Data	EN	30	3
ST2DMG	Data Management and Ethics	EN	30	3
ST2MLP	Machine Learning in Production	EN	30	3
ST2MLD	Machine Learning for Data Engineers	EN	30	3

Bio-informatics (FR)

Code	Module	Language	Hours	ECTS
APFP92B	Mission d'apprentissage bioinformatique	FR	30	3
APFP94B	Projet Santé	FR	30	3
CBNF104	Utilisation et Applications de la Bio-informatique	FR	30	3
CBNF201	Bio-informatique Structurale, Drug design	FR	30	3
CBNF202	Nouvelles Technologies et leur Exploitation	FR	30	3

Business Intelligence and Analytics (EN)

Code	Module	Language	Hours	ECTS
ST2AML	Machine Learning for Data Analysts	EN	30	3
ST2BIG	Big Data Processing	EN	30	3
ST2AIK	Semantic Web, AI and Knowledge Management	EN	30	3
ST2AAN	Data Integration and Analytics	EN	30	3
ST2DABI	Data Analyst Certification	EN	30	3
ST2BDPV	Advanced Data Visualization	EN	30	3

INFORMATION TECHNOLOGY TRACK

Digital Transformation (EN)

Code	Module	Language	Hours	ECTS
ST2BPM	Business Process Management	EN	30	3
ST2ISG	Architecture and IS Governance	EN	30	3
ST2ISS	Information System Security	EN	30	3
ST2IISG	Performance Indicator for IS governance	EN	30	3
ST2DCCC	Cloud Computing	EN	30	3
ST2RDT	Responsible Digital Transformation for a sustainable society	EN	30	3

Software Engineering (EN)

Code	Module	Language	Hours	ECTS
ST2APR	Advanced Programming	EN	30	3
ST2DCE	DevOps and Continuous Deployment	EN	30	3
ST2SCL	Software Engineering for the Cloud	EN	30	3

ST2SCO	Secure Coding	EN	30	3
ST2SSA	Software Systems Architectures	EN	30	3
ST2TST	Software Testing	EN	30	3

IT for Finance (EN)

Code	Module	Language	Hours	ECTS
ST2ACPP	Applications of C++ in Finance	EN	30	3
ST2PMA	Pricing of Derivatives, Commodities and Energy Trading	EN	30	3
ST2POM	Portfolio Management in Modern Finance	EN	30	3
ST2DFI	Digital Finance, Cryptocurrencies, NFT's	EN	30	3
ST2AECN	Applied Econophysics: Financial Markets Analysis using Physics	EN	30	3
ST2IEI	Infrastructure, Exchanges and Institutions	EN	30	3

Image and Virtual Reality (FR)

Code	Module	Language	Hours	ECTS
ST2DLRA	Deep Learning pour la vision par ordinateur	FR	30	3
ST2CDJS	Conception et développement de jeux sérieux	FR	30	3
ST2V3D	IA générative et grands modèles de langage (LLM)	FR	30	3
ST2RA3D	Réalité augmentée et recalage 3D	FR	30	3
ST2VAAS	Vision artificielle et analyse de scène	FR	30	3
ST2ARVA	Applications de la réalité virtuelle et de la réalité augmentée	FR	30	3

EMBEDDED SYSTEMS TRACK

Transports Intelligents (FR)

Code	Modules Majeure Transports Intelligents	Language	Hours	ECTS
ST2ADAS	ADAS et Architecture des Systèmes Autonomes	FR	30	3
ST2NAPE	Navigation Autonome et Perception de l'Environnement	FR	30	3
ST2IAE	Intelligence Artificielle Embarquée	FR	30	3
ST2SSSI	Sûreté et Sécurité des Systèmes Intelligents	FR	30	3
ST2AFGV	Avions du Futur et Gestion de Vol	FR	30	3
ST2AMCE	Avionique Modulaire et Calculateurs Embarqués	FR	30	3

Robotic Systems and Drones

Code	Module	Language	Hours	ECTS
ST2RFS	Systèmes RF et Sécurité des transmissions	FR	30	3
ST2CO	Commande et observation	FR	30	3
ST2SMRD	Systèmes multi-robots multi-drones	FR	30	3
ST2VPE	Vision et Perception de l'environnement	FR	30	3
OP2IASR	IA pour les systèmes robotiques	FR	30	3
ST2BRI	Bras robotique industriel	FR	30	3

SECURITY AND NETWORKS TRACK

Cybersecurity, IS, Internet Governance (FR)

Code	Module	Language	Hours	ECTS
ST2PEN	Pentest	FR	30	3
ST2ISO1	ISO 27001 / 27003	FR	30	3
ST2ISO3	Projet sécurité (ISO 27003 – Gestion des risques)	FR	30	3
ST2PCA	Gestion des risques & PCA	FR	30	3
ST2CCR	Cybercriminalité, cyberguerre, lois et réglementation	FR	30	3

Choose 1 :

OP2VIR	Virus et technique virale	FR	30	3
OP2EDR	Endpoint detection & Response	FR	30	3

Cybersecurity, Infrastructure, Computer Software (CIL) (FR)

Code	Module	Language	Hours	ECTS
ST2AVL	Architecture sécurisée et analyse de vulnérabilité	FR	30	3
ST2CDA	Cyber défense et attaque	FR	30	3
ST2EDR	Endpoint Detection & Response	FR	30	3
ST2PCDA	Projet Sécurité (Defense / EDR)	FR	30	3
ST2SCA	Sécurité Cloud Azure	FR	30	3
ST2RGPD	RGPD & Gestion des risques	FR	30	3

Cybersecurity and Cloud (FR)

Code	Module	Language	Hours	ECTS
ST2MLW	Analyse de malware	FR	30	3
ST2DSO	DevSecOp	FR	30	3
ST2RIF	Réponse à incident – Forensics	FR	30	3
ST2SCA	Sécurité Cloud Azure	FR	30	3
ST2GRP	Gestion des risques & PCA	FR	30	3
ST2SECL	Sécurité cloud	FR	30	3

Elective Scientific Modules

Code	Module	Language	Hours	ECTS
OUVBP	PEGA Business Process certification	EN	30	3
OUPM	Product Management	EN	30	3
OUME	Mobilité électrique	FR	30	3
OUVNI	Numérique inclusif	FR	30	3
OUIDL	Artificial Intelligence, Deep Learning and Applications	EN	30	3

OUVBCO	Blockchain: Challenges and Opportunities	EN	30	3
OUVBPM	Business Process Management	EN	30	3
OUVCTF	Certification	FR	30	3
OUVDCD	DevOps and Continuous Delivery	EN	30	3
OUVDT	Design Thinking-Ethique	FR	30	3
OUVDTC	Ethique citoyenne	FR	30	3
OUVLTE	Ethique des Entrepreneurs	FR	30	3
OUVHPC	Introduction to HPC / GPU computing	EN	30	3
OUVIBI	Introduction to Bioinformatics	EN	30	3
OUIVOT	Internet of Things	EN	30	3
OUVKBC	Knowledge Based Company	EN	30	3
OUMMOB	Développement mobile	FR	30	3
OUMMSEC	Management de la sécurité	FR	30	3
OUVNET	Network Softwarization: Technologies and Enablers	EN	30	3
OUVPFS	Programmation fonctionnelle avec Scala	FR	30	3
OUVQT	Quantum Technologies	EN	30	3
OUVW3D	Web et 3D	FR	30	3

General Education Modules

French as a Foreign Language

Code	Module	Hours	ECTS
FL2FLE9A	French as a Foreign Language	15	1
FL2FLE9B	French as a Foreign Language	15	1

Management

Code	Module	Language	Hours	ECTS
FG2CSR	Corporate Social Responsibility	EN	15	1
FE2EN14	Innovation challenge	EN	15	1

*Availability to be confirmed