Ceramics & ICT
TACTIC Graduate School

MASTER INFORMATIQUE

Software design & development training path

Level	Program duration	Credits
Master	**2 years**	**120 credits**

Program outline

The EUR master's degree in software design and development (SDD) aims to train computer engineers in research and development in industry, services or research.

The master's course aims for career opportunities in software engineering (design and development). Specific outlets linked to algorithms and image-type data are also targeted.

In addition to disciplinary skills, the master's degree aims to develop students' autonomy, teamwork, project leadership and management, practice of the English language and knowledge of the business world.

Admissions requirements

Must hold a Bachelor's degree of Computer Science or equivalent.

Organization

- Internship in M1 (international mobility)
- End-of-study internship in M2
- Scientific project in M2

How to apply

Students residing in France or the EU: www.monmaster.gouv.fr

International students from outside the EU: www.campusfrance.org/fr

Key info

- Selective course (limited places)
- No repetition possible in TACTIC course
- Scholarships 6000€ (4000€ in M1, 2000€ in M2)
- Financial assistance for incoming and outgoing mobility

Study place

Campus du Futuroscope, Poitiers

Program contact

Program director :
samuel.peltier@univ-poitiers.fr

Project manager :
celine.parvy@unilim.fr

What's next ?

- ## Continuation of study

Continuation in thesis possible.

- ## Job opportunities

Jobs: IT engineer, software engineer, technical architect, database administrator, design and development engineer, project manager, IT consultant, researcher, assistant professor

Sectors: Digital service companies, IT services to businesses, large IT groups, start-ups, research organizations.

Program

Semester 1

Course name	Course unit (UE or component)	Nbr h Lecture	Nbr h Tutorial	Nbr h Practice	Nbr h project	Credits
Web application architectures	UE	16h		18h	16h	5
Advanced algorithmic	UE	16h	34h			5
Object-oriented design	UE	18h		28h	4h	5
Data analysis	UE	14h	8h	24h	4h	6
Practice of data analysis	Component					3
Data analysis methods	Component					3
Watermarking	UE	30h				3
Soft skills	UE	20h	10h			3
Laboratory research project at XLIM	Project					3

Semester 2

Course name	Course unit (UE or component)	Nbr h Lecture	Nbr h Tutorial	Nbr h Practice	Nbr H project	Credits
3D Algorithmic	UE	10h	8h	12h	20h	4
Parallel and distributed algorithmic	UE	20h		30h		4
HMI development form obile and 3D engine	UE	6h	4h	20h	20h	4

Elective courses (1 out of 2)						
• Safe software	UE	10h		15h		3
• Embedded software	UE		4h	11h	10h	3
Database security	UE	15h	5h	10h		3
Language (English or French)	UE		30h			3
Soft skills	UE	20h	10h			3
Laboratory research project at XLIM	Project					3
Abroad internship	Internship					3

Semester 3

Course name	Course unit (UE or component)	Nbr h Lecture	Nbr h Tutorial	Nbr h Practice	Nbr h project	Credits
Algorithmic 3D	UE	8h		22h	20h	5
Graph algorithms and complexity	UE	20h	30h			5
Machine learning	UE	18h		24h	8h	6
Neural networks	Component					3
General machine learning principles and algorithms	Component					3
Elective courses (1 out of 2)						
• Formal aspects of software engineering	UE	20h	14h	16h		5
• Real-time specification and validation	UE	20h	18h	12h		5
Geometric design and mechanical simulation for health	UE	18h	2h	10h		3
Language (English or French)	UE		30h			3
Research or entrepreneurial project	Project					3

Semester 4

Course name	Course unit (UE or component)	Nbr h Lecture	Nbr h Tutorial	Nbr h Practice	Credits
Data visualization	UE	10h	20h		3
Research or entrepreneurial project	Project	10h	20h		3
End of study internship (master's thesis)	Internship				24