PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

MINISTRY OF HIGHER EDUCATION AND
SCIENTIFIC RESEARCH

HARMONIZATION

MASTER'S TRAINING OFFER

ACADEMIC/PROFESSIONALIZING

Establishment	Faculty / Institute	Department
University of Khemis Miliana	Science and Technology	Mathematics and Computer Science

Field: Mathematics / Computer Science

Major : Computer science

Specialty: Software Engineering

Academic year : 2015/2016

I – Identity card of the Master

1 - Localization of the training offer :

Faculty (or Institute): Science and Technology Department: Computer Science

2 – Background and objectives of the training

– Conditions of access

Since the Master's degree in Software Engineering offers both practical and theoretical training in the field of software engineering, this course is open to any graduate of a bachelor's degree in computer science including modules on programming languages and their foundations (data structures, language theory, compilation), operating systems, software engineering and communication networks.

A - Objectives Of The Training

The objective of the Master's degree in Software Engineering is to provide students with a high-level education in computer science. For the computer scientist, familiarity with the abstract concepts underlying technology has become indispensable.
Therefore, this Master's degree aims to train computer scientists capable of carrying out cutting-edge research work and following technological developments in a booming field.

B – Targeted job profiles and skills

A graduate of the Master's degree in Software Engineering must be:

1. An expert in software development with knowledge of several programming paradigms.
2. Have a mastery of distributed systems and the methods of their design.
3. Have a solid command of mathematical concepts related to computer science.
4. Be able to express oneself orally and in writing.
5. Understand current technologies.
6. Be prepared to adapt quickly to new information and communication technologies.
7. Be able to pursue doctoral studies.

C- Regional and national potential for the employability of graduates

Graduates of the Master's degree in Software Engineering will have all the skills to work in various sectors (public or private). In addition, students can either intend for a doctoral thesis, or move towards teaching and/or research careers in the appropriate universities and organizations

D– Monitoring indicators of the training

Periodic meetings of the teaching teams of the teaching units associated with the Master's degree.

1. Pedagogical committees.
2. Rate of integration of graduates from this training into the world of work.

E – Supervision capacity : 15 students

II – Semester organisation card for teaching

(Please present the cards for the 4 semesters)

1- Semester 1 :

Teaching Unit	Semi-Annual Hourly Volume	Weekly Hourly Volume				Coeff	Credits	Evaluation method	
	14-16 Weeks	C	TD	TP	Personal work			Continuous	Exam
Fundamental Units									
	180H	7H30	3H	1H30					
Advanced databases	45h	3h			1h30	3	5	X	X
Advanced algorithms and complexity	90h	3h	1h30	1h30	1h30	4	8	X	X
Modeling and evaluation of system performance	45h	1h30	1h30		1h30	3	6	X	X
Methodological Units									
	135H	3h	3H	3H					
Data analysis	67h30	1h30	1h30	1h30	1h30	2	4	X	X
Advanced Operations Research 1	67h30	1h30	1h30	1h30	1h30	2	5	X	X
Transversales units									
	45H	3h							
Entrepreneurship	22h30	1h30			1h30	1	1		X
English	22h30	1h30			1h30	1	1		X
Total Semester 1	350H	13H30	6H	4H30		16	30		

Semester 2

Teaching Unit	Semi-Annual Hourly Volume	Weekly Hourly Volume				Coeff	Credits	Evaluation method	
	14-16 Weeks	C	TD	TP	Personal work			Continuous	Exam
UE Fundamental									
	180H	6H	3H	3H					
Distributed Operating Systems	67h30	1h30	1h30	1h30	1h30	3	6	X	X
Software Engineering and Project Management	45h	1h30		1h30	1h30	2	6	X	X
Enterprise Information Systems Architecture	67h30	3h	1h30		1h30	3	7	X	X
Methodological Units									
	180H	6H	3H	3H					
Programming Paradigms	45h	3h			1h30	2	3	**X**	X
Compilation: code generation and optimization	90h	1h30	1h30	1h30	1h30	2	3	X	X
Advanced Operations Research 2	67h30	1h30	1h30	1h30	1h30	2	3	X	X
Transversales units									
	45H	3H							
Management	22h30	1h30			1h30	1	1		X
English	22h30	1h30			1h30	1	1		X
Total Semester 2	405H	15H	6H	6H		16	30		

Semester 3

Teaching Unit	Semi-Annual Hourly Volume	Weekly Hourly Volume				Coeff	Credits	Evaluation method	
	14-16 Weeks	C	TD	TP	Personal work			Continuous	Exam
Fundamental Units									
	157H30	7H30	1H30	1H30					
Engineering Directed by the Models	45h	3h			1h30	3	7	X	X
Introduction to Artificial Intelligence	45h	1h30	1h30		1h30	3	6	X	X
Distributed algorithms	67h30	3h		1h30	1h30	3	6	X	X
Methodological units									
	112H30	4H30	1H30	1H30					
Ontology and the Semantic Web	67h30	3h		1h30	1h30	2	4	X	X
Computer security	45h	1h30	1h30		1h30	2	5	X	X
Transversales Units									
	45H	3H							
Anti-corruption	22h30	1h30			1h30	1	1		X
Expression and Communication Techniques	22h30	1h30			1h30	1	1		X
Total Semester 3	315H	15H	3H	3H		15	30		

Semestre 4

Field : Mathematics / Computer Science

Major :Computer Science

Specialty :Software Engineering

Stage in a company sanctioned by a memory and a defense.

	Semi-Annual Hourly Volume	Coeff	Crédits
Memory	300h	15	30
Total Semester 4	300h	15	30