SEA name: FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) blockchain

MASTER COURSE TEACHER		Cherbal Sarra			
		Reception of students per week			
E-mail	sarra_cherbal@univ-setif.dz	Day :	Tuesday	hour	1h30
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	

TUTORIALS							
(1	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Cherbal Sarra		Tuesda	1h30				
		у					

COURSE DESCRIPTION			
Objective	Blockchain technology, its implementation and its		
	Use in cyberSecurity		
Type Unit Teaching	Methodology		
Short content			
Subject Credits	2		
material coefficient	1		
Weighting Participation	65%		
Weighting Attendance	35%		
DC Average Calculation			
Targeted skills			

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
	FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
			SECOND			01/01/2023		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
						VSliquez ici pour entrer une date.		

EQUIPMENT AND MATERIALS USED				
Addresses Platforms				
Application names				
(Web, local network)				
Handouts				
Laboratory materials				
Protective materials				
Field trip equipment				

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

	BIBLIOGRAPHY
Books and digital resources	Gupta, Rajneesh. "Hands-On Cybersecurity with Bloc
	Blockchain: Implement DDoS protection, PKI-based
	identity, 2FA, and DNS security using Blockchain"
Items	
Handouts	
Web sites	

Cachet humide	e du département

SEA name: FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Cloud computing

Toumi Lyazid MASTER COURSE TEACHER Reception of students per week E-mail lyazid.toumi@univ-setif.dz Day : Sunday hour 1.30 a.m. Day : office phone hour Tel secretariat hour Day : Building : Other Desk :

TUTORIALS								
(F	Reception o	fstud	ents p	er we	ek)			
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3	
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour	

PRACTICAL WORK							
(F	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Toumi Lyazid		Sunday	1h30				

	COURSE DESCRIPTION
Objective	This course focuses on cloud technology. The main objective of this teaching unfolds around the socio-economic and technological impact of Cloud Computing. This teaching offers a good exploitation of aspects of database and information system on the Cloud. It provides preliminary knowledge of the Cloud architectures used today, the evolution of the Internet to support Cloud Computing, the architecture of data centers and their technologies.
Type Unit Teaching	Methodology
Short content	Introduction to Cloud Computing Cloud Computing Platforms Parallel Programming in the Cloud Distributed Storage Systems Virtualization Cloud Security Multicore Operating Systems Assessment method: Continuous assessment, examination
	References
	• Cloud Computing: Concepts, Technology & Architecture (The Pearson Service Technology Series from Thomas Erl)
Subject Credits	2
material coefficient	1
Weighting Participation	2.5
Weighting Attendance	2.5
DC Average Calculation	10
Targeted skills	

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
			FIRST I	KNOWLED	GE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy) 01/01/2023	Evaluation criteria (2)
SECOND KNOWLEDGE CHECK							
DaySessionDurati onType (1)Doc authori zedExchange afterEvaluat criteriaDaySessionDurati onType (1)Coc authori zedCoc scaleExchange afterEvaluat criteria						Evaluation criteria (2)	

		No)	consultation copies)	
			VSliquez ici	
			pour entrer une	
			date.	

	EQUIPMENT AND MATERIALS USED
Addresses Platforms	
Application names	
(Web, local network)	
Handouts	
Laboratory materials	
Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY					
Books and digital resources	Cloud Computing: Concepts, Technology & Architecture				
Architecture (The Pearson Service Technology					
Series					
from Thomas Erl)					
Items					
Handouts					

Cachet humide du département

MATERIAL SYLLABUS (to be published on the institution's website) Ethical Hacking and Systems Defense

MASTER COURSE TEACHER		Toumi Lyazid			
		Reception of students per week			
E-mail	lyazid.toumi@univ-setif.dz	Day :	Sunday	hour	1.30
					a.m.
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	

TUTORIALS (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour
		Sunday	1h30				

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Toumi Lyazid		Sunday	1h30				

COURSE DESCRIPTION						
Objective	This course will teach students the principles of hacking and how to become an ethical hacker. The lesson focuses on the attack system's code of conduct and ethics. The criminal hacker's thinking and evolution are also covered in the course. Students also receive a basic grasp and education on the factors of compromising computer systems in order to protect them from criminals. Only ethical hacking is taught in the course, which provides a clear distinction between illegal and ethical hacking.					
Type Unit Teaching	Fundamental					
Short content	Chapter 1: Introduction and Ethics Ethical Hacking Ethics Engagements and Benorts 					
	Chapter 2: Recognition					
	• OSINT					
	Passive vs Active recon Common tools for recon					
	Chapter 3: Google Hacking and Doxing					
	Google Hacking					
	Doxing Introduction					
	Chapter 4: Social Engineering					
	 Human Tendencies Social Engineering Social Engineering Toolkit 					
	Chapter 5: Scanning					
	 Scanning Process Ping sweep Port Scans Nman 					
	Chapter 6: Operation					
	 Understanding exploitation Buffer overflows Exploitation Frameworks 					
Subject Credits	5					
material coefficient	3					
Weighting Participation	75%					
Weighting Attendance	25%					
DC Average Calculation						
Targeted skills						

	FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
						01/01/2023		
			SECOND	KNOWLE	DGE CHECK			
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
						VSliquez ici pour entrer une date.		

	EQUIPMENT AND MATERIALS USED				
Addresses Platforms					
Application names					
(Web, local network)					
Handouts					
Laboratory materials					
Protective materials					
Field trip equipment					

	EXPECTATIONS			
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY					
Books and digital resources	The Basics of Hacking and Penetration Testing:				
	Ethical Hacking and Penetration Testing				
	Penetration Testing: A Hands-On Introduction to Ha				
Items					
Handouts					
Web sites					

MATERIAL SYLLABUS (to be published on the institution's website) Information And Network Security

MASTER COURSE TEACHER		Gasoline Meho	li		
		Reception of students per week			
E-mail	mehdi.benzine@univ-setif.dz	Day :	Monday	hour	1h30
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Gasoline Mehdi		Monda	1h30				
		у					

COURSE DESCRIPTION				
Objective	Different types of security applications used			
Type Unit Teaching	Fundamental			
Short content				
Subject Credits	4			
material coefficient	2			
Weighting Participation	70%			
Weighting Attendance	30%			
DC Average Calculation				
Targeted skills				

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
			SECOND			01/01/2023	
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
						VSliquez ici pour entrer une date.	

	EQUIPMENT AND MATERIALS USED
Addresses Platforms	
Application names	
(Web, local network)	
Handouts	
Laboratory materials	
Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY				
Books and digital resources	Network Security and Cryptography: Bernard Menezes			
	CENGAGE Learning.			
	Network Security - Private Communication in a Public			
Items				
Handouts				
Web sites				

Cachet humide	du département

MATERIAL SYLLABUS (to be published on the institution's website) Machine Learning for CyberSecur

MASTER COURSE TEACHER		Moussaoui Ab	delouahab		
		Reception of students per week			
E-mail	abdelouahab.moussaoui@univ-set	Day :	THURSDAY	hour	1h30
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	n room day hour			Hour	day	hour

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Moussaoui Abdeloua		THURS	1h30				
		DAY					

COURSE DESCRIPTION			
Objective	The state of the art of advances in the field of		
	machine learning and the design of this		
Type Unit Teaching	Fundamental		
Short content			
Subject Credits	5		
material coefficient	3		
Weighting Participation	75%		
Weighting Attendance	25%		
DC Average Calculation			
Targeted skills			

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
			FIRST I	KNOWLED	GE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
			SECOND			01/01/2023	
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
						VSliquez ici pour entrer une date.	

	EQUIPMENT AND MATERIALS USED
Addresses Platforms	
Application names	
(Web, local network)	
Handouts	
Laboratory materials	
Protective materials	
Field trip equipment	

	EXPECTATIONS
Expected of students (Participation-involvement)	
Teacher expectations	

	BIBLIOGRAPHY				
Books and digital resources	Machine learning for Cybersecurity cookbook				
	Hastie, T., Tibshirani, R., and Friedman, J, The				
	Elements of Statistical Learning. Springers				
Items					
Handouts					
Web sites					

Cachet humide du département					

SYLLABUS DE LA MATIERE (in publiger in the website of the institution) Operating Systems Forensics And

ENSEIGNANT DU COURS		Zibouda Alioua	at		
MAGISTRAL		Reception of students by age			
Email	zaliouat@univ-setif.dz	Jour:	mercredi	heure	1h30
Tel de bureau		Jour:		heure	
Tell		Jour:		heure	
secretaries					
Autre		Bâtiment:		Bureau:	

TRAVAUX DIRIGES (Reception of students by age)							
NOMS ET PRENOMS	Bureau/sale	San	ce 1	San	ce 2	San	ce 3
DES ENSEIGNANTS	reception	day	heure	day	Heure	day	heure

TRAVAUX PRATIQUES							
	(Reception	of stu	dents	by age	e)		
NOMS ET PRENOMS	Bureau/sale	San	ce 1	San	ce 2	San	ce 3
DES ENSEIGNANTS	reception	day	heure	day	heure	day	heure
Zibouda Aliouat		mercr	1h30				

DESCRIPTIF DU COURS				
Objectif	Acquerir les compétences issues des methods			
	D'analyse et d'amélioration of the security of SE			
Type Unite Enseignement	Methodology			
Content suchinct				
Credits to the matière	3			
Coefficient of the matière	2			
Pondération Participation	70%			
Pondération Association	30%			
Calculate Moyenne CC				
Compétences visits				

	EV	ALUATIO	N DES CONTR		NTINUS DE CONN	AISSANCES	
		PI	REMIER CON	TROLE DE	CONNAISSANCES	5	
Jour	Sance	Duree	Type (1)	Doc autoris é (Oui, Non)	Barème	Change after evaluation (date consult. copy)	Critères evaluatio n (2)
						01/01/2023	
		DE	UXIEME CON	NTROLE D	E CONNAISSANCE	S	
Jour	Sance	Duree	Type (1)	Doc autoris é (Oui, Non)	Barème	Change after evaluation (date consultation copies)	Critères evaluatio n (2)
						Cliquez ici pour entrer une date.	

(1) Type: E=écrit, EI=individual exposure, EC=exposition in class, EX=experimentation, QCM

(2) Criteria for evaluation: A=Analyse, S=synthèse, AR=argumentation, D=demarche, R=results

EQUIPEMENTS ET MATERIALS AND UTILISES				
Addresses				
plateformes				
Noms Applications				
(Web, local				
resource)				
polycopyes				
Materials for				
laboratories				
Protection materials				
Materials of sorting				
sur le terrain				

LES ATTENTES				
Attendues des etudiants (Participation-implication)				
Attentes de l'enseignant				

BIBLIOGRAPHIE			
Lives and resource	Cory Altheide, Harlan Carvey, Digital Forensics		
numbers	with Open Source Tools, Syngress		
	Angus M. Marshall, "Digital forensics: Digital evid		
Articles			
polycopyes			
Sites Web			

Cachet humide du département			

MATERIAL SYLLABUS (to be published on the institution's website) Secure Software Development

MASTER COURSE TEACHER		Annane Bouba	ker		
		Reception of students per week			
E-mail	boubakeur.annane@univ-setif.dz	Day :	Tuesday	hour	1h30
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Annane Boubaker		Tuesda	1h30				
		у					

COURSE DESCRIPTION				
Objective	Intended for software professionals to			
	Understand the concepts essential to the discipline			
Type Unit Teaching				
Short content				
Subject Credits	2			
material coefficient	1			
Weighting Participation	75%			
Weighting Attendance	25%			
DC Average Calculation				
Targeted skills				

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
			FIRST I	KNOWLED	GE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
			SECOND		DGE CHECK	01/01/2023	
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
						VSliquez ici pour entrer une date.	

EQUIPMENT AND MATERIALS USED					
Addresses Platforms					
Application names					
(Web, local network)					
Handouts					
Laboratory materials					
Protective materials					
Field trip equipment					

EXPECTATIONS					
Expected of students (Participation-involvement)					
Teacher expectations					

BIBLIOGRAPHY					
Books and digital resources	Developing Secure Software: Jason Grembi, Cengage				
	Software Security: Richard Sinn, Cengage Learning				
Items					
Handouts					
Web sites					

SEA name: FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Web Application Security

MASTER	COURSE TEACHER	Gasoline Meho	li			
		Reception of students per week				
E-mail	mehdi.benzine@univ-setif.dz	Day :	Wednesday	hour	1h30	
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :		Desk :		

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Gasoline Mehdi		Wedne	1h30				
		sday					

COURSE DESCRIPTION				
Objective				
Type Unit Teaching	Fundamental			
Short content				
Subject Credits	4			
material coefficient	2			
Weighting Participation	70%			
Weighting Attendance	30%			
DC Average Calculation				
Targeted skills				

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
			SECOND			01/01/2023	
			SECONL			Evelope	
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
						VSliquez ici pour entrer une date.	

EQUIPMENT AND MATERIALS USED					
Addresses Platforms					
Application names					
(Web, local network)					
Handouts					
Laboratory materials					
Protective materials					
Field trip equipment					

EXPECTATIONS		
Expected of students (Participation-involvement)		
Teacher expectations		

BIBLIOGRAPHY		
Books and digital resources		
	Web Application Security: Exploitation and Co	
Items		
handouts		
Web sites		

Cachet humide du département	
	<u>Cachet humide du département</u>

HEI name: FACULTY OF SCIENCES Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website) Image Compression (CIM)

MASTER COURSE TEACHER		Berrimi Fella			
		Reception of students per week			
E-mail	fella.berimi@univ-setif.dz	Day :	Sea	hour	12:30
					p.m.
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	Am 01

TUTORIALS							
(F	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Berrimi Fella	Lab 8	Sea	8am	Sea	9:30		
					a.m.		
	Lab 3	Tuesda	12:30	Tuesda	2 p.m.	Tuesda	3:30
		у	p.m.	у		у	p.m.

COURSE DESCRIPTION				
Objective	Master image compression techniques			
Type Unit Teaching	Methodology			
Short content	Overview			
	• Images			
	Vector images			
	 Raster images and pixels 			
	Color spaces			
	 Indexed colors and palettes 			
	 Resolution and resolution 			
	File formats			
	Structure of an image file			
	Formats PAM, PPM, PNM, PGM and PBM: netpbm library			
	- RMP: Content of a RMP file. Examples			
	- Uncompressed TIFF format			
	Concepts of information theory			
	• Definition of a signal			
	Source recoding			
	Markovian source			
	 Occurrence probabilities and information 			
	• Entropy of a signal			
	The RLE method applied to images			
	Entropic codings			
	Huffman's algorithm			
	Lempel–Ziv algorithm 77			
	LZW algorithm			
	The GIF format			
	PNG format			
	Study of the JPG format			
	DCT transformation			
	• Jpeg2000			
	Video compression			
	MJPEG and MJPEG2000			
Subject Credits	4			
material coefficient	2			
Weighting Participation	0			
Weighting Attendance	0			
DC Average Calculation	50% Test 1 + 50% Test 2			
Targeted skills	Understand image compression techniques			

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
			Ex	No	50%	VSliquez ici pour entrer une date.	R
			SECOND	KNOWLE	DGE CHECK		I
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
			Ex	No	50%	VSliquez ici pour entrer une date.	R

	EQUIPMENT AND MATERIALS USED
Addresses Platforms	
Application names	
(Web, local network)	
handouts	
Laboratory materials	
Protective materials	
Field trip equipment	

Expected of students (Participation-involvement)	
Teacher expectations	

	BIBLIOGRAPHY
Books and digital resources	
Items	
handouts	
Web sites	

Cachet humide du département

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Multimedia content

MASTER COURSE TEACHER		DOUIDI LAMR	I		
		Reception of students per week			
E-mail	douidi@univ-setif.dz	Day :	THURSDAY	hour	11 a.m.
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	A3

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
DOUIDI Lamri	L1	Mar	12:30	Mar	2 p.m.	Mar	3:30
			p.m.				p.m.

COURSE DESCRIPTION						
Objective	Insert multimedia content into files					
	HTML					
Type Unit Teaching	EU Methodology					
Short content	 Introduction to multimedia data 					
	BMP image file formats					
	- Representation without compression (Bitmap)					
	- Lossy image compression (JPEG, PNG)					
	- Vector Images (SVG)					
	- Image processing (GIMP software), Photoshop					
	• Formats of sound files					
	- Compression with loss of data (MP3)					
	- Sampling frequency					
	- Lincouring					
	• Video representation					
	- Compression techniques					
	- Codecs (XViD etc.)					
	- Multiplexing of several multimedia streams					
	- Container file format (AVI MP4)					
	• Integration of multimedia content in an HTMI 5 site					
	- New HTML5. CSS3					
	- Integration of sound and video files in HTML5					
	- Creation of graphic animations					
	Reading in transit (Streaming)					
	- Reminders of network concepts: architecture, protocol, throughput,					
	bandwidth, jitter, etc.					
	- Audio and video streaming					
	- Real-time audio and video streaming					
	- Stored audio and video streaming (buffering)					
	 Multimedia programming language 					
	- SMILE					
	- Action Script					
	- OpenCV					
	 PI Platform and Multimedia Tools 					
	- Adobe Premiere					
	- Adobe Captivate					
	- Adobe Muse					
	- Moodle Platform					
Subject Credits	5					
material coefficient	2					
Weighting Participation						
weighting Attendance	1000/ Droin st					
DC Average Calculation						
l'argeted skills	i ypes of wultimedia					

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS FIRST KNOWLEDGE CHECK

Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
			Ex	Yes	100%	VSliquez ici pour entrer une date.	R	
SECOND KNOWLEDGE CHECK								
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
						VSliquez ici pour entrer une date.		

EQUIPMENT AND MATERIALS USED					
Addresses Platforms					
Application names					
(Web, local network)					
handouts					
Laboratory materials					
Protective materials					
Field trip equipment					

EXPECTATIONS					
Expected of students (Participation-involvement)					
Teacher expectations					

	BIBLIOGRAPHY
Books and digital resources	
Items	
handouts	
Web sites	

Cachet humide du département							

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Data mining and extraction

MASTER COURSE TEACHER		HARRAG Fouzi			
		Reception of students per week			
E-mail	fouzi.harrag@univ-setif.dz	Day :	Sea	hour	11 a.m.
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	A2

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
HARRAG Gouzi	L2	Sun	8.00	Sun	9.30	Sun	11.00

COURSE DESCRIPTION							
Objective	Master the concepts of data mining						
	Knowledge extraction and their tools						
Type Unit Teaching	Fundamental EU						
Short content	Introduction						
	 Business Intelligence vs. Production IT 						
	Build Warehouse						
	• Use, Operate						
	ECD Information Discovery Process (KDD)						
	Data preparation						
	Cleaning						
	• Enrichment						
	Coding, normalization						
	 Mining and inductive learning 						
	• Validation						
	Data mining (Data Mining)						
	• General						
	 Segmentation algorithms 						
	Association rules						
	Regression						
	• Bayes model						
	 Nearest neighbors 						
	Decision trees						
	 Automatic classification (Clustering) 						
	 Neural networks and SVMs 						
	 Genetic algorithms 						
	 Particle swarms (PSO) 						
	Applications						
	• Statistica						
	• CART						
	• Tangra						
	• Weka						
	• R						
Subject Credits	6						
material coefficient	3						
Weighting Participation	40%						
Weighting Attendance							
DC Average Calculation	40% Share + 60% Project						
Targeted skills	Know some algorithms used in						
	infographics and how to implement them						

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS									
FIRST KNOWLEDGE CHECK									
Day	Session	Durati on	Kind (1)	Doc	ori Scale	Exchange	Evaluation criteria (2)		
				authori		after			
				zed		evaluation			
				(Yes,		(date Consult.			
				No)		сору)			
			Ex	Yes	60%	VSliquez ici	R		
			SECOND		DGE CHECK	pour entrer une date.			
-----	---------	--------------	----------	---------------------------------------	-----------	---------------------------------------------------------------------	----------------------------		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)		
						VSliquez ici pour entrer une date.			

	EQUIPMENT AND MATERIALS USED						
Addresses Platforms							
Application names							
(Web, local network)							
handouts							
Laboratory materials							
Protective materials							
Field trip equipment							

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY				
Books and digital resources				
Items				

handouts	
Web sites	

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Infographics

HADI FAIROUZ MASTER COURSE TEACHER Reception of students per week E-mail fairouz.hadi@univ-settif.dz THURSDAY Day : hour 9.30 office phone Day : hour Tel secretariat Day : hour Other Building : Desk : AT 5

TUTORIALS							
(Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	on 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
()	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
HADI FAIROUZ	L5	Sun	8.00	Sun	9.30	Sun	11.00

COURSE DESCRIPTION					
Objective	Master the basics of computer graphics.				
	Know how to generate, modify and manipulate images.				
Type Unit Teaching	Fundamental EU				
Short content	FUNDAMENTAL 2D CONCEPTS				
	 Introduction: terminology, history and main applications of 				
	Computer Graphics.				
	• Hardware: Different types of screens. The main technologies.				
	Peripherals.				
	Color: the physical phenomenon. the generated color. Color coding.				
	• The different image formats.				
	• Creation of 2D graphics: object space, screen space - normalized,				
	physical screen space. The modeling of				
	2D graphic objects.				
	• The evolution of graphics software.				
	2D GRAPHIC TECHNIQUES				
	Principles of creating 2D graphics: clipping polygons, object space-				
	screen space transformation.				
	Pixelization of figures (Bresenham). Aliasing				
	• The main data structures (lists, guad tree, tree of rectangles, etc.)				
	• 2D geometric transformations (in homogeneous coordinates).				
	• Discrete topology: the 3 notions of neighborhoods. Discrete curves.				
	Filling a related region. Outline				
	of a connected region. Main effective algorithms for polygons.				
	• Fractals: definition by constructor and generator and by IFS (Iterated				
	function System). Construction using				
	complexes (Julia and Mendelbrot sets).				
	The different types of landmarks				
	• The structuring of graphic objects (concept of layers and views, tree				
	structure)				
	Definition and manipulation of 2D curves: Explicit implicit				
	parametric geometric representations				
	Bézier curves and B-Splines				
	Design by constraints of 2D objects				
	• The dressing of graphic objects.				
	Dimensioning of objects.				
	• Examples of realization in Postscript, java2d, SVG languages and in				
	Illustrator and Autocad software.				
	THE DESIGN OF GRAPHIC INTERFACES				
	• General principles: Models (SEEHEIM, MVC, PAC). Methodology for				
	designing a graphical interface.				
	Ergonomic rules. validation of an Hivi.				
	• The windows. The window manager. The client-server model. The				
	Toolboyos The notion of Widgets. The different types of Widgets				
	The main toolboxes				
	MODELING A 3D SCENE				
	Landmarks. representation of 3D geometric transformations in				
	homogeneous coordinates.				
	• Elementary objects: point, line, plane, triangular facet, polyhedron,				
	sphere, cone, cylinder.				

	 The different types of surfaces The different models: Wireframe, surface, volume (Brep, CSG). Example of interactive construction of 3D objects Structuring of a complete scene. 			
	 Structuring of a complete scene. REALISTIC VISUALIZATION OF A 3D SCENE The different types of projection. The view pyramid. Light sources. Lambert's law. Technique of Gouraud and Phong. Textures Z buffer technique 			
	• Principle of ray tracing. Data structures suitable for ray tracing.			
Subject Credits	3			
material coefficient	2			
Weighting Participation	50%			
Weighting Attendance				
DC Average Calculation	50% Share + 50% Project			
Targeted skills	Know some algorithms used in infographics and how to implement them			

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
			Ex	Yes	50%	Cliquez ici	R
						pour entrer	
						une date.	
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
						Cliquez ici pour entrer une date.	

EQUIPMENT AND MATERIALS USED				
Addresses Platforms				
Application names				
(Web, local network)				
handouts				

Laboratory materials	
Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

	BIBLIOGRAPHY
Books and digital resources	Principles of Computer Graphics, Theory and
	Practice Using OpenGL and maya.Shalini Govil-Pai
	Computer Graphics Principles and Practice ,JOHN F
Items	
handouts	
Web sites	

Cachet humide du département					

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website) Pattern search and recognition

MASTER COURSE TEACHER		Kara-mohame	d chafia			
		Reception of students per week				
E-mail	chafia.kara-mohamed@univ-setif	Day : Wednesday hour 2 p.m.				
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :	FacSci	Desk :	A2	

TUTORIALS							
(1	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	n room day hour day			Hour	day	hour

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Kara-Mohamed Chafi	L2	Tuesda	12.30	Tuesda	2 p.m.	Tuesda	15.30
		у		у		у	

COURSE DESCRIPTION				
Objective	Pattern recognition			
	Understanding Similarity Measures			
Type Unit Teaching	Fundamental			
Short content	 Introduction to Pattern Recognition 			
	Similarity Measures			
	• Frequent Patterns			
	Sequential Patterns			
	 Closed Frequent Patterns 			
	 Multidimensional Sequential Patterns 			
	 Spatio-temporal Patterns. 			
	 Rules of associations. 			
	• FP-Tree			
	• FP-Growth			
	 Application to text search (Textmining) 			
	 Application to bioinformatics. 			
	• Etc.			
Subject Credits	3			
material coefficient	1			
Weighting Participation	35%			
Weighting Attendance	15%			
DC Average Calculation	15%+35%+50%+50%			
Targeted skills				

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
18 april	2	1 hour	E	No	25%	18/04/2023	R
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
May		1.30	E	No	25%	21/05/2023	R

Addresses Platforms	
Application names	Weka
(Web, local network)	
handouts	
Laboratory materials	
Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY			
Books and digital resources	Data mining, the textbook." by Charu C. Aggarwal.		
	2015.Springer		
Items			
handouts			
Web sites			

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Faculty of Sciences

MATERIAL SYLLABUS (to be published on the institution's website)

Image processing

MASTER COURSE TEACHER		SEMCHEDINE	Moussa			
		Reception of students per week				
E-mail	moussa.semchedine@univ-setif.d	Day : Thursday hour 8am				
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :		Desk :	AT 5	

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	n room day hour			Hour	day	hour

PRACTICAL WORK (Reception of students per week)								
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3	
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour	
SEMCHEDINE Moussa	L5	Sun	8am	Sun	9:30	Sun	11	
					a.m.		a.m.	

COURSE DESCRIPTION					
Objective	Introduce students to treatment techniques				
	Pictures. Filtering, Restoration, etc.				
Type Unit Teaching	Fundamental EU				
Short content	introduction				
	visual perception				
	• color				
	 sampling and quantification 				
	 2d transformations. histograms. thresholding 				
	- interpolation methods				
	- thresholding				
	- histograms				
	Segmentation				
	edge detection				
	 notions of mathematical morphology 				
	 detection of regions, points of interest 				
	 image restoration. notions of noise 				
	 still image compression 				
	 image processing for video 				
	notions of volume imaging				
Subject Credits	4				
material coefficient	2				
Weighting Participation					
Weighting Attendance	25%				
DC Average Calculation	25% Ass + 25% Proj + 50% Test				
Targeted skills	Learn to process digital images				

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
FIRST KNOWLEDGE CHECK								
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
			Ex	No	25%	VSliquez ici pour entrer	R	
						une date.		
			SECOND	KNOWLE	DGE CHECK			
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
			EX	Yes	50%	VSliquez ici pour entrer une date.	R	

EQUIPMENT AND MATERIALS USED					
Addresses Platforms					
Application names					
(Web, local network)					
handouts					
Laboratory materials					
Protective materials					
Field trip equipment					

EXPECTATIONS					
Expected of students (Participation-involvement)					
Teacher expectations					

	BIBLIOGRAPHY					
Books and digital resources						
Items						
handouts						
Web sites						

EES name: UNIVERSITE FERHAT ABBES-SETIF1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website)

Expert Systems

MASTER COURSE TEACHER		Nadia ZERGUINE				
		Reception of students per week				
E-mail	nadia.zerguine@univ-setif.dz	Day :	Wednesday	hour	11:30	
					a.m.	
office phone	/	Day :		hour		
Tel secretariat	/	Day :		hour		
Other	/	Building :		Desk :		

TUTORIALS (Reception of students per week)							
NAMES AND FIRST	NAMES AND FIRST Office/receptio Session 1 Session 2 Session 3						
NAMES OF TEACHERS	n room	n room day hour day				day	hour

PRACTICAL WORK								
(Reception of students per week)								
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3	
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour	
Zerguine Nadia	TP14	Wedne	8am					
		sday						
Zerguine Nadia	TP14	Wedne	9:30					
		sday	a.m.					

COURSE DESCRIPTION				
Objective	Learn about the techniques used in Intelligence			
	Artificial (Expert systems).			
Type Unit Teaching	EU methodology			
Short content				
Subject Credits	5			
material coefficient	4			
Weighting Participation	75%			
Weighting Attendance	25%			
DC Average Calculation	Share*25%+assi75%			
Targeted skills				

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
FIRST KNOWLEDGE CHECK								
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
Wednes day		20 mins	EX	No	5pts	15/03/2023	R	
			SECOND	KNOWLE	DGE CHECK			
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
Wednes day		20 mins	E	No	5pts	03/05/2023	S	

EQUIPMENT AND MATERIALS USED				
Addresses Platforms	https://sciences-courses.univ-setif.dz/			
	https://fsciences.univ-setif.dz/			
Application names				
(Web, local network)				
Handouts				
Laboratory materials				

Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

	BIBLIOGRAPHY				
Books and digital resources	Daniel Kayser, Knowledge Representation				
	Logical approach to artificial intelligence				
	Joseph C. Giarratano, Gary Riley, Expert Systems,				
Items					
Handouts					
Web sites					

Cachet humic	de du département

EES Name: FERHAT ABBAS SETIF UNIVERSITY -1-Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Advanced ManMachine Interfaces

MASTER COURSE TEACHER		BESSOU SADIK			
		Reception of students per week			
E-mail	bessou.s@univ-setif.dz	Day :	MONDAY	hour	11:00
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :	Faculty	Desk :	32

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	on 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour
BESSOU	CC 11	Sun	08:00	Sun	09:30		

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
BESSOU	CC 6	MON	08:00	Mon	09:30		

COURSE DESCRIPTION				
Objective	Master UI/UX			
Type Unit Teaching	Fundamental			
Short content	Design, evaluation and implementation of sy			
Subject Credits	6			
material coefficient	3			
Weighting Participation	15%			
Weighting Attendance	10%			
DC Average Calculation	Examination + continuous examination			
Targeted skills	design, evaluation and implementation			
	interactive computer systems			

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
Sun	1	01:30	EX	Yes	/10	12/03/2023	AT
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
Sun	1	01:30	EX	Yes	/10	07/05/2023	S

EQUIPMENT AND MATERIALS USED					
Addresses Platforms	https://helpx.adobe.com/mena_ar/xd/get-started.htm				
Application names (Web, local network)	Adobe XD figma				
Handouts	https://sciences-courses.univ-setif.dz/course/view				
Laboratory materials					

Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)	Mastery of theoretical concepts UI/UX, Usability Implementing interfaces with adobe xd			
Teacher expectations	Train designers in UI/UX			

BIBLIOGRAPHY			
Books and digital resources	Alan Cooper, et al; About Face: The Essentials		
	hcibib.org		
	Nigel Bevan et al; New ISO Standards for Usability		
Items	Transactions on Computer-Human Interaction		
	interactions; MCA;		
	Int Journal of Human-Computer Interaction		
Handouts	https://sciences-courses.univ-setif.dz/cours		
Web sites	interaction-design.org uxmatters.com usability.gov		

Cachet humide du département						

EES name: UNIVERSITY OF SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website)

Logic for AI

MASTER COURSE TEACHER		BOURAS Ikram				
		Reception of students per week				
E-mail	chabane.khentout @univ-setif.dz	Day :	Sunday	hour	11:00-	
					12:30	
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :	Faculty of	Desk :	A3	
			Sciences			

TUTORIALS							
(Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	on 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Lakehal Abderrahim	Lab	Monda	8:00	Monda	9:30	Monda	11:00
		у		у		у	

COURSE DESCRIPTION				
Objective				
Type Unit Teaching	Methodological unit			
Short content	Mathematical reminder			
	 Notions of: terms, formulas, connectors 			
	First-order logic			
	 Syntax (Construction of terms and formulas, free and bound 			
	variables, etc.)			
	• Semantics (Model of a formula, notion of structures, sataisfiabilité,			
	validity, substitution , equivalence,)			
	Completeness of first order logic			
	Logical theories			
	 Normal forms (prenex, skolem, clausale,) 			
	 Solving and logic programming 			
	Computational models			
	 Turing machines (non-deterministic, with several ribbons, 			
	alternating,)			
	• Finite automata			
	RAM (Random Access Machine)			
Subject Credits	4			
material coefficient	2			
Weighting Participation	2.5			
Weighting Attendance	2.5			
DC Average Calculation	15			
Targeted skills				

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
	FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
					7.5/20	09		
			SECOND	KNOWLE	DGE CHECK		-	
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
			E	Yes	7.5 /20	C07/05/2023		

- (1) Type: E=written, EI=individual presentation, EC=class presentation, EX=experimentation, MCQ
- (2) Evaluation criteria: A=Analysis, S=synthesis, AR=argumentation, D=approach, R=results

	EQUIPMENT AND MATERIALS USED			
Addresses Platforms	Moodle			
Application names				
(Web, local network)				
Handouts	computers			
Laboratory materials				
Protective materials				
Field trip equipment				

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

	BIBLIOGRAPHY
Books and digital resources	
Items	
Handouts	
Web sites	

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: COMPUTER

MATERIAL SYLLABUS (to be published on the institution's website) Semantic Web and Ontologies

MASTER COURSE TEACHER		MEDIANI Chahrazed				
		Reception of students per week				
E-mail	chahrazed.mediani@univ-setif.d	Day :	THURSDAY	hour	09:30	
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :		Desk :	Amphi2	

TUTORIALS							
(1	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK								
(1	Reception o	fstud	ents p	er we	ek)			
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3	
NAMES OF TEACHERS	n room day hour day hour					day	hour	
C.Mediani	Lab 7	Sea	12:30	Sea	14:00	4:00 Sea 15.30		

	COURSE DESCRIPTION
Objective	Learn the technologies, specifications and
	Semantic web standards
Type Unit Teaching	fundamental unit
Short content	Semanic Web
	RDF, RDFS Ontologies (DAML-OIL, OWL)
Subject Credits	4
material coefficient	2
Weighting Participation	35%
Weighting Attendance	25%
DC Average Calculation	40% written questions
Targeted skills	Master the languages of the Semantic Web Building web ontologies

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS								
	FIRST KNOWLEDGE CHECK								
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)		
		30mn	E	No	8 dots	03/05/2023	AT		
			SECOND	KNOWLE	DGE CHECK				
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)		
						VSliquez ici pour entrer une date.			

EQUIPMENT AND MATERIALS USED						
Addresses Platforms Faculty of Science moodle platform						
Application names						
(Web, local network)						
Handouts	Online courses on the moodle platform					
Laboratory materials						

Protective materials	
Field trip equipment	

EXPECTATIONS					
Expected of students	Understand the notions of the Semantic Web				
	Master the languages of the Semantic Web				
(Participation-involvement)	Building web ontologies				
Teacher expectations	Explain to students the concepts of the Web				
	semantics and ontologies, and technologies				
	of the Semantic Web				

BIBLIOGRAPHY							
Books and digital resources	Matthew Horridge's - A Practical Guide To Building						
	OWL ontologies with The Protégé-OWL Plugin						
Items							
Handouts	Handout of the Semantic Web and Ontologies course						
Web sites							

<u>Cachet humide du département</u>

MATERIAL SYLLABUS (to be published on the institution's website) Advanced Operations Research

MASTER COURSE TEACHER		BOURAS Ikram					
		Rece	Reception of students per week				
E-mail	ikram.bouras@univ-setif.dz	Day :	Sunday	hour	12:30-		
					13:30		
office phone		Day :	Tuesday	hour	10:00-		
					11:00		
Tel secretariat		Day :	Wednesday	hour	12:30-		
					13:30		
Other		Building :	Faculty of	Desk :	32		
			Sciences				

TUTORIALS (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	on 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour
BOURAS Ikram	Erreur ! Signet	Sunday	12:30-	Tuesda	10:00-	Wedne	12:30-
	non défini.		13:30	у	11:00	sday	13:30

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
BOURAS Ikram	Office 32	Sunday	12:30-	Tuesda	10:00-	Wedne	12:30-
			13:30	у	11:00	sday	13:30

	COURSE DESCRIPTION
Objective	This course introduces advanced concepts in operations research such as dynamic programming and nonlinear programming. These notions are essential for students wishing to continue their scientific career in the field of system verification and combinatorial optimization.
Type Unit Teaching	fundamental unit
Short content	First part: Dynamic programming Chapter 1: One-dimensional allocation process Chapter 2: Multidimensional allocation process Second part: Nonlinear programming Chapter 1: Mathematical reminders (Metric spaces, Lagrange multiplication, etc) Chapter 2: Separable programming Chapter 3: Quadratic Programming
Subject Credits	6
material coefficient	3
Weighting Participation	
Weighting Attendance	
DC Average Calculation	
Targeted skills	 Know how to model real problems. Master OR techniques and algorithms to solve complex problems. Know how to implement the algorithms studied then analyze the results obtained

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
			FIRST	KNOWLED	GE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
03/19/2 023	TD	45 minut es	E	No	7.5 /20	09/04/2023	D+R
		L	SECOND	KNOWLE	DGE CHECK		I
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
04/30/2 023	TD	one week	E	Yes	7.5 /20	C07/05/2023	A,S,D,R

(2) Evaluation criteria: A=Analysis, S=synthesis, AR=argumentation, D=approach, R=results

EQUIPMENT AND MATERIALS USED				
Addresses Platforms	Moodle			
Application names				
(Web, local network)				
Handouts	computers			
Laboratory materials				
Protective materials				
Field trip equipment				

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY				
Books and digital resources				
Items				
Handouts				
Web sites				

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website)

Software component-based architectures

MASTER	COURSE TEACHER	DR Harbouche Khadidja				
		Reception of students per week				
E-mail	khadidja.harbouche@univ-setif.	Day :	Monday	hour	12h30m	
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :	FacSci	Desk :	L9	

	TUTORIALS						
(F	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour
DR Harbouche	L1	Monda	11				
		у					
NAMES AND FIRST NAMES OF TEACHERS DR Harbouche	Office/receptio n room L1	Sess day Monda y	ion 1 hour 11	Sess day	ion 2 Hour	Sess day	ion 3 hour

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
DR Harbouche	L1	Monda	11				
		у	a.m.				

	COURSE DESCRIPTION
Objective	Study of design techniques by
	Components
Type Unit Teaching	UEF
Short content	 Component-based development
	Component models
	.Net components
	Layered architectures
	 Presentation of the case study: computer system of a library
	Persistent objects
	Distributed objects
	 Web services and applications
Subject Credits	6
material coefficient	3
Weighting Participation	25%
Weighting Attendance	25%
DC Average Calculation	50% questions + participation + attendance
Targeted skills	Master the development of software based on:
	services and components

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
			FIRST I	KNOWLED	GE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
Monday	2	20 mins	E	No	5	17/04/2023	R
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
Monday	2	15 mins	EC	No	5	08/05/2023	AR

EQUIPMENT AND MATERIALS USED				
Addresses Platforms	Faculty of Science moodle platform			
Application names	Development environment: netbeans, Eclipse			
(Web, local network)				
handouts				
	Online courses on the moodle platform			
Laboratory materials				
Protective materials				
Field trip equipment				

EXPECTATIONS				
Expected of students (Participation-involvement)	Learn to develop software based on services and components			
Teacher expectations	Explain development technologies component-based software and services			

BIBLIOGRAPHY					
Books and digital resources	Web services: "concepts, architectures and				
	applications",Alonso,Casati,Kuno and Vijay				
Items					
handouts					

Web sites	

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website) Advanced Human Machine Interface

MASTER COURSE TEACHER		Professor Khal	baba Abdallah			
		Reception of students per week				
E-mail	akhababa@univ-setif.dz	Day : Tuesday hour 8am				
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building : FacSci Desk : L5				

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour
Fr Khababa Abdallah	L5	Tuesda	11				
		у	a.m.				

PRACTICAL WORK								
(1	(Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3	
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour	
Fr Khababa Abdalla	L5	Tuesda	9:30					
		у	a.m.					

COURSE DESCRIPTION
Master emersive technologies and I3D
EMU
Sensory Modality
Voice Modality
Gesture Modality
Multimodal Interaction
Virtual Reality
Augmented Reality
4
2
15%
15%
70% questioning + participation + attendance
Mastery of augmented reality concepts

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
		30mn	E	NOT	7	01/01/2023	AT
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
		30mn	E	NOT	7	VSliquez ici pour entrer une date.	AT

(2) Evaluation criteria: A=Analysis, S=synthesis, AR=argumentation, D=approach, R=results

EQUIPMENT AND MATERIALS USED

Addresses Platforms

	www.unite3d.com
Application names	environmentstudio(C#)
(Web, local network)	
handouts	course CSCil385
Laboratory materials	HMD headsets,
	oculus glasses
Protective materials	
Field trip equipment	

EXPECTATIONS					
Expected of students (Participation-involvement)	Develop single and multi game apps				
	users				
	Master the concepts of augmented reality				
	Explain the concepts of augmented reality				
Teacher expectations					

	BIBLIOGRAPHY
Books and digital resources	hand book of virtual environment (design and inplem)
Items	
handouts	Online courses on the moodle platform
Web sites	

EES name: UNIVETSITE FERHAT ABBAS SETIF 1 Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website)

Needs engineering

MASTER COURSE TEACHER		Mr Annane			
		Reception of students per week			
E-mail	boubakeur.annane@univ-setif.dz	Day :	Monday	hour	10:00
office phone	0558 54 92 50	Day :		hour	
Tel secretariat	/	Day :		hour	
Other	/	Building :	FacSci	Desk :	26

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour
Mr Annane	B26	Monda	10:00				
		у					

PRACTICAL WORK							
(Reception of students per week)							
NAMES AND FIRST	Office/receptio	Session 1		Session 2		Session 3	
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
COURSE DESCRIPTION							
-------------------------	-------------------------------------------------------	--	--	--	--		
Objective	Capture the needs of system users						
	Realize.						
Type Unit Teaching	UEF						
Short content	Part 1: Requirements engineering						
	Software Requirements						
	 Requirements Engineering Process 						
	System Models						
	 Specification of Critical Systems 						
	• Formal Specification						
	 Requirements Validation 						
	Part 2: Requirements Management						
	 Requirements change 						
	 Requirements traceability 						
	 Requirements engineering metrics 						
Subject Credits	4						
material coefficient	2						
Weighting Participation	20%						
Weighting Attendance	20%						
DC Average Calculation	Questions (60%) + Participation + Attendance						
Targeted skills	Analysis, Collection, Modeling, Validation, and						
	the management of needs, also the Communication and						
	solving stakeholder problems.						

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
Wednes day	1	1 hour	E	NOT	6	15/04/2023	AT
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
Wednes day	1	1 hour	E	NOT	6	05/05/2023	AT

Addresses Platforms	Faculty of Science moodle platform
Application names (Web, local network)	/
handouts	Course handout
Laboratory materials	/
Protective materials	/
Field trip equipment	/

EXPECTATIONS					
Expected of students (Participation-involvement)	understanding and building needs analysis documents and their specification				
Teacher expectations	Explain the concepts of requirements engineering				

	BIBLIOGRAPHY				
Books and digital resources	Software engineering, Ian Sommerville, 10th edit				
	"System Requirements Engineering", P. Loucopoulos				
	"Requirements Engineering", 2nd edition, E. Hull,				
Items					
	/				
handouts					
	/				
Web sites					
	/				

Cachet humide du département

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website) Model Driven Engineering

MASTER COURSE TEACHER		DR Kara mohamed chafia				
		Reception of students per week				
E-mail	chafia.kara-mohamed@univ-setif	Day :	Sunday	hour	12h30m	
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :	FacSci	Desk :	S8	

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
DR Kara mohamed ch	S8	Sunday	2 p.m.				

COURSE DESCRIPTION					
Objective	Focus software development on				
	Notion of model and transformation of models				
Type Unit Teaching	UEF				
Short content	 Introduction to business intelligence and business intelligence. 				
	 Architecture of a data warehouse. 				
	 Transactional vs decision-making (OLTP vs OLAP). 				
	 Physical and logical design of a data warehouse. 				
	 Data integration and ETL. 				
	 Generation of "Reporting" reports. 				
	 Administration of a data warehouse. 				
	 Performance optimization of a data warehouse. 				
	 Security of a data warehouse. 				
Subject Credits	4				
material coefficient	2				
Weighting Participation	60%				
Weighting Attendance	15%				
DC Average Calculation	Questioning 25%+participation+attendance				
Targeted skills	Familiarize students with the specifics				
	Model-based engineering				

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
			FIRST I	KNOWLED	GE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
		60mn	E	NOT	5	01/01/2023	AT
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
						VSliquez ici pour entrer une date.	

EQUIPMENT AND MATERIALS USED				
Addresses Platforms	Faculty of Science moodle platform			
Application names				
(Web, local network)				
handouts				
	Online courses on the moodle platform			
Laboratory materials				
Protective materials				
Field trip equipment				

EXPECTATIONS				
Expected of students (Participation-involvement)	learn to apply modeling approaches			
Teacher expectations	Explain modeling approaches			

	BIBLIOGRAPHY				
Books and digital resources	Hubert K MDA: Guided object-oriented design				
	by models, Dunod Informa				
Items					
handouts					
Web sites					

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EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website)

Formal methods

MASTER COURSE TEACHER		Mr Bouamari Abdelkader				
		Reception of students per week				
E-mail	bouamari@univ-setif.dz	Day :	Monday	hour	8:00	
					a.m.	
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :	facSc	Desk :	01	

TUTORIALS (Reception of students per week)							
	Office/recentio		$\frac{1}{1}$		ion 2	Socc	ion 3
NAMES OF TEACHERS	n room	dav	hour	dav	Hour	dav	hour
		uuy	nour	uuy	nour	uuy	noui

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Mr Bouamari A.	Office 01	Monda	09:30	Monda	11:00		
		у		у			

COURSE DESCRIPTION				
Objective	Mastery of formal verification techniques			
	by model-checking: use and development			
Type Unit Teaching	UEF			
Short content	 Introduction to software verification 			
	 Classification of formal verification techniques 			
	Model-checking			
	- Modeling (automata, Petri nets, timed automata, etc.)			
	- Specification of temporal properties and logic			
	- Verification algorithms			
	 Model-checking of programs 			
	 Verification tools (Uppaal, Maude &JavaPathfinder) 			
Subject Credits	4			
material coefficient	2			
Weighting Participation	15%			
Weighting Attendance	10%			
DC Average Calculation	Questions (75%) + Participation + Attendance			
Targeted skills	Mastery of the use of Uppaal model-checker			
Mastery of the Modeling and Specification stages				
	Mastery of dev. verification algorithms			

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
			FIRST I	KNOWLED	GE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
n/a		60mn	E	No	07	NOTD	R
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
n/a		60mn	EX	Yes	08	NOTD	R

EQUIPMENT AND MATERIALS USED					
Addresses Platforms					
Application names					

(Web, local network)	
handouts	
Laboratory materials	
Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)	Control of the verification process by			
	Model-Checking: Modeling of systems,			
	Specifying Properties and Checking			
Teacher expectations	Control of the verification process			
	Using model checkers			
	Development of verification procedures			

	BIBLIOGRAPHY				
Books and digital resources B. Berard "Systems and Software Verification"					
	C. Baier "Principles of Model Checking"				
Items					
handouts	A. Bouamari "Formal Methods"				
Web sites					

Cachet humide du département							

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website)

Application Security

website

MASTER COURSE TEACHER		Dr Benzine Me	ehdi		
		Reception of students per week			
E-mail	mehdi.benzine@univ-setif.dz	Day :	hour	11 a.m.	
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :	FacSci	Desk :	A3

TUTORIALS							
(F	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Dr Benzine Mehdi	L5	Wed	2 p.m.				

COURSE DESCRIPTION								
Objective	Understand how a web app works							
	Learn how to secure a web application							
Type Unit Teaching	EMU							
Short content	 Reminders on how web applications work 							
	- 3-tier architecture							
	- Web browser							
	- Web server							
	- Data server							
	 Introduction to web security 							
	- Risks and issues							
	- Security concepts							
	 Web application integrity 							
	- Page vulnerabilities HTML							
	- Integrity of PHP scripts							
	- Risks caused by data entered by users							
	- Uploading files to the server							
	- Risks related to cookies and sessions							
	DBMS security							
	- SQL injection							
	- Server access							
	- Secondary access							
	- Security measures							
	 Security measures Data encryption and signature 							
	 Data encryption and signature Symmetric/asymmetric encryption systems 							
	- Digital signature							
	- Authenticated certificates							
	Network security							
	- Network vulnerabilities							
	- Securing of a set of machines (segmentation into sub-networks,							
	filtering, etc.)							
	- Encryption of communications and authentication of interlocutors							
	(SSL/TLS. SSH tunneling. VPN)							
	• Mail servers							
	- SPAM							
	- Anti-SPAM filters							
	Digital identity							
Subject Credits	5							
material coefficient	2							
Weighting Participation	15%							
Weighting Attendance	15%							
DC Average Calculation	Questions (70%) + Participation + Attendance							
Targeted skills	Identify vulnerabilities							
	Adopt good development practices							

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS								
FIRST KNOWLEDGE CHECK								
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
		30mn	E	No	7 dots	26/04/2023	AT	
			SECOND	KNOWLE	DGE CHECK			
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
		30mn	E	No	7 dots	10/05/2023	AT	

EQUIPMENT AND MATERIALS USED				
Addresses Platforms	Faculty of Science moodle platform			
Application names	Kali-Linux			
(Web, local network)	DVWA			
handouts				
	Online courses on the moodle platform			
Laboratory materials				
Protective materials				
Field trip equipment				

EXPECTATIONS				
Expected of students (Participation-involvement)	Detect vulnerabilities in a web application			
	Install and secure a web server			
	Protect your web application against attacks			

	Explain to students the issues of security,
Teacher expectations	the technical challenge it creates
	and the range of solutions available

	BIBLIOGRAPHY
Books and digital resources	Andrew Hoffman - Web Application Security 2020
	Chris Snyder - Pro PHP Security 2010
Items	
handouts	
Web sites	https://owasp.org

Cachet humide du département

HEI name: FERHAT ABBAS SETIF 1 UNIVERSITY Department: IT Department

MATERIAL SYLLABUS (to be published on the institution's website) Machine learning 1

MASTER COURSE TEACHER		Moussaoui Abdelouahab				
		Reception of students per week				
E-mail	abdelouahab.moussaoui@univ-set	Day :	THURSDAY	hour	8am	
office phone		Day :	Wednesday	hour	12:30	
					p.m.	
Tel secretariat		Day :		hour		
Other		Building :		Desk :		

TUTORIALS							
()	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	IAMES OF TEACHERS n room day hour day Hour day					day	hour

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	HERS n room day hour day hour day					hour	

COURSE DESCRIPTION			
Objective			
Type Unit Teaching	Fundamental		
Short content	1- Supervised		
	2- Unsupervised		
	3- Reinforcement		
Subject Credits	4		
material coefficient	2		
Weighting Participation	40%		
Weighting Attendance			
DC Average Calculation	40%+60%		
Targeted skills	Data Science skills		

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
			FIRST I	KNOWLED	GE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
	01/01/2023						
	[[SECOND		DGE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
						Cliquez ici pour entrer une date.	

EQUIPMENT AND MATERIALS USED			
Addresses Platforms			
Application names (Web, local network)	Google Collab Kaagle		

	SageMaker (amason)
Handouts	About Moodle
Laboratory materials	
Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations	be able to solve AI problems			

BIBLIOGRAPHY				
Books and digital resources				
Items				
Handouts				
Web sites				

Cachet humide du département

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Multimedia content

MASTER COURSE TEACHER		DOUIDI LAMR	I		
		Reception of students per week			
E-mail	douidi@univ-setif.dz	Day :	THURSDAY	hour	11 a.m.
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	A3

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
DOUIDI Lamri	L1	Mar	12:30	Mar	2 p.m.	Mar	3:30
			p.m.				p.m.

COURSE DESCRIPTION				
Objective	Insert multimedia content into files			
	HTML			
Type Unit Teaching	EU Methodology			
Short content	 Introduction to multimedia data 			
	BMP image file formats			
	- Representation without compression (Bitmap)			
	- Lossy image compression (JPEG, PNG)			
	- Vector Images (SVG)			
	- Image processing (GIMP software), Photoshop			
	• Formats of sound files			
	- Compression with loss of data (MP3)			
	- Sampling frequency			
	- Lincouring			
	• Video representation			
	- Compression techniques			
	- Codecs (XViD etc.)			
	- Multiplexing of several multimedia streams			
	- Container file format (AVI MP4)			
	• Integration of multimedia content in an HTMI 5 site			
	- New HTML5. CSS3			
	- Integration of sound and video files in HTML5			
	- Creation of graphic animations			
	Reading in transit (Streaming)			
	- Reminders of network concepts: architecture, protocol, throughput,			
	bandwidth, jitter, etc.			
	- Audio and video streaming			
	- Real-time audio and video streaming			
	- Stored audio and video streaming (buffering)			
	 Multimedia programming language 			
	- SMILE			
	- Action Script			
	- OpenCV			
	 PI Platform and Multimedia Tools 			
	- Adobe Premiere			
	- Adobe Captivate			
	- Adobe Muse			
	- Moodle Platform			
Subject Credits	5			
material coefficient	2			
Weighting Participation				
weighting Attendance	1000/ Droin st			
DC Average Calculation				
l'argeted skills	i ypes of wultimedia			

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS FIRST KNOWLEDGE CHECK

Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
			Ex	Yes	100%	VSliquez ici pour entrer une date.	R
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
						VSliquez ici pour entrer une date.	

EQUIPMENT AND MATERIALS USED				
Addresses Platforms				
Application names				
(Web, local network)				
handouts				
Laboratory materials				
Protective materials				
Field trip equipment				

	EXPECTATIONS		
Expected of students (Participation-involvement)			
Teacher expectations			

BIBLIOGRAPHY		
Books and digital resources		
Items		
handouts		
Web sites		

Cachet humide du département	

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: COMPUTER

MATERIAL SYLLABUS (to be published on the institution's website) Problem Solving Methods

MASTER COURSE TEACHER		KAMEL Nadjet			
		Rece	eption of students	s per week	
E-mail	nedjet.kamel@univ-setif.dz	Day :	Monday	hour	11:00
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :	FS	Desk :	Amphi5

TUTORIALS							
(1	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
N. Kamel	Lab 7	Mar	09:30	Mar	11:00	Mar	12.30

COURSE DESCRIPTION		
Objective	Identify the problem then implement a	
	Solution to this problem.	
Type Unit Teaching	fundamental unit	
Short content		
Subject Credits	6	
material coefficient	3	
Weighting Participation	60%	
Weighting Attendance		
DC Average Calculation	40% written questions	
Targeted skills		

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
			SECOND		DGE CHECK	VSliquez ici pour entrer une date.	
Day	Session	Durati on	Туре (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
						VSliquez ici pour entrer une date.	

EQUIPMENT AND MATERIALS USED		
Addresses Platforms		
Application names		
(Web, local network)		
Handouts		
Laboratory materials		
Protective materials		
Field trip equipment		

EXPECTATIONS		
Expected of students (Participation-involvement)		
Teacher expectations		

	BIBLIOGRAPHY
Books and digital resources	
Items	
Handouts	
Web sites	

Cachet humide du département

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: COMPUTER

MATERIAL SYLLABUS (to be published on the institution's website) Semantic Web and Ontologies

MASTER COURSE TEACHER		MEDIANI Chahrazed					
		Reception of students per week					
E-mail	chahrazed.mediani@univ-setif.d	Day : THURSDAY hour 09:3					
office phone		Day :		hour			
Tel secretariat		Day :		hour			
Other		Building :		Desk :	Amphi2		

TUTORIALS								
(1	(Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3	
NAMES OF TEACHERS	F TEACHERS n room			day	Hour	day	hour	

PRACTICAL WORK									
(1	(Reception of students per week)								
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3		
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour		
C.Mediani	Lab 7	Sea	12:30	Sea	14:00	Sea	15.30		

COURSE DESCRIPTION					
Objective	Learn the technologies, specifications and				
	Semantic web standards				
Type Unit Teaching	fundamental unit				
Short content	Semanic Web				
	RDF, RDFS Ontologies (DAML-OIL, OWL)				
Subject Credits	4				
material coefficient	2				
Weighting Participation	35%				
Weighting Attendance	25%				
DC Average Calculation	40% written questions				
Targeted skills	Master the languages of the Semantic Web Building web ontologies				

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS								
	FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
		30mn	E	No	8 dots	03/05/2023	AT	
			SECOND	KNOWLE	DGE CHECK			
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
						VSliquez ici pour entrer une date.		

EQUIPMENT AND MATERIALS USED						
Addresses Platforms Faculty of Science moodle platform						
Application names						
(Web, local network)						
Handouts	Online courses on the moodle platform					
Laboratory materials						

Protective materials	
Field trip equipment	

EXPECTATIONS						
Expected of students	Understand the notions of the Semantic Web					
(Darticipation involvement)	Master the languages of the Semantic Web					
(Participation-involvement)	Building web ontologies					
	Explain to students the concepts of the Web					
Teacher expectations	semantics and ontologies, and technologies					
	of the Semantic Web					

BIBLIOGRAPHY					
Books and digital resources	Matthew Horridge's - A Practical Guide To Building				
	OWL ontologies with The Protégé-OWL Plugin				
Items					
Handouts	Handout of the Semantic Web and Ontologies course				
Web sites					

<u>Cachet humide du département</u>									

SEA name: FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Cloud computing

Toumi Lyazid MASTER COURSE TEACHER Reception of students per week E-mail lyazid.toumi@univ-setif.dz Day : Sunday hour 1.30 a.m. Day : office phone hour Tel secretariat hour Day : Building : Other Desk :

TUTORIALS									
(F	(Reception of students per week)								
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3		
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour		

PRACTICAL WORK							
(F	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio Session 1 Session 2 Session 3			ion 3			
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Toumi Lyazid		Sunday	1h30				

	COURSE DESCRIPTION
Objective	This course focuses on cloud technology. The main objective of this teaching unfolds around the socio-economic and technological impact of Cloud Computing. This teaching offers a good exploitation of aspects of database and information system on the Cloud. It provides preliminary knowledge of the Cloud architectures used today, the evolution of the Internet to support Cloud Computing, the architecture of data centers and their technologies.
Type Unit Teaching	Methodology
Short content	Introduction to Cloud Computing Cloud Computing Platforms Parallel Programming in the Cloud Distributed Storage Systems Virtualization Cloud Security Multicore Operating Systems Assessment method: Continuous assessment, examination
	References
	• Cloud Computing: Concepts, Technology & Architecture (The Pearson Service Technology Series from Thomas Erl)
Subject Credits	2
material coefficient	1
Weighting Participation	2.5
Weighting Attendance	2.5
DC Average Calculation	10
Targeted skills	

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
			FIRST I	KNOWLED	GE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy) 01/01/2023	Evaluation criteria (2)
SECOND KNOWLEDGE CHECK							
Day	Session	Durati on	Type (1)	Doc authori zed (Yes,	Scale	Exchange after evaluation (date	Evaluation criteria (2)

		No)	consultation copies)	
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			pour entrer une	
			date.	

	EQUIPMENT AND MATERIALS USED
Addresses Platforms	
Application names	
(Web, local network)	
Handouts	
Laboratory materials	
Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY				
Books and digital resources Cloud Computing: Concepts, Technology & Architecture				
	Architecture (The Pearson Service Technology			
	Series			
	from Thomas Erl)			
Items				
Handouts				

Cachet humide du département

SEA name: FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Web Application Security

MASTER COURSE TEACHER		Gasoline Meho	li		
		Reception of students per week			
E-mail	mehdi.benzine@univ-setif.dz	Day : Wednesday hour 1h30			
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Gasoline Mehdi		Wedne	1h30				
		sday					

COURSE DESCRIPTION			
Objective			
Type Unit Teaching	Fundamental		
Short content			
Subject Credits	4		
material coefficient	2		
Weighting Participation	70%		
Weighting Attendance	30%		
DC Average Calculation			
Targeted skills			

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS									
FIRST KNOWLEDGE CHECK									
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)		
	01/01/2023								
			SECONL			Evelope			
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)		
						VSliquez ici pour entrer une date.			

EQUIPMENT AND MATERIALS USED						
Addresses Platforms						
Application names						
(Web, local network)						
Handouts						
Laboratory materials						
Protective materials						
Field trip equipment						

EXPECTATIONS							
Expected of students (Participation-involvement)							
Teacher expectations							

BIBLIOGRAPHY					
Books and digital resources					
	Web Application Security: Exploitation and Co				
Items					
handouts					
Web sites					

Cachet humide du département	
	<u>Cachet humide du département</u>

HEI Name: FERHAT ABBAS UNIVERSITY Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website)

Mobile Apps

MASTER	COURSE TEACHER	Amira Benaidja				
		Rece	eption of students	s per week		
E-mail	amira.benaidja@univ-setif.dz	Day : Sunday hour 8:30				
office phone		Day :	Sunday	hour	9:30	
Tel secretariat		Day :	Monday	hour	12:30	
Other		Building :	Faculty	Desk :	L1	

TUTORIALS									
(Reception of students per week)									
NAMES AND FIRST	Office/receptio Session 1 Session 2 Session 3								
NAMES OF TEACHERS	n room day hour day Hour day hou						hour		

PRACTICAL WORK								
(Reception of students per week)								
NAMES AND FIRST	NAMES AND FIRST Office/receptio Session 1 Session 2 Session 3							
NAMES OF TEACHERS	CHERS n room day hour day hour day					day	hour	
Annane Boubaker	Lab1	Monda	12:30	Wedne	11:00	Monda	14:00	
y sday						у		

COURSE DESCRIPTION					
Objective					
Type Unit Teaching	F				
Short content	Chapter 1: Mobile applications				
	Introduction				

	Mobile operating systems
	• Types of mobile applications
	Chapter 2: Android platform
	Presentation of the Android platform
	The fundamental components of an Android application
	• The Android SDK
	Installation and configuration tools
	Create an Android emulator
	The first Android application
	Chanter 3: Activities and resources
	Introduction
	Notion of Activity
	• Life cycle of an activity
	Besources
	Arganization of resources
	Organization of resources Ise of resources: Character strings Drawables Styles Animations
	• Ose of resources. Character strings, Drawables, Styles, Animations
	Chapter 4: Graphical interfaces and widgets
	 Creating graphical interfaces
	 Managing events on widgets
	Chapter 5: Menus and dialog boxes
	 Managing application menus: Options menu, Menus contextuals
	• Dialog boxes
	Chapter 6: Androidivianitest.xml and communication between
	• The AndroidManifest vml file
	The communication ation between components: Explicit intents
	• The communication ation between components. Explicit intents,
	implicit intents, Resolving
	Chapter 7: Databases with SQLite
	Chapter 8: Developing a simple application
Subject Credite	
Subject Credits	5
Material coefficient	3 F
Weighting Participation	5
Weighting Attendance	5
DC Average Calculation	10
Targeted skills	

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS									
FIRST KNOWLEDGE CHECK									
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes,	Scale	Exchange after evaluation (date Consult.	Evaluation criteria (2)		

				No)		сору)	
		20	E		5	0	R
SECOND KNOWLEDGE CHECK							
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
		20	E		5	Clickez ici pour entrer une	R
						date.	

EQUIPMENT AND MATERIALS USED			
Addresses Platforms			
Application names			
(Web, local network)			
handouts			
Laboratory materials			
Protective materials			
Field trip equipment			

EXPECTATIONS			
Expected of students (Participation-involvement)			
Teacher expectations			

BIBLIOGRAPHY		
Books and digital resources		

Items	
handouts	
Web sites	

Cachet humide du département
HEI Name: FERHAT ABBAS UNIVERSITY Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website)

Semi-structured data

MASTER COURSE TEACHER		Habib Aissaoua				
		Reception of students per week				
E-mail	habib.aissaoua @univ-setif.dz	Day : Monday hour 12:30				
office phone		Day :	Monday	hour	14:00	
Tel secretariat		Day :	Wednesday	hour	09:30	
Other		Building :	Faculty	Desk :	L6	

TUTORIALS								
(Reception of students per week)								
NAMES AND FIRST	ND FIRST Office/receptio Session 1 Session 2 Session 3							
NAMES OF TEACHERS	n room	n room day hour day Hour day h					hour	

PRACTICAL WORK							
(Reception of students per week)							
NAMES AND FIRST	NAMES AND FIRST Office/receptio Session 1 Session 2 Session 3						ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Fatiha Brahim Salem	Lab4	Monda	12:30	Wedne	8:00	Monda	14:00
		у		sday		у	

COURSE DESCRIPTION			
Objective			
Type Unit Teaching	F		
Short content	Chapter 1: Context and problem		
	• Reminders on databases		

	 Multimedia and document
	 Hypermedia, Internet and Web
	• Problem of this course
	Chapter 2: Documents and multimedia hyper documents
	 Documents: Introduction, Modeling of specific documents,
	Modeling of classes documents
	Hyper documents
	Multimedia contents
	Chapter 3: Core XML
	Introduction to XML
	• Basic XML structure
	Nominal domains
	• XMI schemas
	Chapter 4: XML galaxy
	• Paths: XPATH: Principles, Axes, Filters, predicates
	Style sheets and XSI processing
	• XML annlications: BDE_SVG
	Arrive applications. RDF, 3VG, Processing: DOM and SAX
	Processing. Downand SAX
	Chapter 5: XML DB and semi-structured DB
	Semi-structured data structured and XMI
	• VML databases
	Chapter 6: XOUERY and DBs
	• XML and semi-structured data: Semi-structured databases. Query
	languages VMI DBs
	NOLIERY, XOURY, Suntax (YOurne Expressions, Eurotians and
	• AQUERT. AQUERY Syntax (AQUERY Expressions, Functions and Operations) Uses and Examples of Eurotions
	Operations), Uses and Examples of Functions
Subject Credits	5
material coefficient	2
Moighting Darticipation	
Weighting Attendence	
weighting Attendance	5
DC Average Calculation	10
Targeted skills	

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)

		20	E		5	0	R
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
		20	E		5	Clickz ici pour entrer une date.	R

	EQUIPMENT AND MATERIALS USED
Addresses Platforms	
Application names	
(Web, local network)	
handouts	
Laboratory materials	
Protective materials	
Field trip equipment	

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY				
Books and digital resources				

Items	
handouts	
Web sites	

HEI Name: FERHAT ABBAS UNIVERSITY Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Artificial intelligence

MASTER COURSE TEACHER		Abdelaziz Lakhfif				
		Reception of students per week				
E-mail	abdelaziz.lakhfif@univ-setif.dz	Day : Sunday hour 8:30				
office phone		Day :	Sunday	hour	9:30	
Tel secretariat		Day :	Monday	hour	12:30	
Other		Building :	Faculty	Desk :	L1	

TUTORIALS							
(Reception of students per week)							
NAMES AND FIRST	Office/receptio	tio Session 1 Session 2 Session 3			ion 3		
NAMES OF TEACHERS	n room	n room day hour day Hour day				hour	

PRACTICAL WORK							
(1	(Reception of students per week)						
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Abderrahim Lakehal	Lab7	Wedne	8:00	Wedne	9:30	Wedne	11:00
		sday		sday		sday	
Nejet Kamel	Lab 5	Wedne	11:00	Wedne	12:30		
		sday		sday			
Abdallah Khababa	Lab 5	Wedne	8:00	Wedne	9:30		
		sday		sday			

COURSE DESCRIPTION		
Objective		
Type Unit Teaching	F	

Short content	Chapter 1: Birth of AI • History: birth of AI, type of problem that AI deals with, and difference from computational computing • Turing test • Field of application of AI Chapter 2: Expert system • Role definition • Architecture of an ES Chapter 3: Operation of expert systems • Concept of knowledge and representation formalism • Production rules • Operation of an inference engine Chapter 4: Development approach an expert system • Development process of an expert system • Example of an expert system: Dendral, Mycin, Prospector,
Subject Credits	5
material coefficient	3
Weighting Participation	5
Weighting Attendance	5
DC Average Calculation	10
Targeted skills	

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
		20	E		5	0	R
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
		20	E		5	Clickz ici pour entrer une date.	R

	EQUIPMENT AND MATERIALS USED				
Addresses Platforms					
Application names					
(Web, local network)					
handouts					
Laboratory materials					
Protective materials					
Field trip equipment					

EXPECTATIONS			
Expected of students (Participation-involvement)			
Teacher expectations			

BIBLIOGRAPHY				
Books and digital resources				
Items				
handouts				
Web sites				

HEI Name: FERHAT ABBAS UNIVERSITY Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website)

IT security

MASTER COURSE TEACHER		Abdelhak Zier			
		Reception of students per week			
E-mail	abdelhak.zier@univ-setif.dz	Day :	Sunday	hour	8:00
office phone		Day :	Sunday	hour	9:30
Tel secretariat		Day :	Monday	hour	11:00
Other		Building :	Faculty	Desk :	Room
					18

TUTORIALS							
(Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Session 2		Session 3	
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour
Yasmine Harbi	L10	Monda	12:3	Monda	14:00	Wedne	09:30
		у		у		sday	

PRACTICAL WORK							
(Reception of students per week)							
NAMES AND FIRST	Office/receptio	Office/receptio Session 1 Session 2 Session 3				ion 3	
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour

COURSE DESCRIPTION		
Objective		
Type Unit Teaching	F	
Short content	Chapter 1: Introduction to security	

	 Definitions: Security, Dependability,
	 Main concepts of computer security: vulnerability, threat,
	countermeasure, risk,
	 Objectives of computer security: Confidentiality, L integrity,
	Availability, Non-repudiation,
	Authentication,
	• Computer threats: What is an attack?, Definitions: Virus - Worm -
	Trojan horse - Spyware,
	Origin of attacks, Who can be targeted?, The stages of an attack, The
	different taxonomies of attacks,
	The different types of attacks (Network attacks - System attacks -
	Password attacks -
	Website attack - Application attack - Means to launch an attack)
	• Defense methods: Anti-virus, Firewalls, Private networks, Intrusion
	detection, etc
	Chapter 2: Introduction to cryptography
	 Vocabulary and definitions: Cryptology, Cryptography,
	Cryptogram, Cryptanalysis, etc
	• History of e cryptography
	 Classic Cryptography: Substitution Algorithm (Caesar Cipher,
	VIGENERE Cipher), Transposition Algorithm
	(Assyrian technique)
	 Modern Cryptography: Symmetric Cryptography (Principle, DES
	and AES Algorithms),
	Asymmetric Cryptography (Principle, RSA Algorithm)
	 Hash functions: Principle, MD5 and SHA-1 algorithms
	• Electronic signature
	Digital certificates
	Certification authorities and PKI
Subject Credits	5
material coefficient	3
Weighting Participation	5
Weighting Attendance	5
DC Average Calculation	10
Targeted skills	

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
FIRST KNOWLEDGE CHECK								
Day	y Session Durati on Kind (1) Zed Scale evaluation (Yes, No) copy) Exchange atthori (Yes, Copy)							
		20	E		5	0	R	
SECOND KNOWLEDGE CHECK								
Day	Session	Durati on	Kind (1)	Doc authori	Scale	Exchange after	Evaluation criteria (2)	

			zed (Yes <i>,</i> No)		evaluation (date consultation copies)	
	20	E		5	Clickz ici pour entrer une date.	R

	EQUIPMENT AND MATERIALS USED					
Addresses Platforms						
Application names						
(Web, local network)						
handouts						
Laboratory materials						
Protective materials						
Field trip equipment						

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY					
Books and digital resources					
Items					
handouts					

Web sites	

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Distributed Algorithms

MASTER COURSE TEACHER		Guellati Nabil			
		Rece	eption of student	s per week	
E-mail	nabil.guellati@univ-setif.dz	Day :	Wednesday	hour	11:00
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :		Desk :	Sal MI

TUTORIALS							
(1	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	EACHERS n room day hour day Hour day					hour	

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	on 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Guellati Nabil	Lab 7	Monda	12:30	Monda	14:00	Monda	15:30
		у		у		у	

COURSE DESCRIPTION				
Objective	Learn the principles of algorithms and			
	Distributed systems			
Type Unit Teaching	Fundamental			
Short content	Failure detectors, Group protocols.			
Subject Credits	4			
material coefficient	2			
Weighting Participation	10%			
Weighting Attendance	10%			
DC Average Calculation	TPs 80% + Participation 10% + Attendance 10%			
Targeted skills	Understanding algorithms and systems			
	distributed			

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
FIRST KNOWLEDGE CHECK								
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
2/20		15min	IS	Yes	2 points	27/02/2023	R	
			SECOND	KNOWLE	DGE CHECK			
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
2/27		15min	IS	Yes	2 points	06/03/2023	R	

EQUIPMENT AND MATERIALS USED			
Addresses Platforms			
Application names	Apache NetBeans IDE, Eclipse		
(Web, local network)			
Handouts			
Laboratory materials	PCs + LAN		
Protective materials			

EXPECTATIONS			
Expected of students (Participation-involvement)	Participation in the course involvement in practical work.		
Teacher expectations	Master the concepts of algorithms and distributed systems.		

BIBLIOGRAPHY			
Books and digital resources	ces G. Tel "Introduction to distributed algorithms		
	Mukesh Singhal. "Distributed Computing: Principles		
	algorithms, and systems". Cambridge University		
Items	Chandra and Sam Toueg. "Unreliable failure		
	detectors for reliable distributed systems"		
	Journal of the ACM		
Handouts			
Web sites			

Cachet humide du département

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science

MATERIAL SYLLABUS	
(to be published on the institution's website)	
EPS	

MASTER COURSE TEACHER		Teacher's first	and last name		
		Reception of students per week			
E-mail	sarra_cherbal@univ-setif.dz	Day :	Monday	hour	11 a.m.
office phone		Day :		hour	
Tel secretariat		Day :		hour	
Other		Building :	A3	Desk :	

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	Reception o	fstud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
S. Cherbal	Lab 03	Monda	12:30	Monda	14:00	Monda	15:30
		у		у		у	

COURSE DESCRIPTION			
Objective	Use the main PE techniques		
Type Unit Teaching	Methodology		
Short content	Markovian queues in the EPS		
Subject Credits	5		
material coefficient	2		
Weighting Participation	/7		
Weighting Attendance	/6		
DC Average Calculation	"Attendance"+"Participation"+"Project"		
Targeted skills	Model and simulate computer systems		

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS						
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
02/20		1 hour	IS	Yes		27/02/2023	R
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
02/27		1 hour	IS	Yes		06/03/2023	R

EQUIPMENT AND MATERIALS USED			
Addresses Platforms			
Application names	Netbeans, Eclipse, NS3		
(Web, local network)			
Handouts			
Laboratory materials	Computers		
Protective materials			
Field trip equipment			

EXPECTATIONS					
Expected of students (Participation-involvement)	Participation in the course Participation and involvement in practicals				
Teacher expectations	Master the techniques of EPS				

BIBLIOGRAPHY					
Books and digital resources	s Gunter Bolch, et al. "Queuing Networks and Markov				
	Chains: Modeling and Performance				
	Evaluation with Computer Science Applications".				
Items					
Handouts	S. Cherbal, "Performance evaluation of				
	systems", Master 1 course RSD.				
Web sites					

Cachet humide	e du département

EES name: UNIVERSITE FERHAT ABBAS SETIF 1 Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website)

Formal methods

MASTER COURSE TEACHER		Mr Bouamari Abdelkader				
		Reception of students per week				
E-mail	bouamari@univ-setif.dz	Day :	Monday	hour	8:00	
					a.m.	
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :	facSc	Desk :	01	

TUTORIALS (Reception of students per week)							
	Office/recentio		$\frac{1}{1}$		ion 2	Socc	ion 3
NAMES OF TEACHERS	n room	dav	hour	dav	Hour	dav	hour
		uuy	nour	uuy	nour	uuy	noui

PRACTICAL WORK							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sessi	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Mr Bouamari A.	Office 01	Monda	09:30	Monda	11:00		
		у		у			

COURSE DESCRIPTION					
Objective	Mastery of formal verification techniques				
	by model-checking: use and development				
Type Unit Teaching	UEF				
Short content	 Introduction to software verification 				
	 Classification of formal verification techniques 				
	Model-checking				
	- Modeling (automata, Petri nets, timed automata, etc.)				
	- Specification of temporal properties and logic				
	- Verification algorithms				
	 Model-checking of programs 				
	 Verification tools (Uppaal, Maude &JavaPathfinder) 				
Subject Credits	4				
material coefficient	2				
Weighting Participation	15%				
Weighting Attendance	10%				
DC Average Calculation	Questions (75%) + Participation + Attendance				
Targeted skills	Mastery of the use of Uppaal model-checker				
	Mastery of the Modeling and Specification stages				
	Mastery of dev. verification algorithms				

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
n/a		60mn	E	No	07	NOTD	R
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
n/a		60mn	EX	Yes	08	NOTD	R

EQUIPMENT AND MATERIALS USED				
Addresses Platforms				
Application names				

(Web, local network)	
handouts	
Laboratory materials	
Protective materials	
Field trip equipment	

EXPECTATIONS					
Expected of students	Control of the verification process by				
(Darticipation involvement)	Model-Checking: Modeling of systems,				
(Participation-involvement)	Specifying Properties and Checking				
Teacher expectations	Control of the verification process				
	Using model checkers				
	Development of verification procedures				

	BIBLIOGRAPHY
Books and digital resources	B. Berard "Systems and Software Verification"
	C. Baier "Principles of Model Checking"
Items	
handouts	A. Bouamari "Formal Methods"
Web sites	

EES name: UNIVERSTE FERHAT ABBES -SETIF1 Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website)

Mobile networks

MASTER COURSE TEACHER		ZERGUINE Nadia				
		Reception of students per week				
E-mail	zerguine.nadia@univ-serif.dz	Day :	Tuesday	hour	11 a.m.	
office phone		Day :		hour		
Tel secretariat		Day :		hour		
Other		Building :		Desk :	S-MI	

TUTORIALS							
(1	Reception o	f stud	ents p	er we	ek)		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK (Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
ZERGUINE Nadia	Lab 5	sunday	8am	sunday	9:30	sunday	11
					a.m.		a.m.

	COURSE DESCRIPTION
Objective	Deepen knowledge in the news
	wireless network domain technologies
Type Unit Teaching	Fundamental EU
Short content	Wireless LANs
	Cellular networks GSM
Subject Credits	4
material coefficient	2
Weighting Participation	20%
Weighting Attendance	20%
DC Average Calculation	Presentation 25% + mini-project 35% + (participation + attendance)
Targeted skills	

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
Tuesday		30mn	CE		5pts	VSliquez ici pour entrer une date.	D
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
sunday		1h30	EX		7pts	VSliquez ici pour entrer une date.	R

	EQUIPMENT AND MATERIALS USED
Addresses Platforms	https://sciences-courses.univ-setif.dz/
	https://fsciences.univ-setif.dz/
Application names	
(Web, local network)	
Handouts	
Laboratory materials	PCs + LAN

Protective materials	
Field trip equipment	

	EXPECTATIONS		
Expected of students (Participation-involvement)	Participation in the co Involvement in the TPs.		
Teacher expectations			

	BIBLIOGRAPHY
Books and digital resources	Mobile networks and wireless networks and
	Wireless and mobile networks
	Author: AL AGHA Khaldoun
Items	
Handouts	
Web sites	

Cachet humide du département	

HEI name: Faculties of Science Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website) Client/Server Architecture (ACS)

MASTER COURSE TEACHER		Last name and first name of the teacher: Mnsouri Housseme					
		Re	Reception of students per week				
E-mail	mansouri_houssem@univ-setif.dz	Day :	THURSDAY	hour	12:30 p.m.		
office phone		Day :		hour			
Tel secretariat		Day :		hour			
Other		Building :	Faculty of Sciences	Desk :	01		

TUTORIALS									
(F	Reception o	fstud	ents p	er we	ek)				
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3		
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour		

PRACTICAL WORK							
	(Rece	ption	of stud	ents p	er we	ek)	
NAMES AND	Office/recen	Ses	sion 1	Sessi	on 2	Sess	sion 3
FIRST NAMES OF TEACHERS	tion room	day	hour	day	hour	day	hour
Mansouri	Lab 05	Monday	12:30	Monday	2:00	Monday	3:30 p.m.
Housseme			p.m.		p.m.		

COURSE DESCRIPTION					
Objective					
	This course presents directory services, client/server architecture				
	& communication as well as client/server applications.				
Type Unit Teaching	fundamental unit				
Short content	1st part: directory services				
	2nd part: Architecture & client/server communication				
	Part 3: Client/server applications				
Subject Credits	05				
material coefficient	02				
Weighting Participation	25%				
Weighting Attendance	25%				
DC Average Calculation	50%questions+25%participation+25%attendance				
Targeted skills	- Develop client/server applications,				
	- Keep the student's skills up to date.				

	ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS								
	FIRST KNOWLEDGE CHECK								
Day	Session	Duration	Type (1)	Doc authorized (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)		
	Monda y	01:30	E	No	20		R		
			SECON	ID KNOWLEDGE	CHECK				
Day	Session	Duration	Type (1)	Doc authorized (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)		
	Monda y	01:30	E	No	20	VSliquez ici pour entrer une date.	R		

EQUIPMENT AND MATERIALS USED					
Addresses Platforms					
	Web, local networks,				

Application names	Java
(Web, local network)	
Handouts	
	Yes
Laboratory materials	рс
Protective materials	
Field trip equipment	

EXPECTATIONS					
Expected of students (Participation-involvement)	- Develop client/server apps				
Teacher expectations	- Put into practice all the theoretical concepts deepened during the course.				

BIBLIOGRAPHY				
Books and digital resources				
Items				
Handouts				
	Courses on Moodle.			
Web sites				

HEI name: Faculties of Science Department: Computer Science Department

MATERIAL SYLLABUS (to be published on the institution's website)

Networks 2

MASTER COURSE TEACHER		Teacher's first and last name: Drif Ahlem				
		Reception of students per week				
E-mail	adrif@univ-setif.dz	Day :	Sunday	hour	12:30	
					p.m.	
office phone		Day :	Wednesday	hour	10:00	
					a.m.	
Tel secretariat		Day :		hour		
Other		Building :		Desk :	9	

TUTORIALS (Reception of students per week)								
						_		
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ssion 3	
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour	
Drif Ahlem	09	Tuesda	09:00					
		у						

PRACTICAL WORK							
(1	Neception (JI Stuu	ents p	el we	erj		
NAMES AND FIRST	Office/recepti	Sessi	on 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	on room	day	hour	day	hour	day	hour
Drif Ahlem	09	Wednesda	12:30	Sund	12:30		
		У	p.m.	ау	p.m.		

COURSE DESCRIPTION					
This course presents the basic protocols of the TCP/IP model, as well as the mechanisms that make it possible to obtain high					
performance in networks.					
fundamental unit					
1st part: routing algorithms					
Part 2: Transmission Control Mechanisms					
Part 3: High Performance Communications Modules.					
05					
05					
20%					
20%					
- Develop communication protocols,					
- Keep the student's skills up to date and test the different network configurations .					

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS									
FIRST KNOWLEDGE CHECK									
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)		
April 30, 2023	Sunday	01:30	IS	No	20	01/01/2023			
			SECOND	KNOWLE	DGE CHECK				
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)		
May 30	Sunday	01:30	EX	No	20	VSliquez ici pour entrer une date.			

EQUIPMENT AND MATERIALS USED					
Addresses Platforms					
	Web, local networks,				

Application names	Java
(Web, local network)	
Handouts	
	Yes
Laboratory materials	рс
Protective materials	
Field trip equipment	

EXPECTATIONS						
Expected of students (Participation-involvement)	 Programming communication protocols. Carry out a work of reflection in order to configure the different network environments. 					
Teacher expectations	- Put into practice all the theoretical concepts deepened during the course.					

	BIBLIOGRAPHY
Books and digital resources	 Calvert, Kenneth L., and Michael J. Donahoo. <i>TCP/IP sockets in Java: practical guide for programmers</i>. Morgan Kaufman, 2011. Pujolle, G. (2014). <i>The networks</i>. Editions Eyrolles.
Items	- Hunt, Craig. <i>TCP/IP network administration</i> . Flight. 2. "O'Reilly Media, Inc.", 2002.
Handouts	Courses on Moodle.
Web sites	

HEI Name: FERHAT ABBAS UNIVERSITY Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website)

Data base

MASTER COURSE TEACHER		Salim Bouamama					
		Reception of students per week					
E-mail	salim.bouamama@univ-setif.dz	Day : Sunday hour 9:30					
office phone		Day :	Sunday	hour	12:30		
Tel secretariat		Day :	Wednesday	hour	12:30		
Other		Building :	Faculty	Desk :	L1		

TUTORIALS									
(Reception of students per week)									
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3		
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour		
Laouadi Mohaled	Lab1	Monda	8:00						
		у							
Lamraoui Ammar	Lab 8	Sunday	12:30	Sunday	12:30	THURS	8:00		
						DAY			
Lalama Zahia	Room4	Wedne	8:00	THURS	8:00				
		sday		DAY					

PRACTICAL WORK										
(1	(Reception of students per week)									
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3			
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour			
Laouadi Mohaled	Lab1	Monda	9:30	Monda						
		у		у						
Lamraoui Ammar	Lab8	Sunday	14:00	THURS	9:30					
				DAY						
Lalama Zahia	Room4	Wedne	9:30	THURS	9:30					
		sday		DAY						

	COURSE DESCRIPTION							
Objective								
Type Unit Teaching	F							
Type Unit Teaching Short content	F Chapter 1: Presentation of databases Notions of files (interests and limits) Database definition Types of data models: semantics, entity-association, hierarchical, network, relational Chapter 2: Relational model Definition of the relational model Basic concepts: Attribute, Tuple, Domain, Relationship Relationship schema Normalization: Relationship key and functional dependency (Primary key and foreign key), Integrity constraints, Shapes normals (1FN, 2FN, 3FN, Boyce-Codd FN), Database schema Logical relational model (SQL): Table, column, and row, Description of SQL (Structured Query Language), data definitions Manipulation of data (INSERT, UPDATE, DELETE) Chapter 3: Relational algebra Definition Unary operations and operators (Selection, Projection) Translation into SQL: Simple queries (SELECT-FROM), Column selection (WHERE clause), Sorting of results (ORDER BY) Operations and set operators: Union, Intersection, Difference, Cartesian product,							
	Join (Theta, natural, equijoin, outer), Division, Translation into SQL							
Subject Credits	5							
material coefficient	3							
Weighting Participation	3							
Weighting Attendance	3							
DC Average Calculation	14							
Targeted skills								

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS									
	FIRST KNOWLEDGE CHECK								
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)		

		20	E		7	0	R
			SECOND	KNOWLE	DGE CHECK		
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
		20	E		7	Clickuez ici pour entrer une date.	R

EQUIPMENT AND MATERIALS USED				
Addresses Platforms				
Application names				
(Web, local network)				
handouts				
Laboratory materials				
Protective materials				
Field trip equipment				

EXPECTATIONS				
Expected of students (Participation-involvement)				
Teacher expectations				

BIBLIOGRAPHY					
Books and digital resources					

Items	
handouts	
Web sites	

HEI Name: FERHAT ABBAS UNIVERSITY Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Development of web applications

MASTER	COURSE TEACHER	Gherbi Cherihane				
		Reception of students per week				
E-mail	mohamed.ferradji @univ-setif.dz	Day :	Sunday	hour	12:30	
office phone		Day :	Monday	hour	9:30	
Tel secretariat		Day :		hour		
Other		Building :	Faculty	Desk :	Lab7	

TUTORIALS							
()	(Reception of students per week)						
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour

PRACTICAL WORK							
(1	(Reception of students per week)						
NAMES AND FIRST	Office/receptio	Office/receptio Session 1 Session 2 Session 3					
NAMES OF TEACHERS	n room day hour day hour day						hour
Kacha Lynda	Lab1 Tuesda 09:30 Wedne 12:30						
		у		sday			

COURSE DESCRIPTION				
Objective				
Type Unit Teaching	F			
Short content	Chapter 1: Introduction to the World Wide Web			
	Definition and history			

	Client/Server architecture
	HTTP protocol
	Chapter 2: Programming languages for the Web
	 General: static page, dynamic page and Web applications
	 Markup languages: definition and history
	• HTML (What is HTML?, HTML Execution Context, Basic HTML)
	• XML (Structure of an XML Document, DTD (Document Type
	Definition), XML Schema, XSLT)
	Chapter 3: Server Side Programming Language (PHP)
	• Introduction
	• Basic syntax: The transition from HTML to PHP, Instruction
	separators, Comments
	• Types, variables and operators
	Control structures
	Classes and objects
	• Features: Error handling, Loading management files, Using files remotely.
	connection management. Persistent Connections to Databases.
	Session management,
	Stier Web Applications in PHP
	Chapter 4: Web services: basic notions
	Introduction
	• Gold architecture (SOA)
	• Characteristics of Web services: Definition of Web services,
	Architecture of Web services
	 Standards for Web services (SOAP, WSDL, UDDI)
	• Development platforms for Web services: Development of Web
	services (provider side),
	development of web services (consumer side)
	• Platform . NET and Java (JSP, ASP)
	Chapter 5: Case study: development of a Web service (provider side
	and then client side)
Subject Credits	4
material coefficient	2
Weighting Particination	5
Weighting Attendance	ς Σ
DC Average Calculation	10
Targeted skills	
I UI BELEU SKIIIS	

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Kind (1)	Doc authori zed	Scale	Exchange after evaluation	Evaluation criteria (2)

				(Yes <i>,</i> No)		(date Consult. copy)	
		20	E		5	01/01/2023	
	SECOND KNOWLEDGE CHECK						
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
		20	E		5	Clickuez ici pour entrer une date.	

EQUIPMENT AND MATERIALS USED				
Addresses Platforms				
Application names				
(Web, local network)				
handouts				
Laboratory materials				
Protective materials				
Field trip equipment				

EXPECTATIONS	
Expected of students (Participation-involvement)	
Teacher expectations	

BIBLIOGRAPHY	
Books and digital resources	
Items	
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handouts	
Web sites	

HEI Name: FERHAT ABBAS UNIVERSITY Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website) Object-oriented programming

MASTER COURSE TEACHER		Gherbi Cheriha	ane		
		Reception of students per week			
E-mail	khaled.nasri@univ-setif.dz	Day :	Monday	hour	8:00
office phone		Day :	Wednesday	hour	12:30 _
Tel secretariat		Day :		hour	
Other		Building :	Faculty	Desk :	Lab7

TUTORIALS							
(F	(Reception of students per week)						
NAMES AND FIRST	Office/receptio	Office/receptio Session 1 Session 2 Session			ion 3		
NAMES OF TEACHERS	n room day hour day Hour day			day	hour		

PRACTICAL WORK							
(1	(Reception of students per week)						
NAMES AND FIRST	Office/receptio	Office/receptio Session 1 Session 2 Sessio				ion 3	
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Hamza Frihia	Lab5	Sunday	14:00	Wedne	12:30		
				sday			

	COURSE DESCRIPTION
Objective	
Type Unit Teaching	F
Short content	Chapter 1: Basics of OOP
	Introduction
	• Fundamental concepts of OOP: Short history of OOP, Procedural
	programming vs
	object-based programming, Code reuse, Introduction to modularity

	 Objects and classes: Object notions, Concepts of class, Attributes, Concept of message, Solving problems by exchanging messages Introduction to Java: Types and control structures in Java, Classes and instantiation, Methods, References and parameter passing, Inputs/Outputs, Constructor by default and other constructors, Destructors Chapter 2: Encapsulation Levels of visibility Encapsulation: Encapsulation of data (attributes), Encapsulation of code (Messages) Encapsulation in Java: Access control (public, private), Accessors (get and set), Instance Access (this), Class Variables and Methods (static) Chapter 3: Inheritance Subclasses and Inheritance Class Hierarchy Polymorphism Inheritance and polymorphism in Java: Simple inheritance (extends), Encapsulation in inheritance, Polymorphism, abstract classes (use and importance), Interfaces (use and
	abstract classes (use and importance), Interfaces (use and importance)
Subject Credits	4
material coefficient	2
Weighting Participation	3
Weighting Attendance	3
DC Average Calculation	14
Targeted skills	

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS								
	FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
		20	E		7	01/01/2023		
	I	I	SECOND	KNOWLE	DGE CHECK			
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	

20	E		Clickz ici pour	
		7	entrer une	
			date.	

(1) Type: E=written, EI=individual presentation, EC=class presentation, EX=experimentation, MCQ

(2) Evaluation criteria: A=Analysis, S=synthesis, AR=argumentation, D=approach, R=results

	EQUIPMENT AND MATERIALS USED					
Addresses Platforms						
Application names						
(Web, local network)						
handouts						
Laboratory materials						
Protective materials						
Field trip equipment						

	EXPECTATIONS				
Expected of students (Participation-involvement)					
Teacher expectations					

	BIBLIOGRAPHY
Books and digital resources	
Items	
handouts	
Web sites	

Cachet humide du département

العالي :جامعة فرحات عباس	اسم مؤسسة التعليم ا	
Ĺ	القسم : علوم الحاسب	

بيان المواد
)تنشر على موقع المؤسسة (
الشبكات

مدر س دور ة ماجستير				ن	غربي شريها
			ال الطلاب أسبو عيا	استقب	
بريد إلكتروني	cherihane.gherbi@univ-setif.dz	يوم:	يوم الثلاثاء	ساعة	8:00
هاتف المكتب		يوم:	يوم الخميس	ساعة	8:00
سكرتارية الهاتف		يوم:		ساعة	
آخر		مبنی:	كلية	مكتب:	معمل15

أعمال موجهة باستقدال الطلاب أسده عدال							
الأسماء والأسماء الأولى	لمبو عب (مكتب / غرفة	لىڭرىپ الا سە1	للعبان الجلم الجلم	الثانية	الجلسة	ية3	الجله
للمعلمين	استقبال	يوم	ساعة	يوم	ساعة	يوم	ساعة
المنصوري حكيم	معمل6	الأربعاء	12:30				
قانون لاخضر	معمل4	الأحد	12:30	يوم الخميس	8:00		
خر شي سامية	مختبر 9	الأحد	12:30	يوم الخميس	8:00		
حربي ياسمين	معمل1	الأربعاء	11:00				

أعمال تطبيقية)استقبال الطلاب أسبو عيا(
الأسماء والأسماء الأولى	مكتب / غرفة	ىـة1	الجله	الثانية	الجلسة	ىة3	الجلس
للمعلمين	استقبال	يوم	ساعة	يوم	ساعة	يوم	ساعة
المنصوري حكيم	معمل6	الأربعاء	14:00				
قانون لاخضر	معمل4	الأحد	14:00	يوم الخميس	9:30		
خرشي سامية	مختبر 9	الأحد	14:00	يوم الخميس	9:30		
حربي ياسمين	معمل1	الأربعاء	12:30				

	وصف الدورة التدريبية
موضوعي	
اكتب وحدة التدريس	F
محتوى قصير	الفصل الأول مقدمة عن الشبيكات
<u> </u>	• استخدام الشبكات • استخدام الشبكات
	الخصائص الفبز يائية
	•هيكل الشبكة
	•النماذج المرجعية OSI) ، (TCP / IP) ، (OSI
	•أنواع البوابات
	えいい ひろうしつ しったい
	العصل: 2 الطبعة المادية محمد طاحات الشركة
	•مستعلقات (سبب- •الإشارات ، التحلل ، الضبو ضباء
	• وسائط الارسال الموجهة وغدر الموجهة
	• النقل الد قمر : التحويل من التناظرية الي الد قمية
	•الإرسال الرقمي : التحويل من رقمي إلى رقمي
	 أخذ العينات
	•الإرسال التناظري :التحويل من رقمي إلى تناظري رقمي
	الأرسال التناظري : التناظرية إلى التحويل التناظري
	•معدد ومكثف
	الفصل ٢٠ طبقة إذ تباط الديانات
	، مصل 3 جب الريب ، بيت من المناه . والعذه ذة
	• التحكم في التدفق
	معبار 802.3 وتنسبق Ethernet
	يرو دايون و سين عاد المنابع •التحكم في الخطأ
	 التحكم في الوصول المتعدد
	•تبديل الدائر ة
	العصين 4 صبحه الشبجه. • عندنة DL بالفنات ، مفهم مالشريكان الفيرجيية
	• عورت ۲۲ • العال • معهوم السبات العراجية- • درمة كمل IDV/6 • IDV/1 • معهوم السبات
	تجروعون 40 m . m ، 00 m •تحذيبة الحذمة
	•تبديل الحز مة
	•التوجيه :التقنيات المركزية ، التقنيات الموزعة
	•التوجيه الثابت والتوجيه الديناميكي
	•التوجيه الهرمي والخارجي
	العصن : حجب (المعلى
	•منهوم طوران الطن •بده ته که لات TCP ۵ UDP
	•بروبولو2 – اطاق و انجا •جودة الخدمة
	•التحكم في الأز دحام
	e tentiste tati
	الفصل: 6 طبقة التطبيق
	●برونوخول SIVELY
	●برونوحون HIIT منبعة. كان ETD
	●برونوخون ۲۱۲ ▲برینه که ل DDHO
	•برونوعون ۲۵۳ط ●برمنه که (۱۸۸۸
اعتمادات الموضوع	5
معامل المادة	3
ترحيح المشارحة	1 3

ترجيح الحضور	3
حساب متوسطDC	14
المهارات المستهدفة	

	تقييم المراجعات المعرفية المستمرة						
				حص للمعرفة	أول ف		
يوم	جلسة	مدة	النوع(1)	أذن المستند)نعم ، لا(حجم	الصرف بعد التقييم)تاريخ الاستشارة نسخة(معايير التقييم (2)
		20	٥		7	01/01/2023	
			ي	المعرفة الثانم	فحص		•
يوم	جلسة	مدة	النوع(1)	أذن المستند)نعم ، لا(حجم	الصرف بعد التقييم)نسخ الاستشارة عن التاريخ(معايير التقييم (2)
		20	٥		7	uez ici pour انقر entrer une date.	

(1) النوع: E = مكتوب ، E = عرض فردي ، E = عرض للفصل ، EX = تجريب ، MCQ
 (2) النوع: E = مكتوب ، E = عرض فردي ، E = عرض للفصل ، E = تجريب ، MCQ

(2) معايير التقييم: A = التحليل ، S = التوليف ، AR = الجدل ، D = النهج ، R = النتائج

	المعدات والمواد المستخدمة
منصات العناوين	
أسماء التطبيقات) الويب ،	
الشبكة المحلية(
الصدقات	
مواد المختبر	
مواد واقية	
معدات الرحلات الميدانية	

توقعات		
متوقع من الطلاب) مشاركة - مشاركة(

توقعات المعلم	
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	فهرس
الكتب والموارد الرقمية	
أغراض	
الصدقات	
مواقع الويب	

Cachet humide du département								

HEI Name: FERHAT ABBAS UNIVERSITY Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website)

Operating system 1

MASTER COURSE TEACHER		Zibouda Aliouat				
		Reception of students per week				
E-mail	zaliouat@univ-setif.dz	Day : Tuesday hour 8:00				
office phone		Day :	Tuesday	hour	9:30	
Tel secretariat		Day :	Wednesday	hour	8:00	
Other		Building :	Faculty	Desk :	Lab1	

TUTORIALS								
(1	(Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3	
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour	
Douar Amel	Lab2	Sunday	12:30	Tuesda	8:00			
				у				
Harrag Fouzi	Lab3	Wedne	14:00					
		sday						
Hammouche Yacine	Lab 1	Sunday	12:30	Tuesda	8:00			
				у				

PRACTICAL WORK							
(Reception of students per week)							
NAMES AND FIRST	Office/receptio	Sess	ion 1	Sess	ion 2	Sess	ion 3
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Hammouche Yacine	Lab1	Sunday	14:00	Monda	8:00		
				у			
Douar Amel	Lab2	Sunday	14:00	Tuesda	9:30		
				у			
Harrag Fouzi	Lab3	Wedne	12:30				
		sday					

COURSE DESCRIPTION					
Objective					
Type Unit Teaching	F				
Short content	Chapter 1: Introduction				
	 Notion of operating system 				
	• Functions and roles				
	 Examples of operating systems (Windows, Unix, Android,) 				
	 Chapter 2: Processor management Definitions: Concept of Program, Concept of Process, Concept of Thread, Concept of resource, Concept of work (Job) Different states of a process Hierarchies of processes Relationships between processes (competition, cooperation and synchronization). Process scheduling techniques (Criteria: Equity, Efficiency, response time, execution time, yield) Scheduling algorithms (among the most used: Round Robin RR), First in, first served algorithm or FCFS (First Come First-Served), Shortest Job First Algorithm or SJF (Shortest Job First), Shortest Remaining Time Algorithm or SRT (Shortest Remaining Time) Algorithm with Priority 				
) memory Objectives Monoprogramming Multiprogramming: Multiple contiguous partitions, Siamese contiguous partitions (Buddy system), Re-allocation and protection, Back and forth (Swap), Fragmentation and Compacting Multiprogramming and multiple non-contiguous partitions: Pagination, Segmentation, Paginated segmentation Virtual memory: Concept of virtual memory, Overlays (overlay segments)), Pagination on demand, Optimal algorithm Random replacement Chronological order of loading (FIFO) (with remark on the anomaly of Belady) Order Chronology of use (LRU: Least Recently Used) Frequency of use (LFU: Least Frequently Used) Second chance algorithm Directed and practical work: The TDs will relate to proposals of algorithms around the various chapters. These algorithms will be developed in lab using the C language 				
	• The Unix system will be the subject of the first lab sessions				

Subject Credits	5
material coefficient	3
Weighting Participation	3
Weighting Attendance	3
DC Average Calculation	14
Targeted skills	

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS								
	FIRST KNOWLEDGE CHECK							
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)	
		20	E		7	0	R	
			SECOND	KNOWLE	DGE CHECK			
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)	
		20	E		7	Clickuez ici pour entrer une date.	R	

(1) Type: E=written, EI=individual presentation, EC=class presentation, EX=experimentation, MCQ

(2) Evaluation criteria: A=Analysis, S=synthesis, AR=argumentation, D=approach, R=results

	EQUIPMENT AND MATERIALS USED					
Addresses Platforms						
Application names						
(Web, local network)						
handouts						
Laboratory materials						
Protective materials						
Field trip equipment						

EXPECTATIONS						
Expected of students (Participation-involvement)						
Teacher expectations						

BIBLIOGRAPHY					
Books and digital resources					
Items					
handouts					
Web sites					

Cachet humide du département							

HEI Name: FERHAT ABBAS UNIVERSITY Department: Computer Science

MATERIAL SYLLABUS (to be published on the institution's website)

Language theories

MASTER	COURSE TEACHER	Mechta Djami	a			
		Reception of students per week				
E-mail	djamila.mechta@univ-setif.dz	Day :	Sunday	hour	12:30	
office phone		Day :	Monday	hour	8:00	
Tel secretariat		Day :		hour		
Other		Building :	Faculty	Desk :	Lab15	

TUTORIALS							
(1	(Reception of students per week)						
NAMES AND FIRST	Office/receptio Session 1 Session 2 Session			ion 3			
NAMES OF TEACHERS	n room	day	hour	day	Hour	day	hour
Mekroud Nordin	Lab10	Wedne	12:30	THURS	8:00		
		sday		DAY			
Balbal Samir	Lab3	Sunday	12:30	THURS	8:00		
				DAY			
Tebbani Fatiha	Lab8	Monda	9:30	Wedne	8:00		
		у		sday			

PRACTICAL WORK							
(Reception of students per week)							
NAMES AND FIRST	Office/receptio Session 1 Session 2 Session			ion 3			
NAMES OF TEACHERS	n room	day	hour	day	hour	day	hour
Tebbani Fatiha	Lab8	Monda	8:00	Wedne	9:30		
		у		sday			
Mekroud Nordin	Lab10	Wedne	14:00	THURS	9:30		
		sday		DAY			
Balbal Samir	Lab3	Sunday	14:00	THURS	9:30		
				DAY			

COURSE DESCRIPTION				
Objective				
Type Unit Teaching	F			
Short content	Chapter 1: Introduction (objectives,)			
	Chapter 2: Alphabets, Words, Languages			
	Chapter 3: Grammars			
	Definitions			
	Derivation and generated language Derivation tree			
	Chomsky hierarchy			
	Chapter 4: Finite state automata (FEA)			
	• Deterministic FEAs			
	Representation of an automaton			
	Equivalent and complete automata			
	Nondeterministic FEAs (determination) Automata and regular languages (transformations and properties)			
	• Automata and regular languages (transformations and properties)			
	Chapter 5: Regular Expressions			
	Kleene's theorem			
	• Star lemma			
	Chapter 6: Minimization of an AEF			
	Chapter 7: Algebraic Languages			
	 Properties of a regular grammar 			
	Reduced grammar			
	Proper grammar			
	Elimination of left recursivities			
	Normal forms			
	Chapter 8: Battery-Powered Automata			
	Configuration, Transition and Computation			
	Acceptance Criteria			
	Deterministic Battery-Powered Automata			
	Chapter 9: Turing Machine			
	Definition			
	Configuration, transition and calculation			
	• Acceptance			
subject Credits	<u>></u>			
Weighting Participation	2 5			
Weighting Attendance	2.5			
DC Average Calculation	15			
Targeted skills				

ASSESSMENT OF CONTINUOUS KNOWLEDGE CHECKS							
	FIRST KNOWLEDGE CHECK						
Day	Session	Durati on	Type (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date Consult. copy)	Evaluation criteria (2)
		20	E		7.5	01/01/2023	
	SECOND KNOWLEDGE CHECK						
Day	Session	Durati on	Kind (1)	Doc authori zed (Yes, No)	Scale	Exchange after evaluation (date consultation copies)	Evaluation criteria (2)
		20	E		7.5	CLIquez ici pour entrer une date.	

(1) Type: E=written, EI=individual presentation, EC=class presentation, EX=experimentation, MCQ

(2) Evaluation criteria: A=Analysis, S=synthesis, AR=argumentation, D=approach, R=results

EQUIPMENT AND MATERIALS USED			
Addresses Platforms			
Application names			
(Web, local network)			
handouts			
Laboratory materials			
Protective materials			
Field trip equipment			

EXPECTATIONS

(Participation-involvement)	
Teacher expectations	

BIBLIOGRAPHY		
Books and digital resources		
Itoma		
items		
Handouts		
Web sites		

Cachet humide du département