PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

MINISTRY OF HIGHER EDUCATION
AND SCIENTIFIC RESEARCH

HARMONIZATION

MASTER TRAINING OFFER

ACADEMIC/PROFESSIONAL

Establishment	Faculty / Institute	Department
Mohamed Seddik Benyahia University Jijel	**Exact sciences and computer science**	**Computer science**

Domain: Mathematics and Computer Science

Field: Computer Science

Specialty: Information Systems and Decision Support

Academic year: 2016/2017

I – Half-yearly teaching organization sheet

3- Semester 3

Teaching Unit	HVS 14-16 weeks	WH				Coeff	Credits	Assessment method	
		C	DW	PW	Others			Continuous	Exam
Fundamental TU									
FTU5	**450 h**	**6h00**	**6h00**	**1h30**	**4h30**	**9**	**18**		
Networks & Telecom	150 h	1h30	1h30	1h30	5h30	3	6	✓	✓
Information systems security	100 h	1h30	1h30	--	3h40	2	4	✓	✓
FTU6									
Information systems, advanced methods	100 h	1h30	1h30	--	3h40	2	4	✓	✓
Advanced Databases	100 h	1h30	1h30	--	3h40	2	4		
Methodology TU									
MTU3	**225 h**	**4h30**	**1 h**	**1h30**	**8h00**	**5**	**9**		
Multi-criteria decision support	125 h	3h00	1 h	--	4h20	3	5	✓	✓
Documentary research	100 h	1h30	--	1h30	3h40	2	4	--	✓
Transversal TU									
TTU3	**70h00**	**3h00**	**1h30**	**--**	**12h10**	**3**	**3**		
Project management and entrepreneurship	47h30	1h30	1h30	--	12h10	2	2	--	✓
Corruption and work ethics	10h30	1h30	--	--	--	1	1	--	✓
Total Semester 3	**745 h**	**1h30**	**8h30**	**3h00**	**24h40**		**30**		

4- Semester 4:

Domain : Mathematics & Computer Science
Field : Computer Science
Specialty : ISDS

End-of-study project culminating in a dissertation and a defense.

	HVS	Coefficient	Credits
Personal Work	170	6	12
Practical Internship	210	9	18
Seminars	/	/	/
Other (specify)	/	/	/
Total Semester 4	390	15	30

II - Detailed program by subject

Master's title: Information Systems and Decision Support
Semester: 3
TU title: FTU5
Subject title: Networks and Telecoms

Credits: 6
Coefficients: 3

Teaching objectives

This course is a continuation of the degree course, and allows you to explore network concepts in greater depth: IP networks, ATM, Mobiles, etc.

Recommended prior knowledge

- Bachelor's degree network courses

Content of the subject

- Chapter 1: IP Networks - 267
- Chapter 2: X-25 Networks and 303 Relays
- Chapter 3: Ethernet Networks - 325
- Chapter 4: Telecom networks: ATM and MPLS - 357
- Chapter 5: Mobile Networks – 367
- Chapter 6: Wireless Networks

Assessment method: Subject average = (Test mark*2+ Work mark)/ 3

References *(Books and handouts, websites, etc.).*

- Networks and telecoms course with corrected exercises, PUJOLLE .G , published by EYROLLES
- Networks, TANENBAUM .A , published by PEARSON EDUCATION
- The architecture of TCP/IP networks services – uses – implementation – administration – security, PHILIPP .J , published by ELLIPSES
- Architecture of the DROMARD .D , SERET .D networks, published by PEARSON EDUCATION

Master's title: Information Systems and Decision Support

Semester: 3
TU title: FTU5
Subject title: Information systems security

Credits: 4
Coefficients: 2

Teaching objectives

The aim of the course is to introduce and handle the concepts of information systems security management systems.

Recommended prior knowledge

- Information systems concepts
- Network concepts

Content of the subject

- Concepts of risks and security within an IS
- Definition of information system security (ISS)
- Information system security master plan (SDSSI)
- Current concepts, standards and methods
- Information Security Management Systems (ISMS)
- Crisis management and major crisis (security scenario, emergency plan, recovery plan)

Assessment method: Examination and continuous assessment

References

- Jacques Clavier, Computer Security - Information Systems Security and Internet Security , Publisher: Jci , Collection: Computer Science, Publication: 11/20/2002, Number of pages: 180
- Michel Lafitte , Information systems security and risk management, Published on: 01/02/2003, Publisher: Revue Banque , Collection: the essentials of banking , Number of pages: 127 pages
- Simon and Schuster, Security of Information Systems and Networks , Collection: Computer Science, Macmillan France (September 30, 2004), 469 pages.

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Academic year: 2016/2017

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Master's title: Information Systems and Decision Support
Semester: 3
TU title: FTU6
Subject title: Information systems, advanced methods

Credits: 4
Coefficients: 2

Teaching objectives

Learn a method based on the object and UML approach, namely 2TUP (Two -Track Unified Process)

Recommended prior knowledge

- The basic concepts of information systems and development methods.
- Basic UML diagrams (classes, use cases, deployment, etc.)

Content of the subject

Chapter 1: Reminders on information systems
Chapter 2: Preliminary study
Chapter 3: Capturing Functional Requirements
Chapter 4: Capturing Technical Needs
Chapter 5: Analysis
Chapter 6: Generic Design
Chapter 7: Preliminary Design
Chapter 8: Detailed Design

Assessment method: Subject average = (Test mark*2+ Work mark)/ 3

References

– UML 2, Charroux, Osmani and Thierry- Mieg , Edition Pearson Education, 2005.
– UML 2, Analysis and design, Gabay and Gabay, Dunod, 2008.
– UML in action, Roques et Vallée, Eyrolles, 4th Ed, 2009.
– UML 2, modeling a web application, Roques, Eyrolles, 4th ed.

Master's title: Information Systems and Decision Support
Semester: 3
TU title: FTU6
Subject title: Advanced databases

Credits: 4
Coefficients: 2

Teaching objectives

This course complements the database course in the bachelor's degree. It allows students to acquire and practice new concepts in databases, namely object modeling of data, database administration, and advanced queries (decision-making queries).

Recommended prior knowledge

Database Courses

Content of the subject

- Object-oriented programming and databases
- Database administration

Assessment method: Subject average = (Test mark*2+ Work mark)/ 3

References

– G. Gardarin , *Databases* , Eyrolles, 2003
– CJ Date, *Introduction to Databases* , Vuibert, 2004
– R. Ramakrishnan, J. Gehrke, *Database Management Systems* , McGraw Hill, 2008
– H. Garcia-Molina, J. Ullman, J. Widom, *Database systems: the complete book* , Prentice Hall, 2002
– G. Weikum , G. Vossen , *Transactional Information Systems* , Morgan Kaufmann, 2002

Master's title: Information Systems and Decision Support
Semester: 3
TU title: MTU3
Subject title: Multi-criteria decision support

Credits: 4
Coefficients: 2

Teaching objectives

Know and apply the different techniques for modeling decision problems

Recommended prior knowledge

Content of the subject

Chapter 1: General Introduction

- Single-criteria approach vs. Multi-criteria approach
- Multi-criteria Analysis Process (Methodology)

Chapter 2: Notions of Action, Criterion and Preference

Chapter 3: Analysis of Consequences and Determination of Criteria

Chapter 4: Multi-criteria Analysis: Performance Aggregation and Evaluation

- Weighted Sum Model
- Relational Preference Model
Upgrade Model

Chapter 5: Illustration of ELECTRE Type Multi-Criteria Methods

Chapter 6: Aggregation Functions for Decision

Chapter 7: Social Choice Theory (or Voting Theory)

Assessment method: Subject average = (Test mark*2+ Work mark)/ 3

References (_Books and handouts, websites, etc.)._

- Ph. Vincke, Multi-criteria Decision Support, University of Brussels Editions - Ellispses Editions , Brussels, 1989.

- B. Roy and D. Bouyssou , Multicriteria Decision Support : Methods and Cases. Economica, Paris, 1993.

Master's title: Information Systems and Decision Support
Semester: 3
TU title: MTU3
Subject title: Documentary research

Credits: 4
Coefficients: 2

Teaching objectives

1. Find relevant sources of information from different types of documents. 2. Be able to assess the quality of the sources found. 3. Search on SNDL.

Recommended prior knowledge
- Databases

Content of the subject

I. Documentary Methodology
- ✓ Objectives and aims of the research
- ✓ Prepare his research
- ✓ Define, Identify, Formulate, Restrict or Broaden the subject

II. Selecting information sources
- ✓ Types of documents: Dictionaries and encyclopedias, Books or monographs, Periodicals, Theses, dissertations, research reports, Specific documents, Official documentation
- ✓ Resource Types: Library Catalogs, Bibliographic Databases, Factual Databases, Text Corpora, Web Resources
- ✓ Searching and locating documents: Terminology, Notions of noise and silence, Search techniques, Search operators

III. Advanced concepts
- ✓ Evaluate the quality and relevance of sources
- ✓ Implement automated document monitoring
- ✓ Plagiarism
- ✓ Reference managers

Assessment method: Average Subject = exam grade

References *(Books and handouts, websites, etc.).*

–   B. BASCHWITZ, MA KETELE, JM. GODELET, How do I document myself?: trainers, teachers, students, ed. De Boeck, Belgium, 2010.
–   Documentary Methodology : Research, Consult, Write in the Internet Age, De Boeck, Belgium, 2005.

Master's title: Information Systems and Decision Support

Semester: 3
TU title: TTU3
Subject title: Project management and entrepreneurship

Credits: 2
Coefficients: 2

Teaching objectives
The main objectives are to acquire a global vision of the projects, to provide practical tools for anticipating cost, deadline and performance drifts on industrial projects,

Recommended prior knowledge

Content of the subject
Chapter 1: Introduction to Project Management

- Project and Management Definition
- Project Life Cycle Models - Information System (IS) Project Management - Cost Estimation: Case of the COCOMO Model

Chapter 2: Timeline Planning Techniques - Gantt Chart - PERT Network
Chapter 3: Quality Control and Risk Management
Chapter 4: Launching and Managing a Startup
- Human Composition and Economic Model - International Development - Finance and Legal - Incubators/Accelerators/Nurseries/ FabLab - Coworking Spaces - Mentoring/Financing/ Business Angels - Venture Capital
Chapter 5: Computer systems and networks in the enterprise
Assessment method: Subject average = (Test mark*2+ Work mark)/ 3

References

- Guy Kawasaki (2009), *The Reality of Entrepreneurship* , Diateino , 2009

- Catherine Léger- Jarniou and Georges Kalousis , *Building Your Business Plan* , Dunod , 2007

- Alain Fayolle (2004), *Entrepreneurship: Learning to undertake* , Dunod, 2004

Master's title: Information Systems and Decision Support
Semester: 3
TU title: TTU3
Subject title: Corruption and work ethics

Credits: 1
Coefficients: 1
Teaching objectives

Inform and raise awareness among students about the risk of corruption and encourage them to contribute to the fight against corruption.
Recommended prior knowledge
Content of the subject

1. Concept of corruption:
2. Types of corruption:
3. Manifestations of administrative and financial corruption
4. The reasons for administrative and financial corruption
5. The effects of administrative and financial corruption
6. The fight against corruption by local and international bodies and organizations
7. Methods of treatment and means of combating the phenomenon of corruption
8. Models of the experience of certain countries in the fight against corruption

Assessment method: *exam*
References

ـ الفقي , مصطفى. **الفساد الإداري والمالي بين السياسات والإجراءات**
http://www.cipe-egypt.org/articles/art0900.htm
ـ محمود , مهيوب خضر **. من معالم المدرسة العمرية في مكافحة الفساد** .
http://www.hetta.com/current/mahyoob23.htm
بزاز , سعد **. حملة ضد الفساد**
http://www.saadbazzaz.com/index.asp?fname=articles%5C7540.htm&code=display
ـ طه , خالد عيسى **. ملاحقة الفساد الإداري**
http://www.azzaman.com/azzaman/articles/2004/03/03-29/802.htm
ـ **الفساد الإداري وجرائم إساءة استعمال السلطة الوظيفية**
http://news.naseej.com.sa/detail.asp?InSectionID=1431&InNewsItemID=123076
ـ السيف , خليفة عبد الله **. متى نرى آلية صحيحة لمحاربة الفساد**
http://www.alwatan.com.sa/daily/2002-10-19/resders.htm
ـ**الفساد الإداري والمالي (1)**
http://www.mof.gov.kw/coag-news11-4.htm
ـ**الفساد الإداري والمالي (2)**
http://www.mof.gov.kw/coag-news11-5.htm
إدارة التغيير والموارد البشرية .
http://www.ituarabic.org/11thHRMeeting/doc6.doc