University: ***Fayoum University***
Faculty: ***Computers and Information***
Department: ***Computer Science***
Master of Information System

Course Specification

1- Basic Information		
BSC 601	**Course Title:** seminar	
Program: Master of ***Information System***	**Number of units: 3**	

2- Aims of Course:	1. The general aim of the seminar is to allow each student to integrate all the disciplines he has studied in a unified chunk of knowledge. 2. On the behavioral side, students are allowed to work in a team so as to practice working in a collaborative environment. 3. This emphasizes also a proper documentation and presentation procedure.

3- Intended Learning Outcomes	
A- Knowledge and Understanding:	a1) Providing all students with a culminating activity that demonstrates the skills of combining research, a2) Providing all students with writing, implementation and oral presentation/demonstration in a multidisciplinary seminar. a3) Giving students an opportunity outside the classroom to integrate their various courses of study with their individual interests.
B- Intellectual Skills:	b1) Challenge the student to go beyond his/her educational program. b2) Expand his/her personal knowledge to real life situations that will promote lifelong learning.
C- Professional and Practical Skills:	c1) Complete a project in one or more areas of concentrated study under the guidance and supervision of the faculty.

	c2) demonstrate self-initiative : initiate any request for support
D- General and transferable Skills	d1) Work in team to exchange data from different analytical techniques d2) Generate various an suitable reports d3) Prepare the student for future endeavors in post-secondary education or work. d4) Know the computing environment and installation procedure

4-Course Content:	Students are allowed to choose among a number of projects suggested by the different staff members. The main items which should be fulfilled are: 1. Selecting a topic, team and supervisor 2. Scheduling time to complete the project 3. Completing requirements on time. 4. seminar design and architecture 5. seminar documentation 6. Seeking help when needed. 7. Utilize the resources available at the Faculty

5- Teaching and Learning Methods:	1. Tutorials 2. Computer-lab Sessions 3. Practical lab work 4. Class discussions 5. Internet searches 6. Independent Work 7. Problem-based Learning

6- Teaching and Learning Methods for handicapped students :	-

7- Student Assessment	
A- Assessment Methods:	1. Year work evaluation 2. Oral exam
B- Assessment schedule:	Year work evaluation: All the year Oral Examination: At the end of the semester
C- Weighting of assessments:	Year work evaluation: 40% Oral Examination: 60%

8- Books and References	
A- Notes:	-
B- Essential Books (Text Books):	-
▪ C- Recommended	-

Books:	
D- Periodicals, Web sites, … etc	-

Course Professor: …… Department Head:

University: ***Fayoum University***
Faculty: ***Computers and Information***
Department: (Master) Information System

Course Specification

1- Basic Information		
Code: GN 602	**Course Title:** Basic of Scientific research	**Year/Level:**
Programme:	**Number of units:** **Lecture:** 2 **Tutorial:** 2 **Practical:**	

2- Aims of Course:	This course is designed to provide a general appreciation of workplace and communication skills pertinent to computer science. Inter-personal and personal transferable skills will be given particular emphasis in an effort to better equip the student for the workplace .This course also introduces the main tools used in information management and explores why they are of importance to the research methodology.

3- Intended Learning Outcomes	
A- Knowledge and Understanding:	a1) Recognize the importance of research. a2) Discuss types of study design. a3) Demonstrate the sampling methods.
B- Intellectual Skills:	b1) Select the proper sample for the research. b2) Differentiate between causal and no causal association. b3) Discriminate between data collection methods and techniques.
C- Professional and Practical Skills:	c1) Conduct scientific research effectively. c2) implement software tools for information management. C3) configure appropriate case study for his research
D- General and	d1) Use critical thinking methods in solving scientific

transferable Skills	research problems.

4-Course Content:	This course includes the following topics: • Searching for information and appraisal skills • Qualitative methods، • Quantitative assessment and questionnaire design، • Needs assessment - and tools to achieve this، Requirements analysis، • Modelling - testing hypothesis، Research statistics، and Audit. • Cases in information systems will be used to demonstrate these concepts.

5- Teaching and Learning Methods:	Lectures, direct instruction, student-teacher dialogues, and student-centered activities such as group work. Choice of teaching methods subject to instructor's decision, depending on class size, student skill base, and other relevant factors.

6- Teaching and Learning Methods for handicapped students	Lectures, direct instruction, student-teacher dialogues, and student-centered activities such as group work. Choice of teaching methods subject to instructor's decision, depending on class size, student skill base, and other relevant factors.

7- Student Assessment	
A- Assessment Methods:	3. Assignments and Quizzes 4. Midterm written exam 5. Oral exam 6. Final written exam
B- Assessment schedule:	Midterm Examination: Week 7 Oral Examination: Week 14 Final Examination: Week 15
C- Weighting of assessments:	Assignments and Quizzes: 20% Mid-Term Examination: 10% Oral Examination: 10% Final-term Examination: 60%

8- Books and References	
A- Notes:	- PowerPoint presentations for the course.
B- Essential Books (Text Books):	Creswell, J. W. Research design: Qualitative, quantitative and mixed methods approaches. 5th Ed. Thousand Oaks, CA: Sage, 2018.
C- Recommended Books:	McBurney, Donald, and Theresa L. White. Research Methods. 7th ed. Belmont, Calif.: Thomson Wadsworth, 2007. - Neuman, W.L. (2008). Social research methods: Qualitative and quantitative approaches, Pearson Education.
D- Periodicals, Web sites, … etc	-

Course Professor: …… Department Head: ……

University: ***Fayoum University***
Faculty: ***Computers and Information***
Department: Master (Information Systems)

Course Specification

1- Basic Information		
Code: IS 602	**Course Title:** Advanced Database Systems	**Year/Level:** – **Post Graduate**
Programme : Master of Information System	**Number of units:**	**Lecture:** 2 hrs/ week **Tutorial:** 0hrs/ week **Practical:** 2 hrs/ week

2- Aims of Course:	1.This course aims to provide students with the advanced concepts of relational databases. 2. Students will gain knowledge to: • Understand transaction management and concurrency control • Understand file organization, indexing and hashing • Understand query processing and query optimization • Understand recovery systems. • Understand distributed databases and client/server architecture • Understand object-oriented databases

3- Intended Learning Outcomes	
A- Knowledge and Understanding:	A1 Locate and classify the Theories and fundamentals related to the field of learning as well as Information system a1.Understand file organization, indexing and hashing a2. understand of fundamental concepts and issues of transaction management, concurrency control, and recovery systems a3.Understand query processing and query optimization A2. Recognize The mutual influence between practice and its reflection on the environment a4.understand the problems and potentials of current database systems

	A3. Recognize Scientific developments in **Information system** a5. Explain relational, semantic, and object-oriented data models a6.Understand distributed databases and client/server architecture A4. Recognize the Principles and basics of quality in professional practice in the field of **Information system** a7. learn different database model.
B- Intellectual Skills:	B1.Analysis and evaluation of information in the field of specialization and measurement to solve problems b1.analyze and evaluate information in database organization b2.analyze the performance of database systems using test collections b3.Characterize Schedules based on Recoverability/ Serializability b4.analyze the recovery schemes b5. analyze the recovery in multi-database system B2. Solving specialized problems with some lake of data b3. Resolve a wide range of database systems problems B6. Planning to develop performance in the field of **Information system** b4.link different knowledge to solve professional problems. b5. evaluate different database model.
C- Professional and Practical Skills:	C1. Practice the professional, basic and modern skills in the field of **Information system** c1. Support transaction in SQL C2 Demonstrate the existing methods and tools in the field of **Information system** C2 Demonstrate the existing methods and algorithms in concurrency control/ recovery c3 Perform database experiments in which they transform theoretical models to a working system c4 Testing and evaluating database experiments c5 Examine and analyze the result
D- General and transferable Skills	D1 Recognize the Effective communication of various types D2 Use of information technology to serve professional

	practice D3 Recognize the Self-assessment and identification of personal educational needs D4 Use different sources to access information and knowledge D5 Develop rules and indicators to evaluate the performance of others D6 Practice to Working in a team, leading teams in different professional contexts D7 Demonstrate the Time management efficiently D8 Practice to Self-learning and continuous

4-Course Content:	1. File Organization 2. Internal Design of a Mini Database Engine 3. Object-Oriented Databases 4. Query Processing and Query Optimization 5. Transaction Management and Concurrency Control 6. Concurrency control techniques 7. Database Recovery Techniques 8. Distributed Databases and Client/Server Architecture

5- Teaching and Learning Methods:	8. Lectures 9. Tutorials 10. Class discussions 11. Internet searches 12. Independent Work 13. Group projects 14. Problem-based Learning

6- Teaching and Learning Methods for handicapped students :	-

7- Student Assessment	
A- Assessment Methods:	1. Assignments 2. Practical exam 3. Oral exam 4. Final written exam
B- Assessment schedule:	Practical Examination: Week 13 Oral Examination: Week 14 Final Examination: Week 15
C- Weighting of assessments:	Practical Examination: 20% Oral Examination: 20% Final-term Examination: 60%

8- Books and References	
A- Notes:	-
B- Essential Books (Text Books):	▪ Fundamentals of Database Systems. Ramez Elmasri, and Shamkant B. Navathe , Sixth Edition, Boston:Addison-Wesley , 2011.
C- Recommended Books:	▪ Fundamentals of Database Management Systems. Mark L.Gillenson, 2012
D- Periodicals, Web sites, … etc	-

Course Professor: …… Department Head: ……

University: ***Fayoum University***

Faculty: ***Computers and Information***

Department: ***Information Systems***

Course Specification

1- Basic Information		
Code: IS 601	**Course Title: Decision Support and Intelligent Systems**	**Year/Level:**
Programme:	**Number of units: Lecture:** **Tutorial:** **Practical:**	

2- Aims of Course:	1. To provide students with the basic and necessary knowledge, in order that they could identify when a given domain is really a complex one 2. To identify how many and of which nature are the decisions involved in complex domains management 3. To know how to analyse, to design, to implement and to validate an Intelligent Decision Support Systems (IDSS), emphasising the integration of Artificial Intelligence models and Statistical/Numerical models, and the knowledge discovery from data. Related competences

3- Intended Learning Outcomes	
A- Knowledge and Understanding:	Capacity for modeling, calculation, simulation, development and implementation in technology and company engineering centers, particularly in research, development and innovation in all areas related to Artificial Intelligence.
B- Intellectual Skills:	Capacity for managing the acquisition, the structuring, analysis and visualization of data and information in the field of specialisation, and for critically assessing the results of this management.

C- Professional and Practical Skills:	Capability to understand the advanced techniques of Knowledge Engineering, Machine Learning and Decision Support Systems, and to know how to design, implement and apply these techniques in the development of intelligent applications, services or systems.
D- General and transferable Skills	Ability to apply the acquired knowledge and capacity for solving problems in new or unknown environments within broader (or multidisciplinary) contexts related to their area of study. Ability to integrate knowledge and handle the complexity of making judgments based on information which, being incomplete or limited, includes considerations on social and ethical responsibilities linked to the application of their knowledge and judgments

4-Course Content:	This course provides an introductory treatment of decision analysis، along with elements of human cognition under uncertainty. The intended participants are students who want to learn more about decision making under uncertainty and tools that can be used to support it. Knowledge of these tools may prove useful in your personal decision making and in decisions that you will be making during your professional career. Should you choose to become a professional supporting decisions of others (and this is a good way to make a living)

5- Teaching and Learning Methods:	1. Lecture by teacher 2. Class discussion conducted by teacher 3. Recitation oral questions by teacher answered orally by students 4. Discussion groups conducted by selected student chairpersons 5. Lecture-demonstration by teacher 6. Lecture-demonstration by another instructor(s) from a special field 7. Presentation by a panel of instructors or students 8. Presentations by student panels from the class: class invited to participate 9. Student reports by individuals

	10. Student-group reports by committees from the class 11. Debate (informal) on current issues by students from class 12. Class discussions conducted by a student or student committee

6- Teaching and Learning Methods for handicapped students :	-

7- Student Assessment	
A- Assessment Methods:	Vocal Exam Practical Exam Written Exam
B- Assessment schedule:	Midterm Practical Final
C- Weighting of assessments:	**15%** **20%** **65%**

8- Books and References	
A- Notes:	-
B- Essential Books (Text Books):	• **Decision Support and Business Intelligence Systems (9th Ed., Prentice Hall)**
C- Recommended Books:	-
D- Periodicals, Web sites, ... etc	-

Course Professor: Mostafa Thabet Department Head: IS

University: ***Fayoum University***
Faculty: ***Computers and Information***
Department: ***Information Systems***

Course Specification

1- Basic Information		
Code: IS 610	**Course Title:** Advanced E-Commerce	**Year/Level: Pre Master (Information Systems)**
Programme :	**Number of units:** **Lectu** 3 hrs/ week **Tutorial:** **Practi** 2 hrs/ week	

2- Aims of Course:	1. The main objective of the course is to explain to students the role of information technology as a business enabler 2. Identify and explain to students the meaning and importance of electronic commerce in which transactions take place over networks such as buying and selling services and goods via the internet. 3. Allow the student to study and evaluate different e-commerce models and applications. 4. Allow the student to study and evaluate the organizational fit and suitability of business applications and interpret the interaction between information technology, customers, processes, data, infrastructure, participants, and environment in an organization. 5. Allow students to relate and integrate the e-commerce methodologies with recent social networks techniques and study the importance of social network in improving the e-commerce value

3- Intended Learning Outcomes

A- Knowledge and Understanding:	A1. Identify quality criteria that enable future development of computer-based systems. a1) Understand the basic concepts of e-commerce and e-marketplaces a2) Understand the importance of e-commerce and its applications A6. Explain essential concepts, principles, and theories related to computer-application development such as: databases, information systems development. a3) Understand the different e-commerce models and applications a4) Understand the ethical and social issues in e commerce A12. Selects advanced topics to provide a deeper understanding of some aspects of the subject such as Unified Process, object-oriented analysis and design, e-commerce technologies,and Decision support systems a5) Describe the role of information technology and different methodologies used in the design,
B- Intellectual Skills:	B1. Analyze real problems, and appropriate problem solving methods that satisfy commercial or industrial constraints and analyze results b1) Discuss different concepts of e-commerce and the relation between information and business. B3. Generate a range of innovative design patterns and solutions to solve a computer science problem containing a range of commercial and industrial constraints. b2) Describe the different development methods used to build business information systems. b3) Identify problems facing different organizations in various fields when they convert some or all of their work to e-commerce and put solutions to these problems. B5.Discuss factors other than computational efficiency that influence the choice of algorithms, such as programming time, maintainability, and the use of application-specific patterns in the input data . b4) Discuss e-payments methods B8. Identify criteria to measure and interpret the appropriateness of a computer system for its current deployment and future evolution. b5) Determine ROI for ecommerce applications B10. Generate innovative designs to solve a problem containing a range of commercial and industrial constraints. b6) Measuring Impact of e-commerce on business processes, improving marketing and sales and transforming of organizations B11. Evaluate a range of innovative design patterns and

	solutions to solve a computer science problem containing a range of commercial and industrial constraints. b7) Discuss E-government as a e-commerce application
C- Professional and Practical Skills:	C1. Analyze and improve organizational processes from an ICT perspective. c1) Use current studies to address business needs for information systems C2. Negotiate effectively with clients, other stakeholders and peers. c2) Analyze given information to decide the correct e commerce application to be used. C3. Investigate the professional, economic, social, environmental, moral and ethical issues involved in the sustainable exploitation of computer technology and be guided by the adoption of appropriate professional, ethical and legal practices. c3) Searching the web for e-commerce ethics and rules C12.Design, implement, maintain, and manage software systems. Assess the implications, risks or safety aspects involved in the operation of computing equipment within a specific context. c4) Designing e-commerce application as a pilot system
D- General and transferable Skills	D3. Work as a member of a development team, recognizing the different roles within a team and different ways of organizing teams. d1. Applying teamwork project D6. Demonstrate skills in team work, team management, time management and organizational skills. d2 Introducing the project for other students
4-Course Content:	1. Overview of electronic commerce includes objectives, fundamentals, components and its relation to e-business. 2. E-commerce models and applications, strategies and implementations. 3. E-marketplaces, structures, types, mechanisms and impacts. E-Commerce opportunities. Service quality and cost effectiveness. 4. Internet service Providers, Intranets, marketing. Basics of marketing a site on the Net 5. Extranet and e-commerce applications 6. Electronic purchasing and shopping models using

	search engines, electronic catalog, shopping carts and information portals. 7. Customer relationship management, Suppliers management and security considerations. 8. Impact of e-commerce on business processes, improving marketing and sales and transforming of organizations 9. Consumer behavior, market research and different types of advertising via the web 10. Security from the information technology perspective including protocols, and transactions 11. Web-copyright issuers, ethic markets, Growth of business to business commerce 12. Developing E-commerce Websites Using Joomla

5- Teaching and Learning Methods:	1. Lectures 2. Tutorials 3. Computer-lab Sessions 4. Practical lab work 5. Class discussions 6. Independent Work 7. Group projects 8. Research studies

6- Teaching and Learning Methods for handicapped students :	-

7- Student Assessment	
A- Assessment Methods:	1. Midterm written exam 2. Oral exam 3. Practical exam 4. Final written exam
B- Assessment schedule:	Midterm Examination: Week 7 Practical Examination: Week 13 Oral Examination: Week 14 Final Examination: Week 15
C- Weighting of assessments:	Mid-Term Examination: 10% Oral Examination: 10% Practical Examination: 20%

	Final-term Examination: 60%

8- Books and References	
A- Notes:	Handed out will be given to the students part by part
B- Essential Books (Text Books):	King, Mckay,Marshall and Lee, "Electronic Commerce", Pearson publisher.
C- Recommended Books:	Kenneth Laudon, et al , “E-Commerce”. Janice Reynolds, "The Complete E-Commerce Book: Design, Build & Maintain a Successful Web-based Business ".
D- Periodicals, Web sites, … etc	-http://www.joomla.com

Course Professor: Assoc. Prof. Dr. Haytham Alfeel
Department Head: Prof.Dr. Nabila Hassan

University: ***Fayoum University***
Faculty: ***Computers and Information***
Department: Master (Information Systems)

Course Specification

1- Basic Information		
Code: IS 614	**Course Title:** Information Retrieval	**Year/Level: Post Graduate**
Programme :Master of Information Systems	**Number of units:** **Lecture:** 2 hrs/week **Tutorial:** 0 hrs/week **Practical:** 2 hrs/week	

2- Aims of Course:	1. The main objective of this course is to present the basic concepts techniques, and methods in information retrieval and more advance techniques for information retrieval 2. Understand the underlined problems related to IR 3. Acquire the necessary experience to design, and implement real applications using Information Retrieval systems

3- Intended Learning Outcomes	
A- Knowledge and Understanding:	A1 Locate and classify the Theories and fundamentals related to the field of learning as well as **Information system** a1) Demonstrate the basic theories and analysis tools as they apply to information retrieval a2) understand the different models of IR

	a3) understand the common algorithms and techniques for information retrieval A2 Recognize the mutual influence between practice and its reflection on the environment a4) understand the problems and potentials of current IR systems a5) Show a critical understanding of the efficient text indexing within which IR is constructed A3 Recognize Scientific developments in **Information system** a6) understand the different models and evaluation measures of information retrieval a7) understand the common algorithms and techniques for information retrieval A4 Recognize the Principles and basics of quality in professional practice in the field of **Information system** a8) learn and evaluate different retrieval algorithms and systems
B- Intellectual Skills:	B1 Analysis and evaluation of information in the field of specialization and measurement to solve problems b1) Describe the measures of IR systems b2) analyze the performance of retrieval systems using test collections b3) evaluate IR systems B2 Solving specialized problems with some lake of data b4) Resolve a wide range of IR problems B3 Planning to develop performance in the field of **Information system** b5) Analyze different models and algorithms and produce the right architecture b6) Describe and clarify how do we answer and process a query using different IR models b7) Discuss how the search engine could be improved
C- Professional and	C1 Practice the professional, basic and modern skills in

Practical Skills:	the field of **Information system** c1 Apply various indexing, matching, organizing, and evaluating methods to IR problems c2 deploy efficient techniques for the indexing of document objects that are to be retrieved **C2** Demonstrate the existing methods and tools in the field of **Information system** c3 apply information retrieval principles to locate relevant information in large collections of data c4 Perform IR experiments in which they transform theoretical models to a working system c5 Testing and evaluating IR experiments c6 Examine and analyze the result c7 implement advanced techniques for information retrieval
D- General and transferable Skills	D1 Recognize the Effective communication of various types D2 Use of information technology to serve professional practice D3 Recognize the Self-assessment and identification of personal educational needs D4 Use different sources to access information and knowledge D5 Develop rules and indicators to evaluate the performance of others D6 Practice to Working in a team, leading teams in different professional contexts D7 Demonstrate the Time management efficiently D8 Practice to Self-learning and continuous

4-Course Content:	• Boolean and vector-space retrieval models • Dictionaries and tolerant retrieval • Term vocabulary, Word statistics, Text preprocessing, Term weighting, Similarity function, Indexing, • Efficient text indexing • Computing scores in complete search system • Evaluation of retrieval

5- Teaching and Learning Methods:	1. Lectures 2. Tutorials 3. Class discussions 4. Internet searches

	5. Independent Work 6. Group projects 7. Problem-based Learning

6- Teaching and Learning Methods for handicapped students :	-

7- Student Assessment	
A- Assessment Methods:	1. Assignments 2. Practical exam 3. Oral exam 4. Final written exam
B- Assessment schedule:	Practical Examination: Week 13 Oral Examination: Week 14 Final Examination: Week 15
C- Weighting of assessments:	Practical Examination: 20% Oral Examination: 20% Final-term Examination: 60%

8- Books and References	
A- Notes:	-
B- Essential Books (Text Books):	C.D. Manning, P. Raghavan, H. Schütze. Introduction to Information Retrieval, Cambridge UP, 2008. (available in the Web, http://nlp .stanford.edu/IR-book/)
C- Recommended Books:	• R. Baeza-Yates, B. Ribeiro-Neto, Modern Information Retrieval, Addison-Wesley, 2011 (2nd Edition). • B. Croft, D. Metzler, T. Strohman, Search Engines: Information Retrieval in Practice, Addison-Wesley, 2009. • Ricci, F.; Rokach, L.; Shapira, B.; Kantor, P.B. (Eds.), Recommender Systems Handbook. 1st Edition., 2011, 845 p. 20 illus., Hardcover, ISBN: 978-0-387-85819-7 (a new edition is going to be published on 2015)
D- Periodicals, Web sites, … etc	- http://nlp.stanford.edu/IR-book/pdf/irbookonlinereading .pdf - http://nlp.stanford.edu/IR-book/newslides.html

Course Professor: …… Department Head: ……

University: ***Fayoum University***
Faculty: ***Computers and Information***
Department: Master (Information Systems)

Course Specification

1- Basic Information		
Code: IS 607	**Course Title:** Information System Design	**Year/Level:** Post Graduate
Programme : Master of Information Systems	**Number of units:** **Lecture:** 2 hrs/week **Tutorial:** 0 hrs/week **Practical:** 2 hrs /week	

2- Aims of Course:	1. develop a comprehensive understanding of how information systems are developed through the activities of systems planning, analysis, design and implementation; an understanding suited to the needs of a business analyst, information systems selector or managerial consultant. 2. Recognize success factors associated with systems development, including individual and organizational factors. 3. Understand and carry out key activities associated with systems development including activities related to project initiation and project planning, analysis of a business problem, determining information needs, and the selecting and recommending an IS-based solution 4. Recognize and apply various strategies, tools and modeling techniques related to different approaches to systems development (including structured and object-oriented approaches) to the analysis and design of a business information system.

3- Intended Learning Outcomes	
A- Knowledge and Understanding:	A5 Locate and classify the Theories and fundamentals related to the field of learning as well as **Information system** a1) understand the principles of software design process a2) Identify and understand key aspects of the systems development process, from planning through analysis and design to implementation and maintenance a3) understand the basics of object-oriented analysis and design. a4) demonstrate the basics of database modeling a5) understand the concepts of analysis for procedural

	programs A6 Recognize The mutual influence between practice and its reflection on the environment a6) understand the problems and potentials of current information systems design a7) recognize success factors associated with systems development, including individual and organizational factors A7 Recognize Scientific developments in **Information system** a8) Recognize the various strategies, tools and modeling techniques related to different approaches to systems development to the analysis and design of a business information system. a9) understand the key activities associated with systems development including activities related to project initiation and project planning, analysis of a business problem, determining information needs, and the selecting and recommending an IS-based solution A8 Recognize the Principles and basics of quality in professional practice in the field of **Information system** a1) Analysis for information system a2) Understanding several different categories of system development methodologies
B- Intellectual Skills:	B4 Analysis and evaluation of information in the field of specialization and measurement to solve problems b1) Analyze different analysis phase requirements and produce the right architecture and a good design. b2) Analyze alternatives of solution for good design. B5 Solving specialized problems with some lake of data b3) Resolve a wide range of problems related to the design and construction of Information systems. B6 Planning to develop performance in the field of **Information system**

	b4) analyze the system development methodologies b5) analyze different Approaches for improving Development.
C- Professional and Practical Skills:	C3 Practice the professional, basic and modern skills in the field of **Information system** c1) apply various strategies, tools and modeling techniques related to different approaches to systems development (including structured and object-oriented approaches) to the analysis and design of a business information system. c2) carry out key activities associated with systems development including activities related to project initiation and project planning, analysis of a business problem, determining information needs, and the selecting and recommending an IS-based solution c3) apply key principles of good user interface design. C3 Demonstrate the existing methods and tools in the field of **Information system** c4) Perform system development experiments c5) Testing and evaluating c6) Examine and analyze the result c7) implement advanced techniques for information system design
D- General and transferable Skills	D9 Recognize the Effective communication of various types D10 Use of information technology to serve professional practice D11 Recognize the Self-assessment and identification of personal educational needs D12 Use different sources to access information and knowledge D13 Develop rules and indicators to evaluate the performance of others D14 Practice to Working in a team, leading teams in different professional contexts D15 Demonstrate the Time management efficiently D16 Practice to Self-learning and continuous

4-Course Content:	• Systems development • Approaches to systems development and project management • Systems planning and selection • Systems analysis (determining and analyzing requirements, evaluating alternatives) • Systems design • Advanced systems design concepts (Object oriented analysis and design) • Systems implementation and operation • Agile methodologies • Current trends in system development

5- Teaching and Learning Methods:	8. Lectures 9. Tutorials 10. Class discussions 11. Internet searches 12. Independent Work 13. Group projects 14. Problem-based Learning	

6- Teaching and Learning Methods for handicapped students :	-

7- Student Assessment	
A- Assessment Methods:	5. Assignments 6. Practical exam 7. Oral exam 8. Final written exam
B- Assessment schedule:	Practical Examination: Week 13 Oral Examination: Week 14 Final Examination: Week 15
C- Weighting of assessments:	Practical Examination: 20% Oral Examination: 20% Final-term Examination: 60%

8- Books and References	
A- Notes:	-

B- Essential Books (Text Books):	Hoffer, Jeffrey A. , George, Joey F., Valacich, Joseph S; Modern systems analysis and design; Seventh edition; ▪
C- Recommended Books:	- Satzinger, John W. , Jackson, Robert B., Burd, Stephen D; Systems analysis and design in a changing world; 6th ed; Course Technology/Cengage Learning, 2012. Whitten, Jeffrey L. , Bentley, Lonnie D; Systems analysis and design methods; 7th ed; McGraw-Hill, 2007. Kendall, K.E. & Kenall, J.E. (2014). Systems Analysis and Design, 9th Edition, Pearson
D- Periodicals, Web sites, … etc	**http://www.just.edu.jo/~qaalthebyan/NYIT/MIST%20325/index.htm**

Course Professor: …… Department Head: ……

University: ***Fayoum University***
Faculty: ***Computers and Information***
Department: Master (Information Systems)

Course Specification

1- Basic Information		
Code: IS 615	**Course Title:** Selected Topics1 semantic web	**Year/Level: Pre Master**
Programme :	**Number of units:** **Lecture:** 3 hrs/ week **Tutorial:** 0 hrs/ week **Practical:** 2 hrs/ week	

2- Aims of Course:	The purpose of this course is to give a complete picture for the Semantic Web as a new emerging field that makes the content available to be read and used by human and intelligently by machines. In addition to that establishes meaning to data to be shared, automatically reasoned and reused via machine-readable applications. This course will give a brief history of the web and explains the meaning and the importance of the "Semantic Web." Then will cover the different technologies used for building the Semantic Web including Ontology representation, creation, design, reasoning, programming and applications. Start from URIs and namespaces, and then move to XML, XML Schema, RDF, RDF/XML, RDFS, Individuals, OWL , SPARQL, LoD techniques, SWRL, Modelling and Reasoning.

3- Intended Learning Outcomes	
A- Knowledge and Understanding:	A7. Demonstrate essential facts, concepts, principles and theories relating to computing information & computer applications as appropriate to the program of study. a1) Study the concepts and principles relating to the Semantic web. a2) Define the differences between web2.0 and web3.0 A12. Selects advanced topics to provide a deeper understanding of some aspects of the subject such as Unified Process, object-oriented analysis and design, e-commerce technologies, and Decision support systems. a3) Study of ontology engineering as an advanced topic related to the semantic web. a4) study of advanced vocabularies used on the

	web3.0 that extends the current web. A17. Demonstrate the new concepts and techniques that represent the future of information systems such as semantic web and Linked Open Data (LOD) *a5*) Demonstrate RDF,RDF Schema, and OWL as technologies representing ontologies via the semantic web *a6*) Study the principles of open data, linked open data and to represent the future of data through the web
B- Intellectual Skills:	B9. Compare between the classifications of (data, results, methods, techniques, algorithms... etc.). *b1*) Define the different methodologies used for building an ontology. *b2*) Apply the principles of ontology engineering for the ontology used in the course using RDF & OWL.
C- Professional and Practical Skills:	C8.Deploy appropriate tools for the construction and documentation of computer-based systems that are used to solve practical problems. c1) Apply the different tools used in this course such as portage and Jena to solve practical problems. c2) Compare between different tools used according to their capabilities, needs and when to use. C9.Deploy different modeling techniques to model and analyze real life computing problems. c3) Apply the ontology principles and life cycle to model real life problems.
D- General and transferable Skills	D3. Work as a member of a development team, recognizing the different roles within a team and different ways of organizing teams. d1) Identify the roles of the teamwork, how they can work with each other and how can distribute the tasks between team members. d2) Measure the team performance, and how they collaborate with each other. D5. Communicate effectively through oral, written, and visual means. d3) concentrate on the communication between the tutor and students in addition to the communication between the team itself. d4) Giving a chance to Students to present their work and negotiate with each other. D6. Demonstrate skills in team work, team management, time management and organizational skills. d5) Focus on how Students respect time , deadline and time

	management
4-Course Content:	▪ Introduction to Knowledge Representation and the Semantic Web o RDF o RDFS o SPARQL o Linked Data ▪ Introduction to the Web Ontology Language OWL ▪ Methods for developing and evaluating ontologies. ▪ Introduction to the Semantic Web Modelling and reasoning ▪ Developing Applications of the Semantic Web ▪ Introduction to Annotation and its tools
5- Teaching and Learning Methods:	1. Lectures 2. Tutorials 3. Class discussions 4. Internet searches

6- Teaching and Learning Methods for handicapped students :	

7- Student Assessment	
A- Assessment Methods:	1. Assignments and Quizzes 2. Mid-Term written exam 3. Oral exam 4. Practical exam 5. Final written exam
B- Assessment schedule:	1. Mid-Term Examination: Week 7 2. Practical Examination: Week 13 3. Oral Examination: Week 14 4. Final Examination: Week 15
C- Weighting of assessments:	• Assignments and Quizzes: 0% • Mid-Term Examination: 10% • Practical Examination: 20% • Oral Examination: 10% • Final-term Examination: 60%

8- Books and References	
A- Notes:	- Handed out to the students part by part.
B- Essential Books (Text Books):	• Semantic Web for Dummies. (2009)

	• Semantic Web Primer, Snellenburg JJ, van Stokkum IHM (2012). • Linked Open Data -- Creating Knowledge Out of Interlinked Data: Results of the LOD2, 2014 Sebastian Tramp, Volha Bryl, Sören Auer • Learning SPARQL: Querying and Updating with SPARQL 1.1 - 2011,Author: Bob DuCharme • Annotation for the Semantic Web, 2007, Handschuh, S., Staab, S.
C- Recommended Books:	- Semantic Web Programming (Recommended) (2009) ▪ Owl: Representing Information Using the Web (2006) ▪ Ontology Language – Lee Lacy (2006)
D- Periodicals, Web sites, … etc	-

Course Professor:
Assoc. Prof. Dr. Haytham Al-Feel

Department Head:
Prof.Dr. Nabila Hassan

1- The attributes of the Master of Information System graduate & the ILO's: :

The attributes of the master of Information System graduate	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	D1	D2	D3	D4	D5	D6	D7	D8
1. Proficiency in applying the basics and methodologies of scientific research and using its various tools.										√					√									√
2. Apply of the analytical method and its use in the field of specialization.							√	√					√											
3. Apply specialized knowledge and integrate it with relevant knowledge in his professional practice.			√					√						√				√		√				
4. Demonstrate awareness of current problems and modern visions in the field of specialization	√	√	√					√	√		√	√						√		√				
5. Identify professional problems and find solutions.								√	√				√			√								
6. Mastering an appropriate range of specialized professional skills and using appropriate technology to serve his professional practice.	√						√				√	√		√	√	√		√						
7. Communicate effectively and be able to lead teams.					√												√				√	√	√	√
8. Decision-making in different professional contexts																								
9. Use available resources to achieve the highest utilization and preservation				√	√	√							√											
10. To show awareness of his role in the development of society and the preservation of the environment in the light of global changes.		√					√																	
11. Act in a way that reflects the commitment to integrity, credibility and adherence to the rules of the profession				√	√	√							√											

12. Develop himself academically, professionally and capable of continuous learning													√						√			√	√	√

Program coordinator: Dr. Rasha Badry Department Head: Prof.Nabila Hasan