ASSIUT UNIVERSITY

Faculty of Computers and Information

Department of Information Technology

Information Technology

PhD Program

`

Assiut University

Faculty of Computers & Information

IT Ph.D. Program

Table of Contents

`

Program Specifications

IT Ph.D. Program Specifications

A. Basic Information

1. **Program Title:** Ph.D. in Computers and Information (Information Technology)
2. **Program Type:** Single
3. **Faculty (Faculties):** Faculty of Computers and Information
4. **Department:** Information Technology
5. **Assistant Coordinator:** Dr. Nagwa M. Omar
6. **Coordinator:** Prof.. Hosny M. Ibrahim
7. **Last date of program specifications approval:** –

B. Professional Information

1. Program Aims and Objectives

Successfully completing this program will contribute to some certain graduate attributes. Specifically, a graduate of Computers and Information (Information Technology) Ph. D. Program should be able to:

I. Master scientific research basics and methodologies.
II. Work continuously to add knowledge in information technology.
III. Apply analytical and criticizing methodologies in Information Technology and other related domains.
IV. Merge specialized knowledge together and indicate relations among them.
V. Be deeply aware of current problems and recent theories in information technology.
VI. Determine professional problems and find innovative solutions for them.
VII. Master professional skills in information technology.
VIII. Develop new tools, methodologies, and techniques for practicing the profession.
IX. Communicate effectively at work and lead team work at various professional contexts.
X. Take decisions from provided information.
XI. Utilize and develop available resources efficiently and discover new resources.
XII. Be aware of his/her role in developing the society and preserve the environment.
XIII. Act with integrity, credibility and apply the rules of the profession.
XIV. Adopt life-long self-learning and transfer his/her knowledge and experience to others.

`

2. Intended Learning Outcomes (ILOs)

a. Knowledge and Understanding

After completing the Ph. D. program in Computers and Information (Information Technology), the graduate should be able to:

a1. Define Theories, fundamentals, and current state-of-the-art in information technology domain and their related domains.
a2. Discuss scientific research fundamentals, methodologies, ethics, and its various tools.
a3. List Ethical and legal principles for professional practice in information technology.
a4. Outline quality principles for professional practice in information technology.
a5. Discuss related knowledge of professional information technology practice effect on the environment and methods to develop and preserve it.

b. Intellectual Skills

On successful completion of this program, graduates should be able to:

b1. Analyze and evaluate data in the domain of information technology.
b2. Solve specialized problems based on the available inputs.
b3. Carry out new research studies in information technology.
b4. Write scientific papers information technology..
b5. Assess risks in professional information technology practices.
b6. Plan to develop the performance in information technology.
b7. Take professional decisions in different scenarios related to information technology.
b8. Create and innovate.
b9. Talk and discuss based on proofs and evidences.
b10. Deal with complex issues at the forefront of the academic discipline of Information Technology in a manner, based on sound judgments, that is both systematic and creative.
b11. Demonstrate self-direction and originality in tackling and solving problems within the domain of Information Technology.
b12. Develop the critical skills to understand complex systems and problems and to create automated solutions. To give you the theoretical and practical tools necessary for building advanced, content-rich internet sites and for advanced topics in Information Technology.

c. Professional and Practical Skills

On successful completion of this program, graduates should be able to:

c1. Master basic and modern professional skills in information technology.
c2. Write and evaluate professional reports.
c3. Evaluate and develop current methods and tools in information technology.
c4. Use technological tools to serve the professional practice.
c5. Plan to develop the professional information technology practice and the performance of the others.
c6. Provide background in the principles and practice of building secure systems.
c7. Evaluate advanced information technology issues.
c8. Integrate knowledge of mathematics, science, information technology, design, business context and computing practice to solve a substantial range of oriented specific information technology discipline problems.

`

d. General and Transferable Skills

On successful completion of this program, graduates should be able to:

d1. Communicate efficiently by different means.
d2. Use the information technology to develop the professional practice.
d3. Evaluate others' work and evaluate their performance.
d4. Have a self-assessment and long-life learning.
d5. Use different recourses to obtain information and knowledge.
d6. Work in a team and lead work teams.
d7. Manage scientific meeting with the ability to manage time.
d8. Make use of the personal capabilities and transferable skills necessary for employment , decision making in complex and unpredictable situations.
d9. Participate within the professional, legal and ethical framework within which they would be expected to operate as professionals within the IT industry.

3. Academic Standards

The academic standards invoked in this specification are driven from generic the standards in the "Guide of Academic Standards for Graduate Programs" published by the National Authority for Quality Assurance & Accreditation (NAQAAE) on March 2009.

4. Curriculum Structure and Contents

4a. Program duration: at least 2 years.

4b. Program structure

- No. of hours per week: Lectures (10), Lab./Tut. (0), Total (10)
- No. of credit hours: Compulsory (18), Elective (12)
- No. of hours of basic computing: … credits, …%
- No. of hours of specialized Information Technology courses: … credits, …%
- Field Training: Not compulsory
- Program Levels (in credit-hours system): Not applicable.

5. Program Courses

5a. Compulsory Courses

Course Code / No.	Course Title	Units No	No. of hours /week			Year	Semester	Achieved ILOs
			Lect	Lab	Exer			
IT621	Advanced Computer Networks	4	2	–	–	1st	1st + 2nd	a1, a2, a5, b1, b2, b9, c1, c4, d1, d2, d5
IT622	Computer Networks Architectures	4	2	–	–	1st	1st + 2nd	a1, a2, a5, b1, b2, b9, c1, c4, d1, d2, d5
IT623	Secure Network System Design	4	2	–	–	1st	1st + 2nd	a1, a2, a5, b1, b2, b5, b7, b9, c1, c4, d1, d2, d5
T O T A L		12	6	–	–			

`

5b. Elective Courses

Course Code / No.	Course Title	Units No	No. of hours /week			Year	Semester	Achieved ILOs
			Lect.	Lab	Exer.			
1	Elective Course I	4	2	–	–	1st	1st + 2nd	a1, a2, a5, b1, b2, b9, c1, c4, d1, d2, d5
2	Elective Course II	4	2	–	–	1st	1st + 2nd	a1, a2, a5, b1, b2, b9, c1, c4, d1, d2, d5
T O T A L		12	4	–	–			

Elective Course I		Elective Course II	
Course Code	Course Title	Course Code	Course Title
IT624	Advanced Topics in Internet Search	IT627	Evaluating Networked Information Services and Systems
IT625	Advanced Topics in Computer and Communication Networks	IT628	E-Commerce Application Software
IT626	Advanced E-Commerce	IT629	Design and Production of Network Multimedia
CS623	Advanced Topics in Fault-Tolerant Computing	CS627	Graph Theory

5c. Ph. D. Thesis

No.	Title	Units No	Year	Semester	Achieved ILOs
1	Ph. D. Thesis	40	2nd	1st + 2nd	a1-a5, b1-b4, b6-b12, c1-c5, d1, d2, d4, d5, d8, d9

6. Contents of Courses

Syllabus: See below

7. Program Admission Requirements

High score in secondary school education certificate in (mathematic section).

8. Regulations for progression and program completion

Please, refer to faculty bylaw (curriculum of undergraduate programs), 2004, pages 4-5.

`

9. Student Assessment (Methods and rules for student assessment)

Method (tool)	Intended leaning outcomes assessed
1- Written examinations	Knowledge and Understanding - Intellectual Skills - Professional Skills - General Skills
2- Oral examination	Knowledge and Understanding - Intellectual Skills - General Skills
3- Thesis	Knowledge and Understanding - Intellectual Skills - Professional Skills - General Skills

10. Program Evaluation

Evaluator	Tool	Sample
1- Senior students		
2- Alumni		
3- Stakeholders		
4-External Evaluator(s) (External Examiner(s))		
5- Other		

Program Coordinator: Prof.. Hosny M. Ibrahim

Signature:

Date: 22/9/2010

Department Head: Prof.. Hosny M. Ibrahim

Signature:

Date: 22/9/2010

Approved by the Dean: Prof.. Hosny M. Ibrahim

Signature:

Date: 22/9/2010

`

Program Matrix

IT PhD Program Matrix

Program ILOs		a1	a2	a3	a4	a5	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	b11	b12	c1	c2	c3	c4	c5	C6	C7	C8	d1	d2	d3	d4	d5	d6	d7	d8	d9
Courses and Thesis	IT621	√			√	√	√	√			√	√	√		√	√			√			√					√	√			√				
	IT622	√				√	√	√				√	√		√		√		√		√	√		√			√	√			√				
	IT623	√			√	√	√	√			√	√	√		√				√			√		√			√	√			√				
	EL1	√			√	√	√	√			√	√	√		√	√	√	√	√			√			√		√	√			√				
	EL2	√			√	√	√	√					√		√	√			√			√			√	√	√	√			√				
	PhD Thesis	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√				√	√	√	√	√	√	√	√	√

`

Program Report

`

Program Report

This program has no graduate during the academic year 2010-2011.