



Faculty of Computers and Information
Department of Information Technology



Information Technology Master Program





Assiut University

Faculty of Computers
& Information



IT Master Program

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*Program
Specifications*



IT Master Program Specifications

A. Basic Information

1. **Program Title:** Master 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:**
6. **Coordinator:** Prof. Hosny M. Ibrahim
7. **Last date of program specifications approval:**

B. Professional Information

1. Program Aims and Objectives

After successfully completing this program, a graduate of Computers and Information (Information Technology) Master Program should be able to:

- I. Be proficient in applying scientific research basics, methodologies and using various tools in information technology.
- II. Apply analytical methodologies in information technology domains.
- III. Apply specialized knowledge in information technology and merge it with other related knowledge of his/her professional practice.
- IV. Be aware of current problems and vision of information technology.
- V. Determine professional problems and find solutions for them.
- VI. Master a suitable level of professional skills in information technology and use appropriate technology in his/her professional practices.
- VII. Communicate effectively at work.
- VIII. Lead team work and take decisions at different professional scenarios.
- IX. Employ available resources efficiently to preserve them and maximize their utilization.
- X. Show his/her awareness in community developing and preserving the environment according to the local and global changes.
- XI. Act with integrity, credibility and applying the rules of the profession.
- XII. Develop his/her professional and academic skills, and adopt life-long self-learning.

2. Intended Learning Outcomes (ILOs)

a. Knowledge and Understanding

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

- a1. Define theories and fundamentals in information technology and related domains.
- a2. 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.
- a3. Classify relevant specific information technology practice and its limitations and have an appreciation of likely new developments.
- a4. List ethical and legal principles for professional practice.
- a5. Outline quality principles of professional practice in information technology.
- a6. Discuss the fundamentals of scientific research and its ethics.
- a7. Discuss the principles and theories underlying applied information technology.
- a8. Describe technical and regulatory issues surrounding the Internet.
- a9. Display awareness of the developments in the convergence of computer and telecommunications technologies
- a10. Discuss the role of information awareness and literacy in organizational decision making
- a11. Discuss the central role of software and hardware lifecycles
- a12. Outline the principles and techniques of computer networks.
- a13. Outline a comprehensive overview of core software and hardware technologies.
- a14. Show a theoretical and practical understanding of object-oriented software engineering.
- a15. Outline the core concepts of modern operating systems, and provide an understanding of their application.
- a16. Show an understanding of the design, evaluation, and development of usable interactive application interfaces.

b. Intellectual Skills

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

- b1. Analyze and evaluate the data in the domain of information technology.
- b2. Solve specialized problems without enough inputs.
- b3. Link different knowledge to solve information technology professional problems.
- b4. Carry out a research study and write a thesis around a research problem in information technology.
- b5. Assess risks in professional practice of information technology.
- b6. Plan to develop the performance in information technology.
- b7. Take professional decisions in different scenarios related to information technology.
- b8. Develop the critical skills to understand complex systems and problems and to create automated solutions.

c. Professional and Practical Skills

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

- c1. Master basic and modern professional skills in computer systems and information technology.
- c2. Write and evaluate professional reports in information technology.

- c3. Evaluate current methods and tools in information technology.
- c4. Apply IT best practices to productivity and competitive advantage
- c5. Specify theoretical and practical tools necessary for building advanced, network and common application.
- c6. Provide background in the principles and practice of building secure distributed systems.
- c7. Provide an extensive range of forensic techniques to determine the root causes of breaches in computer security.
- c8. Evaluate advanced information technology issues.
- c9. Provide theoretical and practical tools necessary for data treatment.

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 serve the professional practice.
- d3. Have self-assessment and identification of personal learning needs.
- d4. Use different recourses to obtain information and knowledge.
- d5. Propose rules and indicators to evaluate the performance of the others.
- d6. Work in a team and lead teams in different professional tracks.
- d7. Manage time efficiently.
- d8. Adapt long-life self-learning.

3. Academic Standards

The academic standards invoked in this specification are driven from the generic 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 (40), Elective (6)
- No. of hours of basic computing: 8 credits, 40%
- No. of hours of specialized information technology courses: 12 credits, 60%
- 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			
IT611	Computer Forensics	4	2	–	–	1 st	1 st + 2 nd	a1, a3, a4, a5, a6, b1, b2, b3, b5, b6, b7, c1-3, d1,d2,d4,d8

CS611	Data Compression	4	2	-	-	1 st	1 st + 2 nd	a1, a3, a4, a5, a6, b1, b2, b3, b5, b6, b7, c1-3, d1,d2,d4,d8
CE611	Modern Computer Architectures	4	2	-	-	1 st	1 st + 2 nd	a1, a3, a4, a5, a6, b1, b2, b3, b5, b6, b7, c1-3, d1,d2,d4,d8
TOTAL		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	-	-	1 st	1 st + 2 nd	a1, a3- a6, b1-b3, b5- b7, c1-c3, d1,d2,d4,d8
2	Elective Course II	4	2	-	-	1 st	1 st + 2 nd	a1, a3, a4, a5, a6, b1, b2, b3, b5, b6, b7, c1-3, d1,d2,d4,d8
TOTAL		12	4	-	-			

Elective Course I		Elective Course II	
Course Code	Course Title	Course Code	Course Title
IT612	Security in Distributed Systems and Networks	IT615	Software Systems for Data Communications
IT613	Client/Server Applications Development	IT616	Advanced Topics in Computer Networks
IT614	Distributed Multimedia Systems	IT617	Collaborative Multimedia Computing
		IT618	Virtual Reality Systems

5c. Master Thesis

No.	Title	Units No	Year	Semester	Achieved ILOs
1	Master Thesis	20	2 nd	1 st + 2 nd	a2-a6, b1-b7, c1-c3,d2-d4

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 learning 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*

Courses and Thesis		IT611	CS611	CE611	EL1	EL2	Master Thesis
Program ILOs	a1	✓	✓	✓	✓	✓	✓
	a2						✓
	a3						✓
	a4	✓					✓
	a5	✓			✓	✓	✓
	a6						✓
	a7	✓	✓		✓	✓	✓
	a8	✓			✓	✓	✓
	a9	✓			✓	✓	✓
	a10						✓
	a11	✓	✓	✓			✓
	a12	✓					
	a13	✓	✓	✓			✓
	a14	✓	✓				✓
	a15	✓					✓
	a16						✓
	b1		✓		✓	✓	✓
	b2	✓	✓	✓	✓	✓	✓
	b3	✓	✓	✓	✓	✓	✓
	b4						✓
	b5	✓			✓	✓	✓
	b6	✓	✓		✓	✓	✓
	b7	✓					✓
	b8						✓
	c1	✓	✓	✓	✓	✓	✓
	c2						✓
	c3	✓	✓	✓	✓	✓	✓
	c4	✓	✓	✓	✓	✓	✓
	c5				✓		
	c6				✓		
	c7	✓					
	c8					✓	✓
	C9		✓				
	d1	✓	✓	✓	✓	✓	✓
	d2	✓	✓	✓	✓	✓	✓
	d3	✓	✓	✓	✓	✓	✓
	d4	✓	✓	✓	✓	✓	✓
	d5	✓					✓
	d6						✓
	d7	✓					✓
d8	✓					✓	

*Program
Report*



*Assiut University
Faculty of Computers & Information
Information Technology Department
Quality Assurance Unit*



Program Report

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