Course Specifications

General Information

Course name	Computer Programming (2)
Course number	ITCS2301
Faculty	
Department	
Course type	Major Needs
Course level	2
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - Introduce the students to some concepts of advanced programming and practice.

2 - Understand some advanced OO programming concepts.

3 - Write programs that implement GUIs.

4 - Develop programs with database manipulation.

5 - Develop programs with networking and multithreading.

Intended Learning Outcomes

Knowledge and Understanding	* a1. Identify advance principles of object-oriented program design. * a2. Deal with complex data objects as whole entities. * a3.Compose more complex programs from simpler parts. * a4. Write programs that implement GUIs. * a5. Effectively use parameterization and inheritance to promote reuse. * a6. Develop programs with networking and multithreading. * a7. Develop programs with database manipulation..
Intellectual Skills	* b1. Define the problem and write large programs * b2. Identify a range of solutions and critically evaluate and justify proposed design solutions. * b3. Apply the concepts, principles, theories and practices underpinning computing as an academic discipline.
Professional Skills	* c1. Solve a given application problem by going through the basic steps of program specifications, analysis, design, implementation within the context of the object-oriented paradigm. * c2. Demonstrate solid Java programming skills and ability to put in practice the acquired knowledge and understanding of the Java language and object-oriented design in relatively simple case studies. * c3. Develop Java implementations of abstract data types using different approaches, and evaluate their differences. * c4. Apply tools and techniques for the design and development of applications.
General Skill	* d1. Communicate effectively by oral, written and visual means. * d2. Work effectively as an individual and as a member of a team. * d3. Demonstrate efficient IT capabilities. * d4. Lead and motivate individuals. * d5. Manage tasks and resources. * d6. Work in stressful environment and within constraints.

Course Contents

1 - Course Overview
2 - GUI(Graphical User Interface), Java Applet
3 - Generics
4 - Collections
5 - Files
6 - Java Database Connectivity (JDBC)
7 - Threads and Concurrency
8 - Networking

Teaching and Learning Methods

1 - Lectures
2 - Practical Exercises
3 - Tutorial Exercises
4 - Projects

Students Assessment

Assessment Method	TIME	MARKS
Final Exam	Week 16	50%
Practical Exercises		15%
Mid-Term Exam	Week 8	20%
Projects		15%

Books and References

Course note	Short course notes available at doctor's office.
Essential books	Y. Daniel Liang, Introduction to Java, eighth edition, Prentice
Recommended books	. M. Deitel. P. J. Deitel, "Java How To Program", Prentice Hall, Sixth Edition.

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Course Overview	1	a1	b1		
GUI(Graphical User Interface), Java Applet	2-4	a2,a3,a4	b1-b3	c1-c4	d1-d6
Generics	5-6	a1,a5	b2,b3	c1,c3	d1-d6
Collections	7	a1,a2,a3,a5	b1-b3	c1-c4	d1-d6
Files	8-10	a1,a2	b1-b3	c1-c4	d1-d6
Java Database Connectivity (JDBC)	11-12	a1,a2,a7	b1-b3	c1-c4	d1-d6
Threads and Concurrency	12-13	a1,a2,a3,a6	b1-b3	c1-c4	d1-d6
Networking	14	a1,a2,a3,a6	b1-b3	c1-c4	d1-d6