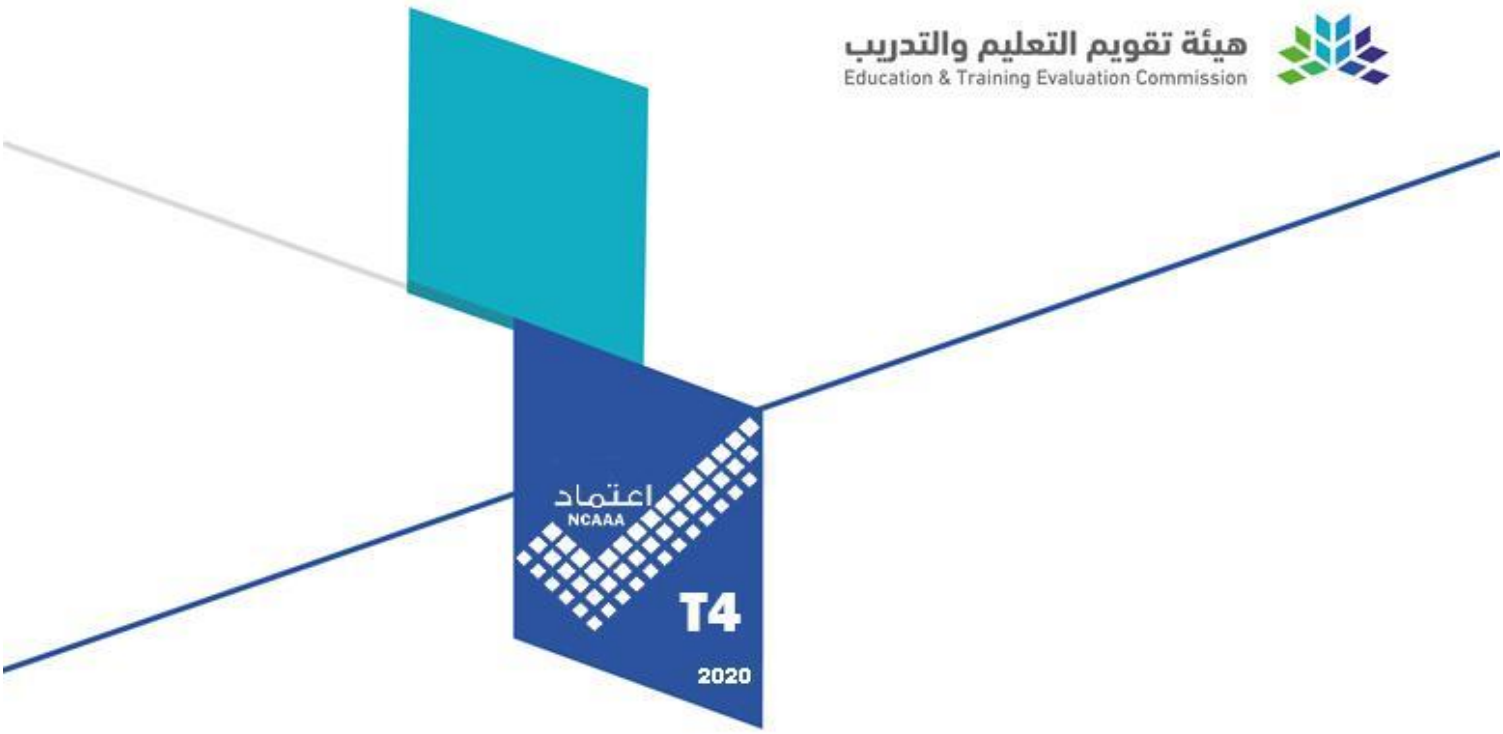
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	Reconfigurable Computing
Course Code:	503537-3
Program:	Bachelor in Computer Engineering
Department:	Department of Computer Engineering
College:	College of Computers and Information Technology
Institution:	Taif University

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A. Course Identification

1. Credit hours:3
2. Course type **a.** University ☐ College ☐ Department ■ Others ☐ **b.** Required ☐ Elective ■
3. Level/year at which this course is offered: 10/5
4. Pre-requisites for this course (if any)**:** 503528-3
5. Co-requisites for this course (if any)**:** None.

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	3	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	45
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	45

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides reconfigurable computing (RC) based upon advanced technologies in field-programmable logic devices. Topics include general RC concepts, device architectures, design tools, metrics and kernels, system architectures, and application case studies.

2. Course Main Objective

1. Understand and use common terminology in reconfigurable computing
2. Program a Field Programmable Gate Array
3. Understand FPGA Placement

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	

CLOs		Aligned PLOs
1.1	Understand multiFPGA Partitioning	K1
1.2		
1.3		
1...		
2	**Skills :**	
2.1	Implement algorithms using FPGA	S1
2.2	Perform Network Virtualization with FPGAs	S1
2.3		
2...		
3	**Values:**	
3.1	Discuss the state of the art in reconfigurable computing	V1
3.2		
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction, Objectives, Expectations, Logistics	4
2	Field Programmable Gate Arrays	4
3	FPGA Placement	4
4	Network Virtualization with FPGAs	4
5	On chip Monitoring Infrastructures	4
6	Dynamically Reconfigurable Adaptive Viterbi Decoder	5
7	MultiFPGA Partitioning	5
8	Logic Emulation	5
9	Reconfigurable Computing Applications	5
10	High Level Compilation	5
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Understand multiFPGA Partitioning	Lecture Discussion Problem Solving	Written Exams Quizzes Assignments
1.2	Implement algorithms using FPGA	Lecture Discussion Problem Solving	Written Exams Quizzes Assignments Project
…	Perform Network Virtualization with FPGAs	Lecture Discussion Problem Solving	Written Exams Quizzes Assignments

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
			Project
2.0	Implement algorithms using FPGA		
2.1	Perform Network Virtualization with FPGAs	Lecture Discussion Problem Solving	Written Exams Quizzes Assignments Project
2.2			
2.3			
3.0	**Values**		
3.1	Discuss the state of the art in reconfigurable computing	Discussion Brainstorming Self-Learning	Written Exams Assignments Project
3.2			
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments	Continues	5%
2	Midterm Exam	8	20%
3	Project	14	15%
4	Quizzes	Continues	10%
5	Final Exam	16	50%
6			
7			
8			

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :
Teaching staff provide at least 6 office hours for students to help them in the course as well as in any other academic issues.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	S. Hauck and A. DeHon, Reconfigurable Computing, Morgan Kaufmann, 2008.
Essential References Materials	
Electronic Materials	

Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Traditional Classrooms, Laboratories
Technology Resources (AV, data show, Smart Board, software, etc.)	White Board. Datashow, Software.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Extent of achievement of course learning outcomes	Students	Indirect (Survey)
Effectiveness of teaching and assessment	Students	Indirect (Survey)
Extent of achievement of course learning outcomes	Faculty	Course Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

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