هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Software Engineering**
Course Code:	**502435-3**
Program:	**Bachelor in Information Technology**
Department:	**Department of Information Technology**
College:	**College of Computers and Information Technology**
Institution:	**Taif University**

Table of Contents

A. Course Identification

1. Credit hours:	
2. Course type	
a.	University ☐ College ☐ Department ☑ Others ☐
b.	Required ☑ Elective ☐
3. Level/year at which this course is offered: 10/4	
4. Pre-requisites for this course (if any)**: System Analysis & Design (502361-3)**	
5. Co-requisites for this course (if any)**: Non**	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	5	100%
2	**Blended**	0	0
3	**E-learning**	0	0
4	**Distance learning**	0	0
5	**Other**	0	0

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	50
2	**Laboratory/Studio**	0
3	**Tutorial**	0
4	**Others** (specify)	0
	Total	50

B. Course Objectives and Learning Outcomes

1. Course Description

Introduces to different aspects of software development for reliable systems. Study of software development process models, project management techniques, modeling notations, requirement analysis, architecture design methods, and testing techniques.

2. Course Main Objective

The objective of this course is understanding the various software engineering paradigms and metrics to assess quality of the various processes in software engineering from inception till retirement of the software. The program will prepare our students to be successful professionals in the field with solid fundamental knowledge of software engineering. Understand the various effort estimation methods, preparation of project plan and identification of risks of project, Learn design document for a software development project. Understand various strategies for testing the software system.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Describe the Software Development Life Cycles	K1
2	**Skills :**	
2.1	Develop an understanding of project management, software process models and the ability to select a suitable model to use in software development.	S1
2.2	Develop an understanding of requirements engineering process and distinguish between different types of requirements.	S2
2.3	Analyze, design and develop the system models using object oriented methodology (UML) for software development.	S2
2.4	Prepare technical documentation for a software project.	S2
3	**Values:**	
3.1	Work in teams on a software development project.	V2

C. Course Content

No	List of Topics	Contact Hours
1	Course Introduction	4
2	Introduction to Software Engineering	6
3	Software Processes	8
4	Agile Software Development	8
5	Requirements Engineering	6
6	Software Modeling	6
7	Architectural Design	6
8	Design and Implementation	6
Total		50

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	Describe the Software Development Life Cycles	Lecture Discussion	Written Exams Assignments Quizzes
2.0	**Skills**		
2.1	Develop an understanding of project management, software process models and the ability to select a suitable model to use in software development.	Lecture Discussion	Written Exams Assignments Quizzes
2.2	Develop an understanding of requirements engineering process and	Lecture Discussion	Written Exams Assignments Quizzes

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	distinguish between different types of requirements.		
2.3	Analyze, design and develop the system models using object oriented methodology (UML) for software development.	Lecture Discussion	Written Exams Assignments Quizzes
2.4	Prepare technical documentation for a software project.	Lecture Discussion	Written Exams Assignments Quizzes
3.0	**Values**		
3.1	Work in teams on a software development project.	Lecture Discussion Work group	Writing Exam Assignments Reports Oral Presentations

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments and Quizzes	8	20%
2	Mid Exam	6	20%
3	Attendance/ class activities	weekly	10%
4	Final Exam	12	50%

***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 :

Academic advising and counseling of students is an important component of teaching; student academic advising is a mandatory requirement of College of Computers and Information Technology (CCIT). Appropriate student advising provides support needed for the student during times of difficulty. In addition, it helps the student to build a close relationship with his/her advisor and to provide student motivation and involvement with the institution.

In addition, since faculty are usually the first to recognize that a student is having difficulty, faculty members play a key role in developing solutions for the students or referring them to appropriate services. Faculty members also participate in the formal student-mentoring program.

Additional counseling is provided by course directors, who provide students with academic reinforcement and assistance and refer “at risk” students to the Vice Dean for Academic Affairs and the Vice Dean for female section.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Software Engineering, Author-Ian Sommerville, Publisher-Addison-Wesley, latest Edition.

Essential References Materials	Software Engineering Practitioner's Approach, Author-Roger Pressman, Publisher-McGraw Hill, latest Edition.
Electronic Materials	Presentations and recorded lectures
Other Learning Materials	NON

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• A Lecture room appropriate for maximum 25 students with a personal computer, a data show and a smart board.
Technology Resources (AV, data show, Smart Board, software, etc.)	• Lab materials and required software & hardware
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	NON

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Students surveys and Students course evaluation
Improvement of Teaching	Course Coordinator	Deficiencies based on the student Evaluation, faculty input, course file, and program assessment
Verifying Standards of Student Achievement	Curriculum Committee	• Review CAF (Course assessment file) • Alumni surveys. • Periodic exchange and remarking of tests or a sample of assignments with staff at another

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	IT Department Council/ Executive program committee
Reference No.	11
Date	23/10/21443


قسم تقنية المعلومات
Information Technology
Department
TU
جامعة الطائف
TAIF UNIVERSITY
كلية الحاسبات وتقنية المعلومات
College of Computer and
Information Technology
TU
جامعة الطائف
TAIF UNIVERSITY