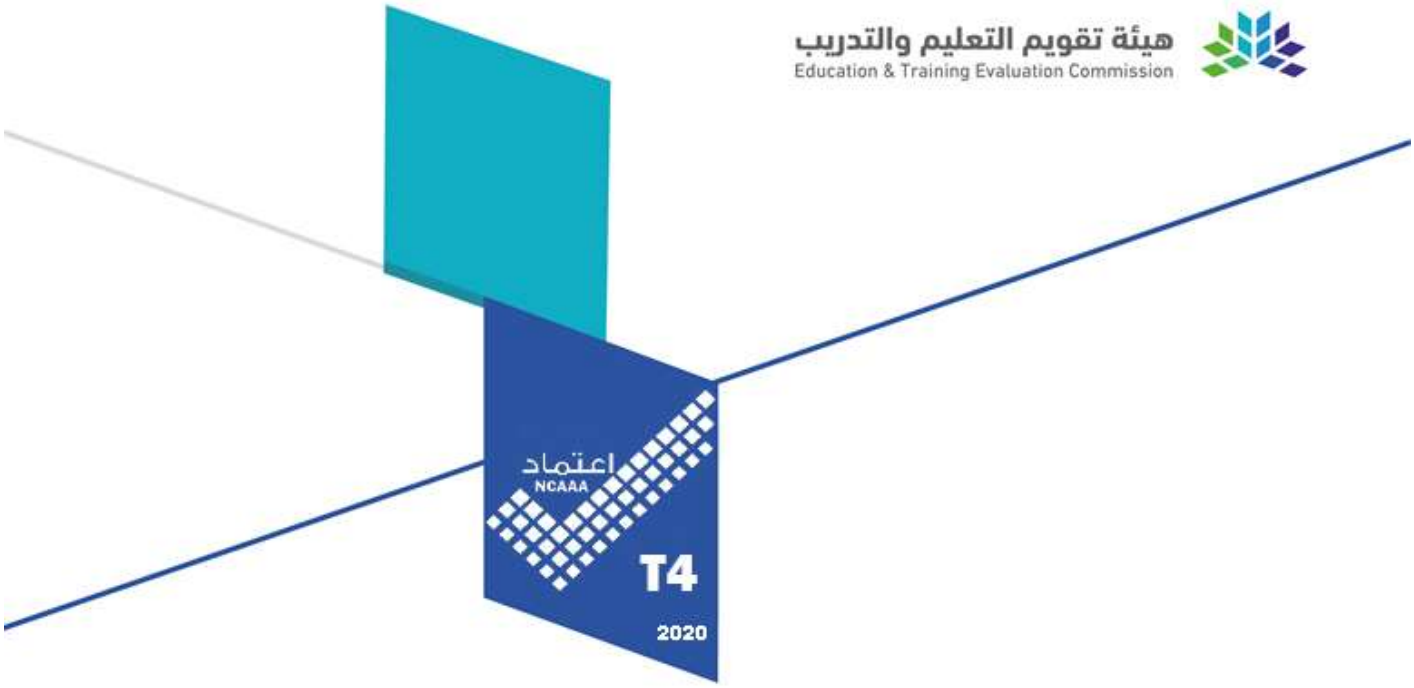
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	Medical Informatics and Quality of Care
Course Code:	MIF356
Program:	Bachelor of Medicine, Bachelor of Surgery (MBBS)
Department:	NA
College:	College of Medicine
Institution:	Alfaisal University

Table of Contents

A. Course Identification

1. Credit hours: 2 (1+2+0)
2. Course type **a.** University ☐ College ■ Department ☐ Others ☐ **b.** Required ■ Elective ☐
3. Level/year at which this course is offered: Sem 6, Year 3
4. Pre-requisites for this course (if any)**:** Sem 3 and 4
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**	22	52%
2	**Project**	20	48%

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	22
2	**Laboratory/Studio**	
3	**Tutorial**	20
4	**Others** (specify)	
	Total	42

B. Course Objectives and Learning Outcomes

1. Course Description

This is an interdisciplinary course that combines knowledge of information sciences and medical sciences to optimize the use and application of biomedical data across the spectrum of patient, hospital, and physician. This course will introduce students to the field through the introduction of the use of core technologies and data sciences and the use of health information technology to improve patients' outcomes and healthcare delivery.

2. Course Main Objective

Introduction of the use of core technologies and data sciences and the use of health information technology to improve patients' outcomes and healthcare delivery.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Provide the future healthcare leaders an understanding of the value and capability of information and technology to lead the transformation of	PLO26

CLOs		Aligned PLOs
	healthcare, contain costs, reduce medical errors, and optimize the delivery of services across all healthcare professions.	
1.2	Understand the nature of medical data and the electronic medical records (EMR).	PLO26
1.3	Knowledge of standards, coding and classifications in medical informatics.	PLO26
1.4	Provide an overview of the informatics tools and systems in healthcare and their associated medical departments and clinical support systems.	PLO26
1.5	Familiarize with the foundations of quality, patient safety, and risk management sciences.	PLO26
1.6	Demonstrate best practices through quality improvement tools and techniques.	PLO26
1.7	Educate students to be agents to facilitate patient safety culture.	PLO26
2	**Skills :**	
2.1		
2.2		
3	**Values:**	
3.1	Adhere to the attendance policy.	
3.2	Maintain professional conduct with colleagues, faculty, and staff.	

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to medical informatics	1
2	Electronic Medical Record	1
3	Standards in medical informatics	1
4	Clinical Decision Support	2
5	Essential Concepts for Biomedical Computing	2
6	Process redesign	2
7	Web 2.0 Internet technologies for medical informatics: Practical usage and case studies	1
8	Essentials of Quality Management in Healthcare	1
9	Patient Safety trends and incidents Management	1
10	Natural Language Processing	1
11	Mobile health	1
12	Risk Management in Healthcare	2
13	Data warehouse	2
14	The Future of Computer Applications in Biomedicine or the future of medical informatics	2
15	Medical informatics and Medicine	2
16	Project	20
Total		42

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	Provide the future healthcare leaders an understanding of the value and capability of information and technology to lead the transformation of healthcare, contain costs, reduce medical errors, and optimize the delivery of services across all healthcare professions.	Lectures	Summative assessment
1.2	Understand the nature of medical data and the electronic medical records (EMR).	Lectures	Summative assessment
1.3	Knowledge of standards, coding and classifications in medical informatics.	Lectures	Summative assessment
1.4	Provide an overview of the informatics tools and systems in healthcare and their associated medical departments and clinical support systems.	Lectures	Summative assessment
1.5	Familiarize with the foundations of quality, patient safety, and risk management sciences.	Lectures	Summative assessment
1.6	Demonstrate best practices through quality improvement tools and techniques.	Lectures	Summative assessment
1.7	Educate students to be agents to facilitate patient safety culture.	Lectures	Summative assessment
2.0	**Skills**		
2.1			
2.2			
3.0	**Values**		
3.1	Adhere to the attendance policy.		Continuous assessment
3.2	Maintain professional conduct with colleagues, faculty, and staff.		Continuous assessment

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid-term	9	25%
2	Project	15	15%
3	Final Exam	15	60%

***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:

The CoM program established its own mentorship program that employs all full-time faculty as mentors. Through this program, every medical student in the program is assigned a mentor at the beginning of their first semester of studies. The program has a broad scope covering academic advising and counseling. The mentors handle all aspects related to academic advising, including academic planning, academic performance review, advice on course drop or withdrawal, study skills, and time management.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	
Essential References Materials	Clinical Informatics Study Guide, Finnell, John T., Dixon, Brian E, SPRINGER co. Ltd.
Electronic Materials	PowerPoint presentations uploaded on Alfaisal E-learning Portal
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms
Technology Resources (AV, data show, Smart Board, software, etc.)	AV (Audio-Visual), Smartboard, Moodle (E-learning Management)
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
Course and Faculty Evaluation Survey	Students	Survey

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	