Course Specifications

Course Title:	**Computer Skills**
Course Code:	**1105102**
Program:	**B. Medicine/Applied Med. Science/ Nursing**
Department:	**Computer Science**
College:	**Science**
Institution:	**Northern Border University**

Table of Contents

A. Course Identification ..... خطأ! الإشارة المرجعية غير معرّفة.

6. Mode of Instruction (mark all that apply) 3

B. Course Objectives and Learning Outcomes 3

1. Course Description 3

2. Course Main Objective 3

3. Course Learning Outcomes 4

C. Course Content 4

D. Teaching and Assessment 4

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods 4

2. Assessment Tasks for Students 5

E. Student Academic Counseling and Support 5

F. Learning Resources and Facilities 5

1.Learning Resources 5

2. Facilities Required 5

G. Course Quality Evaluation 6

H. Specification Approval Data 6

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: 1st year
4. Pre-requisites for this course (if any):
5. Co-requisites for this course (if any):

6. Mode of Instruction (mark all that apply)

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

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	**30**
2	**Laboratory/Studio**	**30**
3	**Tutorial**	
4	**Others** (specify)	
	Total	**60**
Other Learning Hours*		
1	**Study**	**15**
2	**Assignments**	**15**
3	**Library**	**10**
4	**Projects/Research Essays/Theses**	**10**
5	**Others**(specify)	
	Total	**50**

*The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The course is specifically designed to introduce students of the health care pertinent studies an overview of computer science from a perspective of which students can appreciate its relevance and application in the health care industry. This survey approach provides mainly a practical and realistic understanding of the entire field in addition to equipping the students with required skills to effectively utilize computers in a professional manner throughout their studies and futuristic research endeavors. It starts by shedding light on the history of computer application in the health care turf with the fundamentals of basic knowledge and skills required to operate computers and their components and how to effectively log onto and utilize the Internet in addition to understanding concepts of information security and regulatory laws and code of ethics regarding the health care industry. The course then progresses to the contemporary applications and associated issues of information systems and technology in the Heath care industry through a variety of topics. Finally, the course advances to discussing the Use of Computers and IT to Advance Health Care, and future dependencies and Growth areas.

2. Course Main Objective

The objective of the course is to introduce the students of Heath Care fields to computer science and computer skills in a relevant manner to their profession and enable them to:

After attending this course, the student should be able to:

1. Understand and appreciate the importance of the computer science field from the perspective of medical sciences.
2. Obtain the basic knowledge and skills that will enable the students to effectively operate computers.
3. Comprehend the magnitude of computers applications in the medical sciences realm.
4. Be able to effectively utilize the skills obtained throughout this course in both; quantitatively and qualitatively acquiring academic knowledge from various sources for a variety of purposes ranging from studying and research, to being contemporarily updated and diagnosis.
5. Understand how the computer is used as a problem solver and a knowledge and Expertise expansion tool and increasing reliance on medical science on computer applications.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.2	Identify the importance of the computer science field from the perspective of medical sciences.	K1
1.3	Be familiar with computer and related basic terminologies and	K1

CLOs		Aligned PLOs
	technologies.	
2	**Skills :**	
2.1		S1, S2
2.2		S1, S2
2.3		S1, S2
3	**Competence:**	
3.1	Use acquired skills in distributed systems projects to solve practical problems.	C1, C2
3.2	Contribute to programming within the framework of distributed systems.	C1, C2

C. Course Content

No	List of Topics	Contact Hours
1	**Computers Foundations** Basic Components, Operating Systems	**4**
2	Software management and utilization, Programming languages, File formats, conversion, extracting and sending	**4**
3	**Internet Technology:** Internet connectivity, WWW Dot Servers, Browser types, Web searching, Google hacking, and source evaluation	**4**
4	**Cloud Storage** File Sharing, Mobile Applications, Social Networks (Facebook, Twitter, Instagram, Snap Chat…etc.)	**4**
5	**Information and computer security** Basics of maintaining privacy, Hacking and threats, Protecting your accounts	**4**
6	**Databases DBMS – RDBMS, Health care Informatics:** Clinical Informatics- Pharmacy Informatics- Public Health Informatics-	**4**
7	. Nursing Informatics- Medical Informatics	**4**
8	Clinical Bioinformatics -Informatics for Education & Research in Health & Medicine	
9	**Medical and Health Information systems**	**4**
10	**Medical and Health Information systems**	**4**
11	**Computers in the Health Care Industry:** **Microscopy imagining**	**4**
12	**Computers in the Health Care Industry:** **Patient monitoring** **Biomedical research**	**4**
13	**Future Growth areas:** Internet surgery- Image Guided Surgery Handheld computer, or palm pilot MIR and CAT scans Sensory nerve engineering	**4**

	Computer Aided Pharmacogenomics AI medical related applications	
14	**Future Growth areas:** Human - computer interfaces in medicine Data visualization Pattern classification techniques Computer-Aided Diagnosis (CAD) and Decision support systems (DSS) Picture Archiving and Communication Systems (PACS) Mobile technology and remote monitoring Scientific databases Drug discovery	**4**
15	**General revisions**	**4**
Total		**60**

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**		
1.1	Recall relevant information technologies and software development techniques for Health care information systems.	▪*lectures and discussion* ▪*mini-workshops teaching* ▪*Problem-solving techniques and strategies*	▪ Exams ▪ Homework and Quizzes ▪ Presentations
1.2	Identify different computer operating systems and general software		
2.0	**Skills**		
2.1	Use computer efficiently	▪ Brainstorming ▪ discussion ▪ mini-workshops teaching ▪ Self-learning ▪ Problem-solving techniques and strategies ▪ Lectures	▪ Exams ▪ Homework and Quizzes ▪ Presentations
2.2	Be able to deal with health care related information systems		
3.0	**Competence**		
3.1	Use acquired skills in course projects to solve simple practical problems.	▪ Miniworkshops teaching ▪ Problem-solving techniques and strategies	▪ Project ▪ Exams

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	7	%20
4	Quizzes /Assignments/ Participation	….	%30
5	Mid. /Final Practical Exams	…..	%20
7	Final Exam	16	%30

***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 :

- In addition to the time spent in class, faculty members devote at least 6 hours per week to student consultations and academic advice. The consultation time is mentioned in the Faculty Timetable and posted on the faculty member's office door.
- During the registration period, faculty members also spend time reviewing and approving students' registration form. Each faculty member is assigned a group of students to advise them. The list is posted in the faculty office and students are invited to visit the faculty member during the time indicated in their faculty schedule.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	**Introduction to Computers for Healthcare Professionals 7th Edition, 2020, Jones & Bartlett Learning.**
Essential References Materials	1. Health Informatics: Practical Guide for Healthcare and Information Technology Professionals, 6th Edition, 2014, R. Hoyt, A. Yoshihashi , Publisher: Health Informatics. 2. The Engines of Hippocrates: From the Dawn of Medicine to Medical and Pharmaceutical Informatics, 1st Edition, B. Robson, O. Baek & S. Ekins (Series Editor), Publisher: John Wiley & Sons, Inc.
Electronic Materials	**Black Board**
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	**Computer lab**
Technology Resources (AV, data show, Smart Board, software, etc.)	**Black Board, data show**
Other Resources (Specify, e.g. if specific laboratory	

Item	Resources
equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Student	Indirect
Extent of achievement of course learning outcomes	Program Leaders	Direct
Quality of learning resources	Instructor	Indirect

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

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	