

# Republic of Yemen

Ministry of Higher Education & Scientific Research

## Council of Academic Accreditation & Quality Assurance of Higher Education(CAQA)

21 September University for Medical and Applied Sciences



Faculty of Engineering and Computer  
Department of Information Technology

Program of Information Technology

Course Specification of  
Introduction to Information Technology  
Course Code. (07.01.701)

2024



T4: This Template is Developed and Approved by CAQA-Yemen, 2023

Prepared by:

Dr. -----

Reviewed by:

Dr. -----

Head of the Department:

Quality Unit:

Dean

## I. General Information:

1.	Course Title:	Introduction to Information Technology				
2.	Course Code:	07.01.701				
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours	
			Lecture	Tutorial/ Seminar	Lab	Clinical
		3	2	--	2	--
4.	Level/ Semester at which this Course is offered:	1 Level / 1 Semester				
5.	Pre –Requisite (if any):	Non				
6.	Co –Requisite (if any):	Non				
7.	Program (s) in which the Course is Offered:	Bachelor of Information Technology				
8.	Language of Teaching the Course:	English/Arabic				
9.	Location of Teaching the Course:	Faculty of Medical Technology				
10.	Prepared by:	Dr. Abdulrahman Mohammed Hussein Obaid				
11	Date and Number of Approval by Council:					

## II. Course Description:

Introduction to Information Technology is a foundational course that explores the core principles of information technology. Students gain a comprehensive understanding of computer hardware, software, networks, and data management, with a focus on their applications in IT settings. The course covers fundamental IT concepts, including system architecture, operating systems, and basic programming principles. Emphasis is placed on how these technologies are utilized to address IT challenges and enhance information systems. Through hands-on exercises and case studies, students develop practical skills in using IT tools and techniques to solve real-world IT problems, laying the groundwork for advanced study in Information Technology.

III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:		Referenced PILOs	
A. Knowledge and Understanding:		I, P or M/A	
a1	Explain fundamental concepts, models, and theories related to information technology in healthcare systems.		A1 Demonstrate an understanding of appropriate models, theories, mathematical foundations, and techniques related to Health Information Technology discipline.
a2	Identify healthcare needs and propose basic IT solutions to address real-world medical problems.		A2 Identify user and Healthcare needs to provide IT based solutions to real-world problem.
a3	Demonstrate a knowledge in basic IT tools and techniques to solve simple computing problems in healthcare environments.		A3 Demonstrate a profound knowledge in utilizing and adapting IT tools, techniques, practices, and methods for solving computing problems in Health environment.

a4	Describe the basic components and processes involved in the analysis, design, and implementation of health information systems.		A4	Demonstrate a sound understanding the computing concept related to analysis, design, implementation, and evaluation of Health information system.
<b>B. Cognitive/ Intellectual Skills:</b>				
b1				
b2	Discuss the impact of computing on healthcare objectives and patient needs in relation to information systems.		B2	Analyze the impacts of computing on Health objectives and customer needs, and consider them during the analytical processing, selection, integration, configuration and administration of information systems
b3	Examine common challenges in Health Information Technology and suggest potential solutions.		B3	Explore variety of challenges and problems related to Health Information Technology to select the optimal solution.
<b>C. Practical and Professional Skills:</b>				
c1	Utilize fundamental computational tools and techniques for basic health information management tasks.		C1	Employ effectively the concepts, principles of computational tools, techniques used for the construction and documentation of Health Information of varying complexity.
c2				
c3				

c4	Use current IT tools and skills necessary for introductory computing practices in healthcare.		C4	Use current techniques, skills, and tools necessary for computing practices.
<b>D. General and Transferable Skills:</b>				
d1			D1	
d2			D2	
d3			D3	
I= Introduced, P=Practiced or M/A= Mastered/Advanced				

<b>(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:</b>			
	<b>Course Intended Learning Outcomes</b>	<b>Teaching Strategies</b>	<b>Assessment Strategies</b>
a1	Explain fundamental concepts, models, and theories related to information technology in healthcare systems.	<ul style="list-style-type: none"> <li>▪ Lectures</li> <li>▪ Discussion</li> <li>▪ Presentation</li> <li>▪ Self-learning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Written exam (mid and final terms and quizzes)</li> <li>▪ Final practical exam</li> <li>▪ Assignments</li> </ul>
a2	Identify healthcare needs and propose basic IT solutions to address real-world medical problems.	<ul style="list-style-type: none"> <li>▪ Lectures</li> <li>▪ Discussion</li> <li>▪ Presentation</li> <li>▪ Self-learning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Written exam (mid and final terms and quizzes)</li> <li>▪ Final practical exam</li> <li>▪ Assignments</li> </ul>
a3	Demonstrate a knowledge in basic IT tools and techniques to solve simple computing problems in healthcare environments.	<ul style="list-style-type: none"> <li>▪ Lectures</li> <li>▪ Discussion</li> <li>▪ Presentation</li> <li>▪ Self-learning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Written exam (mid and final terms and quizzes)</li> <li>▪ Final practical exam</li> <li>▪ Assignments</li> </ul>
a4	contrast Java applications for health information systems, demonstrating understanding of software development lifecycle concepts.	<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>

<b>(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:</b>			
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
b1		<ul style="list-style-type: none"> <li>▪ Lectures</li> <li>▪ Tutorials</li> <li>▪ Discussion</li> <li>▪ Case studies (CBL)</li> <li>▪ Self-Learning</li> <li>▪ Problem Based Learning (PBL)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Written exam (mid and final terms and quizzes)</li> <li>▪ Final practical exam</li> <li>▪ Assignments</li> </ul>
b2	Discuss the impact of computing on healthcare objectives and patient needs in relation to information systems.	<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>
b3	Examine common challenges in Health Information Technology and suggest potential solutions.	<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>
		<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>
		<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>
<b>(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:</b>			
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
c1	Utilize fundamental computational tools and techniques for basic health information management tasks.	<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>
c2		<ul style="list-style-type: none"> <li>▪ Tutorials</li> <li>▪ Training</li> <li>▪ Case studies (CBL)</li> <li>▪ Lab work</li> <li>▪ Problem Solving Learning (PSL)</li> <li>▪ Problem Based Learning (PBL)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Written exam (mid and final terms and quizzes)</li> <li>▪ Final practical exam</li> <li>▪ Assignments</li> </ul>

		▪	▪
c4	Use current IT tools and skills necessary for introductory computing practices in healthcare.	<ul style="list-style-type: none"> <li>▪ Tutorials</li> <li>▪ Training</li> <li>▪ Case studies (CBL)</li> <li>▪ Lab work</li> <li>▪ Problem Solving Learning (PSL)</li> <li>▪ Problem Based Learning (PBL)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Written exam (mid and final terms and quizzes)</li> <li>▪ Final practical exam</li> <li>▪ Assignments</li> </ul>
<b>(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:</b>			
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
d1		▪	▪
d2		▪	▪
	...	▪	▪

#### IV. Course Contents:

##### A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Introduction to IT in Healthcare	<ul style="list-style-type: none"> <li>• Definition and importance of IT</li> <li>• Evolution of IT in healthcare</li> <li>• Current trends in Health IT</li> </ul>	1	2	a1, b2
2	Computer Fundamentals	<ul style="list-style-type: none"> <li>• Types of computers</li> <li>• Computer architecture</li> <li>• Binary system and data representation</li> </ul>	1	2	a1, a 4
3	Computer Hardware	<ul style="list-style-type: none"> <li>• CPU and processing units</li> <li>• Memory types (RAM, ROM)</li> <li>• Motherboard and system bus</li> </ul>	1	2	a1, a 3
4	Input/Output Devices	<ul style="list-style-type: none"> <li>• Input devices in healthcare settings</li> <li>• Output devices for medical data</li> <li>• Human-Computer Interaction in healthcare</li> </ul>	1	2	a1, a2, a3

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
5	Storage Units	<ul style="list-style-type: none"> <li>• Primary and secondary storage</li> <li>• Storage technologies in healthcare</li> <li>• Medical data storage considerations</li> </ul>	1	2	a1,a 3, b3
6	Computer Software	<ul style="list-style-type: none"> <li>• Operating systems</li> <li>• Application software in healthcare</li> <li>• Electronic Health Records (EHR) systems</li> </ul>	2	4	a1,a3,a4 , c4
7	Midterm Exam	<ul style="list-style-type: none"> <li>• Review and assessment</li> </ul>	1	2	1a,2a,a3 , a4,b2
8	Computer Networks	<ul style="list-style-type: none"> <li>• Network types and topologies</li> <li>• Network protocols</li> <li>• Healthcare network security</li> </ul>	2	4	a1,a3,c1
9	Internet and Web Technologies	<ul style="list-style-type: none"> <li>• Internet basics and protocols</li> <li>• Web applications in healthcare</li> <li>• Telemedicine and e-health</li> </ul>	1	2	a1,a2,b2 , c4
10	Database Management Systems	<ul style="list-style-type: none"> <li>• Database concepts</li> <li>• SQL basics</li> <li>• Healthcare database applications</li> </ul>	1	2	a1,a3,c1
11	Computer Crimes and Data Security	<ul style="list-style-type: none"> <li>• Types of cyber threats in healthcare</li> <li>• Data protection methods</li> <li>• HIPAA compliance and IT</li> </ul>	1	2	a1, b2,b3
12	Emerging Technologies in Healthcare IT	<ul style="list-style-type: none"> <li>• Artificial Intelligence in healthcare</li> <li>• Internet of Medical Things (IoMT)</li> <li>• Big Data in healthcare</li> </ul>	1	2	a1,a2,b2 ,b3
13	Project Discussions	<ul style="list-style-type: none"> <li>• Healthcare IT case studies</li> <li>• Problem-solving in Health IT</li> <li>• Future of Health Information Technology</li> </ul>	1	2	a2,a4,b3 ,c4
14	Final Exam	<ul style="list-style-type: none"> <li>• Comprehensive assessment</li> </ul>	1	2	a1,a2,a3

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
					,a4,b2,b3,c1,c4
Number of Weeks /and Units Per Semester			16	32	

### B. Practical Aspect (Lab(/Clinical) (if any):

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Computer hardware assembly and identification	1	2	a1,a3
2	Operating system installation.	1	2	a1,a 3, c4
3	Operating systems configuration (Windows)	2	4	a1, a3,c4
4	Word Processing Programs(Microsoft Word)	2	4	a1,a 3, c4
5	Presentation Programs (Microsoft Power Point)	1	2	a1,a 3, c4
6	Midterm Exam	1	2	a1,a 3, c4
7	Spreadsheet Programs (Microsoft Excel)	2	4	a1,a 3, c4
8	Basic networking and troubleshooting	1	2	a1,a3, c4
9	Data analysis and visualization tools for healthcare	2	4	a2,a3,c1,c4
10	Cybersecurity practices in IT	1	2	b2,b3,c1
11	Final project.	1	2	a2, a3, a4, b2,b3,c1,c4
Number of Weeks /and Units Per Semester		15	30	

### C. Tutorial Aspect (if any):

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
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No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
Number of Weeks /and Units Per Semester				

## VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Exercises and Home Works, Problem Solving (I)	3	3	a1,a2,a3
2	Exercises and Home Works, Problem Solving (II)	9	3	a4,b2,b3,c1,c4
3	Technical Report and Presentation.	11	4	a1,a2,a3,a4,b2,b3,c1,c4

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
Total			10	

### VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	3,8,11	10	10 %	a1,a2,a3,a4,b2,b3
2	Quizzes 1 & 2	6,12	5	5 %	a1,a2,a3,a4,b2,b3,c1,c4
3	Mid-Term Theoretical Exam	9	10	10 %	1a,2a,a3, a4,b2
4	Mid-Term Practical Exam	7	5	5 %	a1,a 3, c4
5	Final Practical Exam including Project Presentation & Evaluation	15	10	10 %	a2, a3, a4, b2,b3,c1,c4
6	Final Theoretical Exam	16	60	60 %	a1,a2,a3,a4,b2,b3,c1,c4
Total			100	100%	

### IX. Learning Resources:

- *Written in the following order:* Author, Year of publication, Title, Edition, Place of publication, Publisher.

#### 1- Required Textbook(s) (maximum two ):

1. Brylow, D. (2024). Computer Systems: An Integrated Approach to Architecture and Operating Systems, 3rd Edition. Boston, Pearson.
2. Shelly, G.B. & Vermaat, M.E. (2023). Discovering Computers: Technology in a World of Computers, Mobile Devices, and the Internet, 2nd Edition. Boston, Cengage Learning.

#### 2- Essential References:

1. Burd, S.D. (2023). Systems Architecture, 9th Edition. Boston, Cengage Learning.
2. Shortliffe, E.H. & Cimino, J.J. (2022). Biomedical Informatics: Computer Applications in

Health Care and Biomedicine, 5th Edition. New York, Springer.

3. Sarkar, P.R. (2024). Information Technology in Healthcare: Concepts and Applications, 3rd Edition. New Delhi, PHI Learning Private Limited.

### 3- Electronic Materials and Web Sites etc.:

#### Websites:

1. [www.healthit.gov](http://www.healthit.gov) - The Office of the National Coordinator for Health Information Technology
2. [www.himss.org](http://www.himss.org) - Healthcare Information and Management Systems Society
3. [www.computerscience.org/resources/computer-science-for-healthcare](http://www.computerscience.org/resources/computer-science-for-healthcare) - Computer Science for Healthcare

#### Journals:

1. Journal of Systems and Software
2. IEEE Software

#### Other Web Sources:

1. [coursera.org/learn/introduction-to-it](https://coursera.org/learn/introduction-to-it) - Introduction to IT (Coursera course)
2. [edx.org/course/information-technology-fundamentals](https://edx.org/course/information-technology-fundamentals) - Information Technology Fundamentals (edX course)

## X. Course Policies: (Based on the Uniform Students' By law (2007))

1	<b>Class Attendance:</b> Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	<b>Tardiness:</b> A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	<b>Exam Attendance/Punctuality:</b> No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	<b>Assignments &amp; Projects:</b> Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	<b>Cheating:</b> Cheating is an act of fraud that results in the cancelation of the student's exam or



	assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	<b>Forgery and Impersonation:</b> Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	<b>Other policies:</b> The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.



## Faculty of Medical Technology

### Department of Medical Information Technology

#### Program of Medical Information Technology

#### Course Plan (Syllabus) of Introduction to Information Technology

Course Code. 07.01.701

I. Information about Faculty Member Responsible for the Course:							
Name of Faculty Member:	Dr. Abdulrahman Mohammed Obaid	Office Hours					
Location & Telephone No.:	00967773574322						
E-mail:	Obaid.eng@gmail.com	SAT	SUN	MON	TUE	WED	THU

2024

## II. Course Identification and General Information:

1	Course Title:	Introduction to Information Technology			
2	Course Code & Number:	07.01.701			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	1 Level / 1 Semester			
5	Pre –Requisite (if any):	Non			
6	Co –Requisite (if any):	Non			
7	Program (s) in which the Course is Offered:	Bachelor of Information Technology			
8	Language of Teaching the Course:	English/Arabic			
9	Study System:	Semester Based System			
10	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	Faculty of Medical Technology			
12	Prepared by:	Dr. Abdulrahman Mohammed Hussein Obaid			
13	Date of Approval:				

## III. Course Description:

Introduction to Information Technology is a foundational course that explores the core principles of information technology. Students gain a comprehensive understanding of



computer hardware, software, networks, and data management, with a focus on their applications in IT settings. The course covers fundamental IT concepts, including system architecture, operating systems, and basic programming principles. Emphasis is placed on how these technologies are utilized to address IT challenges and enhance information systems. Through hands-on exercises and case studies, students develop practical skills in using IT tools and techniques to solve real-world IT problems, laying the groundwork for advanced study in Information Technology.

**IV. Course Intended Learning Outcomes (CILOs) :**  
 Upon successful completion of the Course, student will be able to:

	<b>A. Knowledge and Understanding:</b>
a1	Explain fundamental concepts, models, and theories related to information technology in healthcare systems.
a2	Identify healthcare needs and propose basic IT solutions to address real-world medical problems.
a3	Demonstrate a knowledge in basic IT tools and techniques to solve simple computing problems in healthcare environments.
a4	Describe the basic components and processes involved in the analysis, design, and implementation of health information systems.
	<b>B. Cognitive/ Intellectual Skills:</b>
b1	
b2	Discuss the impact of computing on healthcare objectives and patient needs in relation to information systems.
b3	Examine common challenges in Health Information Technology and suggest potential solutions.
	<b>C. Practical and Professional Skills:</b>
c1	Utilize fundamental computational tools and techniques for basic health information management tasks.
c2	

c4	Use current IT tools and skills necessary for introductory computing practices in healthcare.
<b>D. Transferable Skills:</b>	
d1	
d2	

<b>V. Course Contents:</b>					
<b>A. Theoretical Aspect:</b>					
No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Introduction to IT in Healthcare	<ul style="list-style-type: none"> <li>• Definition and importance of IT</li> <li>• Evolution of IT in healthcare</li> <li>• Current trends in Health IT</li> </ul>	1	2	a1, b2
2	Computer Fundamentals	<ul style="list-style-type: none"> <li>• Types of computers</li> <li>• Computer architecture</li> <li>• Binary system and data representation</li> </ul>	1	2	a1, a 4
3	Computer Hardware	<ul style="list-style-type: none"> <li>• CPU and processing units</li> <li>• Memory types (RAM, ROM)</li> <li>• Motherboard and system bus</li> </ul>	1	2	a1, a 3
4	Input/Output Devices	<ul style="list-style-type: none"> <li>• Input devices in healthcare settings</li> <li>• Output devices for medical data</li> <li>• Human-Computer Interaction in healthcare</li> </ul>	1	2	a1, a2, a3
5	Storage Units	<ul style="list-style-type: none"> <li>• Primary and secondary storage</li> <li>• Storage technologies in healthcare</li> <li>• Medical data storage</li> </ul>	1	2	a1, a 3, b3

		considerations			
6	Computer Software	<ul style="list-style-type: none"> <li>• Operating systems</li> <li>• Application software in healthcare</li> <li>• Electronic Health Records (EHR) systems</li> </ul>	2	4	a1,a3,a4 , c4
7	Midterm Exam	<ul style="list-style-type: none"> <li>• Review and assessment</li> </ul>	1	2	1a,2a,a3 , a4,b2
8	Computer Networks	<ul style="list-style-type: none"> <li>• Network types and topologies</li> <li>• Network protocols</li> <li>• Healthcare network security</li> </ul>	2	4	a1,a3,c1
9	Internet and Web Technologies	<ul style="list-style-type: none"> <li>• Internet basics and protocols</li> <li>• Web applications in healthcare</li> <li>• Telemedicine and e-health</li> </ul>	1	2	a1,a2,b2 , c4
10	Database Management Systems	<ul style="list-style-type: none"> <li>• Database concepts</li> <li>• SQL basics</li> <li>• Healthcare database applications</li> </ul>	1	2	a1,a3,c1
11	Computer Crimes and Data Security	<ul style="list-style-type: none"> <li>• Types of cyber threats in healthcare</li> <li>• Data protection methods</li> <li>• HIPAA compliance and IT</li> </ul>	1	2	a1, b2,b3
12	Emerging Technologies in Healthcare IT	<ul style="list-style-type: none"> <li>• Artificial Intelligence in healthcare</li> <li>• Internet of Medical Things (IoMT)</li> <li>• Big Data in healthcare</li> </ul>	1	2	a1,a2,b2 ,b3
13	Project Discussions	<ul style="list-style-type: none"> <li>• Healthcare IT case studies</li> <li>• Problem-solving in Health IT</li> <li>• Future of Health Information Technology</li> </ul>	1	2	a2,a4,b3 ,c4
14	Final Exam	<ul style="list-style-type: none"> <li>• Comprehensive assessment</li> </ul>	1	2	a1,a2,a3 ,a4,b2,b3,c1,c4
<b>Number of Weeks /and Units Per Semester</b>			<b>16</b>	<b>32</b>	

## B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Computer hardware assembly and identification	1	2	a1,a3
2	Operating system installation.	1	2	a1,a 3, c4
3	Operating systems configuration (Windows)	2	4	a1, a3,c4
4	Word Processing Programs(Microsoft Word)	2	4	a1,a 3, c4
5	Presentation Programs (Microsoft Power Point)	1	2	a1,a 3, c4
6	Midterm Exam	1	2	a1,a 3, c4
7	Spreadsheet Programs (Microsoft Excel)	2	4	a1,a 3, c4
8	Basic networking and troubleshooting	1	2	a1,a3, c4
9	Data analysis and visualization tools for healthcare	2	4	a2,a3,c1,c4
10	Cybersecurity practices in IT	1	2	b2,b3,c1
11	Final project.	1	2	a2, a3, a4, b2,b3,c1,c4
<b>Number of Weeks /and Units Per Semester</b>		<b>15</b>	<b>30</b>	

### C. Tutorial Aspect:

No.	Tutorial	Number of Weeks	Contact Hours
1			
2			
3			
4			
5			
6			
7			

No.	Tutorial	Number of Weeks	Contact Hours
8			
9			
10			
Number of Weeks /and Units Per Semester			

## VI. Teaching Strategies of the Course:

### Knowledge and Understanding Skills is developed through:

- Lectures
- Discussion
- Presentation
- Self-learning

### Intellectual Skills are developed through:

- Lectures
- Tutorials
- Discussion
- Case studies (CBL)
- Self-Learning
- Problem Based Learning (PBL)

### Practical and professional Skills are developed through:

- Tutorials
- Training
- Case studies (CBL)
- Problem Solving Learning (PSL)
- Problem Based Learning (PBL)

### General/Transferrable Skills are developed through:

- Discussion
- Case studies (CBL)
- Self-Learning
- Presentation

## VII. Assessment Methods of the Course:

- Written exam (mid and final terms and quizzes),
- Final practical exam
- Assignments

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### VIII. Assignments:

No.	Assignments	Week Due	Mark
1	Exercises and Home Works, Problem Solving (I)	3	3
2	Exercises and Home Works, Problem Solving (II)	9	3
3	Technical Report and Presentation.	11	4
Total			10

### IX. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	3,8,11	10	10 %
2	Quizzes 1 & 2	6,12	5	5 %
3	Mid-Term Theoretical Exam	9	10	10 %
4	Mid-Term Practical Exam	7	5	5 %
5	Final Practical Exam including Project Presentation & Evaluation	15	10	10 %
6	Final Theoretical Exam	16	60	60 %
Total			100	100%

## X. Learning Resources:

- *Written in the following order:* Author, Year of publication, Title, Edition, Place of publication, Publisher.

### 1- Required Textbook(s) (maximum two ):

1. Brylow, D. (2024). Computer Systems: An Integrated Approach to Architecture and Operating Systems, 3rd Edition. Boston, Pearson.
2. Shelly, G.B. & Vermaat, M.E. (2023). Discovering Computers: Technology in a World of Computers, Mobile Devices, and the Internet, 2nd Edition. Boston, Cengage Learning..

### 2- Essential References:

1. Burd, S.D. (2023). Systems Architecture, 9th Edition. Boston, Cengage Learning.
2. Shortliffe, E.H. & Cimino, J.J. (2022). Biomedical Informatics: Computer Applications in Health Care and Biomedicine, 5th Edition. New York, Springer.
3. Sarkar, P.R. (2024). Information Technology in Healthcare: Concepts and Applications, 3rd Edition. New Delhi, PHI Learning Private Limited.

### 3- Electronic Materials and Web Sites etc.:

#### Websites:

1. [www.healthit.gov](http://www.healthit.gov) - The Office of the National Coordinator for Health Information Technology
2. [www.himss.org](http://www.himss.org) - Healthcare Information and Management Systems Society
3. [www.computerscience.org/resources/computer-science-for-healthcare](http://www.computerscience.org/resources/computer-science-for-healthcare) - Computer Science for Healthcare

#### Journals:

1. Journal of Systems and Software
2. IEEE Software

#### Other Web Sources:

1. [coursera.org/learn/introduction-to-it](https://coursera.org/learn/introduction-to-it) - Introduction to IT (Coursera course)
2. [edx.org/course/information-technology-fundamentals](https://edx.org/course/information-technology-fundamentals) - Information Technology Fundamentals (edX course)

## XI. Course Policies: (Based on the Uniform Students' Bylaw (2007))

- |   |                   |
|---|-------------------|
| 1 | Class Attendance: |
|---|-------------------|

	Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	<b>Tardiness:</b> A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	<b>Exam Attendance/Punctuality:</b> No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	<b>Assignments &amp; Projects:</b> Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	<b>Cheating:</b> Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	<b>Forgery and Impersonation:</b> Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	<b>Other policies:</b> The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.