

# 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  
Health Information Technology  
Course Code. (07.01.704)

2024



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

Prepared by:

Dr. Abdulrahman  
Mohammed Obaid

Reviewed by:

Dr. ----

Head of the Department:

Quality Unit:

Dean

## I. General Information:

1.	Course Title:	Health Information Technology				
2.	Course Code:	07.01.704				
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:	2 Level / 2 Semester				
5.	Pre –Requisite (if any):	Introduction to Information Technology				
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:

Health Information Technology aims to develop proficiency in managing and leveraging health information systems to improve patient care and healthcare operations. It covers key concepts in health informatics, electronic health records (EHR), data analytics, and healthcare IT infrastructure. The course focuses on practical applications of health information technology, emphasizing hands-on experience with current software tools and real-world case studies. Students will gain essential skills in data management, system implementation, and healthcare IT problem-solving, preparing them for careers at the intersection of healthcare and 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 core concepts, models, and theories in Health Information Technology, including their mathematical foundations.		A1 Demonstrate an understanding of appropriate models, theories, mathematical foundations, and techniques related to Health Information Technology discipline.
a2	Identify healthcare user needs and propose appropriate IT-based solutions for real-world healthcare problems.		A2 Identify user and Healthcare needs to provide IT based solutions to real-world problem.
a3	Demonstrate knowledge in IT tools and techniques to address complex computing challenges 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 process of analysis, design, implementation, and evaluation 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	Evaluate the impact of health information systems on healthcare objectives and patient needs.		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	Investigate various challenges in Health Information Technology, selecting optimal 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 computational tools and techniques effectively for constructing and documenting complex health information systems.		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	Using current health informatics tools, techniques, and skills for professional 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 core concepts, models, and theories in Health Information Technology, including their mathematical foundations.	<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 user needs and propose appropriate IT-based solutions for real-world healthcare 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 knowledge in IT tools and techniques to address complex computing challenges 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	Describe the process of analysis, design, implementation, and evaluation of health information systems.	<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>			
	<b>Course Intended Learning Outcomes</b>	<b>Teaching Strategies</b>	<b>Assessment Strategies</b>
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	Evaluate the impact of health information systems on healthcare objectives and patient needs.	<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>
b3	Investigate various challenges in Health Information Technology, selecting optimal 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>			
	<b>Course Intended Learning Outcomes</b>	<b>Teaching Strategies</b>	<b>Assessment Strategies</b>
c1	Utilize computational tools and techniques effectively for constructing and documenting complex health information systems.	<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>
		<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>

c4	Using current health informatics tools, techniques, and skills for professional 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		<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
d2		<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>

#### IV. Course Contents:

##### A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Introduction to Health Information Technology	<ul style="list-style-type: none"> <li>Overview of HIT</li> <li>HIT in the healthcare ecosystem</li> <li>Current trends and challenges</li> </ul>	1	2	a1,b2
2	Electronic Health Records (EHR)	<ul style="list-style-type: none"> <li>EHR systems architecture</li> <li>Data standards and interoperability</li> <li>Implementation strategies</li> </ul>	2	4	a1,a3,a4
3	Health Information Exchange (HIE)	<ul style="list-style-type: none"> <li>HIE models and architecture</li> <li>Data sharing protocols</li> <li>Privacy and security in HIE</li> </ul>	1	2	a1,a2, b2
4	Clinical Decision Support Systems (CDSS)	<ul style="list-style-type: none"> <li>CDSS types and applications</li> <li>Knowledge representation</li> <li>Integration with EHR</li> </ul>	1	2	a1, a2,a3
5	Healthcare Data	<ul style="list-style-type: none"> <li>Types of healthcare analytics</li> </ul>	2	4	a3,b3,c1

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	Analytics	<ul style="list-style-type: none"> <li>Data mining in healthcare</li> <li>Predictive modeling</li> </ul>			
6	Healthcare IT Infrastructure	<ul style="list-style-type: none"> <li>Network architecture for healthcare</li> <li>Cloud computing in healthcare</li> <li>Mobile health technologies</li> </ul>	1	2	a1, a3,c4
7	Midterm Exam	<ul style="list-style-type: none"> <li>Review and assessment</li> </ul>	1	2	a1,a2,a3 ,a4,b2
8	Telehealth and Remote Patient Monitoring	<ul style="list-style-type: none"> <li>Telehealth systems and applications</li> <li>Remote monitoring devices</li> <li>Telehealth regulations and reimbursement</li> </ul>	1	2	a2, a3,b2
9	Healthcare Cybersecurity	<ul style="list-style-type: none"> <li>Threat landscape in healthcare</li> <li>Security frameworks (HIPAA, HITRUST)</li> <li>Incident response in healthcare</li> </ul>	1	2	a3,b3,c4
10	Emerging Technologies in HIT	<ul style="list-style-type: none"> <li>AI and machine learning in healthcare</li> <li>Blockchain in health information</li> <li>Internet of Medical Things (IoMT)</li> </ul>	1	2	a1,a2,b3
11	HIT Project Management	<ul style="list-style-type: none"> <li>Healthcare IT project lifecycle</li> <li>Risk management in HIT projects</li> <li>Change management strategies</li> </ul>	1	2	a4,b3,c1
12	Legal and Ethical Issues in HIT	<ul style="list-style-type: none"> <li>HIPAA and data privacy laws</li> <li>Ethical considerations in HIT</li> <li>HIT policy and governance</li> </ul>	1	2	a1,b2,b3
13	Future of Health Information Technology	<ul style="list-style-type: none"> <li>Emerging trends and technologies</li> <li>Challenges and opportunities</li> <li>Career paths in HIT</li> </ul>	1	2	a1,a2,b2
14	Final Exam	<ul style="list-style-type: none"> <li>Comprehensive assessment</li> </ul>	1	2	a1,a2,a3 ,a4,b2,b

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
					3,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	Healthcare data analytics and design	2	4	a3,b3,c1
2	EHR system configuration	2	4	a3,a4,c4
3	Healthcare software exploration (EHR systems)	3	6	a3,a4,c4
4	Telehealth platform setup and testing	1	2	a2,a3,c4
5	Midterm Exam	1	2	a1,a2,a3,a4,c1,c4
6	Healthcare cybersecurity risk assessment	1	2	a3,b3,c4
7	AI application in healthcare (case study)	3	6	a2,a3,b3
8	Final project: Designing a comprehensive HIT solution	2	4	a2,a3,a4,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)
1				
2				
3				
4				
5				

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
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,a4
2	Exercises and Home Works, Problem Solving (II)	9	3	b2,b3,c1,c4
3	Technical Report and Presentation.	11	4	a1,a2,a3,a4,b2,b3,c1,c4
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,c1,c4
2	Quizzes 1 & 2	6,12	5	5 %	a1,a2,a3,a4,b2,b3
3	Mid-Term Theoretical Exam	9	10	10 %	a1,a2,a3,a4,b2
4	Mid-Term Practical Exam	7	5	5 %	a1,a2,a3,a4,c1,c4
5	Final Practical Exam including Project Presentation & Evaluation	15	10	10 %	a2,a3,a4,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. Wager, K.A., Lee, F.W., & Glaser, J.P. (2023). Health Care Information Systems: A Practical Approach for Health Care Management, 5th Edition. San Francisco, Jossey-Bass.
2. Braunstein, M.L. (2024). Health Informatics in the Cloud, 3rd Edition. New York, Springer.

### 2- Essential References:

1. Hoyt, R.E., & Yoshihashi, A.K. (2023). Health Informatics: Practical Guide, 8th Edition. Pensacola, Informatics Education.
2. Blobel, B., & Goossen, W. (2024). pHealth: Proceedings of pHealth 2024. Amsterdam, IOS Press.
3. Shortliffe, E.H., & Cimino, J.J. (2022). Biomedical Informatics: Computer Applications in Health Care and Biomedicine, 5th Edition. New York, Springer.

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

**Websites:**

1. [www.himss.org](http://www.himss.org) - Healthcare Information and Management Systems Society
2. [www.amia.org](http://www.amia.org) - American Medical Informatics Association
3. [www.healthit.gov](http://www.healthit.gov) - The Office of the National Coordinator for Health Information Technology

**Journals:**

1. Journal of the American Medical Informatics Association
2. International Journal of Medical Informatics

**Other Web Sources:**

1. [www.coursera.org/specializations/health-informatics](http://www.coursera.org/specializations/health-informatics) - Health Informatics Specialization (Coursera)
2. [www.edx.org/course/introduction-to-health-informatics](http://www.edx.org/course/introduction-to-health-informatics) - Introduction to Health Informatics (edX)

**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 Health Information Technology

Course Code. 07.01.704

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:	Health Information Technology			
2	Course Code & Number:	07.01.704			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	2 Level / 2 Semester			
5	Pre –Requisite (if any):	Introduction to Information Technology			
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:

Health Information Technology aims to develop proficiency in managing and leveraging health information systems to improve patient care and healthcare operations. It covers key concepts in health informatics, electronic health records (EHR), data analytics, and healthcare IT infrastructure. The course focuses on practical applications of health information technology, emphasizing hands-on experience with current software tools and real-world case studies. Students will gain essential skills in data management, system implementation, and healthcare IT problem-solving, preparing them for careers at the intersection of healthcare and information technology.

### IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

#### A. Knowledge and Understanding:

- |    |   |
|----|---|
| a1 | Explain core concepts, models, and theories in Health Information Technology, including their mathematical foundations. |
| a2 | Identify healthcare user needs and propose appropriate IT-based solutions for real-world healthcare problems.           |
| a3 | Demonstrate knowledge in IT tools and techniques to address complex computing challenges in healthcare environments.    |
| a4 | Describe the process of analysis, design, implementation, and evaluation of health information systems.                 |

#### B. Cognitive/ Intellectual Skills:

- |    |   |
|----|---|
| b1 |   |
| b2 | Evaluate the impact of health information systems on healthcare objectives and patient needs. |
| b3 | Investigate various challenges in Health Information Technology, selecting optimal solutions. |

#### C. Practical and Professional Skills:

c1	Utilize computational tools and techniques effectively for constructing and documenting complex health information systems.
c2	
c4	Using current health informatics tools, techniques, and skills for professional computing practices in healthcare.
<b>D. Transferable Skills:</b>	
d1	
d2	

## V. Course Contents:

### A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Introduction to Health Information Technology	<ul style="list-style-type: none"> <li>• Overview of HIT</li> <li>• HIT in the healthcare ecosystem</li> <li>• Current trends and challenges</li> </ul>	1	2	a1,b2
2	Electronic Health Records (EHR)	<ul style="list-style-type: none"> <li>• EHR systems architecture</li> <li>• Data standards and interoperability</li> <li>• Implementation strategies</li> </ul>	2	4	a1,a3,a4
3	Health Information Exchange (HIE)	<ul style="list-style-type: none"> <li>• HIE models and architecture</li> <li>• Data sharing protocols</li> <li>• Privacy and security in HIE</li> </ul>	1	2	a1,a2,b2
4	Clinical Decision Support Systems (CDSS)	<ul style="list-style-type: none"> <li>• CDSS types and applications</li> <li>• Knowledge representation</li> <li>• Integration with EHR</li> </ul>	1	2	a1,a2,a3

5	Healthcare Data Analytics	<ul style="list-style-type: none"> <li>• Types of healthcare analytics</li> <li>• Data mining in healthcare</li> <li>• Predictive modeling</li> </ul>	2	4	a3,b3,c1
6	Healthcare IT Infrastructure	<ul style="list-style-type: none"> <li>• Network architecture for healthcare</li> <li>• Cloud computing in healthcare</li> <li>• Mobile health technologies</li> </ul>	1	2	a1, a3,c4
7	Midterm Exam	<ul style="list-style-type: none"> <li>• Review and assessment</li> </ul>	1	2	a1,a2,a3 ,a4,b2
8	Telehealth and Remote Patient Monitoring	<ul style="list-style-type: none"> <li>• Telehealth systems and applications</li> <li>• Remote monitoring devices</li> <li>• Telehealth regulations and reimbursement</li> </ul>	1	2	a2, a3,b2
9	Healthcare Cybersecurity	<ul style="list-style-type: none"> <li>• Threat landscape in healthcare</li> <li>• Security frameworks (HIPAA, HITRUST)</li> <li>• Incident response in healthcare</li> </ul>	1	2	a3,b3,c4
10	Emerging Technologies in HIT	<ul style="list-style-type: none"> <li>• AI and machine learning in healthcare</li> <li>• Blockchain in health information</li> <li>• Internet of Medical Things (IoMT)</li> </ul>	1	2	a1,a2,b3
11	HIT Project Management	<ul style="list-style-type: none"> <li>• Healthcare IT project lifecycle</li> <li>• Risk management in HIT projects</li> <li>• Change management strategies</li> </ul>	1	2	a4,b3,c1
12	Legal and Ethical Issues in HIT	<ul style="list-style-type: none"> <li>• HIPAA and data privacy laws</li> <li>• Ethical considerations in HIT</li> <li>• HIT policy and governance</li> </ul>	1	2	a1,b2,b3
13	Future of Health Information Technology	<ul style="list-style-type: none"> <li>• Emerging trends and technologies</li> <li>• Challenges and opportunities</li> <li>• Career paths in HIT</li> </ul>	1	2	a1,a2,b2
14	Final Exam	<ul style="list-style-type: none"> <li>• Comprehensive assessment</li> </ul>	1	2	a1,a2,a3 ,a4,b2,b 3,c1,c4

Number of Weeks /and Units Per Semester	16	32	
---	----	----	--

B. Case Studies and Practical Aspect:				
No	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Healthcare data analytics and design	2	4	a3,b3,c1
2	EHR system configuration and	3	6	a3,a4,c4
3	Healthcare software exploration (EHR systems)	3	6	a3,a4,c4
4	Telehealth platform setup and testing	1	2	a2,a3,c4
5	Midterm Exam	1	2	a1,a2,a3,a4,c1, c4
6	Healthcare cybersecurity risk assessment	1	2	a3,b3,c4
7	AI application in healthcare (case study)	3	6	a2,a3,b3
8	Final project: Designing a comprehensive HIT solution	2	4	a2,a3,a4, b3,c1,c4
Number of Weeks /and Units Per Semester		15	30	

C. Tutorial Aspect:			
No.	Tutorial	Number of Weeks	Contact Hours
1			
2			
3			
4			
5			
6			
7			
8			

No.	Tutorial	Number of Weeks	Contact Hours
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

--

### 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. Wager, K.A., Lee, F.W., & Glaser, J.P. (2023). Health Care Information Systems: A Practical Approach for Health Care Management, 5th Edition. San Francisco, Jossey-Bass.
2. Braunstein, M.L. (2024). Health Informatics in the Cloud, 3rd Edition. New York, Springer.

### 2- Essential References:

1. Hoyt, R.E., & Yoshihashi, A.K. (2023). Health Informatics: Practical Guide, 8th Edition. Pensacola, Informatics Education.
2. Blobel, B., & Goossen, W. (2024). pHealth: Proceedings of pHealth 2024. Amsterdam, IOS Press.
3. Shortliffe, E.H., & Cimino, J.J. (2022). Biomedical Informatics: Computer Applications in Health Care and Biomedicine, 5th Edition. New York, Springer.

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

#### Websites:

1. [www.himss.org](http://www.himss.org) - Healthcare Information and Management Systems Society
2. [www.amia.org](http://www.amia.org) - American Medical Informatics Association
3. [www.healthit.gov](http://www.healthit.gov) - The Office of the National Coordinator for Health Information Technology

#### Journals:

1. Journal of the American Medical Informatics Association
2. International Journal of Medical Informatics

#### Other Web Sources:

1. [www.coursera.org/specializations/health-informatics](http://www.coursera.org/specializations/health-informatics) - Health Informatics Specialization (Coursera)
2. [www.edx.org/course/introduction-to-health-informatics](http://www.edx.org/course/introduction-to-health-informatics) - Introduction to Health Informatics (edX)

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