

Faculty of Computers and Information Technology

Health Care Information Systems

Information :

Course Code : IS464

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Information Systems

Area Of Study :

- Use basic science in computing and information in an integrated healthcare system
- Use modern techniques, up to date methods and tools managing healthcare systems
- Demonstrate professional responsibilities, ethical, cultural and societal aspects in healthcare systems
- Compare, evaluate and select methodologies from range of techniques, theories and methods to develop healthcare information systems
- Implement and evaluate effectively the merits of software and information systems
- Use and adopt the appropriate knowledge and skills base to pursue a career managing and developing information systems in a contemporary medical context

Description :

In this new era of managed care, with its emphasis on improving cost efficiency without risking quality of care, information technology has emerged as a powerful force in helping to achieve multiple goals within health care organizations. The explosive advances in information technology combined with the current climate for health care reform has created the need for skilled individuals who can develop, understand, manage and integrate medical information systems in organizations. This course will explore the concepts and application of major information systems methodologies and approaches in the delivery of modern health care systems. Imaging applications, electronic data interchange, integrated delivery systems, computerized patient records, and Internet based applications are some of the areas that will be covered. A semester-long group project that synthesizes different topics will be a required component of the course. As well as this course examines healthcare organizations from the perspective of managing the information systems that exist within the enterprise. Identifying the clinical and healthcare delivery processes and how they relate to information systems is a main focus. The intent of the course is to identify the key issues confronting the management of healthcare information systems today, examine their causes, and develop reasonable solutions to these issues. Specific federal regulations, vendor solutions, and financial implications as they relate to healthcare information systems are also examined.

Course outcomes :

a. Knowledge and Understanding: :

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|-----|--|
| 1 - | Describe modeling and simulation of medical systems |
| 2 - | Discuss the principles of healthcare data and medical information Technologies |
| 3 - | Explain information communication and privacy techniques for medical data |

b. Intellectual Skills: :

- | | |
|-----|--|
| 1 - | Determine measurement criteria for securing healthcare information systems |
| 2 - | Criticize a system using standards and quality measures |
| 3 - | Select appropriate methodologies and techniques for IT governance and management to healthcare information systems |

c. Professional and Practical Skills :

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|-----|---|
| 1 - | Run computing equipment in different medical environment |
| 2 - | Evaluate the risks and safety aspects related to healthcare information systems |
| 3 - | Maintaining existing healthcare information |

d. General and Transferable Skills :

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|-----|---|
| 1 - | Work in a team effectively and efficiently considering time and stress management |
| 2 - | Apply communication skills and techniques in presentations |
| 3 - | Utilize effectively general computing facilities |

ABET Course outcomes :

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|-----|--|
| 1 - | Demonstrate adequate understanding of the concepts and application of the health care information systems |
| 2 - | Compare, evaluate, and select methodologies, techniques, theories to develop healthcare information systems |
| 3 - | Demonstrate adequate understanding of the various healthcare applications such as imaging, medical data electronic record-keeping and interchange, integrated delivery systems, computerized patient records, and Telemedicine |
| 4 - | Demonstrate adequate understanding of the key issues confronting the management of healthcare information systems, examine their causes, and develop reasonable solutions |
| 5 - | Demonstrate professional responsibilities, ethical, cultural and societal aspects in healthcare systems |

Course Topic And Contents :

| Topic | No. of hours | Lecture | Tutorial / Practical |
|---|--------------|---------|----------------------|
| Introduction to Health Care Information Systems | 4 | 2 | 2 |
| Health Care data | 4 | 2 | 2 |
| Electronic Health Records and Applications | 4 | 2 | 2 |
| Clinical Decision Support Systems in Healthcare | 4 | 2 | 2 |
| Management of Health Care Information Systems | 4 | 2 | 2 |
| Privacy and Security of Health Care Information Systems | 4 | 2 | 2 |
| Performance Standards and Quality Measures of Health Care Information Systems | 4 | 2 | 2 |
| Health Care Information Systems Standards | 4 | 2 | 2 |
| Mid-Term Exam | 2 | | |
| IT Alignment and Strategic Planning to Health Care Information Systems | 4 | 2 | 2 |
| IT Governance and Management to Health Care Information Systems | 4 | 2 | 2 |
| Health IT Leadership Case Studies | 4 | 2 | 2 |
| Presentation/Discussion of Case Studies | 4 | 2 | 2 |
| Final Exam | 2 | | |

Teaching And Learning Methodologies :

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| Interactive Lectures including Discussions |
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Practical Lab Sessions

Reading Materials

Online Material

Self-Study / Project

Case Studies

Presentations

Problem Solving

Course Assessment :

| Methods of assessment | Relative weight % | Week No | Assess What |
|-------------------------|-------------------|---------|-------------|
| Assignments | 5.00 | 4 | |
| Final Exam | 40.00 | 14 | |
| Midterm Exam (s) | 20.00 | 9 | |
| Others (Participations) | 5.00 | | |
| Presentations | 5.00 | 12 | |
| Quizzes | 10.00 | 5 | |
| Team Work Projects | 15.00 | 12 | |

Course Notes :

An Electronic form of the Course Notes and all the slides of the Lectures is available on the Students Learning Management System (Moodle)

Recommended books :

Ramona Nelson and Nancy Staggers, Health Informatics: An Interprofessional Approach, 1st edition, 2014
ISBN: 978- 0323100953

Web Sites :

www.ekb.eg