**Health Information Management**

1. **PhD in Health Information Management (HIM)**

The graduates will be able to manage database and information systems. They will gain leadership skills in communicating with other professionals, such as physicians, information technology administrators, etc. in addition, they will be able to identify and analyze health care data, and make health information accessible with an emphasis on patient rights and confidentiality of health care information.

**Prerequisite Courses**

|  |  |
| --- | --- |
| **Course list** | **Credit** |
| Medical Information Resources | 1 |
| Health Information Management | 2 |
| Specialized English Language | 2 |
| Analysis of Management Theories | 2 |
| Data Structure and Software Programming | 3 |
| Nomenclature and Classification System of Diseases | 2 |
| Health Economics | 2 |
| Operational Research | 3 |

**Core Courses**

|  |  |
| --- | --- |
| **Course list** | **Credit** |
| Design and Development of Health Information Systems-I | 2 |
| Design and Development of Health Information Systems-II | 2 |
| Data Mining and Knowledge-Based Systems | 2 |
| Health Information Systems Management | 2 |
| Artificial Intelligence Methods for Health Information Systems | 3 |
| Electronic Health Records | 3 |
| Data Quality Management Methods | 3 |
| Research Seminar | 3 |
| Dissertation | 20 |

**Non-core courses**

|  |  |
| --- | --- |
| **Course list** | **Credit** |
| Health Informatics | 3 |
| Communication Networks in Health Systems | 3 |
| Health Information Economics | 2 |
| Health Information Systems Project Management | 2 |
| New Technologies in Health Information Management | 2 |
| Clinical Governance Information System | 2 |
| Advanced Statistical Methods for Data Analysis | 2 |
| Health Monitoring and Surveillance System | 2 |

1. **PhD in Medical Informatics**

The Ph.D. programs in Medical Informatics is a combination of courses and research using knowledge, skills, and tools as a multidisciplinary field interconnecting computer sciences, information and communication technologies, and medical sciences. It supports research, education, and decision making in medicine.

**Prerequisite Courses**

|  |  |
| --- | --- |
| **Course list** | **Credit** |
| Medical Information Resources | 1 |
| Principles of Epidemiology | 2 |
| Statistics and Research Methods | 2 |
| Principles of Management | 2 |
| Introduction to Information Engineering | 3 |
| General Concepts of Medical Knowledge | 3 |
| Data Structure and Programming | 3 |
| General Mathematics | 2 |

**Core-Courses**

|  |  |
| --- | --- |
| **Course list** | **Credit** |
| Security, Privacy and Ethics in Medical Informatics | 1 |
| Advanced Epidemiology and Statistics | 2 |
| Health Informatics | 2 |
| Knowledge Discovery and Data Mining in Medical Databases | 3 |
| Artificial Intelligence | 2 |
| Health Information Systems | 2 |
| Medical Decision-making and Clinical Decision Support Systems | 2 |
| Evaluation Methods in Medical Informatics | 2 |
| Taxonomy and Ontology in Classifying and Organizing Information and Knowledge | 1 |
| Workflow Modeling and Analysis | 2 |
| **Seminar** | 1 |
| **Dissertation** | 20 |

**Non-Core Courses**

|  |  |
| --- | --- |
| **Course list** | **Credit** |
| Application of Modern Technologies in Medicine | 2 |
| Intelligent Agents in Medicine | 2 |
| Health Information Standards | 2 |
| Electronic Education and Knowledge Transfer in Medical  Informatics | 2 |
| Research Methods in Medical Informatics | 2 |
| Project Management in Medical Informatics | 2 |
| Principals of Medical System and Software Design | 2 |
| Telemedicine | 2 |