**BMED4702 MEDICAL INFORMATION SYSTEMS  
COURSE CATALOG INFO**

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| **Course Code :**BMED4702 | | | | | **Course Name :**Medical information systems | | | |
| **Semester** | | **Lecture + Laboratory + PS** | **Local Credit** | **ECTS** | **Language** | **Category** | **Instructional Methods** | **Prerequisites** |
|  | | (3+0+0) | 3 | 5 | English | Core | Course |  |
| **Course Content** | | | | An overview of medical informatics. Stages in system analysis and design, principles of database systems, medical language, coding and classification systems, computer based patient records, hospital information systems, bio-statistical methods. Standarts for medical informatics. | | | | |
| **Course Outcomes** | | | | **CO 1.** Describe how the healthcare/public health information infrastructure is used to collect, process, maintain, and disseminate data.  **CO 2.** Describe how societal, organizational, and individual factors influence and are influenced by healthcare/public health communications.  **CO 3.** Describe the challenges in designing advanced data analysis and information systems for health care practice and use information technology to access, evaluate, and interpret healthcare/public health data.  **CO 4.** Account for how practices within health care can be supported by computerized tools.  **CO 5.** Apply legal and ethical principles to the use of information technology and resources in healthcare/public health settings.  **CO 6.** Collaborate with communication and informatics specialists in the process of design, implementation, and evaluation of healthcare/public health programs based on the requirements of physicians, nurses, lab analysts  **CO 7.** Use informatics methods and resources as strategic tools to improve healthcare/public health.  **CO 8.** Determine which problems in health care practice are appropriate to address, including ethical and safety positions, by using computerized methods for visualization and analysis. | | | | |
|  | **Program Outcomes** | | | | | | | |
| **PO1** | Adequate knowledge in fundamentals of mathematics (algebra, differential equations, integrals, probability etc), science (physics, chemistry, biology etc.), health science (anatomy and physiology) and computer science (programming and simulation); ability to use theoretical and applied knowledge in these areas in complex engineering problems. | | | | | | | |
| **PO2** | Ability to identify, define, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose. | | | | | | | |
| **PO3** | Ability to design and integrate components of a complex system or process, as they relate to Biomedical Engineering discipline, under realistic constraints and conditions, in such a way as to meet desired requirements; ability to apply modern design methods. | | | | | | | |
| **PO4** | Ability to devise, select, and use techniques and tools needed for analyzing and solving complex problems encountered in engineering practice; ability to employ information technologies effectively. | | | | | | | |
| **PO5** | Ability to design and conduct experiments, gather, analyze and interpret data. | | | | | | | |
| **PO6** | Ability to work in intra-disciplinary and multi-disciplinary teams; ability to take individual responsibilities. | | | | | | | |
| **PO7** | Ability to effectively communicate in Turkish, ability to express his/her knowledge, ideas and work in English via oral, written and visual means; ability to write effective reports and comprehend written reports; ability to give and follow instructions. | | | | | | | |
| **PO8** | Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself | | | | | | | |
| **PO9** | Consciousness to behave according to ethical principles, and about professional and ethical responsibility; knowledge on standards used in engineering practice. | | | | | | | |
| **PO10** | Knowledge about business life practices such as project management, risk management, and change management; awareness in entrepreneurship, innovation; knowledge about sustainable development. | | | | | | | |
| **PO11** | Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering; awareness of the legal consequences of engineering solutions. | | | | | | | |

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| **CONTRIBUTION OF COURSE OUTCOMES ON BIOMEDICAL ENGINEERING PROGRAM OUTCOMES** | | | | | |
| **Course\Program** | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** | **CO7** | **CO8** |
| **PO1** |  |  |  |  |  |  |  |  |
| **PO2** |  |  |  |  |  |  |  |  |
| **PO3** |  |  |  |  |  |  |  |  |
| **PO4** |  |  |  |  |  |  |  |  |
| **PO5** |  |  |  |  |  |  |  |  |
| **PO6** |  |  |  |  |  |  |  |  |
| **PO7** |  |  |  |  |  |  |  |  |
| **PO8** |  |  |  |  |  |  |  |  |
| **PO9** |  |  |  |  |  |  |  |  |
| **PO10** |  |  |  |  |  |  |  |  |
| **PO11** |  |  |  |  |  |  |  |  |

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| **COURSE ASSESMENT AND ECTS WORK LOAD** | | | |
| **Type of Work** | **Count** | **ECTS WORK LOAD** | |
| **Time (Hour)(Including prep. time)** | **Work Load** |
| Attendance | 14 | 3 | 42 |
| Final Exam | 1 | 2 | 2 |
| Quizzes |  |  | 0 |
| Term project |  |  | 0 |
| Reports |  |  | 0 |
| Final Project |  |  | 0 |
| Seminar |  |  | 0 |
| Assignments |  |  | 0 |
| Presentation |  |  | 0 |
| Midterms |  |  | 0 |
| Project |  |  | 0 |
| Laboratory |  | 0 | 0 |
| Tutorial |  | 0 | 0 |
| Other(Self study) |  |  | 0 |
|  | | **Total work load** | 44 |
|  | | **Total work load/25** | 1.76 |
|  | | **ECTS Credit** | 2 |