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Mahatma Gandhi Institute of Health Informatics

a unit of

Mahatma Gandhi University of Medical Sciences & Technology

Jaipur

(Established under Rajasthan Legislative Assembly Act No. 22 of 2011)



Recognized by UGC (Selection 22 of the UGC Act 1956 & para 3.7 & 3.8 of UGC Regulations 2003) All the courses of the University are recognized by the respective Statutory bodies of the Government of India, (MCI, DCI, INC & Govt. of Rajasthan)

Admission Helpline : 8306998912

INFORMATION
Booklet



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MC-2733



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MAHATMA GANDHI UNIVERSITY *of* MEDICAL SCIENCES & TECHNOLOGY JAIPUR



Dr M L Swarankar
Emeritus Chairman, MGUMST

Vision of the University

To develop MGUMST as an Institution of Excellence, at par with Global standards, in the field of healthcare and allied sciences.

To amalgamate our colleges, departments, students and alumni to impart world class research and education, aimed at making a positive difference in the healthcare at the national and global level.

To achieve overall development of learners, including character and moral values, by imbibing a culture of inquisitiveness, inclusion, collaboration and innovation.

To ensure equality amongst diversity in all respects, reflecting the true Gandhian principles, so that everyone gets a fair opportunity and the best of minds and talent may be recognised and allowed to flourish in the ever-changing competitive environment.

Mission of the University

To develop dynamic, self-dependent and world class Healthcare Institution dedicated in providing the best medical education and clinical treatment.

To develop the best healthcare practices in the community, with a spectrum ranging from preventive health measures to excellence in tertiary care, with an aim to establish a healthy, disease-free society.

To enrol students, staff and faculty in various clinical and non-clinical programs based on the principle of merit and impartiality, and without any discrimination of race, sex, non-disqualifying disability, caste, religion, and national or ethnic origin.

To utilise the latest technology, as well as, to identify the best possible use of upcoming technology such as Artificial Intelligence to predict, prevent and treat various ailments and illnesses before they affect an individual or the community.



ABOUT US

Mahatma Gandhi University of Medical Sciences & Technology

India is progressing rapidly in the areas of education of physicians and medical facilities. In this context Mahatma Gandhi University of Medical Sciences and Technology, from its inception as a 1450 bedded multi specialist Hospital. As a university we aim at taking the education of medicine, the practice of medicine and medical research to its finest. This effort and direction has been made not only on state level but nationwide. Our entire efforts are made to groom and produce the best physicians who will bear our baton and provide selfless service to every human.

Mahatma Gandhi Institute of Health Informatics

Mahatma Gandhi Institute of Health Informatics MGUMST, Sitapura Jaipur is first time ever in North India which is conducting Various Health Informatics Programs and leading in the digital health care revolution in Rajasthan. Telemedicine is its best. Stress is on capacity building.

DEGREE PROGRAMS CONDUCTING AT MG INSTITUTE OF HEALTH INFORMATICS

Sr. No	NAME OF THE PROGRAM	DURATION OF THE PROGRAM	ELIGIBILITY
1	M.Sc. Hospital & Health Information Administration	Duration 2 years (4 semesters) degree program, as per CBCS UGC	Graduation in any science group or MBBS/BAMS/ BHMS/BDS/ Nursing/ Allied Health Science or equivalent with at least 50% marks in the aggregate .
2	M.Sc. Bioinformatics	2 years Master degree course	
3	B.Sc. Hospital & Health Informatics Administration	Duration 3 years (6 semesters) degree program' as per CBCS UGC	10+2 with PCB/PCM, with at least 45% marks in the aggregate for Gen. Category and 40% marks for reserve category candidates or as per Govt. Guidelines
4	B.Sc. Medical Record Science & Clinical Information Technology	3 years Bachelor degree course	
5	B.Sc. Bioinformatics	3 years Bachelor degree course	

Our all Programs are vocational. Vocational education or Training (VET), also called Career and Technical Education (CTE), prepares learners for jobs that are based in manual or practical activities.

We provide quality education and training to the students for capacity building. The intensive training and industry-based curriculum enable the students to conceptualize, organize, analyse and manage the content, integrity, accessibility, use, and protection of information resources in compliance with national and regional standards to improve health care delivery process and outcome.

Our Strength is Our Collaborations

MOU'S WITH VARIOUS GOVERNMENT ORGANIZATIONS AND PUBLIC SECTOR COMPANIES

- King George Medical University (KGMU), Lucknow
- F.S.U. for Health Information Management Professionals, CBHI, MoHFW. GOI.
- Summer Internship program Nodal Centre of Maharashtra University of Health Sciences (MUHS), Govt of Maharashtra Nashik, Maharashtra.
- St. John's Research Institute (SJRI), Bangalore
- PHI India, Jaipur
- dWise HealthCare IT Solution, Bangalore
- NVHR Solutions
- ADVY Educational, Events & Consultancy



Health Informatics

Objectives/Aims of the Program:

Health informatics is a combination of business, science, and information technology. These professionals are managers: experts in processing, analyzing and reporting information vital to the health care industry, respective staff members who interact daily with the clinical and administrative staff, all of whom depend on health information to perform their jobs.

A blend of business and computer expertise, health information management links health care clinicians with information technology and is the bridge between patients' health information and health insurers, state and central government, and other regulating agencies. HI professionals do not just work in hospitals. They can also work for accounting firms, insurance companies, information systems vendors, government agencies, pharmaceutical research companies, and others. Wide varieties of employers actively recruit health information managers. According to the department of labor, employment opportunities for Health Informatics (HI) professionals continue to grow much faster than the average for all occupations. As a vital member of the health care team, the health information manager is responsible for managing health information systems. This professional plan and develops health information systems that meet standards of accrediting and regulatory agencies.

Career in Health Informatics

Management, HI (Medical Records)	Responsible for the day-to-day operations of an HI Department, maintains a budget, oversees staff, and interacts with other hospital departments, plans for the department.
Tumor registry	Reviews, abstracts, and codes clinical cancer information in order to comply with government regulations. Maintains a database. Also provides data for physicians and research studies.
Coding	Reviews medical documentation and assigns appropriate diagnosis and/or procedure codes in order for billing to occur.
Trauma registry (E.R.)	Collects, codes, and maintains data unique to trauma registry, maintains a database. Assists with research projects, performance improvement, and administrative planning.
Transcription	Responsible for providing accurate and timely reports for patient care, documentation and billing.
Quality Improvement	Collect and summarize performance data, identify opportunities for improvement, and present data to other clinicians and administrative staff.

OPPORTUNITIES IN STATE AND CENTRAL GOVERNMENT

HEALTH INFORMATICS	
Information Assistant	Research Coordinator
Clinical Informatics / Analyst	Health information Manager
EHR Implementation Analyst	Health Information Executive
Medical Record Analyst	Health Information Management Technologist
Nurse Informatics Officer	Clinical Coder
Informatics Specialist	Medical Secretary and Medical Transcriptionist
Nurse Informatician	Chief Informatics Officer
Project Manager	Quality Manager
Clinical Data Analyst	Operation Manager

Public Sectors Like National Health Mission, ABDHM, NHSRC, Ministry of Health & Family Welfare.

BIOINFORMATICS

Objectives/Aim of The Program:

Bioinformatics is an interdisciplinary field of science that deals with biological information. It is a fusion of many fields such as computer science, mathematics, engineering, and statistics. The degree holders of Bioinformatics can work in the sectors of Pharmaceutical, Biotechnology, Biomedical, Research institution, and in Hospitals. The candidates can work in all those industries where the information technology of molecular biology is used. The requirement of medical sciences is increasing. It has become one of the highest-paid sectors and is continually rising.

One can teach in private and government college, work in the manufacturing units of biomedical products as well as in the scientific research institutes. Biotechnology Research centres and biotechnology firms hire students from the bioinformatics background for further research.

The bioinformatics degree holders can work in the leading IT companies and work as a "Bio- Informationists". Candidates can find the career options as the computational chemist, Bio-analytics, database design & maintenance, proteomics, pharmacologists, informatics developer, pharmacology, etc.

Learning Objectives:

1. Genomic and proteomic databases.
2. GenBank, Swiss-Prot, and to analyze their search results using software available on the internet (e.g. BLAST, ClustalW).
3. Compare and analyze biological sequences and how to interpret the results of their analyses. Assessment will be based upon performance on computer assignments and exam questions.
4. Construct phylogenetic trees based on biological sequence data.
5. Locate consensus sequences, genes and open reading frames within biological sequences.
6. Principles and applications of microarrays.
7. Elementary predictions of protein structure and function.
8. Elementary comparative genomic analysis.
9. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

JOB OPPORTUNITIES

There are multiple job opportunities available to Bio informatics graduates. The following is just a sample of jobs in various practice settings:

The course is suitable for anyone who has a good biology or mathematics base and is keen on research and pure sciences. It is a field of immense possibility for growth. The career, being a mix of both science and technology, gives you a number of options for fields that you can branch into after. Due to the need for both advancements in the medical field, this course has job opportunities in every corner. Several companies abroad have very high pay for Bio informatics graduates, especially laboratories. In India, since it, a growing field, the pay you receive is always steadily rising.

Academically, the course has a lot of scope in the case of masters as well as specializations. It also makes the candidate eligible for a PhD. and is hence, a very respectable course to pursue. This is a field that provides useful information to several other fields and is thus, very much in demand. Listed here are a few popular careers in the field of Bioinformatics

1. **Bio Information Analyst** - Development of algorithms and software to determine the cure for diseases by studying their pathology. It also involves analyzing complex life forms, as well as other biological data.
2. **Team Leader** - Heads a research group of Bioinformatics graduates as well as organizes the process of both study and analysis.
3. **Research Associate** - Performs tasks related to research, study and innovation in the field of Bio informatics.
4. **Bio Statistician** - Deals with the collection, study and interpretation of data using the methods of statistics to come up with results in the field of bio informatics.
5. **Computational Biologist** - Study of biological systems using biological data that has been analyzed with the use of the software.
6. **Bio informatics Software Developer** - Helps with the creation and handling of software that is used to process and analyze biological data.
7. **Pharmaceutical Research Statistician, Clinical Trials Coordinator, Data Manager** - Provides data management services in order to meet customer needs. Manages projects, staff, and timelines.
8. **Information Technology System Analyst, Project Manager, Data Manager** - Works with software vendors to design clinical software, provides training to end-user staff, assists with system installations, provides system support.
9. **Medical Software Companies Software Designer, Software Tester** - Designs and develops databases, performs various software testing, assists clients with system installations.

B. Sc. MEDICAL RECORD SCIENCE & CLINICAL INFORMATION TECHNOLOGY

Objectives/Aim of The Program:

B.Sc. in MRS&CIT is designed to prepare the student for a career as a medical record professional. After going through this program the student will be able to:

Understand the functions of medical record professionals in providing health information in a hospital. Develop the skills necessary to fulfill these functions by acquiring a basic knowledge of medical terminology, anatomy and physiology, laboratory sciences, hospital statistics etc. Become proficient in maintaining medical records on par with the current standards. Understand the legal aspects of medical records, such as the legal requirements about maintenance and retention of records and release of clinical information, morbidity and mortality data (W.H.O., I.C.D., S.N.O.M.E.D based). Develop an understanding of the functions performed by the other departments in a hospital which directly contribute to patient care. Understand about the principles of management; their application in the administration of a medical record department. Promote an appreciation of the ethical principles underlying medical practice in general and the code of ethics of medical record professionals in particular.

To have an exposure to the vast strides in the classification and codification of drugs, diseases and their treatment, and in the organization of hospitals.

To acquire sufficient knowledge of the prevailing system of scientific documentation with computerization, information search and retrieval.

To acquire knowledge of the networking of hospitals and institutions by the Internet and Intranet.

To get familiarity with large databases dealing with various categories of entities such as diseases, pathological conditions, symptoms, drugs and concepts such as 'data mining'

To acquire knowledge of the current trends in Medical Record Science like health insurance and third-party payers.

To integrate advanced knowledge and skills in health care data.

Apply effective communication skills and strategies in interactions with multidisciplinary and multi-facility professionals.

Career In B. Sc. Medical Record Science & Clinical Information Technology

OPPORTUNITIES IN STATE AND CENTRAL GOVERNMENT JOBS

- Medical Record Officer
- Medical Record Executive
- Medical Record Technician
- Electronic Medical Record Keeper
- Medical Coder
- Medical Record Analyst
- Clinical Data Analyst
- Medical Record Specialist
- Medical Record Manager
- Clinical Information Officer



LIFE @ MGUMST



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