School of Medical Sciences & Technology

M.Sc. in Medical Records Sciences (2 Years, 4 Semesters)

OVERVIEW

The M.Sc. in Medical Records Sciences is a specialized postgraduate program designed to provide in-depth knowledge and practical skills in health information management, electronic medical records (EMR), medical coding, and hospital administration. This program integrates healthcare data management, legal aspects of medical records, and modern health informatics to prepare graduates for careers in healthcare institutions, research, and health data analytics.

With the rapid adoption of digital health records and the growing need for accurate and secure medical documentation, this program equips students with expertise in health informatics, medical transcription, patient data security, and regulatory compliance.

Affiliated Institution: School of Medical Sciences and Technology, Malla Reddy Vishwavidyapeeth (Deemed to be University)
Eligibility: A pass in B.Sc. (Health Information Management, Life Sciences, Allied Health Sciences, Computer Science, or related fields) with at least 50% marks in the qualifying examination.

KEY HIGHLIGHTS

- **Comprehensive Training in Medical Records Management** – Covers digital health records, data security, and hospital documentation.
- **Multidisciplinary Approach** – Collaboration with healthcare professionals, IT specialists, and hospital administrators.
- **Practical Exposure** – Hands-on training in hospital record departments, EMR systems, and health informatics labs.
- **Advanced Health Information Technologies** – Training in medical coding, data analytics, and artificial intelligence in healthcare.
- **Research & Policy Implementation** – Conducting studies on healthcare data security, medical documentation, and hospital informatics.

COURSE CURRICULUM

The program spans two years, comprising theoretical coursework, practical training, internships, and research projects.

Year 1
Core Modules:

- **Fundamentals of Medical Records Science** – Basics of medical documentation, health information systems, and record-keeping.
- **Health Informatics & Electronic Medical Records (EMR)** – Digital health technologies, hospital IT systems, and data management.
- **Medical Coding & Classification Systems** – ICD, CPT, and HCPCS coding for healthcare billing and insurance.
- **Legal & Ethical Aspects of Medical Records** – Confidentiality, HIPAA compliance, and medical data privacy laws.
- **Biomedical Statistics & Health Data Analysis** – Data interpretation, predictive modeling, and reporting.
- **Hospital Information System Management** – Hospital workflow automation, patient data integration, and interoperability.

Practical Training:

- Hands-on training in hospital medical records departments and EMR software.

Year 2

Advanced Modules:

- **Healthcare Quality & Accreditation Standards** – JCI, NABH, and ISO standards for medical record management.
- **Artificial Intelligence & Big Data in Healthcare** – AI applications in patient data management and predictive analytics.
- **Telemedicine & Remote Health Record Management** – Digital consultations, remote monitoring, and cybersecurity in telehealth.
- **Research Methodology & Biostatistics in Medical Records** – Conducting research on healthcare informatics and epidemiology.
- **Health Economics & Policy Management** – Financial aspects of healthcare, insurance management, and reimbursement systems.
- **Entrepreneurship in Health Informatics & Medical Records** – Business models in healthcare IT and data security solutions.

Dissertation & Research Project:

- Independent research on EMR systems, healthcare data analytics, or medical record security.

Internships & Field Training:

- Specialized training in hospitals, healthcare IT firms, and insurance companies

PROGRAM OUTCOMES (POs)

PO	Program Outcomes
PO-1	Manage and analyze medical records using advanced health informatics systems.
PO-2	Ensure compliance with legal and ethical guidelines in health data management.
PO-3	Utilize data analytics for healthcare decision-making and policy development.
PO-4	Implement electronic health record (EHR) systems for efficient patient data handling.
PO-5	Conduct research on health informatics for improving patient care.
PO-6	Develop skills in health information management for clinical and administrative purposes.

COURSE STRUCTURE – M.Sc. Medical Records Sciences

SEMESTER – I

Sl. No.	Broad Category	Course Code	Name of the Subject/Practical	Contact hours/week			Credits
				L	T	P	
1.	Major (Core)	MSRS101	Basics of Human Anatomy and Physiology	2	1	0	3
2.		MSRS102	Health Information Management	2	0	2	3
3.		MSRS103	Medical Terminology	2	1	0	3
4.		MSRS104	Introduction to Healthcare Delivery Systems & Standards	2	1	0	3
5.	**Minor** Select any two minor courses, each worth 3 credits, for a maximum of 6 credits per semester	MSRS105	1. Legal & Ethical Aspects of Health Records 2. Medical Data Analytics 3. Hospital Administration & Healthcare Policies	2	0	2	6
			4. Medical Documentation & Report Writing 5. Communication and Soft Skills 6. Research Methodology & Biostatistics	2	0	2	
6.	**Skill Enhancement Courses**	MSRS106	1. Electronic Health Records Management	0	0	2	2
			2. Medical Coding and Classification Systems	0	0	2	
			Total	12	3	10	**20**
Total Contact Hours				**25**			

Course outcome design for B.Sc. Medical Records Sciences MAJOR- Basic of Human Anatomy and Physiology

Sr. No.	Course Outcome	Description
1	Understand the Basics of Human Anatomy & Physiology	Explain fundamental concepts, scope, and importance of anatomy and physiology.
2	Describe the Structure and Function of Organ Systems	Learn about different organ systems, their structures, and functions.
3	Explain the Role of Cells and Tissues in the Human Body	Understand the cellular structure, tissue classification, and their physiological functions.
4	Analyze the Relationship Between Different Body Systems	Learn about the interconnections and interactions among various organ systems.
5	Understand Homeostasis and Regulatory Mechanisms	Explain how the body maintains balance through feedback mechanisms.
6	Describe Common Physiological Processes and Disorders	Learn about normal body functions and common physiological disorders.
7	Explain the Role of Anatomy & Physiology in Healthcare	Understand the importance of anatomical and physiological knowledge in medical practice.
8	Apply Knowledge of Human Anatomy & Physiology in Practical Settings	Develop skills in analyzing body structures and functions relevant to healthcare.

Course outcome design for B.Sc. Medical Records Sciences MAJOR- Health Information Management

Sr. No.	Course Outcome	Description
1	Understand the Basics of Health Information Management	Explain the fundamental concepts, scope, and significance of health information systems.

Sr. No.	Course Outcome	Description
2	Describe Health Data Standards and Classification Systems	Learn about coding, classification, and regulatory guidelines in health information.
3	Explain Electronic Health Records (EHR) and Data Management	Understand the use, maintenance, and security of electronic health records.
4	Analyze the Role of Health Information Professionals	Learn about the responsibilities and ethical considerations in managing health information.
5	Understand Privacy, Security, and Legal Aspects of Health Data	Explain data protection laws, patient confidentiality, and compliance standards.
6	Describe Healthcare Analytics and Decision-Making Processes	Learn about data-driven decision-making and healthcare analytics applications.
7	Explain the Impact of Technology in Health Information Systems	Understand the role of AI, cloud computing, and other technologies in health informatics.
8	Apply Knowledge of Health Information Management in Practical Settings	Develop skills in handling, organizing, and analyzing healthcare data.

Course outcome design for B.Sc. Medical Records Sciences MAJOR- Medical Terminology

Sr. No.	Course Outcome	Description
1	Understand the Basics of Medical Terminology	Explain fundamental principles, word roots, prefixes, and suffixes in medical language.
2	Describe Medical Terms Related to Anatomy & Physiology	Learn the terminology associated with body structures, functions, and systems.
3	Explain Disease and Diagnostic Terminology	Understand common medical terms used in pathology, diagnostics, and procedures.

Sr. No.	Course Outcome	Description
4	Analyze Pharmaceutical and Prescription Terminology	Learn about drug classifications, dosages, and prescription abbreviations.
5	Understand Medical Abbreviations and Symbols	Explain commonly used abbreviations and medical shorthand.
6	Describe the Use of Medical Terminology in Clinical Settings	Learn how healthcare professionals use medical terms in communication and documentation.
7	Explain the Impact of Medical Terminology in Healthcare Communication	Understand the importance of accurate medical language in patient care and record-keeping.
8	Apply Knowledge of Medical Terminology in Practical Settings	Develop skills in interpreting, using, and documenting medical terminology effectively.

Course outcome design for B.Sc. Medical Records Sciences MAJOR- Introduction to Healthcare Delivery Systems & Standards

Sr. No.	Course Outcome	Description
1	Understand the Basics of Healthcare Delivery Systems	Explain the structure, function, and significance of healthcare systems globally.
2	Describe Different Models of Healthcare Systems	Learn about private, public, universal, and hybrid healthcare systems.
3	Explain Healthcare Policies and Regulations	Understand the role of government policies and legal frameworks in healthcare delivery.
4	Analyze the Role of Healthcare Professionals	Learn about the responsibilities of doctors, nurses, allied health professionals, and administrators.
5	Understand the Principles of Healthcare Quality and Safety	Explain quality control measures, patient safety protocols, and healthcare standards.

Sr. No.	Course Outcome	Description
6	Describe the Use of Health Information Systems in Delivery of Care	Learn about the role of electronic health records and telemedicine in modern healthcare.
7	Explain the Impact of Technological Advancements in Healthcare	Understand innovations such as AI, robotics, and digital health solutions in patient care.
8	Apply Knowledge of Healthcare Systems & Standards in Practical Settings	Develop skills in navigating healthcare policies, standards, and system management.

Course outcome design for B.Sc. Medical Records Sciences MINOR- Legal & Ethical Aspects of Health Records

Sr. No.	Course Outcome	Description
1	Understand the Legal Framework of Health Records	Explain the laws, regulations, and guidelines governing health records.
2	Describe Patient Confidentiality and Data Privacy	Learn about HIPAA, GDPR, and other data protection laws ensuring patient confidentiality.
3	Explain Medical Ethics and Professional Conduct	Understand ethical considerations in handling, storing, and sharing health information.
4	Analyze Informed Consent and Patient Rights	Learn about legal requirements for informed consent and patient autonomy.
5	Understand Liability and Malpractice in Health Records Management	Explain the legal implications of errors, negligence, and malpractice in documentation.
6	Describe Cybersecurity Measures in Health Data Protection	Learn about encryption, data breaches, and cybersecurity best practices.
7	Explain the Role of Healthcare Professionals in Legal Compliance	Understand how medical staff must adhere to legal and ethical responsibilities.

Sr. No.	Course Outcome	Description
8	Apply Knowledge of Legal & Ethical Aspects in Practical Settings	Develop skills in managing health records within ethical and legal frameworks.

Course Outcomes for B.Sc. Medical Record Sciences MINOR-Medical Data Analytics

Sr. No.	Course Outcome	Description
1	Understand the Basics of Medical Data Analytics	Explain the role, scope, and significance of data analysis in healthcare.
2	Describe Types of Medical Data and Their Applications	Learn about structured and unstructured data, clinical datasets, and big data in healthcare.
3	Explain Statistical Tools and Techniques in Healthcare	Understand descriptive and inferential statistics used in medical data analysis.
4	Analyze Electronic Health Records and Data Trends	Learn how to extract insights from EHRs for clinical decision-making.
5	Understand Predictive Analytics and Machine Learning in Healthcare	Explain how AI and predictive modeling improve patient outcomes.
6	Describe Data Visualization and Reporting Methods	Learn how to present medical data effectively using dashboards and reports.
7	Explain the Impact of Data Analytics on Public Health and Policy	Understand how analytics influences disease surveillance and healthcare policies.
8	Apply Knowledge of Medical Data Analytics in Practical Settings	Develop skills in analyzing, interpreting, and presenting healthcare data.

Course Outcomes for B.Sc. Medical Records Sciences MINOR- Hospital Administration & Healthcare Policies

Sr. No.	Course Outcome	Description
1	Understand the Principles of Hospital Administration	Explain the organizational structure and functions of hospital administration.
2	Describe Healthcare Governance and Regulatory Policies	Learn about accreditation, licensing, and healthcare regulatory frameworks.
3	Explain Financial Management in Healthcare	Understand hospital budgeting, revenue cycles, and cost control measures.
4	Analyze Human Resource Management in Hospitals	Learn about staffing, training, and workforce management in healthcare institutions.
5	Understand Healthcare Quality Assurance and Patient Safety	Explain the role of quality standards, audits, and risk management in hospitals.
6	Describe the Role of Technology in Hospital Administration	Learn about hospital management systems, telemedicine, and digital healthcare solutions.
7	Explain Public Health Policies and Their Impact on Healthcare Delivery	Understand how national and international health policies shape healthcare practices.
8	Apply Knowledge of Hospital Administration & Policies in Practical Settings	Develop skills in managing hospital operations, compliance, and policy implementation.

Course Outcomes for B.Sc. Medical Records Sciences MINOR-Medical Documentation & Report Writing

Sr. No.	Course Outcome	Description
1	Understand the Importance of Medical Documentation	Explain the significance of accurate and complete documentation in healthcare.
2	Describe Different Types of Medical Reports	Learn about patient records, discharge summaries, operative reports, and case notes.

Sr. No.	Course Outcome	Description
3	Explain Medical Writing Styles and Standards	Understand structured reporting, SOAP notes, and standardized documentation practices.
4	Analyze Legal and Ethical Aspects of Medical Documentation	Learn about the legal implications of inaccurate or incomplete records.
5	Understand the Role of Electronic Medical Records (EMR)	Explain how digital documentation enhances healthcare efficiency.
6	Describe Best Practices for Error-Free Medical Documentation	Learn techniques to minimize errors and ensure clarity in medical reports.
7	Explain the Use of Technology in Medical Report Writing	Understand the role of voice recognition software, AI-based documentation, and automated reporting tools.
8	Apply Knowledge of Medical Documentation in Practical Settings	Develop skills in writing, reviewing, and maintaining medical records professionally.

Course Outcomes for B.Sc. Medical Records Sciences MINOR-Communication and Soft skills

Sr. No.	Course Outcome	Description
1	Understand the Basics of Communication in Healthcare	Explain the importance of effective communication among healthcare professionals and patients.
2	Describe Verbal and Non-Verbal Communication Skills	Learn how body language, tone, and active listening influence interactions.
3	Explain the Role of Empathy and Compassion in Patient Care	Understand how interpersonal skills impact patient satisfaction and outcomes.
4	Analyze Barriers to Effective Communication in Healthcare	Learn about cultural, linguistic, and psychological factors affecting communication.

Sr. No.	Course Outcome	Description
5	Understand Conflict Resolution and Negotiation Skills	Explain strategies for handling disagreements and maintaining professional relationships.
6	Describe the Role of Teamwork and Leadership in Healthcare	Learn how collaboration and leadership influence healthcare delivery.
7	Explain the Impact of Technology on Communication	Understand the role of telemedicine, virtual consultations, and digital communication tools.
8	Apply Communication and Soft Skills in Practical Settings	Develop skills in counseling, patient education, and professional communication.

Course Outcome for B.Sc. Medical Records Sciences MINOR- Research Methodology & Biostatistics

Sr. No.	Course Outcome	Description
1	Understand the Basics of Research Methodology	Explain research design, problem formulation, and hypothesis development.
2	Describe Different Types of Research Methods	Learn about qualitative, quantitative, and mixed-method research approaches.
3	Explain Data Collection Techniques in Healthcare Research	Understand surveys, interviews, clinical trials, and observational studies.
4	Analyze the Role of Biostatistics in Medical Research	Learn about descriptive and inferential statistics used in healthcare.
5	Understand Sampling Techniques and Data Interpretation	Explain probability, random sampling, and bias reduction in research.
6	Describe Statistical Tests and Their Applications in Research	Learn about t-tests, chi-square tests, regression analysis, and ANOVA.
7	Explain Ethical Considerations in Medical Research	Understand informed consent, plagiarism, and research integrity.

Sr. No.	Course Outcome	Description
8	Apply Knowledge of Research Methodology & Biostatistics in Practical Settings	Develop skills in designing research studies, analyzing data, and interpreting results.

CAREER AND ACADEMIC OPPORTUNITIES

Career Opportunities:

- **Health Information Manager** – Managing medical records in hospitals and clinics.
- **Medical Coding Specialist** – Assigning standardized codes for billing and insurance claims.
- **Clinical Data Analyst** – Analyzing patient data to improve healthcare outcomes.
- **Health Informatics Specialist** – Implementing and managing digital health systems.
- **Medical Records Auditor** – Ensuring compliance with legal and regulatory standards.
- **Hospital Administrator (Medical Records)** – Overseeing record-keeping processes in healthcare institutions.
- **Researcher in Health Data Science** – Conducting studies on digital health records and AI applications.
- **Consultant in Healthcare IT** – Advising on hospital information system integration and data security.

Higher Education & Research Prospects:

- **Ph.D. in Health Informatics & Medical Records** – Advanced research in health information systems.
- **Fellowship in Medical Coding & Compliance** – Specialization in medical documentation standards.
- **Master of Public Health (MPH) in Health Information Management** – Focusing on policy implementation in healthcare records.

LABS & TRAINING FACILITIES

- **Health Informatics & EMR Lab** – Hands-on training in electronic medical records software.
- **Medical Coding & Billing Lab** – Practical exposure to ICD, CPT, and HCPCS coding standards.
- **Data Analytics & Predictive Modeling Lab** – Using AI and big data for healthcare improvement.

- **Hospital Information Systems (HIS) Lab** – Training in patient record management software.
- **Biomedical Statistics & Epidemiology Lab** – Research in public health data management.
- **Cybersecurity in Healthcare Lab** – Ensuring medical data protection and regulatory compliance.

COURSE STRUCTURE & SYLLABUS

Total Course Duration: 2 Years (4 Semesters)
Total Credits: 80–100
Total Teaching & Training Hours: ~3,600

ASSESSMENT METHODS

Assessment Component	Weightage (%)	Details
Continuous Internal Assessment (CIA)	**40%**	Includes internal exams, assignments, presentations, case studies, and practical performance
End-Semester Examination (ESE)	**60%**	Divided into theory (40%) and practical (20%)
Mid-Semester Exams	**20%** (Part of CIA)	Two internal tests per semester
Assignments & Case Studies	**5%** (Part of CIA)	Research-based assignments, literature reviews, clinical case reports
Seminars & Presentations	**5%** (Part of CIA)	Oral/poster presentations on molecular medicine topics
Practical Performance & Lab Evaluation	**5%** (Part of CIA)	Skill-based assessments in molecular biology labs
Attendance & Participation	**5%** (Part of CIA)	Regularity in theory & practical sessions
Theory Examination (Final)	**40%** (Part of ESE)	Structured written paper covering subject knowledge

Assessment Component	Weightage (%)	Details
Practical Examination (Final)	**20%** (Part of ESE)	Includes viva, skill demonstration, case handling
Dissertation/Research Project	**Mandatory**	Evaluated in the final year by internal & external examiners
Internship/Training in Molecular Biology Research	**Pass/Fail**	Logbook-based evaluation with research mentor review

MARKING SYSTEM & GRADING

Marks (%)	Grade	Grade Point (GPA/CGPA Equivalent)	Classification
90 - 100	O (Outstanding)	10	First Class with Distinction
80 - 89	A+ (Excellent)	9	First Class with Distinction
70 - 79	A (Very Good)	8	First Class
60 - 69	B+ (Good)	7	First Class
50 - 59	B (Satisfactory)	6	Second Class
<50 (Fail)	F (Fail)	0	Fail (Re-exam Required)

Pass Criteria:

- **Minimum 50% marks in each subject** (Theory & Practical separately).
- **Aggregate of 55% required for progression** to the next semester.
- **No more than two backlogs** allowed for promotion to the final year.

EXAM PATTERN FOR THEORY & PRACTICAL

A. THEORY EXAMINATION PATTERN

Total Marks: 100 (Converted to 40% for End-Semester Assessment)
Duration: 3 Hours

Section	Question Type	No. of Questions	Marks per Question	Total Marks
Section A	Short Answer Type (SAQ)	10 (Attempt all)	2	20
Section B	Long Answer Type (LAQ)	5 (Attempt any 4)	10	40
Section C	Case-Based/Research Scenario	3 (Attempt any 2)	15	30
Section D	MCQs/Objective Type	10 (Compulsory)	1	10
Total				**100**

Weightage:

- Health Information Systems & Medical Coding – 40%
- Legal & Ethical Aspects of Medical Records – 30%
- Research & Case Studies – 20%
- Emerging Trends in Health Informatics – 10%

Passing Criteria: Minimum **50% (50/100 marks)**

B. PRACTICAL EXAMINATION PATTERN

Total Marks: 100 (Converted to 20% for End-Semester Assessment)
Duration: 4–6 Hours

Component	Marks Distribution
Medical Records Management & Case Documentation	30
OSCE (Objective Structured Clinical Examination) – Skill Demonstration	25
Health Information Coding & Data Management	20

Component	Marks Distribution
Lab-Based Examination (Electronic Health Records, Medical Coding, Data Analysis)	15
Record Work (Logbook & Assignments)	10
Total	**100**

OSCE (SKILL-BASED ASSESSMENT) INCLUDES STATIONS ON:

- Medical Record Documentation & Retrieval
- ICD & CPT Coding for Disease & Procedure Classification
- Electronic Health Record (EHR) System Navigation & Data Entry
- Legal & Ethical Aspects of Medical Records Management

Passing Criteria: Minimum 50% (50/100 marks) in practicals.

CONCLUSION

The M.Sc. in Medical Records Sciences equips graduates with expertise in health information management, medical coding, and healthcare informatics. With increasing digitization in healthcare, this program ensures strong career prospects in hospitals, research, and health IT sectors, offering opportunities in both clinical and administrative roles.