MALLA REDDY
VISHWAVIDYAPEETH
(Deemed to be University)

SCHOOL OF DIGITAL HEALTH SCIENCES & TECHNOLOGY

Fellowship in Digital Health

Created in 2025

Academic regulations for fellowship programmes

1. **DEFINITION**

   Fellowship: A fellowship is an advanced, structured programme focused on developing specialized competencies after the completion of a qualifying degree or equivalent experience. It offers structured learning and practical experience in a focused area. The purpose of the fellowship is to develop advanced knowledge, strengthen specialized skills, and prepare participants for professional growth within their chosen field.

2. **AIMS AND OBJECTIVES**

   The aim of the program is to provide program nurtures graduate and postgraduate candidates, building their expertise and skills to drive career excellence and impact in their chosen field.

   Full-Time Candidate: A full-time candidate is an individual who is enrolled exclusively in the fellowship program and is not engaged in any other professional, academic or employment obligations during the training period. These candidates are required to dedicate their time and effort to the structured fellowship programme, meeting the assigned outcomes through full-time participation that ensures immersive training and continuous engagement in all programme activities, including assigned duties, learning sessions, and assessments. Stipends for full-time fellowship candidates will be awarded as per MRV policy.

   Internal Candidate: An internal candidate is an individual currently employed by MRV or its affiliated institutes who wish to enhance their skills through the fellowship during their tenure at the institution. This includes faculty, residents, or staff. Internal candidates are not eligible for a stipend. Applications are subject to institutional approval.

   External Candidate: An external candidate is someone not employed by MRV or its affiliated hospitals and institutes at the time of applying for the fellowship. They may come from other academic institutions, healthcare organizations, or private practice. External candidates are required to complete all fellowship requirements as per MRV guidelines. No stipend will be provided.

   Sponsored Candidate: A sponsored candidate is nominated and financially supported by a recognized institution, organization, or employer such as a government body, healthcare institution, academic organization, or industry partner to pursue a fellowship at MRV. The sponsor typically covers fees or other program-related costs and may require the candidate to fulfill certain obligations, if any, upon completion as required by the sponsor. Employees sponsored by organizations must provide a formal no-objection certificate. Sponsored candidates are not eligible for a stipend.

3. PREREQUISITES

Criteria	Details
Eligibility	To be eligible for admission into the fellowship program at MRV, candidates must meet the following criteria: • Hold a recognized graduate or postgraduate degree with a completion certificate. • The fellowship must align with the candidate's prior qualifications and may require professional registrations. • Detailed eligibility criteria for ach fellowship, including approved qualifications are available on the MRV website.
Duration	• Undergraduate Degrees – Any recognized undergraduate degree – 12 months • Postgraduate Degrees – Any recognized undergraduate degree – 6 months • Super specialty Degrees – Any recognized speciality or advanced degree – 3 months * Duration for any category may be adjusted based on program requirements, as recommended by the Selection Committee.
Mode of Study	Theoretical, Lab-based Development, Simulation Workshops, Clinical Scenario Building, Capstone Project, Practical, Skill, Case-based

4. SELECTION AND COMMENCEMENT OF FELLOWSHIP

Fellowship Committee: The Fellowship Committee is established to uphold principles of transparency, fairness, and meritocracy in the selection process for the MRV Fellowship Program.

Composition of Fellowship Selection Committee

Sr. No.	Role/Position	Description / Designation
1	Chairperson	The Dean of the respective colleges and Schools of Eminence at MRV
2	Subject Expert	A Professor or Associate Professor from the concerned colleges and Schools of Eminence, MRV
3	Guide / Co-Guide	A Professor, Associate Professor, or Assistant Professor from the concerned colleges and Schools of Eminence, MRV
4	Convener	The Fellowship Coordinator of MRV
5	Ex officio Members	The Registrar and the Controller of Examinations,

		MRV

Duties of the Fellowship Selection Committee

- Ensure that the MRV fellowship program commences twice a year in accordance with the academic calendar issued by the university.
- Oversee the preparation and communication of the program schedule, including application deadlines, interview dates, and the start of training through the MRV website and relevant academic departments.
- Thoroughly evaluate all applications to ensure candidates meet the minimum requirements for completion.
- Assess academic credentials, prior qualifications, and overall suitability for the fellowship program.
- Conduct interviews for shortlisted candidates to evaluate knowledge, skills, and overall preparedness.
- Recommend a final list of eligible candidates for approval by the Vice-Chancellor based on the evaluation and interview outcomes.
- Oversee all aspects of the fellowship program from scheduling, implementation, to completion.

5. FEE STRUCTURE

Program Fees: The basic fee structures for each fellowship program are available on the respective program on the MRV website.

6. PROCEDURE FOR SELECTION AND ADMISSION

- **Eligibility Check:** Verify that applicants meet the basic eligibility criteria, including academic qualifications, professional experience, and relevant skills.
- **Document Review:** The Selection Committee reviews all applications for completeness and ensures they satisfy the program's eligibility requirements.
- **Personal or Virtual Interviews:** Shortlisted candidates may be invited for interviews, either in person or virtually. This allows the Committee to assess communication skills, motivation, and overall suitability for the fellowship.
- **Merit-Based Selection:** The Committee selects the most qualified candidates based on a combination of academic performance, professional experience, interview performance, and alignment of the applicant's goals with the objectives of the fellowship.

7. ALLOTMENT OF FELLOWSHIP GUIDE

Assignment of Guides: The allotment of fellowship Guides shall be undertaken by the Selection Committee, ensuring that only eligible and approved faculty members are assigned as Guides or mentors.

Criteria for Allotment are based on:

- Alignment of the fellow's area of interest with the Guide's specialization
- Availability and consent of the Guide
- Existing rotation or merit-based preferences as determined by the Committee

Role and Responsibilities of the Guide:

- Mentoring the fellow to acquire required skills and academic knowledge
- Providing guidance and support to ensure progress throughout the fellowship

- Conducting regular evaluations and offering academic and professional advice and submit periodic report to the Fellowship coordinator
- Supporting the fellow in meeting program requirements and objectives

External Collaborators: External collaborators from recognized institution may serve as fellowship co-Guides in conjunction with a Guide from MRV.

Change of Guide: Fellows may request a change of Guide, subject to approval by the Selection Committee.

8. FELLOWSHIP PROGRAM DESIGN

The fellowship program is designed to provide a structured and comprehensive learning experience that develops relevant skills, knowledge, and professional competencies. Upon completion, they should demonstrate proficiency in core skills, apply their knowledge effectively in professional settings, maintain professional standards, and document their progress.

Logbook Maintenance: Fellows must maintain a logbook throughout the program. The required entries may vary depending on the fellowship. The logbook will be reviewed and evaluated on a daily or weekly basis by the assigned Guide. Regular face-to-face feedback sessions with the Guide will be conducted to monitor progress and provide guidance.

Final Assessment and Exit Examination:

The final assessment by the assigned guides includes the following components:

1. Multiple Choice Questions (MCQs): 25 marks
2. Practical Skills Assessment: Three case scenarios with discussion; each case carries 20 marks (total 60 marks)
3. Logbook Maintenance: 15 marks

The candidate must appear and secure a minimum of 50% marks in each of the above listed components. The total marks are 100, and a minimum aggregate score of 50% is required to successfully complete the fellowship.

Any additional outputs or deliverables may be determined in consultation with the Guide and require prior written approval from the Selection Committee.

9. MINIMUM STANDARD AND CREDITS FOR THE AWARD OF THE FELLOWSHIP

- Fellows must maintain a **minimum of 80% attendance** across all program activities.
- A **minimum overall score of 50%** is required to pass the fellowship.

10. FELLOWSHIP COMPLETION CERTIFICATE

Issued by MRV: Upon successful completion of all training, periodic evaluations, and final examinations, fellows will be awarded a certificate.

The certificate should include details such as:

- Name of the candidate
- Fellowship program details
- Program completion status

Fellowship in Digital Health

Course Overview

The Fellowship in Digital Health is a focused and practice-driven program that equips healthcare and technology professionals with competencies to design, implement, manage, and evaluate digital health systems. The fellowship explores the convergence of healthcare delivery, medical data workflows, digital infrastructure, electronic health records (EHR), telemedicine, IoMT, cybersecurity, analytics, visualization, clinical decision support, and regulatory frameworks.

Participants gain real-world experience through capstone projects, hands-on exposure to EHR and telemedicine platforms, dashboard development, analytics case studies, simulation exercises, and usability evaluations aligned with current digital health standards, interoperability, ABDM policies, and health regulations.

Course Objectives

1. To provide a foundational understanding of digital health platforms, applications, and infrastructure.
2. To develop competency in EHR systems, telemedicine workflows, IoMT-enabled monitoring, and analytics pipelines.
3. To build proficiency in interoperability standards (FHIR, HL7), medical coding, and health-data terminology.
4. To strengthen understanding of cybersecurity, privacy frameworks, and risk mitigation in digital health.
5. To enable application of data visualization and predictive analytics for clinical and operational decisions.
6. To introduce essential components of digital health software, cloud systems, APIs, dashboards, and integration.
7. To build familiarity with regulatory frameworks, health information governance, and ethical digital system design.
8. To prepare learners to design, evaluate, and lead digital health innovations across healthcare systems.

Curriculum with Part-wise Syllabus & Modules

Part 1: Foundations of Digital Health Systems

Module	Topics Covered
Introduction to Digital Health	Role of digital technologies in healthcare; overview of digital platforms; key components of digital health ecosystems; ABDM & NDHM foundations
Electronic Health Records (EHR)	EHR architecture; data models; HL7 & FHIR basics; SNOMED & ICD coding; EMR documentation; interoperability pathways
Telemedicine & Remote Health	Teleconsultation models; monitoring workflows; device interoperability; digital triaging; hybrid virtual care
Health Data Analytics	Exploratory data analysis; descriptive statistics; data pipelines; decision analytics; visualization principles & metrics
Cybersecurity & Privacy in Digital Health	Cyber threats; encryption; identity access management; audit trails; data protection frameworks; risk assessment
Digital Health Standards in India & Globally	ABDM compliance; HIE-CM; consent architecture; global standards; digital governance policies

Part 2: Advanced Systems, Analytics & Implementation

Module	Topics Covered
IoMT & Clinical Monitoring	IoMT architecture; wearable integration; telemonitoring; cloud-based data flows; clinical dashboards; biosensing
AI & Predictive Analytics in Healthcare	ML basics; forecasting models; diagnostic analytics; early-warning detection; risk scoring; quality indicators
Clinical Decision Support & Workflows	Decision rules; e-prescriptions; alert systems; triage support; outcomes evaluation; digital twins (intro)
Human-Centered Digital Health Design	UX principles; usability guidelines; accessibility; clinical workflow mapping; user-centered prototyping
Implementation & Change Management	Digital maturity assessment; deployment planning; stakeholder adoption; system sustainability; ROI evaluation
Capstone Project	Prototype of digital health solution (dashboard/telehealth/EHR/IoMT); data pipeline demonstration; usability testing; viva

Program Outcomes

SR.N.	Program Outcome	Detailed Description
1	**Understanding Digital Health Ecosystems**	Demonstrate comprehensive understanding of EHR, telemedicine, IoMT, analytics and digital platforms in healthcare
2	**Interoperability & Data Standards Competence**	Apply HL7, FHIR, ICD and SNOMED standards to ensure interoperable digital health systems
3	**Healthcare Cybersecurity Proficiency**	Identify vulnerabilities and implement safeguards to ensure privacy, data protection and secure digital systems
4	**Legal & Regulatory Compliance**	Interpret and apply digital health governance regulations, ABDM protocols, consent processes and medico-legal guidelines
5	**Analytical & Decision-Support Capability**	Use analytics, dashboards, predictive models and AI to support clinical and operational decisions
6	**Digital Health Infrastructure Planning**	Evaluate and integrate EHR, telehealth, IoMT, cloud, and sensor-based systems in clinical environments
7	**Leadership in Digital Health Innovation**	Lead digital health initiatives via workflow redesign, technology adoption, stakeholder engagement and transformation pathways
8	**Practical Application & Innovation**	Demonstrate hands-on proficiency through projects, prototype development, and real-world digital health use cases

Course Outcomes

	Course Outcome	Detailed Description
1	**Explain Digital Health System Architecture**	Understand the components, workflows, dataflows, and ecosystem layers that constitute digital health systems
2	**Integrate EHR & Interoperability Standards**	Apply HL7, FHIR, ICD, and SNOMED frameworks to ensure accurate, interoperable, and secure digital health data exchange
3	**Implement Telemedicine & Remote Monitoring Systems**	Design and evaluate telehealth pathways, virtual care delivery, and IoMT-based monitoring models in real-world settings
4	**Apply Cybersecurity & Privacy Protocols**	Ensure data protection, encryption, authentication, and access policies to safeguard digital health infrastructure
5	**Use Analytics & Dashboards for Decision Support**	Create visual dashboards, analyze clinical datasets, and interpret performance indicators for actionable

		insights
6	**Design Human-Centered Digital Health Solutions**	Apply usability principles, digital health UX guidelines, and workflow mapping in prototype development
7	**Implement Predictive Modelling & AI for Health Data**	Use forecasting, risk scoring, classification, and decision-support modelling to solve healthcare challenges
8	**Develop a Digital Health Innovation Project**	Deliver a capstone project demonstrating a practical digital health solution addressing real healthcare needs

Recommended Books & E-Resources
Textbooks:

- Digital Health — Rivas & Wac
- Biomedical Informatics — Shortliffe
- Health Information Systems — Wager, Lee & Glaser
- FHIR Standards & API Design — Grahame Grieve
- Cybersecurity in Healthcare — Luis Ayala
- Data Analytics in Healthcare — Chien & Wang

Journals & E-Resources:

- ABDM Official Guidelines
- HL7 International
- FHIR Documentation
- WHO Digital Health Guidelines
- MIT OpenCourseWare (Health Informatics)
- NPTEL Digital Health Courses