

GANPAT UNIVERSITY									
FACULTY OF MANAGEMENT STUDIES									
Programme	MBA				Branch/Spec.	Innovation, Entrepreneurship and Venture Development (Minor Specialization - Healthcare Operations Management)			
Semester	IV				Version	2.0.0.0			
Effective from Academic Year			2026-27		Effective for the Batch admitted in			January 2026	
Course Code	IVA15HAD	Course Name			Healthcare Analytics and Digital Transformation				
Teaching Scheme					Examination Scheme (Marks)				
(Per week)	Lecture (DT)		Practical (Lab.)		Total	CE	SEE	Total	
	L	TU	P	TW					
Credit	4	0	0		4	Theory	60	40	100
Hours	4	0	0		4	Practical			
Pre-requisites									
Course Outcomes									
On successful completion of the course, the students will be able to:									
CO1	The students will be able to explain the core concepts of the digital health ecosystem and the strategic importance of health data management.								
CO2	The students will be able to analyze the application of healthcare analytics in driving operational efficiency, clinical quality, and population health management.								
CO3	The students will be able to evaluate the business models and go-to-market strategies for various digital health solutions, including telehealth and digital therapeutics.								
CO4	The students will be able to formulate a strategic approach for digital health implementation, considering regulatory pathways, ethical challenges, and future trends.								
Theory Syllabus									
Unit	Content								Hrs.
1	Foundations of the Digital Health Revolution, The Healthcare Ecosystem: Payers, Providers, Pharma, The Challenge of Health Data: Silos, Quality, Volume, Defining Health Informatics & Digital Health, The Value Proposition: The Triple Aim of Healthcare, Electronic Health Records (EHRs): A Manager's View, The Strategic Role of the Chief Health Information Officer (CHIO). Interoperability and Health Information Exchange (HIE): Standards, frameworks, and challenges in enabling seamless data sharing across healthcare systems. Emerging Technologies in Digital Health: Overview of AI, IoT, wearables, and blockchain applications in healthcare delivery and monitoring. Telemedicine and Virtual Care Models: Evolution, regulatory aspects, and managerial implications for scalability and patient engagement. Data Privacy, Security, and Ethical Considerations: Compliance with HIPAA, GDPR, and other data protection regulations in digital health. Global Trends and Future Vision in Digital Health Transformation: Case insights from leading digital health ecosystems (e.g., NHS Digital, India's ABDM).								15
2	Healthcare Analytics for Business Value, The Healthcare Analytics Maturity Curve, Operational Analytics: Improving Hospital Efficiency, Patient Flow, Financial Analytics: Revenue Cycle Management, Cost Optimization, Clinical Analytics: Improving Patient Outcomes (Conceptual), Population Health Management & Risk Stratification, The Role of AI & Predictive Models in Healthcare (Conceptual), Real-World Evidence (RWE) for Strategy & Research. Data Integration & Interoperability Challenges: Combining clinical, financial, and operational data for holistic decision-making. Patient Experience Analytics: Measuring satisfaction, feedback sentiment, and service quality metrics for continuous								15

	improvement. Dashboards & Visualization for Healthcare Executives: Tools like Power BI, Tableau, and SAS Visual Analytics for decision support. Predictive Maintenance & Resource Optimization: Using analytics for equipment uptime, staffing efficiency, and cost reduction. Ethical AI and Data Governance in Healthcare Analytics: Ensuring transparency, fairness, and accountability in data-driven decision-making.	
3	Digital Health Business Models & Solutions, Telehealth & Virtual Care Delivery Models, Remote Patient Monitoring (RPM) for Chronic Disease, Digital Therapeutics (DTx): "Software as a Drug", Wearables, mHealth Apps & Patient Engagement Platforms, Business Models: Subscription, Outcome- Based, SaaS, Go-to-Market Strategy for a Digital Health Solution, The Digital Front Door for Healthcare systems. Ecosystem Partnerships and Collaborations: Integrating startups, hospitals, insurers, and technology firms in digital health innovation. Regulatory and Compliance Landscape: Understanding FDA, CDSCO, and global digital health regulations for product approval and market access. Funding and Investment in Digital Health Ventures: Venture capital trends, valuation models, and ROI in healthtech startups. Scalability and Interoperability Challenges: Designing scalable digital health platforms that integrate with existing healthcare systems. Case Studies of Successful Digital Health Platforms: Analysis of global leaders like Teladoc, Practo, Livongo, and Babylon Health.	15
4	Strategic Implementation and Future Frontiers, The Regulatory Landscape: HIPAA, GDPR, SaMD, FDA Pathways for Digital Health Tools, Data Interoperability Standards: HL7 & FHIR (Conceptual), Building Digital Health Partnerships & Ecosystems, Data Governance, Privacy, and Security Strategy, Ethical AI in Healthcare: Bias, Fairness & Trust, The Future: The Digital Twin, AI in Diagnostics, Genomics. Change Management in Digital Health Transformation: Strategies for adoption, clinician engagement, and overcoming resistance to technology. Evaluating ROI and Impact of Digital Health Initiatives: Frameworks for assessing clinical, operational, and financial outcomes. Global Digital Health Standards and Policy Frameworks: WHO Digital Health Strategy, India's ABDM (Ayushman Bharat Digital Mission), and EU health data spaces. Cybersecurity in Healthcare Systems: Risk assessment, threat mitigation, and resilience planning for digital health infrastructure. Sustainability and Green Health Technologies: Exploring eco-friendly innovations and sustainable tech integration in healthcare operations.	15

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Practical, assignments and tutorials are based on above syllabus.

Text Books

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| 1 | Topol, Eric. Deep Medicine: How Artificial Intelligence Can Make Healthcare Human Again. Basic Books, 2019. |
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Reference Books

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| 1 | Christensen, Clayton M., et al. The Innovator's Prescription: A Disruptive Solution for Health Care. McGraw-Hill, 2008. |
| 2 | Rogers, David L. The Digital Transformation Playbook: Rethink Your Business for the Digital Age. Columbia Business School Publishing, 2016. |
| 3 | Hoyt, Robert E., and Bailey, Ann. Health Informatics: Practical Guide. 8th Edition, Informatics Publishing, 2021. |
| 4 | Iansiti, Marco, and Lakhani, Karim R. Competing in the Age of AI: Strategy and Leadership When Algorithms and Networks Run the World. Harvard Business Review Press, 2020. |
| 5 | Austin, Charles, and Boxerman, Stuart. Healthcare Analytics for Quality and Performance Improvement. 2 nd Edition, Health Administration Press, 2018. |
| 6 | Davenport, Thomas H., and Harris, Jeanne G. Competing on Analytics: The New Science of Winning. Harvard Business Review Press, 2017. |
| 7 | Gawande, Atul. The Checklist Manifesto: How to Get Things Right. Metropolitan Books, 2009. |
| 8 | Wachter, Robert M. The Digital Doctor: Hope, Hype, and Harm at the Dawn of Medicine's Computer Age. McGraw-Hill, 2015. |

