

CURRICULUM and SYLLABUS
of
MBA in Healthcare and Hospital
Management

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(Ans)

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DETAILED SYLLABUS

Syllabus Framework						
MBA (Healthcare and Hospital Management)						
Level 500: Semester – 1						
Sl No	Course Code	Course Name	Credits			Total Credits
			L	T	P	
1	MBA(HC&HM) 5001	Health Economics & Health Policy	3	1	0	4
2	MBA(HC&HM)5002	Management Theories & Corporate Governance	3	1	0	4
3	MBA(HC&HM)5003	Public Health & Epidemiology	3	1	0	4
4	MBA(HC&HM) 5004	Quality Management in Healthcare	3	1	0	4
5	MBA(HC&HM) 5005	Hospital Support Service and Facilities Management	3	1	0	4
6	MBA(HC&HM) 5006	Research Methodology in Healthcare and Hospital Management	3	1	0	4
			Total Credits			24

Level 500: Semester – 2						
Sl No	Course Code	Course Name	Credits			Total Credits
			L	T	P	
1	MBA(HC&HM) 5007	Clinical Services Planning and Management	3	1	0	4
2	MBA(HC&HM) 5008	Human Resource Management in Healthcare	3	1	0	4
3	MBA(HC&HM) 5009	Healthcare Marketing and Public Relations	3	1	0	4
4	MBA(HC&HM) 5010	Hospital & Healthcare Accreditation	3	1	0	4
5	MBA(HC&HM) 5011	Medical Record Science	3	1	0	4
6	MBA(HC&HM) 5012	Biostatistics and Data Analytics	3	1	0	4
7		Internship I				6
			Total Credits			30

Date 11.3.25

Level 600: Semester – 3						
SI No	Course Code	Course Name	Credits			Total Credits
			L	T	P	
1	MBA(HC&HM) 6001	Hospital Architecture, Planning and Designing	3	1	0	4
2	MBA(HC&HM) 6002	Hospital Accounting	3	1	0	4
3	MBA(HC&HM) 6003	Logistics and Supply Chain Management in Healthcare	3	1	0	4
4	MBA(HC&HM) 6004	Hospital Service Marketing	3	1	0	4
	Minor 1	Minor/Specialization-Track 1 Healthcare Management	3	1	0	4
5	MBA(HC&HM) 6005	Health Informatics and Artificial Intelligence				
6	MBA(HC&HM) 6006	Health Insurance and Managed Care				
	Minor 2	Minor/Specialization-Track 2 Hospital Management	3	1	0	4
7	MBA(HC&HM) 6007	Health Safety and Risk Management				
8	MBA(HC&HM) 6008	Hospital Operations Management				
		Internship- II				6
			Total Credits			30

Level 600: Semester – 4						
SI No	Course Code	Course Name	Credits			Total Credits
			L	T	P	
1	MBA(HC&HM) 6009	Strategic Management in Healthcare	3	1	0	4
2	MBA(HC&HM) 6010	Conflict Management and Negotiation for Healthcare Workers	3	1	0	4
3	MBA(HC&HM) 6011	Medical Ethics, Law and Etiquette	3	1	0	4
4	MBA(HC&HM) 6012	Hospital Finance	3	1	0	4
5	Minor 3	Minor 1-Healthcare Management	3	1	0	4
	MBA(HC&HM) 6013	National Health Policies and Programs				
	MBA(HC&HM) 6014	Project Management in Healthcare				
6	Minor 4	Minor -2 Hospital Management	3	1	0	4
	MBA(HC&HM) 6015	Entrepreneurship and New Venture Planning				
	MBA(HC&HM) 6016	Operations Research for Decision Making				
			Total Credits			24
		Total Credits				108

Course Name: Health Economics and Health Policy

Course Code: MBA(HC&HM) 5001

Credits: 3 Lectures + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To equip students with a comprehensive understanding of the economic principles and policies influencing healthcare systems.

Outcomes:

Students should be able to

1. Outline Microeconomics Tools for Health Economics, providing students with the foundational knowledge to apply microeconomic concepts in the healthcare context.
2. Construct Production and Cost of Healthcare, enabling students to analyse and evaluate the production processes and associated costs in the healthcare industry.
3. Analyse Markets and Market Failure in Healthcare, fostering an understanding of market dynamics and addressing instances of market failure within the healthcare sector.
4. Make use of the Concepts of Costs and Economic Evaluation, guiding students in the application of cost concepts and economic evaluation techniques relevant to healthcare decision-making.
5. Examine National Health Policy of India, encouraging students to critically assess and contribute to the development of health policies at the national level.

Unit 1: Introduction and Microeconomic Techniques in Health Economics (9 Lecture Hours + 3 Tutorial Hours)

Economics Fundamentals:

1.1 Definition, Significance, and Utilization in Healthcare; 1.2 Healthcare Production and Allocation; 1.3 Production Possibilities Curve & Scarcity 1.4 Consumer Demand, Producer Supply, and Pricing Mechanisms; 1.5 Meaning of Market Equilibrium 1.6 Production Function, 1.7 Isoquants and Isocosts

Unit 2: Production and Cost of Healthcare (9 Lecture Hours + 3 Tutorial Hours)

2.1 Cost Structure and Economies of Size; 2.2 Expenses Associated with Healthcare Delivery; 2.3 Technological Advancements and Adoption; 2.4 Impact of Aging Demographics on Long-term Healthcare Needs; 2.5 Supplier-Induced Demand; 2.6 Health Maintenance Organizations and Managed Care.

Unit 3: Healthcare Markets and Market Inefficiency (9 Lecture Hours + 3 Tutorial Hours)

3.1.1 Understanding the Functionality of Markets; 3.1.2 Application of Market Mechanisms in Healthcare; 3.2 Consideration of Public Goods and Merit Goods; 3.3 Externalities and Spillover Effects; 3.4 Government Intervention and the Market in Healthcare: Provision of Preventive, Curative, and Rehabilitative Care.

Unit 4 : Fundamentals of Costing and Economic Evaluation. (9 Lecture Hours + 3 Tutorial Hours)

4.1 Opportunity Costs 4.2 Economic Costs Vs Financial Costs, 4.3 Direct Cost Vs

Indirect Cost Vs Average Cost Vs Marginal Cost Vs Total Cost Vs Unit Cost, 4.4 Component of Costs: Capital and Recurrent Costs; Fixed and Variable, 4.5 Factors of Cost Calculation.

4.6 Meaning, and Types of Economic Evaluation: 4.7 Cost-Effectiveness Analysis (CEA) 4.8 Cost-Minimization Analysis (CMA) 4.9 C/E Ratio 4.10 Sensitivity Analysis, 4.11 Cost-Benefit Analysis (CBA), C/B Ratio 4.12 Cost-Utility Analysis (CUA) 4.13 Disability Adjusted Life Years (DALY) 4.14 Quality Adjusted Life Years (QALY), 4.15 Healthy Years Equivalent (HYE) 4.16 Concentration (C/U) Ratio.

Unit 5: National Health Policy of India (9 Lecture Hours + 3 Tutorial Hours)

5.1 Health Promotion and Disease Prevention 5.2 Organization of Public Health Care Delivery, 5.3 Population Stabilization, 5.4 Financing of Health Care, 5.5 Health Research.

Suggested Reading:

Text Books

1. Drummond, M., & et al. Methods for the economic evaluation of health care programmes (2nd ed.). Oxford University Press.
2. Government of India, National Health Policy: <https://cdsco.gov.in/opencms/opencms/en/consumer/National-Health-Policy/>
3. Folland, S., Goodman, A. C., & Stano, M. The economics of health and health care. Prentice-Hall Inc.

References

1. Mills, A., & Gilson, L.. Health Economics for Developing Countries: A Survival Kit. London School of Hygiene and Tropical Medicine.
2. Santerre, R. E., & Neun, S. P.. Health Economics: Theories, Insights, and Industry Studies. The Dryden Press, Harcourt Brace & Co.

Course Title: Management Theories and Corporate Governance

Course Code: MBA(HC&HM) 5002

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To provide a comprehensive understanding of foundational management theories, principles, and corporate governance practices. Impart insights into the evolution of management thought, its contemporary business applications, and the pivotal role of corporate governance in ensuring ethical and effective organizational management.

Outcomes:

Students should be able to

1. Infer various Management Theories and Paradigms.
2. Illustrate Organizational Structure, Design & Leadership Theories to showcase their understanding of organizational structures and leadership theories in practical scenarios.
3. Explain Group dynamics and Conflicts in organization, fostering an understanding of group behaviour and conflict resolution within organizational settings.
4. Examine Corporate Governance Overview, its principles and practices.
5. Compare Corporate Governance Mechanisms & Social Responsibility from various corporate governance mechanisms to comprehend the importance of social responsibility in corporate governance.

Unit 1: Introduction to Management Theories (9 Lecture Hours + 3 Tutorial Hours)

1.1 Overview of management and its evolution, 1.2 Classical Management Theories (Scientific Management, Administrative Management), 1.3 Behavioural Management Theories (Human Relations, Behavioural Science Approach), 1.4 Contemporary Management Theories (Systems Theory, Contingency Theory)

Unit 2: Organizational Structure, Design & Leadership Theories (9 Lecture Hours + 3 Tutorial Hours)

2.1 Different organizational structures (Functional, Divisional, Matrix), 2.2 Organizational Design Principles, 2.3 Impact of technology on organizational structure

2.4 Leadership Theories: 2.4.1 Trait theory, Behavioral theory, and Contingency theory, 2.4.2 Transformational and Transactional leadership, 2.4.3 Leadership styles and their effectiveness

3. Group dynamics and Conflicts in organization (9 Lecture Hours + 3 Tutorial Hours)

3.1 Group dynamics – 3.1.1 Characteristics of group, 3.1.2 types of group, 3.1.3 stages of group dynamics, 3.1.4 group decision making, 3.1.5 Terms in Organization

3.2 Conflicts in organization – 3.2.1 Source of conflicts, 3.2.2 Types of conflicts, 3.2.3 conflicts process, 3.2.4 Johari window, 3.2.5 conflict resolution, 3.2.6 Transactional analysis

Unit 4: Corporate Governance Overview (9 Lecture Hours + 3 Tutorial Hours)

4.1 Definition and importance of corporate governance, 4.2 Stakeholder theory, 4.3

Codes of corporate governance and their significance

Unit 5: Corporate Governance Mechanisms & Social Responsibility (9 Lecture Hours + 3 Tutorial Hours)

5.1. Board of Directors and its functions, 5.2 Executive compensation and its governance, 5.3 Auditing and internal controls, 5.4 Corporate social responsibility (CSR), 5.5 Balancing profit and social impact

Suggested Reading:

Text Books

1. "Principles of Management" by Richard L. Daft
2. Management: "Leading & Collaborating in a Competitive World" by Thomas S. Bateman, Scott A. Snell, and Robert Konopaske
3. Organizational Behavior: "Improving Performance and Commitment in the Workplace" by Jason A. Colquitt, Jeffrey A. LePine, and Michael J. Wesson
4. "Leadership: Theory and Practice" by Peter G. Northouse
5. "Understanding Group Dynamics: Systems Theory, Interaction, and Interpersonal Relations" by Donelson R. Forsyth
6. "The Conflict Resolution Toolbox: Models and Maps for Analyzing, Diagnosing, and Resolving Conflict" by Gary T. Furlong
7. "Corporate Governance: Principles, Policies, and Practices" by Bob Tricker
8. "Corporate Governance: A Synthesis of Theory, Research, and Practice" by H. Kent Baker and Ronald Anderson

Journals:

Corporate Governance: An International Review
Journal of Management Studies

MOOCs:

Some indicative references -
Coursera - "Foundations of Management"
edX - "Corporate Governance: Principles & Practices"
Canvas Network - "Leadership and Influence"

Course Title: Public Health and Epidemiology

Course Code: MBA(HC&HM) 5003

Credits: 3 Lecture + 1 Tutorial

Hours: 45 Lecture Hours + 15 Tutorial Hours

Objective: To enable students to be part of or undertake public health and epidemiology projects

Outcomes:

Students should be able to

1. Make use of comprehensive understanding of epidemiological principles and methods in the context of healthcare management.
2. Plan the skills necessary for analyzing and interpreting health data.
3. Apply the skills for assessing the distribution of diseases.
4. Examine epidemiological concepts to improve decision-making in healthcare settings.
5. Develop necessary knowledge and understanding of demography and family planning

Unit 1: Introduction to Epidemiology (9 Lecture Hours + 3 Tutorial Hours)

1.1 Definition and scope of epidemiology in healthcare management 1.2 Epidemiology of communicable and non-communicable disease 1.3 Host, defense, immunizing agents.

Unit 2: Measures of Disease Frequency and Association (6 Lecture Hours + 3 Tutorial Hours)

Concept of measures, indicators related with health and healthcare e.g., morbidity rates, mortality rates, healthcare utilization rates, healthcare personnel and beneficiary ratios. Importance of these.

Unit 3: Study Designs in Epidemiology (9 Lecture Hours + 3 Tutorial Hours)

3.1 Epidemiological studies: 3.1.1 Observational studies (Case-control, cross-sectional, and cohort studies), 3.1.2 experimental studies.

3.2.1 Principles of causal inference in epidemiology. 3.2.2 Concept of causations, Epidemiological Triad, risk factors, ice-berg of disease. Importance of these concepts

3.3.1 Concept of validity, 3.3.2 reliability, 3.3.3 screening.

Unit 4: Application of Epidemiology in Healthcare Management and Contemporary issues (9 Lecture Hours + 3 Tutorial Hours)

4.1 Surveillance and monitoring. Importance of surveillance in healthcare. 4.2 Steps in outbreak investigation and control. Concept of control (control, elimination, eradication). 4.3 Epidemiology in healthcare planning and policy-making. 4.4 Understanding demand and disease trend. 4.5 Role of epidemiology in public health emergencies and preparedness

Unit 5: Demography and Family Planning (9 Lecture Hours + 3 Tutorial Hours)

5.1 Concept of Demographic Cycle 5.2 Understanding World Population Patterns 5.3 Demographic Patterns in India: 5.3.1 Population Growth rate, 5.3.2 Concept of Age Pyramid, 5.3.3 Sex Ratio, 5.3.4 Concept of Population Density, 5.3.5 Urbanization,

5.3.6 Literacy Rate, 5.3.7 Life Expectancy.

5.4 Fertility and Fertility Related Statistics. 5.5 Fundamentals of Family Planning and Family Size. 5.6 Concept of Population Policy. 5.7 National Demographic Goals of India.

Suggested Reading:

Text Books

1. Beaglehole, R., Bonita, R., & Kjellström, T. *Basic Epidemiology*. Geneva: World Health Organization.
2. Park, K. *Park's Preventive and Social Medicine*. Bhanott.
3. Gordis, L. *Epidemiology*. Philadelphia, PA: Elsevier.
4. Kleinbaum, D. G., Kupper, L. L., & Morgenstern, H. *Epidemiologic Research: Principles and Quantitative Methods*. New York, NY: John Wiley & Sons.
5. Friis, R. H., & Sellers, T. A. *Epidemiology for Public Health Practice*. Burlington, MA: Jones & Bartlett Learning.

Journals:

1. *American Journal of Epidemiology*
2. *Epidemiology*
3. *International Journal of Epidemiology*
4. *Journal of Clinical Epidemiology*
5. *Journal of Population Research*

Online Resources: (indicative)

1. World Health Organization (WHO) - Epidemiology:
<https://www.who.int/topics/epidemiology/en/>
2. Centers for Disease Control and Prevention (CDC) - Epidemiology:
<https://www.cdc.gov/ophss/csels/dsepd/ss1978/index.html>
3. Census. Govt. of India. <https://censusindia.gov.in/census.website/>

Course Title: Quality Management in Healthcare

Course Code: MBA(HC&HM) 5004

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To develop effective quality management skills tailored for the healthcare industry. By emphasizing the significance of quality and making it accessible for all equitably, compassionately, and ethically.

Outcomes:

Students will be able to -

1. Instill professional quality practice as an integral aspect of the institutional philosophy in healthcare organizations, fostering effective communication practices throughout.
2. Determine the quality process, emphasizing Leadership Commitment, Managing Change, Training, Communication and Team Work for cultural change within healthcare settings.
3. Design and implement quality management tools and techniques, aligning with the principles developed by communication experts, to achieve operational excellence in healthcare organizations.
4. Distinguish quality, considering clinical outcomes and meeting patients' expectations and satisfaction levels in the healthcare communication process.
5. Formulate professional standard operating procedure (SOP) for institutional strategic development, establishing Benchmarks/ Standards and utilizing Quality Audit to measure the Outcome of Care against the Benchmarks/ Standards set.

Unit 1: Fundamentals Quality Management [9 Lecture Hours + 3 Tutorial Hours]

1.1 Dimensions of Quality, 1.2 Principles of Quality Management: Structure, Process and Outcome, 1.3 Quality Vs Productivity Vs Profitability, 1.4 Cost of conformance and non-conformance to Quality, 1.5 Leadership Commitment in Quality

Unit 2: Quality Management Process [9 Lecture Hours + 3 Tutorial Hours]

2.1 Corporate Framework on Quality, 2.2 Transformation of Corporate Culture, 2.3 Customer Focus, 2.4 Process Focus, 2.5 Training and Development 2.6 Learning by Practice and Teaching, 2.7 Benchmarking, 2.8 Quality Measurement and Statistical Report at all Levels, 2.9 Recognition and Reward. 2.10 Major Components in Quality: 2.10.1 Setting Objectives, 2.10.2 Quality Investment, 2.10.3 Activity Monitoring, 2.10.4 Performance Assessment

Unit 3: Quality Foundation, Tools and Techniques [9 Lecture Hours + 3 Tutorial Hours]

3.1 Problem Solving, 3.2 Team Work, 3.3 Leadership 3.4 Communication 3.5 Managing Time, 3.6 Demming's Principle, 3.7 Juran's Trilogy, 3.8 Kiazen, 3.9 Philip Crosby's Principles.

3.10 Tools and Techniques: Flow Chart, Cause and Effect Diagram, Pareto Diagram, Statistical Process Control (SPC), Fishbone, Ishikawa, Gantt chart, Lean, Six Sigma.

Unit 4: Healthcare Quality [9 Lecture Hours + 3 Tutorial Hours]

4.1 Quality Customer Service: Define Customer and Identify Customers,

4.2 Customer Experience: Core Service & Delivery of Service, Excellent Customer Service; Caring Service,

4.3 Patient Satisfaction: Rights and Responsibilities of Patients, Satisfaction and Delight, Quality Indicators of Patient Satisfaction

4.4 Clinical Quality: Complication and Infection Rate, Admission, Follow Up and Continuity of Care, Medical audit.

4.5 Measuring Quality: Setting Objectives and Agreeing upon Standards, Develop Key Result Areas and Performance Indicators,

4.6 Feedback: Customers, Staff, Suppliers, etc. Model feedback questionnaire, Quality Audit and Review Technique.

Unit 5: Quality Policy [9 Lecture Hours + 3 Tutorial Hours]

5.1 Commitment to Patients and Staff, 5.2 Job Description of Quality Manager, 5.3 Quality Steering Committee, 5.4 Quality Council, 5.5 Quality Teams: 5.5.1 Task Force 5.5.2 Quality Circle 5.6 Obstacles to Practice Quality

Suggested Reading:

Text Books

1. Wilson, C. R. M.. Hospital Wide Quality Assurance. Ontario, Canada: Saunders.
2. Ellis, R., & Whittington, D. Quality Assurance in Health Care – A Handbook. London, England: Edward Arnold. ISBN 0-340-55273-5.
3. Hugh C.H. Kogh, Total Quality Management in Health Care (Longman Publication) ISBN 0582 04696

References

1. Deming, E. W. Out of the Crisis. Cambridge, UK: Cambridge University Press.
2. Nankamp and Eileen Richardson, Quality Assurance in Nursing Practice (Butterworth Heinemann Ltd., London, Second Edition) ISBN 0-7506-2326-8)
3. Richard Smith (ed.) Audit in Action (British Medical Journal, London) ISBN 0-7279-0317-9
4. Drummond, H.. The TQM Movement – What Total Quality Management is Really All About. New Delhi, India: UBSPD.

Course Title: Hospital Support Service and Facilities Management

Course Code: MBA(HC&HM) 5005

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To equip students with comprehensive knowledge, skills, and abilities necessary for effectively managing supportive services and facilities in healthcare settings. Besides, to develop professional competencies and capabilities in optimizing resource utilization, ensuring efficient planning and layout of supportive services, and adapting the latest developments in this field.

Outcomes:

Students will be able to -

1. Apply the knowledge, skills and abilities in managing supportive services in hospitals.
2. Justify the role of administrator in directly managing the supportive services and facilities
3. Develop the "skills of planning the location, design and layout of supportive services".
4. Take part in planning and managing the organization resources like, staff, space, equipment, facilities, supplies, etc.
5. Evaluate the functioning and latest developments in supportive service.

Unit 1: Front Office and Medical Records [9 Lecture Hours + 3 Tutorial Hours]

1.1 Front Office: Objectives and Functions, Location, Staffing, Information and Communication

1.2 Medical Records: Objectives and Functions, Characteristics, and OPD Medical Record Management.

Unit 2: Diagnostic Services [9 Lecture Hours + 3 Tutorial Hours]

2.1 Radiology Services Objectives and Functions, Location, Design and Layout, Staffing: Duties of Radiologist, Radiation Safety Officers and Technicians,

2.2 Laboratory Services: Objectives and Functions, Location, Design and Layout, Staffing; Duties of Pathologists and Lab Technicians, Types of Medical Laboratory Service

Unit 3: Other Supportive Services [9 Lecture Hours + 3 Tutorial Hours]

3.1 CSSD: Objectives and Functions, Advantages of Centralized System, Distribution System, Location, Design and Layout, Air Pressure and Circulation, Zoning, Staffing, Duties of CSSD In-charge, TSSD, Types of sterilization, Equipment: Autoclave, ETO, Plasma, Ultrasonic Machine:

3.2 Housekeeping: Objectives and Functions, Staffing, Systematic and Standard Procedures of Cleaning, Required Materials for Cleaning

3.3 Linen and Laundry: Objectives and Functions, Location and Space, Staffing, Bed Linen Ratio, Automation,

3.4 Security Services: Objectives and Functions, Staffing; Responsibilities of Security Guard, Gate-Pass; Physical Verification; Movement Register

Unit 4: Sales Outlets [9 Lecture Hours + 3 Tutorial Hours]

4.1 Pharmacy, Objectives and Functions, Location, Design and Layout, Staffing; Duties of Chief Pharmacist; Therapeutic Committee, Hospital Formulary,

4.2 Dietary Services: Objectives and Functions Staffing, Equipment and Physical Facilities, Purchases, Stores and Issues, Location, Design and Layout.

Unit 5: Maintenance Management [9 Lecture Hours + 3 Tutorial Hours]

5.1 Objectives and Functions of Civil, Biomedical, electrical and Fire and Safety Department 5.2 Different types of Hospital Sewage Treatment Plant 5.3 Organogram and Staffing, 5.4 Location and Space, 5.5 Policy and Procedures. 5.6 Facilities and Equipment 5.7 Purchase, Inspection and Installation, 5.8 Records and Registers 5.9 Levels of Maintenance; 5.10 Service Contracts and Disposition.

Suggested Reading:

Text Books

- 1.C.M. Francis and et al.,Hospital Administration(Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi)
- 2.NHS, Guide to Good Practices in Hospital Administration(Department of Health and Social Security: National Health Services, London)
3. Kunders, G. D.. Hospitals: Planning, Design, and Management. Bangalore, India: Prism Books Pvt. Ltd.

References

1. Tabish, S. A. Hospital and Health Services Administration: Principles and Practice. New Delhi, India: Oxford University Press.
2. Sakharkar, B. M.. Principles of Hospital Administration and Planning. New Delhi, India: Jaypee Brothers Medical Publishers Pvt. Ltd.
3. *Hospital Operations Management: Principles of High Efficiency Healthcare* by Wallace J. Hopp and William S. Lovejoy
4. *Healthcare Management: Text and Cases* by K. K. Goyal
5. *Quality Management in Health Care: Principles and Methods* by Donald E. Lighter, Douglas J. Fair and C. Joseph McCannon

Massive Open Online Courses (MOOCs): (indicative)

1. Healthcare Operations Management - Offered by the University of Pennsylvania.
 2. Hospital Operations: Improving Patient Experience- offered by Deakin University.
- etc.

Course Title: Research Methodology in Healthcare and Hospital Management

Course Code: MBA(HC&HM) 5006

Credits: 3 Lectures + 1 Tutorial

Hours: 45 Lecture Hours + 15 Tutorial Hours

Course Objective: This course aims to equip the students with comprehensive proficiency in research methodology and scientific report writing. It seeks to instill a robust understanding of research paradigms relevant to the healthcare sector, enabling students to conceptualize, design, and execute research projects effectively. By the end of the course, “students will be adept at formulating research questions, selecting appropriate methodologies, collecting and analyzing data, and interpreting findings”. Furthermore, students will develop advanced skills in synthesizing research outcomes into coherent and persuasive scientific reports tailored to the needs of stakeholders in the healthcare industry.

Course Outcome: Upon completing of this course, the student will be able to

1. Make use of the foundational understanding of research principles and methodologies applicable to healthcare administration.
2. Develop critical thinking skills in evaluating research.
3. Explain key qualitative and quantitative research concepts.

Design and conclude basic research projects.

Unit 1: Introduction to Research Methodology (9 Lecture Hours + 3 Tutorial Hours)

1.1 Meaning, Objective and Research 1.2 Significance of Research, 1.3 Research Methods Vs Methodology 1.4 Research and Scientific Method 1.5 Research Process 1.6 Criteria of Good Research, 1.6.1 Literature Review, 1.6.2 Research Gap, 1.7 Defining the Research Problem: 1.7.1 Definition, 1.7.2 Selecting the Problem, 1.7.3 Technique Involved in Defining a Problem

Unit 2: Research Design and Sampling Design (9 Lecture Hours + 3 Tutorial Hours)

2.1 Research Design: Meaning, Need, Features, Important Concepts & Different Research Designs. 2.2 Census Vs Sampling 2.3 Sampling Design: Implications, Steps, Characteristics, Different Types of Sample Designs

Unit 3: Measurement and Scaling Techniques (9 Lecture Hours + 3 Tutorial Hours)

3.1 Measurement in Research, 3.2 Measurement Scales, 3.3 Sources of Error in Measurement, 3.4 Tests of Sound Measurement, 3.5 Technique of Developing Measurement Tools, 3.6 Scaling, 3.7 Meaning of Scaling, 3.8 Scale Classification Bases, 3.9 Important Scaling Techniques, 3.10 Scale Construction Techniques.

Unit 4: Methods of Data Collection (9 Lecture Hours + 3 Tutorial Hours)

4.1 Collection of Primary Data, 4.2 Observation Method 4.3 Interview Method 4.4 Collection of Data through Questionnaires 4.5 Collection of Data through Schedules 4.6 Difference between Questionnaires and Schedules 4.7 Some Other Methods of Data Collection 4.8 Collection of Secondary Data, 4.9 Selection of Appropriate Method for Data Collection 4.10 Case Study Method 4.11 Guidelines for Constructing Questionnaire/Schedule 4.12 Guidelines for Successful Interviewing 4.13 Difference between Survey and Experiment

Unit 5: Interpretation and Scientific Report Writing (9 Lecture Hours + 3 Tutorial Hours)

5.1 Meaning & Need of Interpretation, 5.2 Technique & Precaution of Interpretation
5.3 Significance of Report Writing 5.4 Different Steps in Writing Report 5.5 Layout
of the Research Report 5.6 Types of Reports 5.7 Oral Presentation 5.8 Mechanics
of Writing a Research Report 5.9 Precautions for Writing Research Reports 5.10
Prescribed Guidelines: MLA (Modern Language Association), APA (American
Psychological Association), Harvard, Vancouver and IEEE.

Suggested Reading:

Text Books

- Kothari, C. R. (2008). *Research Methodology: Methods and Techniques*. New Delhi: New Age International.
- Das, J.K. (Latest Edition) *Statistics for Business Decision*. Academic Publishers.
- Sundar Rao, P. S., & Richard, J.. *An Introduction to Biostatistics: A Manual for Students in Health Sciences*. New Delhi, India: Prentice-Hall of India Pvt. Ltd.
- Saha, I., Paul, B. (2021). *Essentials of Biostatistics & Research Methodology*. Kolkata: Academic Publishers
- Research Methodology by Basu and Nandi (Latest Edition) , New Delhi Publication.

Journals:

Journal of Healthcare Management

International Journal of Healthcare Management

Research in Healthcare Management

Online Resources:

Research Methods Knowledge Base: <https://www.socialresearchmethods.net/kb/>

Research Methods in Healthcare:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3390128/>

Course Title: Clinical Services Planning and Management

Course Code: MBA(HC&HM) 5007

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To equip students with comprehensive knowledge and practical skills in planning and managing clinical services in healthcare settings. Besides, emphasize the integration of accreditation standards, infection control practices, and a customer-centric approach to enhance the quality and efficiency of clinical services. Thereby, develop professionals capable of navigating the complexities of outpatient and inpatient service planning, considering the evolving landscape of patient care management.

Outcomes:

Students should be able to

1. Develop the skills of planning outpatient service from accreditation and customer point of view, ensuring alignment with industry standards and addressing customer needs.
2. Outline the emerging concept in patient care management, incorporating contemporary practices and advancements in healthcare delivery.
3. Develop the skills to efficiently and effectively utilize the available resources of trauma care, including emergency and casualty services, ensuring efficient and effective responses to critical situations.
4. Take part in planning inpatient service from accreditation, infection control practices, and customer point of view, emphasizing a holistic and patient-centered approach.
5. Take part in planning inpatient service from accreditation and infection control practices, ensuring a safe and compliant healthcare environment for both patients and staff.

Unit 1: Outpatient Services [9 Lecture Hours + 3 Tutorial Hours]

1.1 Objectives and Functions, 1.2 Location, Layout and Design 1.3 Policy and Procedures, 1.4 Organogram and Staffing, 1.5 Facilities and Equipment, 1.6 Key Result Areas (KPA), 1.7 Quality Indicators, 1.8 Operations (Daily Planning and Scheduling of Work) 1.9 "OPD Clinics (Sub-Specialty, Specialty and Super Specialty Clinics, Diagnosis, Health Check-ups, Physiotherapy and Occupational Therapy)". 1.9 Management of Waiting Time & Total Time Spent by Patients,

Unit 2: Emerging Concepts [9 Lecture Hours + 3 Tutorial Hours]

2.1 Day Care, 2.2 Polyclinics, 2.3 Diagnostic Chain, 2.4 Online Appointment, 2.5 Homecare Service 2.6 Medico-social Works, 2.7 Patient Counselling, 2.8 Gifts Shop, Prayer and Meditation Room, AYUSH and Wellness Centers

Unit 3: Trauma Care: Casualty and Emergency Services [9 Lecture Hours + 3 Tutorial Hours]

3.1 Objectives and Functions, 3.2 Location, Layout and Design 3.3 Policies and Procedures 3.4 Organogram and Staffing, 3.5 Facilities and Equipment 3.6 Life Saving Drugs 3.7 Key Result Areas (KPA) 3.8 Quality Indicators, 3.9 Ambulance Services, 3.10 Medico-Legal Cases and Procedures, 3.11 Forms and Registers to be maintained 3.12 Management of Brought-Dead

Patient.

Unit 4: Inpatient Services [9 Lecture Hours + 3 Tutorial Hours]

4.1 Inpatient Care: 4.1.1 “Objectives and Functions, 4.1.2 Location, Design and Layout, 4.1.3 Policy and Procedures, 4.1.4 Organogram and Staffing, 4.1.5 Facilities and Equipment 4.1.6 Key Result Areas (KPA) 4.1.7 Quality Indicators, 4.1.8 Admission, Transfer, Billing and Discharge Procedures, 4.1.9 Managing Deaths”.

4.2 Intensive Care Units: 4.2.1 “Objectives and Functions, 4.2.2 Location, Design and Layout, 4.2.3 Policy and Procedures, 4.2.4 Organogram and Staffing, 4.2.5 Facilities and Equipment 4.2.6 Key Result Areas (KPA)”. 4.2.7 Quality Indicators, 4.2.8 Concept of HDUs, 4.2.9 Different types of ICUs, 4.2.10 Infection Control Practices.

Unit 5: Operation Theatre [9 Lecture Hours + 3 Tutorial Hours]

5.1 Objectives and Functions, 5.2 “Location, Design and Layout, 5.3 Policy and Procedures, 5.4 Organogram and Staffing, 5.5 Facilities and Equipment” 5.6 Key Result Areas (KPA) 5.7 “Quality Indicators 5.8 Daily Planning and Scheduling, 5.9 Zoning and Aseptic / Sterile Techniques, 5.10 Clinical Protocols for Operation Theater Complex”, 5.11 TSSD 5.12 Sub-stores, 5.13 Postoperative Recovery Rooms 5.14 Infection Control Practices.

Suggested Reading:

Text Books

1. Syed Amin Tabish, Hospital and Health Services Administration Principles and Practice (Oxford University Press, New Delhi)
2. R. Llewelyn Davies and HMC Macaulay, Hospital Planning and Administration (Jaypee Brothers Medical Publishers P. Ltd., New Delhi)
3. NHS, Guide to Good Practices in Hospital Administration (Department of Health and Social Security: National Health Services, London)

References

1. B.M. Sakharkar, Principles of Hospital Administration and Planning (Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi)
2. G.D. Kundurs, Designing for Total Quality in Health Care (Prism Books Pvt. Ltd., Bangalore)
3. C.M. Francis and et al., Hospital Administration (Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi)

Massive Open Online Courses (MOOCs): (indicative)

1. Healthcare Operations Management - Offered by the University of Pennsylvania.
2. Hospital Management: Healthcare Leadership - UdeMy course.

Course Title: Human Resource Management

Course Code: MBA(HC&HM) 5008

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To provide students with a comprehensive understanding of Human Resource Management (HRM) principles, practices, and emerging trends on an international scale. Besides, to equip students with the necessary knowledge and skills to navigate the complexities of HRM by focusing on key areas such as the basic concepts of HRM, training and development, performance indicators, compensation management, and the utilization of modern tools in performance management, including Human Resources Information Systems (HRIS)

Outcomes:

Students will be able to -

1. Interpret the basic concepts of human resource management using foundational principles and their applications in organizational settings.
2. Apply the principles of training and development with the skills to design and implement effective training programs that contribute to organizational growth and employee development.
3. Determine the skills in compensation management, focusing on the strategic design and administration of compensation structures to attract and retain talent.
4. Examine “performance indicators and analyse” the latest tools in “performance management, including the study of Human Resources Information Systems (HRIS)” for efficient HR practices.
5. Evaluate emerging concepts of HRM from an international perspective, exploring global trends and best practices in human resource management

Unit 1: Basics of HRM and Sourcing [9 Lecture Hours + 3 Tutorial Hours]

1.1 Introduction to HRM 1.2 Objectives of HRM, 1.3 Short term and Long term HR Planning 1.4 Productivity Analysis in Healthcare, 1.5 HR Policies and Procedures, 1.5.1 Recruitment, 1.5.2 Selection, 1.5.3 Placement/Joining, 1.5.4 Induction / Orientation.

Unit 2: Training and Development [9 Lecture Hours + 3 Tutorial Hours]

2.1 Concept of Training and Development, 2.2 Assessing Training Needs, 2.3 Evaluating Training Program, 2.4 Career Growth and Development 2.5 Succession Planning 2.6 Management Development Program 2.7 Organizational Development.

Unit 3: Compensation Management [9 Lecture Hours + 3 Tutorial Hours]

3.1 Fixed Pay and Incentive System, 3.2 Wage and Salary Policy, 3.3 Components of Wages and Salary Administration.

Unit 4: Performance Management and Human Resource Information [9 Lecture Hours + 3 Tutorial Hours]

4.1 Performance Indicators: Individual and Organization, 4.2 360 Degree Feedback, 4.3 Behaviorally Anchored Rating Scale (BARS) 4.4 Management By Objective (MBO) 4.5 Human Resource (cost) Accounting Method 4.6 Competency Assessment 4.7 Periodic Reports

on Manpower Management 4.8 Employee Turnover rate and Compensation, 4.9 Absenteeism
4.10 Labour Market.

Unit 5: Emerging Concepts in HRM [9 Lecture Hours + 3 Tutorial Hours]

5.1 Leadership and Learning Organization, 5.2 Organizational Hierarchy 5.3 Organization Culture and Change Management, 5.4 Staff Communications, 5.5 Succession Planning, 5.6 Values and Work Ethics 5.7 Code of Conduct 5.8 Occupational Hazards of Healthcare Workers 5.9 Employee Welfare Programmes and Counselling.

Suggested Reading:

Text Books

- 1.R.C .Goyal, Handbook of Hospital Personnel Management(Prentice-Hall India Pvt. Ltd., New Delhi)
- 2.David A. DeCenzo and Stephen P. Robbins, Human Resource Management(John Wiley & Sons Inc., New York)
3. Human Resource Management by Sarkar and Chakraborty (Blue Rose One Publishers, New Delhi)

References

- 1.Vincent K. Omachonu, Healthcare Performance Improvement(Engineering & Management Pr, USA)
2. DeCenzo, D. A., & Robbins, S. P. Personnel/Human Resource Management. New Delhi, India: Prentice-Hall of India Pvt. Ltd.

MOOCs: (indicative)

List of HRM MOOCs at My MOOC. <https://www.my-mooc.com/en/categorie/human-resources>

Management of Human Resource. SWAYAM.

https://onlinecourses.swayam2.ac.in/nou20_mg02/preview

Course Title: Healthcare Marketing and Public Relations

Course Code: MBA(HC&HM) 5009

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To equip students with a profound understanding of marketing and public relations principles, tailored specifically for the healthcare sector. Through a comprehensive exploration of various components for effective decision-making and strategic planning in healthcare marketing and public relations

Outcomes:

Students will be able to -

1. Make use of the concept of marketing and public relations within the unique context of healthcare organizations.
2. Take part in market analysis in relation to market segmentation and targeting to address specific healthcare market needs and demographics.
3. Estimate market trends through “analysis, product development, pricing strategies, promotional tactics, and distribution channels” with a holistic view of the strategic elements essential for successful healthcare marketing.
4. Design and evaluate “service marketing mix decisions, encompassing product, price, promotion, place, people, physical evidence, and process”, ensuring a comprehensive approach to healthcare service delivery.
5. Examine the public relation process and tools in healthcare organizations, emphasizing effective communication strategies, stakeholder engagement, and the management of public perceptions.

Unit 1: Application of Marketing in Healthcare [9 Lecture Hours + 3 Tutorial Hours]

1.1 Marketing Concept of Marketing. 1.2 Importance and Challenges in Practicing Marketing in Healthcare Industry. 1.3 Marketing Intelligence and Information and Research System

Unit 2: Market Analysis: Market Segmentation and Targeting [9 Lecture Hours + 3 Tutorial Hours]

2.1 Market Segmentation and Targeting: Steps in Segmentation and Targeting, Target Marketing, Consumer Analysis, Consumer Buying Process, Organization Buyer Behaviour, Consumer Adoption Process

Unit 3: Marketing Mix Decisions [9 Lecture Hours + 3 Tutorial Hours]

3.1 Product (Service) Decisions: Nature and Characteristics of Services, Marketing Approaches to New Services Development, Five levels of product, Service Mix Decision, Service Item Decision, Service Life Cycle Decision, Demand Generation

3.2 Pricing Decisions: Pricing Objectives in Healthcare, Pricing Strategy, Present and Future Situation

3.3 Place Decisions: Major Distribution Decisions, Strengthening Referral Systems,

3.4 Promotion Decisions: Sales Force in Healthcare Organizations, Advertising in Healthcare Industry, Sales Promotion Practices in Healthcare Organizations, Publicity Practices

3.5 Service Marketing: 3 Ps of Service Marketing: People, Physical Evidence and Process, Gap Model of Service Quality by Parsuraman.

Unit 4: Marketing Strategies [9 Lecture Hours + 3 Tutorial Hours]

4.1 Service Portfolio Strategy, 4.2 Market Expansion Strategy, 4.3 Target Market Strategy, 4.4 Price Quality Strategy, 4.5 Competitive Positioning Strategy, 4.6 Marketing Mix Strategy

Unit 5: Public Relations [9 Lecture Hours + 3 Tutorial Hours]

5.1 Introduction to Public Relations: Meaning of Public Relations, Classification of Public from Healthcare Marketing Perspective

5.2 Public Relations Process: Identifying the Relevant Publics, Measuring Images and Attitude of the Relevant Public, Establishing Image and Attitude Goals for the Key Publics, Developing Cost Effective Public Relations Strategies, Implementing Actions and Evaluating Results

5.3 Public Relations Tools: Materials: Written and Audio-visual, Media: News, Events, Speeches and Telephone Information Services, Profile of Public Relations Officer, Changing Role and Responsibilities of Health Service PRO

Suggested Reading:

Text Books

1. Kotler, P., & Clarke, R. N. Marketing for Healthcare Organizations.
2. Silver, R. Health Service Public Relations. ISBN 1-85775-028-4.

References

1. G.D. Kunder, How to Market Your Hospital Without Selling Your Philosophy (Prism Books Pvt. Ltd., Bangalore).
2. O'Malley, J. F.. Healthcare Marketing Sales and Services: An Executive Companion. ISBN 1-56793-150-2.

Course Name: Hospital and Healthcare Accreditation

Course Code: MBA(HC&HM) 5010

Credits: 3 Lectures + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To provide students with a thorough understanding of the principles, standards, and processes involved in hospital and healthcare accreditation, including NABH, NABL and JCI regulatory requirements, and accreditation standards. Besides, to equip them with the knowledge and skills necessary to facilitate accreditation processes, implement quality improvement initiatives, and ensure compliance with accreditation standards, thereby enhancing the quality and safety of healthcare delivery within institutional settings.

Outcomes:

Students should be able to

1. Explain Hospital & Healthcare Accreditation, its fundamental concepts and significance in quality healthcare.
2. Apply the principles of “National Accreditation Board for Hospitals & Healthcare Providers standards”.
3. Examine Patient-Centered Standards and make use of insights for enhancing patient care and experience.
4. Make use of standards that contribute to effective organizational management in healthcare.
5. Identify Essential Documentation & Hospital Committees for accreditation to implement necessary documentation and committee structures for successful accreditation.

Unit-1 Introduction to Hospital & Healthcare Accreditation (9 Lecture Hours + 3 Tutorial Hours)

1.1 NABH, 1.2 NABL, 1.3 JCI, 1.4 ISO, 1.5 ISQua, 1.6 “The Australian Commission on Safety and Quality in Health Care (the Commission)”, 1.7 WHO Guidelines, 1.8 BIS. 1.9 CPQIH

Unit 2: Introduction to NABH (9 Lecture Hours + 3 Tutorial Hours)

2.1 Quality council of India (QCI), 2.2 Organizational structure of NABH, 2.3 Standards, Preparing for NABH Accreditation, 2.3.1 (HCO) Hospital Accreditation, 2.3.2 SHCO Accreditation, 2.3.3 Blood Bank Accreditation, 2.3.4 AYUSH Hospital Accreditation, 2.4 Digital Health Standards for Hospitals.

Unit3: Patient-Centered Standards (9 Lecture Hours + 3 Tutorial Hours)

1. Access, Assessment and Continuity of Care (AAC) 2. Care of Patients (COP) 3. Management of Medication (MOM) 4. Patient Rights and Education (PRE) 5. Hospital Infection Control (HIC)

Unit 4: Organization–Centred Standards (9 Lecture Hours + 3 Tutorial Hours)

1. Patient Safety and Quality Improvement (PSQ) 2. Responsibilities of Management (ROM) 3. Facility Management and Safety (FMS) 4. Human Resource Management (HRM) 5. Information Management System (IMS)

Unit 5: Essential Documentation & Hospital Committees (9 Lecture Hours + 3 Tutorial Hours)

1. Sentinel Events 2. Clinical Audit 3. Quality Indicators 4. Incident Report 5. Internal Audit

Committees for NABH Accreditation: 1. Quality Improvement/ Core Committee, 2. CPR Committee (Code Blue Team), 3. Hospital Infection Control Committee, 4. Pharmacotherapy Committee, 5. Safety Committee, 6. Hospital Ethics Committee, 7. Anti-Sexual Harassment Committee, 8. Disaster Management Committee, 9. Management Review Committee

NABH Application Filing: 1. Eligibility for applying for NABH Accreditation 2. Accreditation Procedure 3. Maintaining Accreditation 4. Surveillance 5. Reassessment and Renewal of Accreditation.

Suggested Reading:

Text Books

1. NABH Guide Book to Accreditation Standards for Hospitals latest edition
2. Health Care Quality Management: Tools and Applications - Thomas K. Ross
3. Hospital and Healthcare Accreditation (As Per the Guidelines of NABH, NABL, JCI)
4. NABL: Specific Criteria for Accreditation of Calibration Laboratories

Note: QCI and its divisions offer several courses on quality, so ISO and its affiliates.

Course Title: Medical Record Science

Course Code: MBA(HC&HM) 5011

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To equip students with the critical aspects of managing patient health information, which encompasses various filing methods, storage techniques, and retention policies essential for effective medical records management. Additionally, in the implementation of Unique Health Identifier (UHID) within the Indian healthcare system, emphasizing its significance and implications for patient data management and healthcare delivery.

Outcomes:

Students will be able to -

1. Explain the fundamental principles of medical records management, including the importance of accuracy, confidentiality, and accessibility in maintaining patient health information.
2. Examine various filing methods, storage techniques, and retention policies relevant to medical records management, enabling them to organize and maintain health records effectively.
3. Utilize the concept of Unique Health Identifier (UHID) in the Indian healthcare system, including its significance, implementation, and implications for patient data management and healthcare delivery.
4. Assess statistical methods for analyzing healthcare data, ensuring quality control in data collection, and effectively presenting healthcare statistics to support evidence-based decision-making in healthcare management and policy.
5. Design centralized admitting services in healthcare facilities to contribute effectively to the patient-centered management of admissions and discharge processes.

Unit 1: Fundamentals of Medical Records [9 Lecture Hours + 3 Tutorial Hours]

1.1 Characteristics of medical Records, 1.2 Source-oriented, 1.3 Problem-oriented, and Integrated medical records, 1.3.1 ICD-10 Coding, 1.4 Medical Record Forms and Its Content, 1.5 Standard Order of Arrangement of Medical Record forms (Assembling), 1.6 Analysis of Medical Record-Quantitative & Qualitative, 1.7 Incomplete Record Control (Deficiency check.). 1.8 Electronic Medical Records Ecosystem, 1.9 Components of EMR Web App of ABDHM.

Unit 2: Filing Methods, Storage, and UHID [9 Lecture Hours + 3 Tutorial Hours]

2.1 Numbering and Filing Systems: Numeric Filing System, Alphabetic Filing System, Alphanumeric Filing System, Terminal Digit Filing System, Color-Coded Filing System, Registers & Indexes used in MRD, Record movement control & Tracking system.

2.2 UHID: Unique Identification, Centralized Database, Interoperability, Privacy and Security, Patient Empowerment, Healthcare Delivery Improvement

Unit 3: Health Data Retention Policy [9 Lecture Hours + 3 Tutorial Hours]

3.1 Concept & Scope of Consultation Paper, 3.2 Importance of Health Data Retention, 3.3 Digital Information Security in Healthcare Act (DISHA), 3.4 Storage and Maintenance of Health Data Retention, 3.5 Modes of Retention of Health Data, 3.6

Maintenance and Exchange of Health Data, 3.7 Data Classification for Health Data
3.8 Country Comparison on Health Data Retention (Canada, USA, UK, Australia)
includes Inpatient-Outpatient-Deceased Patients-Exception Cases which include –
Mental Disease, Suicide, Maternity/Fertility, Genetic, Radiotherapy, etc.
3.9 Proposed Approach for Health Data Retention Guideline/Policy of India.

Unit 4: Health Care Statistics, Quality control of Data Collection & Presentation [9 Lecture Hours + 3 Tutorial Hours]

4.1 Incomplete Record Control, 4.2 Inpatient census, 4.3 Ambulatory care statistics, 4.4 Long term Care Statistics, 4.5 Reproductive Health Statistics, 4.6 Reporting of Notifiable Diseases to Public Health Authorities

Unit 5: Centralized Admitting Services [9 Lecture Hours + 3 Tutorial Hours]

5.1 Principles of Identification of a Patient, 5.2 Types of Central Admitting Services, 5.3 Admitting Policies, 5.4 Procedure Outlines for Admissions 5.5 Financial Counselling during Admission 5.6 Flow of Records following Admissions, 5.7 Pre-Requisites for smooth & efficient functioning of the Centralized Admitting Services

Suggested Reading:

Text Books

1. The medical records book by Guy Gratton, 2015
2. Medical records: organization and management, G.D Mogli, 2017
3. Health Information Management Sixth Edition: Concepts, Principles by Pamela Oachs, Amy Watters
4. https://abdm.gov.in:8081/uploads/Consultation_Paper_on_Health_Data_Retention_Policy_21_28557f9a6a.pdf

Course Title: Biostatistics and Data Analysis

Course Code: MBA(HC&HM) 5012

Credits: 3 Lectures + 1 Tutorial

Hours: 42 Lecture Hours + 24 Tutorial Hours

Objective: Develop comprehensive skills and knowledge in data processing, analysis, hypothesis testing, sampling techniques, ethical research conduct, and utilization of diverse business research tools to proficiently conduct and report research in the field of business and data analytics.

Outcomes:

Students should be able to

1. Ability to process and analyze data effectively using appropriate statistical measures and techniques for descriptive and inferential analysis.
2. Proficiency in designing and executing sampling procedures, estimating population parameters, and interpreting sampling distributions.
3. Competence in formulating hypotheses, conducting parametric tests, and interpreting results while considering the significance levels and potential errors.
4. Awareness of ethical considerations in research, demonstrating integrity in conducting and reporting research findings, and respecting intellectual property rights.
5. Capability to utilize various business research tools for data analysis, visualization, literature review, citation management, AI assistance, proofreading, accessing research resources, and conducting surveys efficiently.

Unit 1: Processing and Analysis of Data (9 Lecture Hours + 3 Tutorial Hours)

1.1 Processing Operations, 1.2 Elements/Types of Analysis 1.3 Measures of Central Tendency (Mean, median and Mode) 1.4 Measures of Dispersion ((a) range, (b) mean deviation, and (c) standard deviation) 1.5 Measures of Asymmetry (Skewness) 1.6 Measures of Relationship 1.7 Simple Regression Analysis 1.8 Multiple Correlation and Regression 1.9 Partial Correlation 1.10 Time series analysis 1.11 Summary Chart Concerning Analysis of Data

Unit 2: Sampling Fundamentals (9 Lecture Hours + 3 Tutorial Hours)

2.1 Need for Sampling 2.2 Some Fundamental Definitions (1. Universe/Population, 2. Sampling frame: 3. Sampling design, 4. Statistic(s) and parameter(s): 5. Sampling error, errors. errors.6 Precision, 7. Confidence level and significance level, 8. Sampling distribution) 2.3 Important Sampling Distributions (used, are: (1) sampling distribution of mean; (2) sampling distribution of proportion; (3) student's 't' distribution; (4) F distribution; and (5) Chi-square distribution) 2.4 Sampling Theory 2.6 Concept of Standard Error 2.7 Estimating the Population Mean (m) 2.10 Estimating Population Proportion 2.11 Sample Size and its Determination..

Unit 3: Parametric or Standard Tests of Hypotheses (9 Lecture Hours + 3 Tutorial Hours)

3.1 Definition of a Hypothesis 3.2 Basic Concepts Concerning Testing of Hypotheses ((a) Null hypothesis and alternative hypothesis, (b) The level of significance, (c) Decision rule or test of hypothesis, (d) Type I and Type II errors, (e) Two-tailed and One-tailed tests) 3.3 Procedure for Hypothesis Testing 3.4 Flow Diagram for Hypothesis Testing 3.5 Important Parametric Tests ((1) z-test; (2) t-test; (3) Chi Square test, and (4) F-test) 3.6 Limitations of the Tests of Hypotheses

Unit 4: Ethics in Research (9 Lecture Hours + 3 Tutorial Hours)

4.1 Ethics in research 4.2 Intellectual honesty and research integrity 4.3. Falsification, Fabrication, and Plagiarism (FFP) 4.4 Redundant publications: duplicate and overlapping publications. Publication ethics, Publication misconduct 4.5 intellectual property Rights 4.6 Citation and Acknowledgement 4.7 Consortium for Academic and Research Ethics (CARE) 4.8 SCOPUS

Unit 5 Introduction to Business Research Tools (3 Lecture Hours + 9 Tutorial Hours)

5.1 Data analysis tools: Spreadsheet apps like MS Excel, SPSS, Nvivo. 5.2 Survey tools like Google Forms.

Suggested Reading:

Text Books

- Kothari, C. R. (2008). *Research Methodology: Methods and Techniques*. New Delhi: New Age International.
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach*. Chichester, UK: Wiley.
- Sundar Rao, P. S., & Richard, J. An Introduction to Biostatistics: A Manual for Students in Health Sciences. New Delhi, India: Prentice-Hall of India Pvt. Ltd.
- Business Research Methods by Murthy and Bhojannya (Excel Publications)
- Saha, I., Paul, B. (2021). *Essentials of Biostatistics & Research Methodology*. Kolkata: Academic Publishers
- Business Mathematics and Statistics by N.G. Das and J.K. Das.

Journals:

Journal of Healthcare Management

International Journal of Healthcare Management

Research in Healthcare Management

Online Resources:

Research Methods Knowledge Base: <https://www.socialresearchmethods.net/kb/>

Research Methods in Healthcare:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3390128/>

Course Title: Hospital Architecture, Planning and Designing

Course Code: MBA(HC&HM) 6001

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To develop essential knowledge and skills required for effective planning, designing, and managing healthcare facilities with a focus on the multifaceted aspects of hospital architecture and planning, emphasizing the importance of functionality, operational efficiency, and aesthetic considerations in healthcare facility design.

Outcomes:

Students will be able to -

1. Apply knowledge and skills necessary to effectively plan the development and expansion of healthcare facilities.
2. Recommend knowhow for designing healthcare facilities that meet functional, operational, and aesthetic requirements.
3. Examine the principles of facility layout, workflow optimization, and equipment selection, procurement, maintenance, and utilization.
4. Interpret and comply with laws related to healthcare licensing, accreditation, patient rights, safety standards, and environmental regulations.
5. Plan, implement, and coordinate disaster management services within hospital settings and to execute principles of disaster preparedness, response, and recovery, including risk assessment, emergency planning, resource allocation, communication strategies, and collaboration with external agencies.

Unit 1: Hospital Planning [9 Lecture Hours + 3 Tutorial Hours]

1.1 Concept of Hospital Planning, 1.2 Principles in Planning Hospital Facilities and Services, 1.3 Stages of Hospital Project, 1.4 Financial Estimation, 1.5 Master Plan and Architect Brief, 1.6 Working Drawings and Specifications, 1.7 Concept of Engineering Drawing, 1.8 Equipment Planning, 1.9 Beds Distribution, 1.10 Space Allocation for different Services, 1.11 Interior Designing, Construction and Building Commissioning, 1.12 Market survey, 1.13 Feasibility study, 1.14 Financial Planning of Hospitals, 1.15 Principles of site planning for Hospitals. 1.16 Building Orientation 1.17 Shake down period, 1.18 Understanding Break Even Point.

Unit 2: Hospital Infrastructure Designing [9 Lecture Hours + 3 Tutorial Hours]

2.1 Definition of Hospital, 2.2 Primary, Secondary, Tertiary, Single Speciality Hospitals, Medical Colleges in India, 2.3 Brown Field Projects, Green Field Projects. 2.4 Master-Planning of Hospitals with respect to Urban Design and Landscaping, 2.5 Concept of Green Hospitals. 2.6 Nursing Calling System 2.7 Pneumatic Tube Systems (PTS) in Hospitals.

Unit 3: Planning of Hospital Facilities and Equipment. [9 Lecture Hours + 3 Tutorial Hours]

3.1 Planning and Designing of Outpatient department, 3.2 Accident & Emergency Service, 3.3.1 Daycare Services, 3.3.2 Inpatient wards, 3.3.3 Intensive Care Units, 3.3.4 Surgical Suites, and 3.4 .1 Planning for Labour and Delivery Suites. 3.4.2 Planning and designing of Laboratory services, Blood Bank Service, Radiology Service: Echo, X-Ray, ECG, TMT, USG, CT, MRI, PET-CT, Nuclear Medicine, CSSD, Linen and

Laundry, Medical Gases, HVAC, Mortuary.

3.5 Advanced Facilities: Radiotherapy unit, Cardiac Catheterization Laboratory(Cath Lab), Endoscopy Units, IVF unit, Dialysis Unit, Bone Marrow Transplant Unit, Air Ambulance Services.

3.6 Infection Control Practice and Hospital Zoning

Unit 4: Statutory Acts and Licenses Applicable to Hospitals [9 Lecture Hours + 3 Tutorial Hours]

4.1 Certificate of Incorporation, 4.2 Permanent Account Number (PAN), 4.3 Goods and Services Tax(GST), 4.4 Shops & Establishments Act, 4.5 Luxury Tax, 4.6 Trade Mark Registration, 4.7 Building Permit / Occupancy Certificate, 4.8 Fire NOC, 4.9 Explosive License (Compressed Gas), 4.10 Spirit License, 4.11 Pollution Control Board (PCB) Approvals, 4.12 Bio-Medical Waste Management Services Certificates, 4.13 Annual Report & MOU, 4.14 Regulatory License for Lift, 4.15 License for Storage of Petrol/Diesel. 4.16 AERB Approvals for Medical Radiation Equipment's and its Layout (including, X-Ray, Cath-Lab, CT Scan, C-Arm,

Unit5: Disaster Management Services [9 Lecture Hours + 3 Tutorial Hours]

5.1 introduction to Disaster Management and Mass casualties, 5.2 Components of disaster plan 5.3 Disaster alertness in Hospital 5.4 Risk Assessment and Severity of illness amongst disaster victims 5.5 Triage.

Suggested Readings:

Text Books

"Hospital and Healthcare Facility Design" by Richard L. Miller

"Hospital Planning and Administration" by S. B. Naik

"Planning and Designing Healthcare Facilities: A Lean, Innovative, and Evidence-Based Approach" by Jeffrey A. Harper

Tutorials:

"Architectural Design of Hospitals and Health Centres" (YouTube Playlist)

"Hospital Planning and Designing Tutorial" (LinkedIn Learning)

MOOCs: (indicative)

1. Coursera - "Healthcare Facility Planning and Design"
2. edX - "Disaster Management"

Course Title: Hospital Accounting

Course Code: MBA(HC&HM) 6002

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To provide students with a comprehensive understanding of hospital accounting and finance principles and practices, enabling them to effectively manage financial operations within healthcare organizations.

Outcomes:

Students will be able to –

1. **Demonstrate comprehension of accounting principles:** Students will be able to explain the basic principles of accounting, including accrual accounting, revenue recognition, and matching principles, and apply them to hospital financial transactions.
2. **Analyze hospital financial statements:** Students will be able to interpret and analyze “hospital financial statements, including balance sheets, income statements, and cash flow statements, to assess the financial health and performance” of healthcare organizations.
3. **Implement cash accounting and cash management strategies:** Students will be able to “apply cash accounting techniques and implement effective cash management” strategies to optimize liquidity and mitigate financial risks within hospital settings.
4. **Apply hospital accounting practices:** Students will be able to apply specialized accounting practices relevant to healthcare organizations, such as budgeting, cost allocation, and reimbursement methodologies, to address financial challenges and support decision-making processes.
5. **Utilize hospital cost accounting techniques:** Students will be able to utilize “cost accounting techniques, such as activity-based costing and cost-volume-profit analysis”, to analyze and manage costs within hospital operations, ultimately improving efficiency and financial performance.

UNIT 1 Introduction to Accounting [9 Lecture Hours + 3 Tutorial Hours]

1.1 Meaning, 1.2 Concepts, 1.3 Principles, 1.4 Accounting Rules 1.5 Single and Double Entry System 1.6. Journal Entry, 1.7 Bookkeeping, 1.8 Ledger 1.9 Accounts Receivable and Accounts Payable 1.10 Generally Accepted Accounting Principles

UNIT 2 Fundamentals of Accounting [9 Lecture Hours + 3 Tutorial Hours]

2.1 Payroll and Executive Remuneration 2.2 Trial Balance 2.3 Rectification of Errors 2.4 Asset Accounting 2.5 Accounting for Depreciation 2.6 Reserves and Provisions 2.7 Indian Corporate Sector, 2.8 Management Accounting 2.9 Concept of EBITA 2.10 Application of GST in Hospital: Room Rent, Medicines Consumables and Services.

UNIT 3 Cash Accounting and Cash Management [9 Lecture Hours + 3 Tutorial Hours]

3.1 Billing / Cash Receipts and Daily Cash Summary 3.2 Bank Accounts and Bank Reconciliation, 3.3 Cash Book, 3.4 Petty Cash Management, 3.5 Authorization and Approval, 3.6 Statement of Cash Flow, 3.7 Cash Budgeting, 3.8 Cash Control.

UNIT 4: Hospital Accounting and Financial Statements [9Lecture Hours + 3 Tutorial Hours]

4.1 Departmentalized Accounting, 4.2 Internal Control and Internal Auditing, 4.3 Trust Funds, 4.4 Investment Accounting, 4.5 Application of Software, 4.6 Revenue and Capital Expenditure, 4.7 Receipt and Payment Account, 4.8 Income and Expenditure Statement, 4.9 Balance Sheet, 4.10 Statutory Audit.

UNIT 5: Hospital Cost Accounting [9 Lecture Hours + 3 Tutorial Hours]

5.1 Basics of Cost Accounting: Types and Elements
5.2 Cost Behavior 5.3 Cost Centers 5.4 Cost Volume Profit Analysis/Breakeven Analysis 5.5 Cost Sheet preparation and Interpretation 5.6 Concept of cost Containment
5.7 Rate Setting and Pricing Decision in Hospital

Suggested Reading:

Text Books

1. Steven F. Kukla, Cost Accounting and Financial Analysis for the Hospital Administrator (American Hospital Publishing Inc., AHA)
2. M.C. Shukla and T.S. Grewal, Advanced Accounts (S.Chand & Company Ltd., New Delhi) ISBN 81-219-0396-3
3. S.C. Kuchhal, Corporation Finance: Principles and Problems (Chaitanya Publishing House, Allahabad)

References:

1. VHAI, An Accounting Guide for Voluntary Hospitals in India (The Voluntary Health Association of India, New Delhi)

Additional Resources:

1. "Healthcare Finance: An Introduction to Accounting and Financial Management" by Louis C. Gapenski
2. "Financial Management for Nurse Managers and Executives" by Cheryl Jones
3. "Cost Accounting in Healthcare: A Comprehensive Guide" by Steven A. Finkler, David M. Ward, and Thad Calabrese

Tutorials:

1. "Healthcare Finance and Budgeting" (LinkedIn Learning)
2. "Accounting Basics for Healthcare Professionals" (YouTube Playlist)

MOOCs: (indicative)

1. Coursera - "Financial Management in Health Services"
2. edX - "Healthcare Finance and Financial Management"
3. <https://www.coursera.org/learn/introduction-to-healthcare-finance>
4. <https://www.coursera.org/learn/introduction-to-healthcare-accounting#modules>

Course Title: Logistics and Supply Chain Management in Healthcare

Course Code: MBA(HC&HM) 6003

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To comprehensively gain an understanding of “logistics and supply chain management in healthcare” and proficiently apply those principles and techniques to enhance operational efficiency.

Outcomes:

Students will be able to -

1. To apply fundamental principles of materials management within the healthcare sector.
2. Implement purchasing principles and practices to achieve cost-effective procurement in the healthcare organization.
3. Develop skills in planning, inspecting, verifying, storing, and distributing to optimally manage healthcare resources.
4. To formulate scientific inventory management strategies in healthcare settings to minimize waste and enhance resource utilization.
5. To design and implement the application of Management Information Systems (MIS) in hospital logistics and supply chain management, considering the unique requirements of various clinical and supportive departments.

Unit 1: Materials Management [9 Lecture Hours + 3 Tutorial Hours]

1.1 Definition, Objectives and Functions 1.2 Materials Cycle 1.3 Duties of Materials Manager, 1.4 Problems and Issues in Hospital Materials Management, 1.5 Information Systems for Hospital Materials Management

Unit 2: Purchasing [9 Lecture Hours + 3 Tutorial Hours]

2.1 Elements and Objectives of Purchasing, 2.2 Purchase System, 2.3 Purchase Cycle, 2.4 hospital Purchase Procedures, 2.5 Legal and Ethical Aspect of Purchase: Conditions of Contract, Applicable Financial Regulations, Arbitration in Purchase Management

Unit 3: Equipment Purchase and Maintenance [9 Lecture Hours + 3 Tutorial Hours]

3.1 Planning and Selection of Equipment 3.2 Import of Equipment 3.3 Equipment Utilization 3.4 Equipment Maintenance and Repair 3.5 Equipment Audit.

Unit 4: Inspection, Storage and Distribution of Materials [9 Lecture Hours + 3 Tutorial Hours]

4.1 Inspection and Verification of Materials 4.2 Storage, 4.3 Distribution of Materials, 4.4 Condemnation and Disposal of items.

Unit 5: Scientific Inventory Management [9 Lecture Hours + 3 Tutorial Hours]

5.1 Codification and Standardization of items 5.2 The Value Analysis, 5.3 Concept of Lead Time 5.4 Safety/Buffer Stock 5.5 Reorder Level, 5.6 Economic Order Quantity (EOQ), 5.7 FIFO, 5.8 LIFO, 5.9 ABC Analysis, 5.10 VED Analysis, 5.11 Case Studies on Inventory Control (Pharmacy, CSSD, Laundry)

Suggested Reading:

Text Books

1. Shakti K Gupta and Sunil Kant, Hospital Stores Management: An Integrated Approach (Jaypee Publications, New Delhi, India)
2. Essentials of Supply Chain Management" by Michael H. Hugos
3. WHO, Maintenance and Repair of Laboratory, Diagnostic, Imaging and Hospital Equipment (WHO, Geneva)

Further Readings:

1. "Logistics and Supply Chain Management in Healthcare: A Comprehensive Guide" by Donald Waters
2. "Healthcare Supply Chain Management: Basic Concepts and Principles" by Eduard Van Der Geest

Tutorials:

1. Supply Chain Management Fundamentals (LinkedIn Learning)
2. Logistics and Supply Chain Management in Healthcare (Coursera)

MOOCs: (indicative)

1. Coursera - "Supply Chain Management"
2. edX - "Healthcare Supply Chain Management"

Journals:

1. Supply Chain Management Review
2. Journal of Business Logistics

Course Title: Hospital Service Marketing

Course Code: MBA(HC&HM) 6004

Course Credits: 3 Lectures + 1 Tutorial

Hours: 45 Lecture Hours + 15 Tutorial Hours

Course Objective: To utilize principles of service marketing and to develop effective strategies for healthcare service delivery, management, and problem-solving related to service quality in healthcare organizations.

Course Outcome: Upon completing of this course, the student will be able to

1. Explain the concept and importance of marketing in healthcare organizations.
2. Develop skills for planning and managing service demand and capacity in healthcare organizations.
3. Relate the role of people in delivering service quality in healthcare organizations.
4. Examine various strategies in Hospital Service Marketing
5. Make use of knowledge, skills, and abilities for continuous quality improvement in Hospital service marketing

Unit 1: Introduction to Service Marketing [9 Lecture Hours + 3 Tutorial Hours]

1.1 Definition and Characteristics of services, 1.2 Tangibility of Hospital Services 1.2 Marketing mix for Hospital Services. 1.3 Service quality, Integrated Gap model 1.4 Measuring and improving service quality

Unit 2: Service Strategy Planning, Product Creation [9 Lecture Hours + 3 Tutorial Hours]

2.1 Understanding the customer and competition. 2.2 Positioning services, 2.3 Service triangle concept. 2.3 Creating service products, 2.4 Customer value hierarchy. 2.5 Branding service products. 2.6 Branding of Hospital Facility.

Unit 3: Pricing, Demand Management, Place & Channels [9 Lecture Hours + 3 Tutorial Hours]

3.1 Pricing Objectives in Healthcare Organizations 3.2 Methods of pricing 3.3 Customer as co-producer, 3.3 Strategies for matching capacity and demand 3.4 Channels of Healthcare Distribution: Major Distribution Decisions, Strengthening Referral System, Need for marketing specialists in healthcare distribution, Types of marketing channels, Selection of channels, Digital Marketing.

Unit 4: Promotion, Service Environment, People Management [9 Lecture Hours + 3 Tutorial Hours]

4.1 Promotion Decision: Sales Force in Healthcare Organizations, Advertising in Healthcare Industry, Sales Promotion Practices in Healthcare Organizations, Public relations and News Media Relations in Hospitals and Health Care Organizations

4.2 Physical evidence, Services capes - types and role, customer response to environment.

4.3 Strategies for delivering service quality through people, Service leadership and culture

Unit 5: Medical Tourism [9 Lecture Hours + 3 Tutorial Hours]

5.1 Introduction to Medical Tourism 5.2 Wellness Tourism 5.3 Concept of Medical

Value Travel (MVT) 5.4 National Strategy for Medical Value Travel and Wellness Tourism 5.5 “Heal in India” brand for promoting India as Wellness Tourism Destination 5.6 Medical Value Travel Facilitators 5.7 Telemedicine as a Focus Area 5.8 Digitalization by MVT Portal 5.9 Visa Policy 5.10 National Medical & Wellness Tourism Promotion Board (NMWTB) 5.11 Medical Forms for Air travelling

Suggested Reading:

Text Books

1. Zeithaml, V.A., Bitner, M J, Gremler, D.D. & Pandit, A.: Service Marketing; TMH
2. Rao, K.R.M.: Services Marketing, Pearson Education
3. Rajendra Nargundkar, Services Marketing: Text & Cases, Tata McGraw-Hill Publishing Company, New Delhi, 2008
4. Apte, G.: Service Marketing; OUP
5. Lovelock, C., Wirtz, J. & Chatterjee, J.: Services Marketing; Pearson Education
6. Srinivasan R.: Services Marketing; PHI

Minor/ Specialization – Track 1 Healthcare Management

Course Title: Health Informatics and Artificial Intelligence

Course Code: MBA(HC&HM) 6005

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To provide an in-depth understanding of health informatics and concept of artificial intelligence in the context of healthcare and hospital management. Besides, exploring the application of technology to improve healthcare processes, decision-making, and patient outcomes.

Outcomes:

Students will be able to -

1. Demonstrate a comprehensive understanding of the fundamental concepts of health informatics and information systems and concept of artificial intelligence, including their applications in healthcare settings.
2. Examine electronic health records (EHRs) and perform accurate medical transcription tasks.
3. Outline various nomenclatures and classification systems used in healthcare, such as ICD (International Classification of Diseases) and SNOMED CT (Systematized Nomenclature of Medicine Clinical Terms) etc. And to apply these systems effectively to categorize and code medical data for purposes including billing, research, and patient care.
4. Design and develop the principles and practices of telemedicine, including the use of Information and Communications Technology (ICT) to provide remote healthcare services, evaluate telemedicine technologies, implement telehealth solutions in clinical settings, and assess the ethical and legal implications associated with telemedicine practice.
5. Make use of the electronic health record (EHR) standards specific to the Indian healthcare system, including, existing EHR standards, identify areas for improvement, and propose solutions aligned with the unique requirements and regulations of the Indian healthcare landscape and additionally, to the adoption and implementation of standardized EHR systems across healthcare institutions in India.

Unit 1: Introduction to Health Informatics and Artificial Intelligence Applications [9 Lecture Hours + 3 Tutorial Hours]

1.1 Health Informatics: 1.1.1 Hospital Information System, 1.1.2 Clinical Decision Support System, 1.1.3 eHealth, 1.1.4 mHealth.

1.2 AI in Healthcare: 1.2.1 Digital Journey, 1.2.2 Sources of Data, 1.2.3 Need for Artificial Intelligence, 1.2.4 DICOM 1.2.5 HL7-IHE, 1.2.6. Fast Healthcare Interoperability Resources (FHIR) 1.2.6 Biomedical Signal Processing

Unit 2: Electronic Health Records & Medical Transcription [9 Lecture Hours + 3 Tutorial Hours]

2.1 EHR definitions contents and examples of EHR practices, 2.2 Preliminary steps in implementation of EHR, 2.3 Issues and challenges in implementation of EHR, 2.4 Factors to be considered when developing EHR & Implementation Plan.

2.5 Medical Transcription: Objectives of Medical Transcription, Rules of Medical Transcription, Advantages of Medical Transcription.

Unit 3: Introduction to Nomenclatures and Classification Systems [9 Lecture Hours + 3 Tutorial Hours]

3.1 Standard Nomenclatures of diseases (SNDO), 3.2 Current Medical Information Terminology, 3.3 Systematized Nomenclature of Pathology (SNOP), 3.4 Systematized Nomenclature of Medicine (SNOMED), 3.5 Common Procedures Coding System (HCPCS), 3.6 Current Procedural Terminology, 3.7 International Classification of Functioning, 3.8 Disability and Health (ICF), 3.9 Case-Mix Classifications, 3.10 Diagnosis Related Groups, 3.11 ICD 9 (CM), ICD 10, ICD- Oncology (ICD - O), ICD 11.

Unit 4: Telemedicine [9 Lecture Hours + 3 Tutorial Hours]

4.1 Basic health care, 4.2 Classification of Telemedicine, 4.3 Telemedicine: Technology of Telemedicine, Objectives of Telemedicine, Rules of Telemedicine, Telemedicine Act, Merits of Telemedicine, Future Telemedicine plans.

Unit 5: Electronic Health Record (EHR) Standards For India [9 Lecture Hours + 3 Tutorial Hours]

5.1 Goals, Standards and Interoperability.

5.2 Health Record IT Standards: 5.2.1 Identification and demographic information of patient, 5.2.2 Architecture requirements and Functional specifications, 5.2.3 Logical information reference model and Structural composition, 5.2.4 Medical terminology and Coding standards. 5.2.5 Data standards for Image: Multimedia, waveform, document.

5.2.6 Data exchange standards, 5.2.7 Discharge/Treatment summary Format, e-prescription, personal healthcare and medical devices interfacing, Principles of Data change

5.3 Data Ownership of Health Records: 5.3.1 The ethical, legal, social issues (ELSI) guidelines, 5.3.2 Protected Health Information, 5.3.3 Data ownership, 5.3.4 Data access and Confidentiality, 5.3.5 Disclosure of Protected / Sensitive Information, 5.3.6 Responsibilities of a Healthcare provider, 5.3.7 Privileges of Patient or Personal Representative, 5.3.8 Electronic Medical Records Preservation, 5.3.9 Patient Identifying Information

5.4 Data Privacy and Security:

5.4.1 Security of Electronic Health Information, 5.4.2 Purpose of the Security Standards, 5.4.2 Administrative Safeguards Standards, 5.4.3 Physical Safeguards Standards

5.5 Security Technical standards: 5.5.1 Authentication, 5.5.2 Automatic log-off, 5.5.3 Access control, 5.5.4 Access Privileges, 5.5.5 Audit log, Integrity, Encryption, 5.5.6 Digital Certificates.

Suggested Reading:

Text Books

1. Health Information Management Sixth Edition: Concepts, Principles by Pamela Oachs, Amy Watters
2. ICD 10-CM, 10th revision, by world health organization
3. International Classification of Procedures in medicine by world health organization
4. Management Information System (MIS) in Hospitals: A Computer-based Approach for Quality in Hospital Services and Administration by Anil Kumar Saini
5. The Electronic Health Record For The Physician's Office For Simchart For The Medical Office With Access Code 3Rd Edition 2020 by Pepper J, Elsevier
6. Medical Informatics 20/20: Quality And Electronic Health Records Through Collaboration Open Solutions And Innovation by Douglas Goldstein , Jones and Bartlett Publishers
7. <https://www.nrces.in/>
8. Electronic Health Record (EHR) Standards for India:
<https://main.mohfw.gov.in/sites/default/files/17739294021483341357.pdf>

Tutorials:

1. Health Informatics and Artificial Intelligence (Coursera)
2. Introduction to Telemedicine (LinkedIn Learning).

MOOCs: (indicative)

1. Coursera - "Healthcare Information Technology (HIT)"
2. edX - "Artificial Intelligence in Healthcare"

Minor/Specialization – Track 1 Healthcare Management

Course Title: Health Insurance and Managed Care

Course Code: MBA(HC&HM) 6006

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To provide students with an understanding of the principles and implementation of health insurance and managed care within the context of the Indian healthcare system. This includes exploring various types of “insurance policies, coverage options, handling health insurance claims and disputes, navigating managed care systems, negotiating and establishing contracts with consultants and hospitals”, managing the utilization of healthcare facilities and consultants, and examining pertinent aspects of managed care.

Outcomes:

Students will be able to -

1. Explain the fundamental concepts and key principles underlying health insurance practices.
2. Develop skills for assessing and managing risks associated with health insurance and healthcare delivery
3. Apply costing techniques to design effective benefit packages, ensuring a balance between coverage and affordability.
4. Analyse and assess the mechanisms involved in provider payments within the health insurance framework.
5. Formulate strategies for designing and implementing community health insurance programs, considering the unique needs of diverse populations.
6. Examine managed care principles, emphasizing their role in optimizing healthcare delivery.
7. Evaluate various systems and components integral to managed care, exploring their impact on healthcare organizations and patient outcomes.

Unit 1: Health Insurance, Market Failure and Risks [9 Lecture Hours + 3 Tutorial Hours]

1.1 Concept and meaning of Health Insurance, 1.2 Concept of Social security, Risk and Insurance, 1.3 Community Health Insurance (CHI), 1.4 Employer Based Insurance, 1.5 Health Micro Insurance (MHI) and Reinsurance, 1.6 Fundamental difference among various Health Insurance Schemes 1.7 Co-payment / Coinsurance, 1.8 Deductibles, 1.9 Indemnity payment, 1.10 Mandatory referral system 1.11 Collective membership and Group policies 1.12 Cost Escalation: Treatment Protocol, fixed fee per illness

Unit 2: Designing Benefit Package and Premium setting [9 Lecture Hours + 3 Tutorial Hours]

2.1 Designing Benefit Package: Financial Resources, Existing infrastructure and quality & Accreditation in care, priority, utilization, pattern of disease and injury, level of health services, estimating maximum demand.

2.2 Costing the Benefit Package: Cost of pharmaceuticals, consultations, diagnostic support services, hospitalization, additional services and operating costs

2.3 Premium Setting: Underwriting Process, Actuarial Analysis, Claim Experience, Risk Pooling, Regulatory Requirements, Market Competition, Benefit Design, and Profit Margin and Administrative Costs

Unit 3: Health Insurance Operations and Third Party Administration [9 Lecture Hours + 3 Tutorial Hours]

3.1 Provider Payment Mechanism: Concept, Fee for Services, Case payment, Daily charge, Bonus payment, Flat rate payment, Capitation.

3.2 Third Party Administration: Definition, function, importance of TPA.

Unit 4: Systems of Managed Care in India [9 Lecture Hours + 3 Tutorial Hours]

4.1 Ayushman Bharat - National Health Protection Mission, Pradhan Mantri Jan Arogya Yojana (PMJAY), Rashtriya Swasthya Bima Yojana (RSBY), 4.2 Employee State Insurance Scheme (ESIS), 4.3 Central Government Health Scheme (CGHS), 4.4 State Health Insurance Schemes (SHIS), 4.5 Universal Health Coverage (UHC) Programs, 4.6 West Bengal Health for All Employees and Pensioners Cashless Medical Treatment Scheme 2014.

Unit 5: Regulatory Framework and IRDA [9 Lecture Hours + 3 Tutorial Hours]

5.1 Overview of the Insurance Regulatory and Development Authority of India (IRDAI)

5.2 Roles, 5.3 functions, and 5.4 control of IRDAI in regulating health insurance

5.5 Compliance with IRDAI guidelines and ethical considerations in health insurance practices, 5.6 Insurance Information Bureau of India (IIB), 5.7 Registry of Hospitals in Network of Insurance (ROHINI).

Suggested Reading:

Text Books

1. Kongstvedt, P. R. (Ed.). (1989). *The Managed Health Care Handbook*. Maryland, USA: Aspen Publication.
2. Srinivasan, S. (2018). *Health Insurance in India - Opportunities, Challenges, and Concerns*. Springer.
3. Harpster, L. M., & Veatch, M. S. (1990). *Risk Management Handbook for Healthcare Facilities*. American Hospital Association: USA.

Further Reference Books and Materials:

1. Rickel, A. V., & Wise, T. N. (2000). *Understanding Managed Care*. Karger: USA.
2. Reddy, S. (2016). *Health Insurance in India: A Study of Awareness and Buying Behavior*. LAP Lambert Academic Publishing.
3. Agarwal, A. (2020). *Health Insurance in India: A Market Dynamics Perspective*. Notion Press.
4. National Health Authority, Government of India - *Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) Handbook*.
5. Insurance Institute of India - *Health Insurance Underwriting and Claims Management*.
6. IC-38 INSURANCE AGENTS GENERAL. <https://www.libertyinsurance.in/docx/IC-38.pdf>

7. <https://irdai.gov.in/ebooks>

Journals:

- *Indian Journal of Insurance and Risk Management*
- *Journal of Health Management*
- *The Geneva Papers on Risk and Insurance: Issues and Practice*

Online Resources: (indicative)

- IRDAI Official Website: <https://www.irdai.gov.in/>
- National Health Mission, India - Ayushman Bharat: <https://pmjay.gov.in/>
- ROHINI official website. <https://rohini.iib.gov.in/>
- Swasthya Sathi official website. <https://swasthyasathi.gov.in>

Minor/Specialization – Track 2 Hospital Management

Course Name: Health Safety and Risk Management

Course Code: MBA(HA) 6007

Credits: 3 Lectures + 1 Tutorial

Hours: 45 Lecture Hours + 15 Hours Tutorial

Objective: - The objective of the course "Health Safety and Risk Management is to equip students with comprehensive knowledge and understanding of various aspects related to hospital waste management, environmental issues, and their rational utilization within healthcare settings.

Outcomes:

1. Familiarize students with the principles and practices of hospital waste management to ensure the safe and efficient disposal of biomedical wastes.
2. Develop an understanding of environmental issues affecting healthcare facilities, and explore strategies for mitigating their impact.
3. Equip students with the knowledge and skills necessary to assess risks in healthcare environments and implement effective risk management strategies to safeguard the health and safety of patients, staff, and visitors.
4. Foster critical thinking and problem-solving abilities in analysing and addressing various health safety challenges encountered in healthcare management settings.
5. Encourage students to explore innovative approaches and technologies for improving health safety practices and minimizing risks in healthcare facilities.

Unit 1: Hospital Related Infections (11 Lecture Hours + 4 Tutorial Hours)

1.1 Introduction, 1.2 Mode of Transmission, 1.3 Interruption of transmission, 1.4 Role of Nursing, Housekeeping, CSSD, Dietary, Linen and Laundry, 1.5 Common Nosocomial Infections and their Causative agents, 1.6 Hospital Infection control committees, 1.7 Preventive methods Nosocomial Infections 1.8 Monitoring and control of cross infections.

Unit 2: Hospital Waste Management (11 Lecture Hours + 4 Tutorial Hours)

2.1 Meaning, 2.2 2Categories of Biomedical Wastes, 2.3 Disposal of biomedical wastes: 2.3.1 Incineration and its Significance in Hospitals, 2.3.2 Autoclaving, 2.3.3 microwaving and 2.3.4 deep burial, 2.3.5 Segregation, 2.3.6 Packaging, 2.3.7 Transportation and Storage. 2.4 Sewage wastes: 2.4.1 Meaning, 2.4.2 Composition, 2.4.3 Modern sewage treatment methods, 2.4.4 Solid and Liquid wastes and their treatment. 2.5 Waste disposal: 2.5.1 State and Government Regulations (Bio Medical Waste Management Rules – 2016), 2.5.2 Colour code practices, 2.5.3 Waste segregation, 2.5.4 Agencies appointment for waste disposal, 2.5.5 Environmental safety

Unit 3: Hospital Hazards Management (4 Lecture Hours + 1 Tutorial Hours)

3.1.1 Meaning, 3.1.2 Needs, 3.1.3 Principles, 3.1.4 Purpose, 3.1.5 Impact on employees, 3.1.6 Patients and Visitors; 3.1.7 Preventive measures.

3.2 Types of Hospital Hazards – 3.2.1 Physical, Biological, 3.2.2 Mechanical, and 3.2.3 Psychological Hazards.

Unit 4: Fire and Radiation Hazards (7 Lecture Hours + 3 Tutorial Hours)

4.1 Fire Hazards – 4.1.1 Elements of Fire- 4.1.2 Fire Hazard Triangle- 4.1.3 Causes of Hospital Fires, 4.1.5 Structure Planning and Design Consideration 4.1.6 Central Air Conditioning Facilities 4.1.7 Electric Installation 4.1.8 Hazards Associated with Furnishing Material, Curtains Upholstery, Dresses, Bed and Bedding Materials 4.1.9 Water Supply, Fire Points and Escape Routes

4.2 Radiation Hazards - 4.2.1 Biological Effects of Radiation Hazards 4.2.2 Radiation Protection and Safety 4.2.3 Radioactive Waste Collection and Disposal 4.2.4 Radioactive waste 4.2.5 4.2.3 Magnetic Resonance Imaging: Planning Constrains, Preventive Measures Against Magnetic Field Hazards 4.2.4 Laser Hazards and Safety

Unit 5: Security Organisation and Management (12 Lecture Hours + 3 Tutorial Hours)

5.1 Security Threats and Vulnerabilities of Hospitals 5.2 Security Sensitive Areas 5.4 Functions of Hospitals Security Department 5.5 Physical Security Measures 5.6 Perimeter Protection System 5.7 Implementing Physical Controls 5.8 Access Control 5.9 Need, Integration and types of Security Technology 5.10 Computer and Information Security 5.11 Security Agency and Security Training

Suggested Reading:

Text Books:

1. Hospital Waste Management: A Guide for Self Assessment and Review-Baserkar Shishir
2. Hospital Infection Control Guidelines: Principles and Practice: Singh Sanjeev, Gupta Shakti Kumar, Kant Sunil
3. Healthcare Risk Management Fundamentals" by American Society for Healthcare Risk Management (ASHRM).

Websites:

- World Health Organization (WHO) - Health Security and Environment section.

- Centers for Disease Control and Prevention (CDC) - Healthcare-associated Infections section.

MOOCs:

- "Infection Prevention and Control" by Imperial College London on Coursera.
- "Preventing the Spread of Infection in Healthcare Settings" by OpenWHO.
- "Biomedical Waste Management" by NPTEL (National Programme on Technology Enhanced Learning).
- "Healthcare Hazard Control and Safety Management" by University of Michigan on Coursera.

Journals:

- Journal of Hospital Infection
- American Journal of Infection Control
- Journal of Environmental Management
- Journal of Hospital Safety and Healthcare Risk Management
- Safety Science
- Journal of Security and Sustainability Issues

Others:

- CDC Guidelines for Infection Control in Healthcare Personnel
- WHO Guidelines on Hand Hygiene in Healthcare
- Central Pollution Control Board (CPCB) guidelines on Biomedical Waste Management
- World Health Organization (WHO) Technical Guidelines on Healthcare Waste Management
- Occupational Safety and Health Administration (OSHA) guidelines
- International Association for Healthcare Security and Safety (IAHSS) training materials
- Department of Homeland Security (DHS) guidelines on hospital security

National Fire Protection Association (NFPA) standards

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Minor/Specialization – Track 2 Hospital Management

Course Title : Hospital Operations Management

Course Code : MBA(HC&HM) 6008

Course Credits: 3 Lectures + 1 Tutorial

Hours: 45 Lecture Hours + 15 Tutorial Hours

Course Objective: Demonstrate expertise in distinguishing between manufacturing and hospital service operations, assessing factors influencing clinic location, optimizing hospital layout and design for efficient processes and infection control, understanding inspection and quality control methods, and applying work study principles to enhance efficiency.

Course Outcome: Upon completing of this course, the student will be able to

1. Differentiate between manufacturing and hospital service operations, recognizing the responsibilities of operations managers in healthcare settings.
2. Evaluate factors influencing the location of clinics, with a focus on outpatient (OPD), inpatient (IPD), and diagnostic services.
3. Demonstrate knowledge of hospital layout and design principles, considering cost implications and infection control practices.
4. Apply inspection and quality control methods, including statistical quality control, scheduling techniques, and an introduction to project management.
5. Apply work study principles to improve efficiency in hospital operations, including method study, work measurement, and the determination of standard time.

Unit1: Introduction to Hospital Operations Management: [9 Lecture Hours + 3 Tutorial Hours]

1.1 Hospital Service Operations, 1.2 Process Matrix 1.3 Capacity planning 1.4 Responsibilities of Operations Manager; 1.5 Production Cycle, 1.6 Production Planning & Control Concept, 1.7 Characteristics of Clinical Operations

Unit 2: Clinics Location in Hospital [9 Lecture Hours + 3 Tutorial Hours]

2.1 Need for a Good Clinics Location 2.2 Factors influencing OPD, IPD, Diagnostics Service Location 2.3 Tangible and Intangible Factors 2.4 Economic Survey of Site Selection

Unit 3 Hospital Layout & Design [9 Lecture Hours + 3 Tutorial Hours]

3.1 Need and Characteristics for a Hospital Layout 3.2 opportunity Costs associated with hospital Layout; 3.3 Designing Process Layout vs. Product Layout; 3.4 Optimization in a Process Layout and Product Layout 3.5 Infection control practices in hospital layout, 3.6 Hospital Zoning.

Unit 4: Inspection & Quality Control: [9 Lecture Hours + 3 Tutorial Hours]

4.1 Types of Inspection 4.2 Statistical Quality Control 4.3 Sequencing of 2 Jobs 4.4 Turnaround Time, 4.5 Gantt Charts 4.6 Introduction to Network analysis – CPM and PERT, Work Breakdown Structure.

Unit 5: Work Study: [9 Lecture Hours + 3 Tutorial Hours]

5.1 Definition and its Importance; 5.2 Basic Procedure in Performing a Work 5.3 Method Study: Objectives and Procedure; 5.4 Work Measurement: Objectives and Procedure; 5.5 Concepts of Performance Rating, Basic Time, Allowances and Standard Time

Suggested Reading:

Text Books

1. Chary, S.N. – Production and Operations Management; TMH
2. Bedi, K. – Production and Operations Management; Oxford University Press
3. Panneerselvam, R. – Production and Operations Management, PHI
4. Chase, Jacobs, Aquilano and Agarwal – Operations Management for Competitive Advantage; TMH
5. Collier, Evans and Ganguly – Operations Management; Cengage Learning
6. Buffa, E. S. and Sarin, R.K. – Modern Production / Operations Management; John Wiley
7. "Operations Research" by Majumdar and Nandi (Pen and Paper Publication)
8. "Operations Research" by J.K. Sharma (Pearson Education)

Course Title: Strategic Management in Healthcare

Course Code: MBA(HA) 6009

Course Credits: 3 Lecture + 1 Tutorial

Hours: 45 Lecture Hours + 15 Tutorial Hours

Course Objective: To instill strategic healthcare management principles, empowering prospective healthcare administrators with the requisite skills for adept leadership within healthcare organizations, thereby facilitating effective navigation of the complex healthcare landscape among the students.

Course Outcome: Upon completing of this course, the student will be able to;

1. Discuss a foundational understanding of the fundamental concepts underpinning strategic healthcare management, elucidating its theoretical framework and practical application within healthcare contexts.
2. Explore the underlying principles governing strategic healthcare management, including strategic planning, resource allocation, and decision-making processes, fostering a nuanced appreciation of strategic management dynamics.
3. Develop proficiency in implementing the structural processes inherent in strategic management, encompassing strategic analysis, formulation, implementation, and evaluation, thereby honing strategic leadership competencies essential for organizational success.
4. Conclude comprehensive “analyses of the internal and external environments of healthcare organizations”, employing strategic frameworks and tools to discern critical factors influencing strategic decision-making, such as regulatory compliance, market dynamics, and stakeholder expectations.
5. Formulate compelling vision, mission, and objectives tailored to the unique needs and aspirations of healthcare organizations, integrating strategic foresight and stakeholder perspectives to articulate a strategic direction aligned with organizational values and societal imperatives.
6. Explore the foundational theories and diverse approaches underpinning strategic management, including classical, evolutionary, and resource-based perspectives, fostering a deep understanding of strategic decision-making paradigms relevant to the evolving healthcare landscape.

Unit 1: Introduction

1.1 Levels of Strategy, 1.2 Characteristics of Strategic Decision, 1.3 The Level and Orientation of the Strategy (Corporate, Divisional, Organizational and Functional Level)

Unit 2: Strategic Management Process: Components

2.1 Mission, 2.2 Organizational Profile, 2.3 External Environment Analysis 2.4 Long term Objectives, 2.5 Grand Strategy, 2.6 Annual Objectives, Functional Strategies, Policies, Institutionalizing the Strategy, Evaluation and Control

Unit 3: Strategic Thinking Map – Hierarchy of Strategic Decisions and Alternatives

- 1. Directional Strategies:** 3.1.1 Vision, 3.1.2 Mission, 3.1.3 Values and 3.1.4 Goals.
- 2. Adaptive Strategies:** 3.2.1 Expansion of Scope (Diversification, Vertical Integration, Market Development, Product Development, Penetration); 3.2.2

Contraction of Scope (Divestiture, Liquidation, Harvesting, Retrenchment); **3.2.3 Maintenance of Scope** (Enhancement, Status Quo)

3. Market Entry Strategies: **3.3.1 Purchase** (Acquisition, Licensing, Venture Capital, Investment), **3.3.2 Cooperation** (Merger, Alliance, Joint Venture), **3.3.3 Development** (Internal Development, Internal Venture)

4. Competitive Strategies: **3.4.1 Strategic Posture** (Defender, Prospector, Analyzer,) **3.4.2 Positioning** (Market wide, Cost Leadership, Differentiation) (Market Segment (Focus/Cost Leadership, Focus/Differentiation)

5. Implementation Strategies: **3.5.1 Service Delivery** (Pre-service, Point-of-service, After-service), **3.5.2 Support** (Culture, Structure, Strategic Resources) **3.5.3 Unit Action Plans** (Objectives, Actions, Timelines, Responsibilities)

Unit 4: External Environment Analysis

4.1 Need, 4.2 Goals, 4.3 Limitations, 4.4 Description, 4.5 General Environment, 4.6 Healthcare Environment and Information, 4.7 Process: Scan, Monitor, Forecast and Assess, 4.8 Tools and Techniques: PESTLE Analysis, Porter's Five Forces Analysis, BCG Metrix.

Unit 5: Internal Environment Analysis

5.1 Objectives, 5.2 Culture, 5.3 Management Subsystem and Information Subsystem, 5.4 SWOT, 5.5 TOWS, 5.6 Audit Checklist of Strengths and Weaknesses

Suggested Reading:

Text Books

1.W. Jack Duncan, Peter M. Ginter and Linda E. Swayne, Strategic Management of Health Care Organizations (Blackwell Publishers, Massachusetts, USA) ISBN 1-55786-534-5

References

1.John A. Pearce II and Richard B. Robinson Jr., Strategic Management: Strategy Formulation and Implementation(AITBS Publishers and Distributors, Delhi)

2.Roger Kropf and et al, Strategic Analysis for Hospital Management (Aspen Publication, USA)

Course Title: Conflict Management and Negotiation for Healthcare Workers

Course Code : MBA(HC&HM) 6010

Course Credit: 3 Lectures + 1 Tutorial (4 credits)

Hours: 45 Lecture Hours + 15 Tutorial Hours

Course Objective: To equip with the knowledge and skills to effectively manage industrial relations, handle conflicts, and conduct negotiations within the healthcare sector, in compliance with labour laws and international laws.

Course Outcome: Upon completing of this course, the student will be able to

1. Make use of the concept and importance of industrial relations in healthcare.
2. Analyze the trends in industrial disputes and their impact on healthcare delivery.
3. Select the process of collective bargaining and the role of settlement machinery in dispute resolution.
4. Evaluate the role of government and labour policy in India in the context of industrial relations.
5. Choose the application of international laws in the Indian context.

Unit 1: Introduction to Industrial Relations [9 Lecture Hours + 3 Tutorial Hours]

1.1 Definition and Concept of Industrial Relations. 1.2 Parties in Industrial Relations: Management and Trade Unions. 1.3 Importance of Industrial Relations in Healthcare. 1.4 Bi-Partite Forums, Trade Unions, Standing Orders

Unit 2: Industrial Disputes [9 Lecture Hours + 3 Tutorial Hours]

2.1 Definition and Causes of Industrial Disputes. 2.2 Trends in Industrial Disputes in the Healthcare Sector. 2.3 Impact of Industrial Disputes on Healthcare Delivery. 2.4 Notice of Change Voluntary Reference of Disputes to Arbitration Mechanism for Resolution of Industrial Disputes, Strikes And Lock-Outs/Off, Retrenchment and Closure, Unfair Labour Practices, Offences, Penalties.

Unit 3: Collective Bargaining and Settlement Machinery [9 Lecture Hours + 3 Tutorial Hours]

3.1 Concept and Importance of Collective Bargaining. 3.2 Process of Collective Bargaining in the Healthcare Sector. 3.3 Role of Settlement Machinery in Resolving Disputes

Unit 4: Role of Government and Labour Policy in India [9 Lecture Hours + 3 Tutorial Hours]

4.1 Role of Government in Industrial Relations. 4.2 Overview of Labour Policy in India. 4.3 Impact of Labour Policy on Healthcare Workers. 4.4 IRC 2020

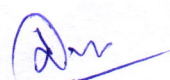
Unit 5: International Laws and Industrial Relations [9 Lecture Hours + 3 Tutorial Hours]

5.1 Overview of International Labour Laws. 5.2 Application of International Laws in Indian Context. 5.3 Case Studies: Impact of International Laws on Indian Healthcare Sector

Suggested Readings:

Text Books

1. "Industrial Relations and Labour Laws", by S.C. Srivastava
2. "Dynamics of Industrial Relations", by C.B. Mamoria and Satish Mamoria
3. "International Labour and Employment Laws", by William Keller and Timothy Darby
4. NEGOTIATION AND CONFLICT MANAGEMENT. MIT open learning
5. Industrial Rules. Ministry of Labour & Employment, Govt of India.
<https://labour.gov.in/industrial-relations>
6. IRC 2020. Ministry of Labour & Employment, Govt of India.
https://labour.gov.in/sites/default/files/ir_as_passed_by_lok_sabha.pdf





Course Title: Medical Ethics, Law and Etiquette

Course Code: MBA(HC&HM) 6011

Credits: 3 Lecture + 1 Tutorial

Hours: 45 Lecture Hours + 15 Tutorial Hours

Objective: To enable students to integrate legal, ethical, and professional dimensions into the fabric of healthcare management, fostering a holistic approach to governance and decision-making.

Outcomes:

Students will be able to -

1. Make use of the knowledge and skills related to the legal, regulatory, and administrative requirements for establishing and managing hospitals.
2. Compare ethical principles and standards governing medical practice and analyse ethical dilemmas commonly encountered in healthcare settings, apply ethical reasoning to make informed decisions, and demonstrate ethical behaviour in patient care, research, and professional interactions.
3. Examine the medico-legal aspects related to medical records, including confidentiality, privacy, documentation standards, and legal requirements for record-keeping.
4. Distinguish different legal and statutory obligations and responsibilities of healthcare professionals towards different act and licenses applicable for medical practice in India.
5. Evaluate the "Biomedical Waste (Management and Handling) Rules" and "The Indian Medical Council (Professional Conduct, Etiquette, and Ethics) Regulations".

Unit 1: Hospital Establishment [9 Lecture Hours + 3 Tutorial Hours]

1.1 Formation of Society 1.2 Law of Partnership 1.3 The Companies Act 1.4 Model Constitution for a Hospital, 1.5 The West Bengal Clinical Establishment Act, 1.6 Medical Council of India, 1.7 Medical Licensure Law, 1.8 The Consumer Protection Act, 1.9 District Medical and Health Office Registration.

Unit 2: Medical Ethics [9 Lecture Hours + 3 Tutorial Hours]

2.1 Definition of medical ethics, 2.2 Confidentiality and Privacy, autonomy, beneficence, non-maleficence, and justice, 2.3 Euthanasia, 2.4 Reproductive Ethics, Abortion, 2.5 Clinical Research, 2.6 Doctor-Patient Relationship, 2.7 Medical Malpractice & Negligence 2.8 Quality and Standard of Medical Care, 2.9 Emergency Care, 2.10 Hippocratic Oath, 2.11 Geneva Declaration, 2.12 Managing violence at the workplace.

Unit 3: Medico-Legal Aspects of Medical Record [9 Lecture Hours + 3 Tutorial Hours]

3.1 Code of Ethics for the Medical Record Officers, 3.2 Concept of Medical Record Ownership 3.3 Privileged Communication and Confidentiality 3.4 Release of Information (To the Patient, To Authorized Persons or Agencies) 3.5 Legal issues of breach of Information to unauthorized Persons/Agencies.

3.6 Consents: 3.6.1 Types, Validity, Invalidity blanket, and Improper Consents. 3.6.2 Corrections and identification of data in medical documentations 3.6.3 Patients' Rights and responsibilities 3.6.4 Medical Record in a Court of Law 3.6.5 Retention of Medical Records: Legal requirements NABH, MLC, Govt Regulations, Insurance Companies etc.)

Unit 4: Medico Legal Commitments [9 Lecture Hours + 3 Tutorial Hours]

4.1 Mental Illness in Medical treatment 4.2 Documentation in case of Tuberculosis 4.3 Documentation of Drugs Addicts and Alcoholics, 4.4 Legal Issue & Required documentation in Death Cases 4.5 Legal Testimony in Medico-Legal cases, 4.6 Narcotic Laws 4.7 The Drugs and Cosmetic Act, 4.8 Drug Control Policy, 4.9 Pharmacy License / Renewal Certificate to Sell, 4.10 stock or Exhibit or offer for sale or distribute Drugs (Retail Drug License for Pharmacy), 4.11 RS1 License, 4.12 Methanol License, 4.13 Schedule X for Ketamine, 4.14 Clinical Investigation, 4.15 Blood Transfusion 4.16 The Medical Termination of Pregnancy Act (MTP) 4.17 The PC-PNDT Act, 4.18 Dying Declaration, 4.19 Medical Jurisprudence, 4.20 The Human Organ Transplantation Act, 4.21 Toxicology.

Unit 5: Hospital Administration [9 Lecture Hours + 3 Tutorial Hours]

5.1 The Biomedical Waste Management Handling Rules, 5.2 Exemption of Income Tax for Donations, 5.3 The Indian Medical Council (Professional Conduct, Etiquette, and Ethics) Regulations, 2002, 5.4 Tax Obligations: Filing Returns and Deductions at Source.

Suggested Reading:

Text Books

1. N.D. Kapoor, Elements of Mercantile Law (Sultan Chand and Sons, New Delhi) ISBN 8170142067
2. Raj Kumar, Acts Applicable to Hospitals in India (The Christian Medical Association of India, New Delhi)

References

1. Anand, R. C., & Satpathy, S. Hospital Waste Management: A Holistic Approach. Jaypee Brothers.
2. Chaube, R. K.. Consumer Protection and The Medical Profession with Legal Remedies. New Delhi, India: Jaypee Brothers. (ISBN 8171797318)

Course Title: Hospital Finance

Course Code: MBA(HC&HM) 6012

Credits: 3 Lecture + 1 Tutorial

Hours: (45 Lecture Hours + 15 Tutorial Hours)

Objective: To equip students with the essential knowledge and skills required to understand and manage hospital finances effectively, covering topics such as fundamental principles, budgetary control, financial decision-making, and fundraising strategies for medical treatments.

1. **Understand the fundamentals of hospital finance:** Students will demonstrate a comprehensive understanding of the unique financial challenges and opportunities within the healthcare sector, including revenue streams, cost structures, and regulatory considerations.
2. **Apply marginal costing and budgetary control techniques:** Students will be able to apply marginal costing principles to analyze the costs and profitability of healthcare services, and implement budgetary control measures to monitor and manage expenses effectively.
3. **Develop hospital budgets:** Students will be proficient in developing comprehensive “hospital budgets, including operating budgets, capital budgets, and cash budgets”, aligned with organizational goals and strategic priorities.
4. **Make informed financial decisions:** Students will develop the ability to evaluate financial data, assess investment opportunities, and make sound financial decisions to optimize resource allocation and support long-term sustainability in hospital operations.
5. **Implement fundraising strategies for medical treatments:** Students will learn effective fundraising techniques and strategies specific to medical treatments, including grant writing, donor cultivation, and crowdfunding, to support patients in need and enhance hospital resources for healthcare delivery.

UNIT 1 Fundamentals of Hospital Finance [9 Lecture Hours + 3 Tutorial Hours]

1.1 Need, Importance of Financial Discipline 1.2 objectives of financial management, 1.3 wealth Maximization, 1.4 Basic Concepts: Liquidity, Profitability and Leverage 1.5 Role of Finance Controller and Responsibility Accounting 1.6 Time value of money, 1.7 Ceiling Prices & Essential Medicines.

UNIT 2 Marginal Costing & Budgetary Control: [9 Lecture Hours + 3 Tutorial Hours]

2.1 Marginal Costing – Concept & Meaning, 2.2 Profit Volume (P/V) Ratio and Break Even Point, 2.3 Preparation of Break Even Chart 2.4 Profit Planning. 2.5 Concepts of Budget and Budgetary Control, 2.6 Preparation of cash and flexible budget

UNIT 3 Hospital Budgeting [9 Lecture Hours + 3 Tutorial Hours]

3.1 Need, 3.2 Elements, 3.3 Stages & Terms of Budgeting, 3.4 Operating Budget: Activity/Zero Based Budgeting, 3.5 Capital Budgeting, 3.6 Return on Investment, 3.6 Problems of Budgeting in Hospitals and Solution

UNIT 4 Financial Decisions [9 Lecture Hours + 3 Tutorial Hours]

4.1 Working Capital Management, 4.2 Sources and Application of Fund, 4.3 Analysis of Financial Statements, 4.4 Financial Performance of Hospital, 4.5 Financial Planning:

Short Term and Long Term. 4.6 Financing of Health, 4.7 Analysis of Need for Fund for Research, Development and Expansion 4.8 Financial Information System and Reporting, 4.9 Investment Management, 4.10 Initial Public Offering (IPO) in Hospitals, 4.11 Financial Governing Bodies in India: RBI, SEBI, IRDAI, MCA.

UNIT 5 Fundraising for Medical Treatments [9 Lecture Hours + 3 Tutorial Hours]

5.1 Fundraising in Healthcare 5.2 The Art of Fundraising, 5.3 Donor Markets and its Analysis 5.4 Organizing for Fundraising, 5.5 Fundraising Goals and Strategies, 5.6 Fundraising Tactics, 5.7 Evaluating Fundraising Effectiveness, 5.8 Cloud Funding. 5.9 RBI & SEBI Guidelines

Suggested Reading:

Text Books:

1. Steven F. Kukla, Cost Accounting and Financial Analysis for the Hospital Administrator (American Hospital Publishing Inc., AHA)
2. M.C. Shukla and T.S. Grewal, Advanced Accounts (S.Chand & Company Ltd., New Delhi) ISBN 81-219-0396-3
3. S.C. Kuchhal, Corporation Finance: Principles and Problems (Chaitanya Publishing House, Allahabad)

References:

1. VHAI, An Accounting Guide for Voluntary Hospitals in India (The Voluntary Health Association of India, New Delhi)

Additional Resources:

1. "Healthcare Finance: An Introduction to Accounting and Financial Management" by Louis C. Gapenski
2. "Financial Management for Nurse Managers and Executives" by Cheryl Jones
3. "Cost Accounting in Healthcare: A Comprehensive Guide" by Steven A. Finkler, David M. Ward, and Thad Calabrese

Tutorials:

3. "Healthcare Finance and Budgeting" (LinkedIn Learning)
4. "Accounting Basics for Healthcare Professionals" (YouTube Playlist)

MOOCs: (indicative)

5. Coursera - "Financial Management in Health Services"
6. edX - "Healthcare Finance and Financial Management"
7. <https://www.coursera.org/learn/introduction-to-healthcare-finance>
8. <https://www.coursera.org/learn/introduction-to-healthcare-accounting#modules>

Minor/Specialization – Track 1 Healthcare Management

Course Title: National Health Policies and Programs

Course Code: MBA(HC&HM) 6013

Credits: 3 Lecture + 1 Tutorial

Hours: 45 Lecture Hours + 15 Tutorial Hours

Objective: To provide students with a comprehensive understanding of National Health Policies & Programs and to critically analyze and contribute to the enhancement of healthcare policies and programs, and apply that knowledge in healthcare industry.

Outcomes:

Students will be able to -

1. Make use of comprehensive understanding of the structure, organization, and key components of the Indian healthcare system.
2. Examine the objectives, and implementation strategies of national health policies in India, and its impact on public health outcomes, healthcare delivery, and health equity, and propose recommendations for policy improvement and alignment with global health priorities.
3. Appraise major health programs implemented in India, including their goals, strategies, implementation mechanisms, and outcomes
4. Assess disease control programs implemented in India, focusing on prevention, surveillance, and management of communicable and non-communicable diseases.
5. Examine the impact of national health programs and policies on disease burden reduction, healthcare infrastructure strengthening, and community engagement, and propose evidence-based strategies for improving program effectiveness and sustainability.

Unit 1: Introduction to Indian Healthcare System [9 Lecture Hours + 3 Tutorial Hours]

1.1 Overview of the Indian healthcare system, 1.2 Evolution of healthcare policies in India, 1.3 Key stakeholders and their roles in healthcare delivery, 1.4 Importance of Knowledge on National Health Policies and Health Programmes for Healthcare Managers

Unit 2: National Health Policies in India [9 Lecture Hours + 3 Tutorial Hours]

2.1 National Health Policy (NHP) frameworks, 2.2 Analyzing the objectives and components of NHPs, 2.3 Evaluating the impact of NHPs on healthcare management

Unit 3: Major Health Programs in India [9 Lecture Hours + 3 Tutorial Hours]

3.1 Reproductive Maternal Newborn Child and Adolescent Health (RMNCH+A) programs: Basic understanding and salient features

3.2 National Health Mission (NHM): Basic understanding and salient features

3.3 Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) and other insurance schemes e.g., Swasthya Sathi: Brief introduction and salient features

Unit 4: Disease Control Programs [9 Lecture Hours + 3 Tutorial Hours]

4.1 National Vector Borne Disease Control Program (NVBDCP), 4.2 National

Tuberculosis Elimination Program (NTEP), 4.3 National AIDS Control Program (NACP), 4.4 National Programme for Prevention And Control Of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS), 4.5 Other national programmes and related health issues

Unit 5: Evaluation and Future Directions [9 Lecture Hours + 3 Tutorial Hours]

5.1 Monitoring and evaluation of healthcare policies and programs, 5.2 Challenges and opportunities in implementing national health programs, 5.3 Future trends and policy implications for healthcare management

Suggested Reading:

Text Books

1. Reddy, K. S., & Patel, V. (2018). *National Health Systems of India: The Challenge of Equity and Quality*. Oxford University Press.
2. Frenk, J., & Moon, S. (2013). *Governance Challenges in Global Health*. New England Journal of Medicine.
3. Ministry of Health and Family Welfare, Government of India - *National Health Policy 2017*.
4. Public Health Foundation of India - *Healthcare in India: Key Trends, Challenges and Innovations*.
5. Kishore J. NATIONAL HEALTH PROGRAMS OF INDIA. Century Publications
6. Ministry of Health and Family Welfare, Government of India - *Operational Guidelines for NRHM and NUHM*.
7. Park K. Park's Textbook of Preventive and Social Medicine.

Journals:

1. *Indian Journal of Community Medicine*
2. *Health Policy and Planning*
3. *Indian Journal of Public Health*

Online Resources: (indicative)

1. National Health Mission, India: <https://nhm.gov.in/>
2. Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana: <https://pmjay.gov.in/>
3. PIB. <https://pib.gov.in/pressreleaseshare.aspx?prid=1576128>
4. MoHFW. <https://www.mohfw.gov.in/>
5. NHM. <https://www.nhm.gov.in>
6. Niti Aayog. <https://niti.gov.in/>
7. Public Health Care Open Courses. SAKSHAM. NIHFw. <https://lmis.nihfw.ac.in/?lang=en>

Minor/Specialization – Track 1 Healthcare Management

Course Title: Project Management in Healthcare

Course Code: MBA(HC&HM) 6014

Credits: 3 Lecture + 1 Tutorial

Hours: 45 Lecture Hours + 15 Tutorial Hours

Objective: To take part in project management within the healthcare domain, focusing on the systematic management of programs encompassing planning, execution, control, and evaluation. Besides, involving the essential elements of “forecasting, budgeting, resource mobilization, utilization of tools and techniques, scheduling, and rigorous evaluation methodologies”.

Outcomes:

Students will be able to -

1. Improve the management of health programs through continuous learning from previous projects.
2. Implement project-based methodologies for the management of healthcare programs, integrating project management principles to enhance organizational efficiency and effectiveness.
3. Demonstrate proficiency in program planning, execution, and review processes, leveraging project management techniques to ensure strategic alignment and operational excellence.
4. Apply operations research tools and methodologies to optimize program management processes, enhancing decision-making capabilities and resource utilization within healthcare settings.
5. Develop comprehensive project proposals for healthcare programs, integrating strategic objectives, resource requirements, risk assessments, and evaluation frameworks to support informed decision-making and stakeholder engagement.

Unit 1: Fundamentals [9 Lecture Hours + 3 Tutorial Hours]

1.1 Programme, Project, Tasks, Subtasks, Sub-subtasks, 1.2 Linking Vision, Mission and Strategic Plans to Project, 1.3 Needs Analysis, 1.4 Project Characteristics, 1.5 Advantages of Project Framework for Health Programme, 1.6 Project Life Cycle

Unit 2: Project Planning [9 Lecture Hours + 3 Tutorial Hours]

2.1 Problem Analysis (Cause and Effect) 2.2 Developing Project Objectives, 2.3 Planning Cycle 2.4 Forecasting the Project: (Time Series Analysis, Correlation, Regression and Delphi Technique) 2.5 Project Implementation Plan, 2.6 Proposal Writing, 2.7 Budgeting the Resources.

Unit 3: Planning Tools and Techniques [9 Lecture Hours + 3 Tutorial Hours]

3.1 Introduction to Operational Research, 3.2 Estimation, 3.3 Contingency planning, 3.4 Concept of Milestones in Project 3.5 Application of Gantt Chart, 3.6 Programme Evaluation and Review Technique (PERT), 3.7 Critical Path Method (CPM), 3.8 Transportation Model, 3.9 Single Channel and Multi-Channel Queuing Models

Unit 4: Project Manager, Execution and Implementation [9 Lecture Hours + 3 Tutorial Hours]

4.1 Roles and responsibilities of Project Manager 4.2 Time Management 4.3 Risk Management 4.4 Factors of Successful Projects 4.5 Project Tracking Methods 4.6 Project Activities: Regular Monitoring & Reviewing Progress, Re-plan 4.8 Record keeping and Reporting.

Unit 5: Project Disengagement [9 Lecture Hours + 3 Tutorial Hours]

5.1 Review and Assessment 5.2 Evaluation and Analysis, 5.3 Feedback and Review 5.3 Audit Trail and record keeping 5.4 Promote Achievements.

Suggested Reading:

Text Books

1. Deeproose, D. Project Management. Oxford, UK: Capstone Publishing.
2. Kerzner, H. Project Management: A Systems Approach to Planning, Scheduling, and Controlling. New York, NY: Wiley Eastern.
3. Swarup, K., & et al. Operations Research. New Delhi, India: Sultan Chand and Sons.

References

1. www.ipma.world (International Project Management Association)
2. www.prince2.com ((Projects in Controlled Environments)
3. www.pmi.org (Project Management Institute)

Minor/Specialization – Track 2 Hospital Management

Course Title: Entrepreneurship and New Venture Planning

Course Code: MBA(HC&HM) 6015

Course Credits: 3 Lecture + 1 Tutorial

Hours: 45 Lecture Hours + 15 Tutorial Hours

Course Objective: To equip with extant knowledge, skills, and mindset necessary to pursue entrepreneurial ventures in the healthcare industry. Besides, to foster an entrepreneurial mindset to address challenges, seize opportunities, and contribute positively to the healthcare ecosystem.

Course Outcome: Upon completing of this course, the student will be able to

1. Explain the meaning and concept of entrepreneurship, including its role in fostering innovation and its contributions to society.
2. Identify and assess challenges associated with innovation, manage the innovation process effectively, and cultivate divergent and convergent thinking skills.
3. Explore the factors determining competitive advantage, conduct market segmentation, analyze industry dynamics, and assess demand-supply dynamics to identify opportunities for new ventures.
4. Make use of entrepreneurial motivation theories, including achievement motivation theory, and apply design thinking-driven innovation principles and harvesting strategies.
5. Assess government schemes and incentives for entrepreneurship, incubation, acceleration, and various funding sources for new ventures, including bootstrapping, crowdsourcing, and angel investors. Additionally, understand the efforts of the Government of India in promoting entrepreneurship and innovation through initiatives such as SISI, KVIC, DGFT, SIDBI, Defense, and Railways.
6. Develop skills in preparing applications and project reports essential for securing funding and support for entrepreneurial ventures.

Unit:1. Introduction: [9 Lecture Hours + 3 Tutorial Hours]

1.1 Meaning and Concept of Healthcare Entrepreneurship, 1.2 Concept of Innovation in entrepreneurship, 1.3 Entrepreneur's Contributions to society.

Unit 2. Innovation: [9 Lecture Hours + 3 Tutorial Hours]

2.1 Challenges of Innovation, 2.2 Steps in Innovation Management, 2.3 Idea Management System, 2.4 Divergent v/s Convergent Thinking, 2.5 Qualities of a prospective Entrepreneur

Unit 3. Idea Incubation: [9 Lecture Hours + 3 Tutorial Hours]

3.1 Factors determining competitive advantage, 3.2 Market segment, 3.3 blue ocean strategy, 3.4 Industry and Competitor Analysis (market structure, market size, growth potential), 3.5 Demand-supply analysis

Unit4. Entrepreneurial Motivation: [9 Lecture Hours + 3 Tutorial Hours]

4.1 Design Thinking, 4.2 Driven Innovation, 4.3 TRIZ (Theory of Inventive Problem Solving), 4.4 Achievement motivation theory of entrepreneurship, 4.5 Theory of McClelland, 4.6 Harvesting Strategies. 4.6 Top HealthTech Startups in India

Unit 5. Entrepreneurial Information: [9 Lecture Hours + 3 Tutorial Hours]

5.1 Government incentives for entrepreneurship, 5.2 Incubation, 5.3 acceleration. 5.4 Funding new ventures, 5.4.1 bootstrapping, 5.4.2 crowd sourcing, 5.4.3 angel investors, 5.5 Government of India's efforts at promoting entrepreneurship and innovation: 5.5.1 Startup India, 5.5.2 Make in India, 5.5.3 Atal Innovation Mission (AIM), 5.5.4 Support to Training and Employment Programme for Women (STEP), 5.5.5 Jan Dhan-Aadhaar - Mobile (JAM) 5.5.6 Digital India, 5.5.7 Stand-Up India, 5.5.8 Trade related Entrepreneurship Assistance and Development (TREAD), 5.5.9 Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 5.5.10 National Skill Development Mission, 5.5.11 Science for Equity Empowerment and Development (SEED), 5.6 Applications and Project Reports Preparation

Suggested Reading:

Text Books

1. Innovation and Entrepreneurship by Drucker, P.F.; Harper and Row
2. Business, Entrepreneurship and Management: Rao, V.S.P. ;Vikas
3. Entrepreneurship: Roy Rajeev; OUP.

Minor/Specialization – Track 2 Hospital Management

Course Title: Operations Research for Decision Making

Course Code: MBA(HC&HM) 6016

Course Credit: 4 (3L + 1T)

Hours: 45 Lecture Hours + 15 Tutorial Hours

Course Objective: To equip with the essential concepts and techniques in operations research tailored to healthcare settings necessary to optimize hospital systems, enhance decision-making processes, and improve overall efficiency in healthcare administration.

Course Outcome: Upon completing of this course, the student will be able to

1. Explain key operational research concepts and their applications in healthcare.
2. Develop proficiency in modeling and solving common optimization problems specific to hospital administration.
3. Utilize data and analytical tools for improving efficiency, resource allocation, and patient flow in hospital operations.
4. Demonstrate the ability to translate quantitative insights into actionable operational improvements.

Unit 1: Introduction to Operations Research in Healthcare [9 Lecture Hours + 3 Tutorial Hours]

1.1 Operations Research (OR) in hospital systems: definition, techniques, role, limitations, challenges. 1.2 Case studies showcasing OR techniques for improving patient flow, bed management, resource allocation, and scheduling.

Unit 2: Linear Programming for Healthcare Optimization [9 Lecture Hours + 3 Tutorial Hours]

2.1 Formulation of linear programming (LP) problems in healthcare. 2.2 Graphical solutions and interpretation for small problems. 2.3 Software-based solutions using tools like Excel Solver, emphasizing problem setup and understanding outputs. 2.4 Case studies: Using LP to optimize bed utilization, operating room schedules, and staff shift optimization.

Unit 3: Decision Analysis for Patient Flow & Capacity Management [9 Lecture Hours + 3 Tutorial Hours]

3.1 Decision trees: Modeling sequential decisions under uncertainty. 3.2 Expected value calculations and sensitivity analysis. 3.3 Basic queuing theory: Understanding arrival rates, service times, queue lengths, and their impact on patient wait times. 3.4 Introduction to simulation modeling for complex patient flow scenarios. 3.5 Decision Theory – Under uncertainty, certainty, under risk

Unit 4: Resource Allocation & Scheduling [9 Lecture Hours + 3 Tutorial Hours]

4.1 Project management with PERT/CPM: Network analysis for planning and managing healthcare projects. 4.2 Lean principles for identifying and reducing waste in healthcare processes. 4.3 Introduction to staffing models and optimization techniques.

Unit 5: Transformation Problem and Assignment Problem and contemporary issues[9 Lecture Hours + 3 Tutorial Hours]

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5.1 Transformation Problem-N-W Corner Rule, Matrix, Minimax, VAM, MODI. 5.2. Assignment problem- Hungarian Method 5.3. Introduction to OR Tools: COIN-OR, SAS/OR, Google OR-Tool, open source packages e.g., pyomo for python.

Suggested Reading:

Text Books

1. "Operations Research" by Kanti Swarup, P.K. Gupta
2. "Operations Research" by Hamdy A Taha (PHI)
3. "Operations Research" by V.K. Kapoor (Sultan Chand and Sons)
4. "Operations Research" by Hiller & Liberman (TMH)
5. "Operations Research" by Majumdar and Nandi (Pen and Paper Publication)

Additional Suggested Readings and Resources

1. "Introduction to Operations Research" by Frederick S. Hillier, Gerald J. Lieberman
2. "Operations Research: An Introduction" by Taha H.
3. "Operations Research: An Introduction" by Hamdy A. Taha
4. "Queuing Theory and its Applications: A Personal View" by Armand W. Krieger
5. MIT Open Course Ware