

# SHRI GURU RAM RAI UNIVERSITY

[Estd. by govt. of Uttarakhand, vide Shri Guru Ram Rai University Act no. 03 of 2017  
& recognized by UGC u/s (2f) of UGC Act 1956]



## **Syllabus for PhD (Hospital Administration)**

**College of Management and Commerce Studies**

**Effective from Academic Session**

**2024-25**

**STUDY & EVALUATION SCHEME-****PhD Hospital Administration****OUTCOME BASED EDUCATION****Program Outcomes(POs)**

|      |   |
|------|---|
| PO1  | Exhibit a comprehensive understanding of theories, models, and frameworks in hospital administration.                                   |
| PO2  | Demonstrate expertise in specific areas such as healthcare policy, financial management, quality improvement, and strategic leadership. |
| PO3  | Display ethical and professional behavior in healthcare leadership roles.   |
| PO4  | Apply strategic management principles to make informed decisions in hospital settings.  |
| PO5  | Demonstrate the ability to lead and manage organizational change in response to evolving healthcare trends.                             |
| PO6  | Foster a culture of innovation within healthcare organizations.   |
| PO7  | Analyze complex organizational challenges and develop effective strategies for addressing them.   |
| PO8  | Understand the importance of interdisciplinary approaches in improving patient care.  |
| PO9  | Analyze the impact of technology on healthcare delivery and management.   |
| PO10 | Cultivate critical thinking skills to address complex issues and challenges in hospital administration.                                 |

**Program Specific Outcome (PSOs)**

|       |  |
|-------|--|
| PSO 1 | The students will be able to conduct independent, original, and advanced research in hospital administration.  |
| PSO2  | The students will be able to develop a deep understanding of specific areas within hospital administration, such as healthcare policy, financial management, quality improvement, or strategic leadership. |
| PSO3  | The students will be able to generate innovative solutions to current and emerging challenges in hospital administration.  |

**Preamble**

Keeping pace with the disciplinary advances of the field, the Pre -Ph.D. coursework in SGRRU aims to facilitate the acquisition of specialized knowledge in the field of management and commerce required for undertaking research and practice. It recognizes multiplicity in ways and means of knowledge-creation and its application in practical field. To this end students will be familiarized with perspectives, pedagogy and their implications. The course would allow students to nurture their academic interests in specialized domains of Hospital Administration, along with the quest for personal growth and advancement. As per the university ordinance, the research scholars who are provisionally registered for the Ph.D. Programme will undergo a Pre-Ph. D. Coursework. The following guidelines need to be followed for successful implementation/completion of the course work: Programme Structure. The Pre-PhD course work shall comprise of One Semester (i.e. Six Months) in which there shall be two compulsory papers and two papers related to their area of specialization:

**Eligibility for admission:**

An applicant fulfilling the following criteria shall be eligible to appear in RET.(Research entrance test) Any applicant who has passed Post Graduation Degree examination with 55% marks or with an equivalent Grade point Average(GPA) in MBA Management or MBA Hospital Administration. Relaxation of 5% in the required percentage of marks will be given to applicants belonging to SC/ST/OBC (non-creamy layer)/differently-abled categories.

**Duration of the Programme:** At-least 3 years and maximum 6 years and any kind of relaxation is as per the University rules.

**SEMESTER - I**

| S.No. | Subject   | Paper Code |
|-------|---|------------|
| 1     | Research Methodology                              | PRMC 101   |
| 2     | Research & Publication Ethics                     | PRPE 102   |
| 3     | Principles and Practice of Health Care Management | PHAC 103   |
| 4     | Advances in Healthcare Management                 | PHAE 104   |
| 5     | Service Operations Management                     | PHAE 105   |
| 6     | Innovations in HealthCare                         | PHAE 106   |
| 7     | Practical Field Work                              | PHAF107    |

**EXAMINATION SCHEME**

| S.No | Course Name                                      | Course Code | Credit | Period |   |   | Examination |          |            |
|------|--|-------------|--------|--------|---|---|-------------|----------|------------|
|      |  |             |        | L      | T | P | Internal    | External | Sub. Total |
| 1    | Research Methodology                             | PRMC 101    | 4      | 3      | 1 | 0 | 20          | 60       | 80         |
| 2    | Research & Publication Ethics                    | PRPE 102    | 2      | 1      | 1 | 0 | 10          | 30       | 40         |
| 3    | Principles and Practice of Healthcare Management | PAPM 103    | 4      | 3      | 1 | 0 | 20          | 60       | 80         |
| 4    | Advances in Healthcare Management                |             | 4      | 2      | 1 | 1 | 20          | 60       | 80         |
| 5    | Service Operations Management                    |             | 4      | 2      | 1 | 1 | 20          | 60       | 80         |
| 6    | Innovations in HealthCare                        |             |        |        |   |   |             |          |            |
| 7    | Practical Field Work                             | PMMF 106    | 4      |        |   | 4 | 80          |          | 80         |

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|       |  |    |    |   |   |     |     |     |
|-------|--|----|----|---|---|-----|-----|-----|
| Total |  | 18 | 11 | 5 | 6 | 170 | 270 | 440 |
|-------|--|----|----|---|---|-----|-----|-----|

**Programme Structure**

The Pre-Ph.D. course work shall comprise of One Semester (i.e. Six Months) in which there shall be two compulsory papers and one core paper and one elective paper related to their area of specialization:

**Examination Scheme:**

**Student must select any one elective**

**Elective courses:**

|     |         |                                   |          |   |    |
|-----|---------|-----------------------------------|----------|---|----|
| I   | ADHM104 | Advances in Healthcare Management | 4(2+1+1) | 4 | 80 |
| II. |         | Service Operations Management     | 4(2+1+1) | 4 | 80 |
| III |         | Innovations in HealthCare         | 4(2+1+1) | 4 | 80 |
|     |         |                                   |          |   |    |

|             |                               |   |   |   |
|-------------|-------------------------------|---|---|---|
| Course Code | : PRMC -101                   |   |   |   |
| Course Name | : <b>Research Methodology</b> |   |   |   |
| Semester    | :1 <sup>st</sup>              |   |   |   |
|             | L                             | T | P | C |
|             | 3                             | 1 | 0 | 4 |

**Course Objectives:**

To create an understanding of the basic orientation, philosophy and methods of research enquiry

**Course Content:****Unit 1: Concept & Types of Research**

Meaning and Importance of Research- Types of Research- Selection and formulation of Research problem, Research design, Classification of Research, Pure and Applied Research, Exploring and Formulative Research, Descriptive Research, Diagnostic Research/Study, Evaluation research/studies, Action Research, Experimental Research, Analytical Study of Statistical Method, Historical Research

**Unit II : Methods and Research**

Surveys, Case-Study, Field Studies, General Study of various Methods including Survey Method, Interdisciplinary method, case study method, Sampling method, Statistical Method, Observation Method, Interview Method, Schedule Method, Questionnaire Method, Documentary Method, Library Method, Historical Method and Scientific Method, Characteristic features of Scientific Method, Empirical Verifiable, Cumulative, Self- Correcting, Deterministic, Ethical & Ideological neutrality(Value free)

**Unit III: Data Collection and Data Analysis**

Collection, Objectives and Classification of Data: Aims, Methods and Objects of Tabulation of Data, Forms and Processes of Interpretation and Presentation of Data. Primary, Secondary and Tertiary data. Construction and adaptation of instruments, administration of questions and tests, tabulation of data. Data organization in SPSS & Excel, graphical representation of data. Definition and Aims of Content Analysis, Problems of Content Analysis, Computer and Content Analysis Discussion and Interpretation, Testing of Hypothesis: Logical and Statistical Techniques.

**Unit IV: Report Writing**

Locating Information on a Topic of Interest. Acquiring copies of Articles of Interest, the nature of Scientific Variables, Conceptual versus Operational Definitions of Variables, Level of Measurement, Various Paradigms Including Formism, Mechanism, Organicism, Pragmatism. The Basic Format for a Research Report, Identification of the parts of a Research Report, Citation and Referencing Styles, Essentials of Report Writing, Aids for Writing Good Research Report.

**Text books**

1. Goodde and Hatte (1952). Methods in Social Research, New York, McGraw Hill
2. Gopal M.H (1970)-An Introduction to Research Procedures in Social Sciences, Bombay, Asia 3. Publishing House.
- 3.Profiles of social research: Scientific study of human interactions / Morton Hunt by Hunt, Morton. (1989)
4. Kothari, C.R (2004) Research Methodology: An Introduction, Delhi, New Age

**Reference books**

1. BagchiKanakanti (2007). Research Methodology in Social Sciences: A Practical Guide. Delhi, Abliet Publications
2. Sharma, B.A.V , et. al., (2000), Research Methods in Social Sciences, New Delhi, Sterling Publishers
3. B.A.V Busha C.H and Harter, SD (1980). Research Methods in Librarianship, New Academic Press.
4. Cooper R. Donlald and Pamela S. Schindler (2003). Business Research Methods, Delhi, Tata McGraw Hill.
- 5.Flyvbjerg, Bent (2001). Making Social Science Matter: Why Social enquiry fails and how it can succeed again.

**Course Outcomes (Cos)**

|     |  |
|-----|--|
| CO1 | To develop understanding of the basic framework of research process                  |
| CO2 | To develop an understanding of various research designs and techniques               |
| CO3 | To identify various sources of information for literature review and data collection |
| CO4 | To develop an understanding of the ethical dimensions of conducting applied research |
| CO5 | Appreciate the components of scholarly writing and evaluate its quality              |

|             |  |   |   |   |
|-------------|--|---|---|---|
| Course Code | : PRPE -102                                |   |   |   |
| Course Name | : <b>Research &amp; Publication Ethics</b> |   |   |   |
| Semester    | : 1 <sup>st</sup>                          |   |   |   |
|             | L  | T | P | C |
|             | 1  | 1 | 0 | 2 |

**Course Objectives:**

To understand how publication is done in research, various avenues of publishing.

**Course Content****Unit I: Philosophy and Ethics**

Introduction to Philosophy: definition, nature and scope, concept and branches

Ethics: definition, moral philosophy, nature of moral judgments and reactions

**Unit II: Scientific Conduct**

Selective reporting and misrepresentation of data

**Unit III: Publication Ethics**

Publication Ethics: definition, introduction and importance Best practices/standards setting initiatives and guidelines: COPE, WAME etc Conflicts of interest Publication misconduct: definition, concept, problems that lead to unethical behaviour and vice-versa, types Violation of publication ethics, authorship and contributor ship Identification of publication misconduct, complaints and appeals. Predatory publishers and journals

**Practical's****Unit IV: Open Access Publishing**

Open Access publications and initiatives

SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies

Software tool to identify predatory publications developed by SPPU

Journal finder/ Journal suggestion tools viz. JANE, ELSEVIER Journal Finder, Springer Journal Suggested etc

**Unit V: Publication Misconduct**

Group Discussions, Subject specific ethical issues, FFP, authorship, Conflicts of Interest Complaints and appeals: examples and fraud from India and abroad. **Software tools:** Use of plagiarism software like Turnitin, Urkund and other open source software tools.

Databases and Research metrics. **Databases:** Indexing databases Citation databases: Web of Science, Scopus, etc. **Research Metrics:** Impact factor of Journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score Metrics: h-index, g index, i10index, altmetrics Pre PhD Courses

**Text books**

1. Gopal M.H (1970)-An Introduction to Research Procedures in Social Sciences, Bombay, Asia 3. Publishing House.
2. Profiles of social research: Scientific study of human interactions / Morton Hunt by Hunt, Morton.(1989)
3. Kothari, C.R(2004) Research Methodology: An Introduction, Delhi, New Age

**Reference books**

1. Bagchi Kanakkanti (2007). Research Methodology in Social Sciences: A Practical Guide. Delhi, Abliet Publications
2. Sharma, B.A.V , et. al., (2000), Research Methods in Social Sciences, New Delhi, Sterling Publishers

**Course Outcomes (Cos)**

|     |  |
|-----|--|
| CO1 | To develop an understanding of research ethics, publications misconduct and plagiarism |
| CO2 | To develop Intellectual honesty and research integrity                                 |
| CO3 | To identify various sources of information for data bases and research matrices.       |
| CO4 | To develop an understanding of Open access publications and initiatives                |
| CO5 | Appreciate the components of scholarly writing and evaluate its quality                |



|             |   |   |   |   |
|-------------|---|---|---|---|
| Course Code | :PAPM-103   |   |   |   |
| Course Name | : <b>Principles and Practices of Health Care Management</b> |   |   |   |
| Semester    | :1 <sup>st</sup>  |   |   |   |
|             | L   | T | P | C |
|             | 3   | 1 | 0 | 4 |

**Course Objective:** To create an understanding of the basic orientation, and to get an insight into the principles of management. Students will develop the knowledge and skills necessary to effectively lead and manage healthcare organizations in a dynamic and complex environment.

### Course Contents:

#### Unit I

Overview of healthcare management principles, Historical perspectives and evolution of healthcare management, Trends and challenges in the healthcare industry, Types of healthcare organizations, Organizational structures and governance models, Functions of healthcare management: planning, organizing, directing, controlling, Leadership in healthcare settings Leading change and innovation in healthcare organizations

#### Unit II

Introduction, meaning, objectives, planning and functions of human resource management, Human Resource Development (HRD) – Hospital Organisation of the personnel department, line of authority, inter personal relationship between different departments, man power, planning and development. Job description and specification for hospital various departments, staff selection and recruitment, orientation program, training and counselling, guidance.

#### Unit III

Quality management principles, Importance of quality improvement in hospital settings Performance measurement and benchmarking, Continuous quality improvement methodologies. Importance of patient safety in hospitals, Identifying and mitigating patient safety risks Error reporting and root cause analysis. Hospital Accreditations- NABH , JCI

#### Unit IV

Introduction of Medico Legal Aspects of emergency services, labour loss, consumer protection, transplantation of human organs, Medical Termination of Pregnancy (MTP), pre-conception and pre-natal diagnostics. Introduction to Indian Constitution – Preamble, fundamental rights and responsibilities of medical person and professional mis-conduct of doctor's as per medical council of India. Medical ethics / doctor patient relationship, preventive steps for doctors, consent form, life support medicine and other disciplines / anaesthesia – legal recruitments of licenses, certificates for hospital

#### Unit V

Effective communication strategies in healthcare management  
Managing relationships with stakeholders  
Conflict resolution and negotiation techniques, Concepts, needs, principles, significance,

customer satisfaction of hospital marketing, planning, analysis, segmentation of marketing in health care services – planning and implementation methods, promotion in a competitive market – corporate health services and health tie ups.

**Text books:**

1. Prasad. L. M, 2013, *Principles and Practice of Management*, S. Chand and Company.
2. Stoner, Freeman and Gilbert Jr, 2013 *Management*, Prentice Hall of India

**Reference books:**

1. Heinz Wehrich, Mark V. Cannice and Harold Koontz, (2009). *Management: A Global and Entrepreneurial Perspective*, 13<sup>th</sup>ed., TMH., New Delhi.
2. Harald Koontz and Heinz Wehrich, *Elements of Management*. 9<sup>th</sup> ed., TMH. New Delhi 2012.
3. Stoner James A. F., R. Edward Freeman and Daniel R, Gilbert Jr., *Management*, 8<sup>th</sup> ed., Pearson, New Delhi 2010.
4. Stephen P. Robbins and David A. Decenzo, *Management*; PHI.  
Newman, Summer, Gilbert *Management*; PHI.

**Course Outcomes (Cos):**

|      |  |
|------|--|
| CO 1 | Understand the fundamental principles of healthcare management and their application in different healthcare settings. |
| CO 2 | Implement effective human resource management strategies to recruit, retain, and develop healthcare professionals.     |
| CO 3 | Develop strategic plans to address challenges and opportunities in healthcare management.                              |
| CO 4 | Navigate regulatory requirements and compliance issues affecting healthcare organizations.                             |
| CO 5 | Communicate effectively with stakeholders within and outside the healthcare organization.                              |

|             |   |   |   |   |
|-------------|---|---|---|---|
| Course Code | :ADHM-104                                     |   |   |   |
| Course Name | : <b>Advancement in Healthcare Management</b> |   |   |   |
| Semester    | :1 <sup>st</sup>                              |   |   |   |
|             | L   | T | P | C |
|             | 3   | 1 | 0 | 4 |

**Course Objective:** To create an understanding into the challenges and opportunities in healthcare management and develop critical skills needed for leadership roles in the industry.

### **Course Contents:**

#### **Unit I: Introduction to Healthcare Management Advancements**

Understanding the evolution of healthcare management  
 Analyzing current trends and challenges in the healthcare industry  
 Exploring the impact of technological advancements on healthcare management

#### **Unit II : Healthcare Policy and Strategic Management in Healthcare**

Studying healthcare policies and regulations  
 Analyzing the implications of policy changes on healthcare organizations  
 Developing strategies for compliance and adaptation  
 Developing strategic plans for healthcare organizations  
 Stakeholder management and collaboration  
 Evaluating and responding to market dynamics

#### **Unit III: Healthcare Information Technology**

Overview of healthcare information systems  
 Electronic Health Records (EHR) and their role in healthcare management  
 Big data analytics and artificial intelligence in healthcare

#### **Unit IV : Quality and Patient Safety**

Understanding quality improvement in healthcare  
 Patient safety initiatives and best practices  
 Implementing quality measures in healthcare management

#### **Unit V: Leadership and Change Management**

Leadership styles in healthcare management  
 Change management principles and practices  
 Building a culture of innovation and adaptability  
 Anticipating future challenges and opportunities  
 Ethical considerations in healthcare management  
 Developing a personal and organizational action plan for continuous improvement

### Text and References

- Hospitals – Facilities Planning and Management, *GDKunders*, McGraw Hill Education
- Principles of Hospital Administration & Planning, *Sakharkar, B M*, Jaypee Brothers.
- Quality management in Hospitals, *S.K. Joshi*, Jaypee Brothers.
- Management Information System in Hospitals, *Anil Kumar Saini*, Deep and Deep Publications
- Health Insurance sector in India, *T Mahendran*, Abhijeet Publications
- Health Economics in India, *HimanshuSekhar Rout, Prasant Kumar Panda*, New Century Publications
- Telehealth in the Developing World, *Richard Wootton, Nivritti G Patil, Richard E Scott*, Royal Society of Medicine
- Dr Park K: *Text Book of Preventive and Social Medicine*. BanarsidasBhanot Publishers: Jabalpur.
- Textbook of community medicine: V. K. Mahajan.
- Shrivastva, S.K. et.al (2011). Healthcare Management In India , New Delhi
- S A Kelkar( 2010 Edition). Hospital Information System.
- Murthy, C.S.V. (2011). *Enterprise Resource Planning & Management of Information System*, Himalayan Publishing House, New Delhi.
- P.S.S. Sunder Rao: J. Richard. *An Introduction to Biostatistics, a manual for students in health sciences*:
- Pranab Kumar Baneerjee(2009 Edition) , *Introduction to Biostatistics*

### Course Outcomes (Cos):

|      |   |
|------|---|
| CO 1 | Understand the historical development and current trends in healthcare management.                      |
| CO 2 | Analyze and interpret healthcare policies and regulations and their impact on organizations.            |
| CO 3 | Evaluate the role of information technology in healthcare management, including EHR and data analytics. |
| CO 4 | Apply quality improvement principles and patient safety initiatives in healthcare settings.             |
| CO 5 | Develop strategic plans and implement effective leadership strategies in healthcare organizations.      |

|             |                                 |   |   |   |
|-------------|---------------------------------|---|---|---|
| Course Code | :HMGS-105                       |   |   |   |
| Course Name | : Service Operations Management |   |   |   |
| Semester    | :1 <sup>st</sup>                |   |   |   |
|             | L                               | T | P | C |
|             | 3                               | 1 | 0 | 4 |

**Course Objective:** To ensure that students gain a comprehensive understanding of managing healthcare information, improving healthcare delivery, and utilizing information technology to enhance the overall efficiency of healthcare organizations.

**Course Contents:**

**Unit I:** Introduction to Hospital Service Operations Management

Importance of operations management in healthcare

Overview of hospital service operations

Key challenges and opportunities in hospital operations management

**Unit II:** Patient Flow Management

Understanding patient flow dynamics

Process mapping and analysis

Strategies for optimizing patient flow and reducing bottlenecks

**Unit III:** Capacity Planning and Resource Allocation

Capacity planning models and techniques

Resource allocation strategies

Balancing supply and demand in healthcare services

**Unit IV:** Operational Frameworks and Methodologies

Lean management principles

Six Sigma methodology

Theory of Constraints (TOC) in healthcare

**Unit V:** Continuous Improvement in Hospital Operations

Establishing a culture of continuous improvement

Performance measurement and feedback

Implementing and sustaining change

**Text and References**

1. Berman, S. (2018). Essentials of Health Care Finance. Jones & Bartlett Learning.
2. Fitzsimmons, J. A., & Fitzsimmons, M. J. (2019). Service Management: Operations, Strategy, Information Technology. McGraw-Hill Education.
3. Vollmann, T. E., Berry, W. L., & Whybark, D. C. (2017). Manufacturing Planning and Control for Supply Chain Management. McGraw-Hill Education.
4. Meredith, J. R., & Shafer, S. M. (2018). Operations Management for MBAs. John Wiley & Sons.
5. Vonderembse, M. A., & White, G. P. (2019). Operations Management: Concepts, Methods, and Strategies. John Wiley & Sons.

**Course Outcomes (Cos):**

|      |  |
|------|--|
| CO 1 | Understand the role and significance of operations management in hospital service delivery.                                      |
| CO 2 | Analyze the key components of hospital service operations, including patient flow, capacity management, and resource allocation. |
| CO 3 | Evaluate different operational frameworks and methodologies applicable to hospital settings.                                     |
| CO 4 | Develop strategies for managing patient flow and reducing wait times in hospitals.   |
| CO 5 | Continuously monitor and evaluate hospital service operations to drive ongoing improvement.                                      |



|             |   |                                  |   |   |   |
|-------------|---|----------------------------------|---|---|---|
| Course Code | : |                                  |   |   |   |
| Course Name | : | <b>Innovations in Healthcare</b> |   |   |   |
| Semester    | : | 1 <sup>st</sup>                  |   |   |   |
|             |   | L                                | T | P | C |
|             |   | 3                                | 1 | 0 | 4 |

**Course Objective:** This course explores the latest innovations and advancements shaping the healthcare industry. Students will examine a wide range of technological, organizational, and clinical innovations that are revolutionizing healthcare delivery, improving patient outcomes, and enhancing the efficiency of healthcare systems.

### **Course Contents:**

#### **Unit I : Introduction to Healthcare Innovation**

Defining innovation in healthcare, Importance of innovation in addressing healthcare challenges, Drivers and Barriers to Innovation, Factors driving innovation in healthcare, Technological Innovations in Healthcare, Wearable health technologies, Telemedicine and virtual care  
Robotics and automation in healthcare

#### **Unit II: Organizational Innovations in Healthcare**

Accountable care organizations (ACOs), Patient-centered medical homes (PCMH)  
Value-based care models, Data Analytics and Artificial Intelligence, Role of data analytics in healthcare innovation , Machine learning and predictive analytics , Applications of AI in healthcare, including diagnostics and personalized medicine

#### **Unit III: Digital Health and Mobile Applications**

Mobile health (mHealth) applications , Health information exchanges (HIEs) , Patient engagement and empowerment through digital health tools , Artificial intelligence (AI), machine learning, and predictive analytics in healthcare

#### **Unit III : Innovation in Healthcare Delivery**

Alternative care delivery models (e.g., retail clinics, urgent care centers)  
Remote patient monitoring and home healthcare  
Innovations in pharmaceuticals and medical devices

**Unit IV: Ethical and Regulatory Considerations**

Ethical implications of healthcare innovation  
Regulatory frameworks for healthcare technology  
Privacy and security concerns in digital healthcare

**Unit V: Implementation and Adoption Challenges and Future Trends**

Barriers to digital health adoption by healthcare providers and patients  
Strategies for overcoming implementation challenges  
Evaluating the effectiveness and usability of digital health solutions  
Emerging trends in healthcare innovation  
Career pathways in healthcare innovation and entrepreneurship

**Text and References**

1. Wachter R. The Digital Doctor: Hope, Hype, and Harm at the Dawn of Medicine's Computer Age. New York: McGraw-Hill Education; 2017.
2. Topol E. The Creative Destruction of Medicine: How the Digital Revolution Will Create Better Health Care. New York: Basic Books; 2012.
3. Elton J, O'Riordan A. Healthcare Disrupted: Next Generation Business Models and Strategies. Hoboken: John Wiley & Sons; 2016.
4. Bauer JC. Innovating Healthcare Delivery: A Practical Guide to Achieving the Triple Aim. Chicago: Health Administration Press; 2013.
5. Ku B, Lupton E. Design Thinking for Health & Healthcare. Cambridge: The MIT Press; 2020.
6. Christensen CM. The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail. Boston: Harvard Business Review Press; 2016.
7. Strome TL. Healthcare Analytics for Quality and Performance Improvement. Hoboken: John Wiley & Sons; 2013.

**Course Outcomes (Cos):**

|      |  |
|------|--|
| CO 1 | Understand the role and importance of operations management in hospital service delivery.  |
| CO 2 | Analyze the key components of hospital service operations, including patient flow, capacity management, and resource allocation. |
| CO 3 | Identify opportunities for process improvement and efficiency enhancement in hospital service delivery.                          |
| CO 4 | Utilize technology and data analytics to support decision-making and improve operational efficiency.                             |
| CO 5 | Foster collaboration and communication among multidisciplinary teams to enhance service delivery.                                |



