



SHRI
DHARMASTHALA
MANJUNATHESHWARA
UNIVERSITY

Ordinance Governing
FELLOWSHIP IN NEONATAL INTENSIVE CARE
Curriculum 2021-22

SHRI DHARMASTHALA MANJUNATHESHWARA UNIVERSITY

(A State Private University established under the Shri Dharmasthala Manjunatheshwara University
Act No 19 of 2018 of Government of Karnataka and Notification No. ED 261 URC 2018 dated 19th December 2018)

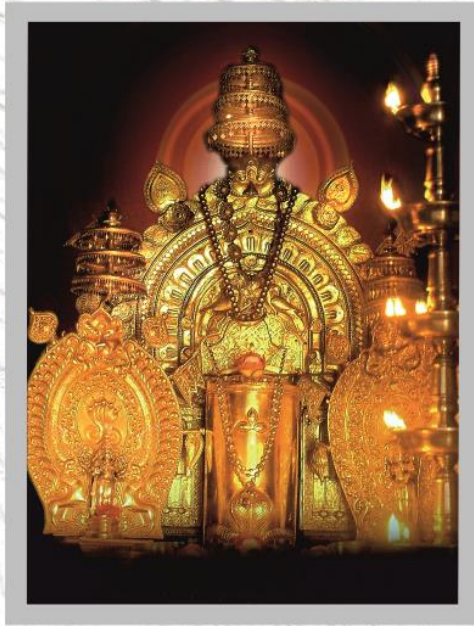
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|| Om Shri Manjunathaya Namaha ||



Shree Kshethra Dharmasthala

Edition Year : 2020-21

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Published by


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THE LOGO

Poojya Dr D. Veerendra Heggade, Hon'ble Chancellor of the University, while searching for an appropriate Logo for the University, saw a photograph picked from Temple Architecture showing Wings of a Bird, sculpted in Indian style and wanted it to be incorporated in the logo for the University, as the Wings symbolize 'Spreading of Knowledge beyond Boundaries'. Further it was felt that the Central theme of the logo should be 'Rudra' (The Linga) with wings on each side. In this way, the logo of the University was conceptualized.

Hence:

1. The central part represents **Rudra** who Demolishes Darkness.
2. The Three **horizontal lines on The Linga** stand for Samyak Darshan (Right Belief), Samyak Gyan (Right Knowledge) and Samyak Charitra (Right Conduct).
3. The **Wings** symbolize spreading of Knowledge across the boundaries.
4. Base line "**Truth Liberates**" highlights the Purpose of Education: to liberate oneself unconditionally. It shows that it is not discipline, nor knowledge nor the efforts to freedom that liberate but Truth is what liberates you from all your conditioning and ignorance.

The overall significance of Shri Dharmasthala Manjunatheshwara University's Logo is:

Darkness of ignorance is destroyed by the flow of knowledge to bring Liberty to everyone, by realizing the truth. And, it should spread globally without the boundaries as hindrance.



SHRI
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VISION

Shri Dharmasthala Manjunatheshwara University will set the highest standards of teaching and learning by awakening the intelligence of the students and nurturing the creativity hidden in them by creating an environment where the ancient wisdom blends with modern science, to transform them into whole human beings to face the challenges.

MISSION

- ▶ To ensure that the journey of education is inspiring, pleasant and enjoyable.
- ▶ Attract the best of teachers and students.
- ▶ Achieve high principles of trust, love and spirituality in the students.
- ▶ Create a collaborative, diverse and exclusive community.
- ▶ Transform the student of today to be a leader of tomorrow and a better human being.
- ▶ Produce passionate teachers.
- ▶ Evolve innovative teaching techniques.
- ▶ Create a peaceful environment.
- ▶ Prepare the student to face the social challenges.
- ▶ Create a University of which the Nation is proud of.
- ▶ Be an effective partner in Nation Building.
- ▶ Create an Eco-friendly University.
- ▶ Create a University based on the principles of beauty, love and justice.

||Om Shanti! Om Shanti! Om Shanti||



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Ref: SDMU/Notif/14/2019

Date: 24/04/2019

NOTIFICATION

Starting of New Programs from the Academic Year 2019-20

- Ref: (1) Minutes of the 1st Meeting of Academic Council held on 20/03/2019
(Letter No: SDMU/AC/M-01/93/2019; Dated 21/03/2019)
(2) Minutes of the 2nd Meeting of Board of Management held on 22/03/2019
(Letter No: SDMU/BoM/M-02/94/2019; Dated 23/03/2019)

In exercise of the powers conferred under Statutes 1.1 (Powers - Section xii), 1.2 (Powers and Functions - Section vii), 1.4 (Powers and Functions - Sections ix & x) of Shri Dharmasthala Manjunatheshwara University, the BoM is pleased to approve and notify the below listed Programs / Courses for the year 2019-20.

Sl. No.	Program	Intake
FELLOWSHIP PROGRAMS IN MEDICAL FACULTY		
1	Fellowship in Neonatal Intensive Care	02
2	Fellowship in Nephrology / Renal Dialysis	02
3	Fellowship in Gynaec. Endoscopy	02
4	Fellowship in Reproductive Medicine	02
5	Fellowship in Consultation Liaison Psychiatry	02
6	Fellowship in Rhinology	02
CERTIFICATE COURSES IN MEDICAL FACULTY		
1	Certificate Course in Blood Bank Technician	04
2	Certificate Course in Histo-Technician	04
3	Certificate Course in Renal Dialysis	04
4	Advanced Certificate Course in Medical Microbiology Laboratory Technology	02
GOVERNMENT SPONSORED PROGRAM (BISEP)		
1	PG Diploma in Cellular & Molecular Diagnostics	20
FELLOWSHIP PROGRAMS IN DENTAL FACULTY		
1	Fellowship in Cleft Lip & Palate (Oral Surgery)	02
2	Fellowship in Forensic Odontology	08
3	Fellowship in Oral Implantology	02
Ph.D COURSES UNDER VARIOUS FACULTIES		
1	Ph.D. Course in Medical Faculty	12
2	Ph.D. Course in Dental Faculty	18
3	Ph.D. Course in Physiotherapy	03

The Ordinance shall be effective for the students joining the courses / programs during 2019-20 onwards.



Members of Constituent Institutes, Shri Dharmasthala Manjunatheshwara University

Copy for information to:

- (1) Hon'ble Vice Chancellor, Shri Dharmasthala Manjunatheshwara University
(2) Controller of Examinations, Shri Dharmasthala Manjunatheshwara University


REGISTRAR
REGISTRAR,
Shri Dharmasthala Manjunatheshwara
University, Dharwad

**CURRICULUM FOR FELLOWSHIP IN
NEONATAL INTENSIVE CARE**

**SDM UNIVERSITY
DHARWAD**

Application for 2 seats of fellowship in neonatal intensive care

FELLOWSHIP PROGRAM IN NEONATAL INTENSIVE CARE

Aim

The aim of the fellowship program in Neonatology is to provide basic and advanced training in neonatology to produce competent doctors, who are able to provide clinical care of the highest order to the newborn infants.

Goals

Neonatal Fellowship program provides training in neonatal care , teaching, research and administration.

Upon completion, the trainee will have acquired the knowledge and clinical skills to manage most neonatal clinical conditions and understand the principles and practice of evidence- based neonatology.

The trainee will also acquire the skills to teach others involved neonatal care.

The trainee will be exposed to community neonatology and neonatal transport

Objectives

Knowledge

- a. To be conversant with common neonatal problems – their etiology, pathophysiology, diagnosis, management and prevention
- b. To acquire knowledge regarding neonatal morbidity and mortality and prevention strategies to decrease these
- c. To be aware of and recognize the importance of multidisciplinary approach in the management of neonatal problems.
- d. To acquire knowledge with respect to neonatal care in the community
- e. To acquire knowledge with respect to organizing and planning neonatal intensive care units and managing neonates requiring intensive care

Practice

1. To be able to analyse neonatal health problems and develops preventive strategies to decrease neonatal morbidity and mortality at hospital and community level
2. To provide primary, secondary and tertiary level care of the highest standard to critically ill neonates.
3. To be able to plan, establish and manage level I , II and III neonatal care units.
4. To be able to use and maintain equipments required in the NICU

Attitudes / Communication

- a. To take rational decisions in the face of ethical dilemmas in neonatal and perinatal practice
- b. To exhibit communication skills of a high order and demonstrate compassionate attributes befitting a caring neonatologist
- c. To be able to counsel parents regarding neonatal problems including genetic and hereditary diseases

DUTIES/RESPONSIBILITIES

1. Provide in-hospital medical care to patients in the NICU with complex medical needs.
2. Attend all “very high risk” resuscitations in the Delivery Room and NICU or other resuscitations when requested by Obstetrics.
3. Initiate and support specialized care required by babies in NICU including, but not confined to, assisted ventilation, parental nutrition and exchange transfusion.
4. Confirm the history and physical examination on all admissions, document additional findings and generate a problem list and plan of acting,
5. Perform/supervise procedures on newborns (e.g. lumbar puncture, placement of long peripheral lines, and placement of arterial lines, placement of central lines, thoracentesis, and placement of chest tubes) within limits of expected competence at the discretion of the attending neonatologist; and/or supervise the junior doctor/Nurse as required.

6. Be available in hospital for all emergencies in NICU and delivery room.
7. Assist with data collection sheets, documentation of procedures, patient progress
8. notes and discharge summaries

Eligibility for Admission

MD. DNB- Pediatric, DCH

Duration of Course

1 year (MD/DNB)

18 months (DCH)

COURSE CONTENTS

Since the fellows are trained with the aim of practicing as independent specialists, this course content will be mainly a guideline. The emphasis shall therefore be on the practical management of the problem of the individual cases and the community within the available resources.

KNOWLEDGE

A) Basic Sciences

- Feto-placental physiology
- Neonatal adaptation
- Fluid and electrolyte balance
- Blood gas and acid base disorders
- Thermoregulation and Kangaroo Mother Care

B) General Neonatology

- Neonatal resuscitation
- Birth injury and birth asphyxia
- Normal newborn and common neonatal problems
- Preterm and low birth weight neonates
- Follow - up of high risk neonate
- Assessment of gestation, neonatal behaviour, neonatal reflexes
- Developmental assessment, detection of neuromotor delay, developmentally supportive care
- Immunization including immunization of a preterm neonate
- Discharge planning
- Communicating neonatal death
- Neonatal transport
- Traditional practices in neonatal medicine
- Neonatal equipments
- Neonatal procedures
- Organization of neonatal care including level I,II & III care

C) Fetal Medicine

- Perinatal and neonatal mortality, morbidity & epidemiology
- Fetal and neonatal consequences of high risk pregnancy

- Fetal monitoring : Clinical, electronic, invasive and non-invasive
- Intrapartum monitoring and procedures
- Medical diseases affecting pregnancy and fetus

D) Systemic neonatology

i) Respiratory system

- Examination and interpretation of respiratory signs and symptoms
- Congenital malformations of respiratory system
- Pulmonary diseases: Hyaline membrane disease, transient tachypnea, meconium aspiration, pneumonia, pulmonary air leak syndromes, pulmonary hemorrhage, persistent fetal circulation, developmental defects - Apnea
- Oxygen therapy and its monitoring
- Neonatal ventilation : principles and practices
- Pulmonary infections
- Miscellaneous pulmonary disorders

ii) Cardiovascular system

- Fetal circulation, transition from fetal to neonatal physiology
- Examination and interpretation of cardiovascular signs and symptoms - Congenital heart diseases
- Hypertension in neonates
- Shock : pathophysiology, monitoring, management
- Congestive cardiac failure
- Other cardiac disorders

iii) Gastrointestinal system and hepatobiliary system

- Disorders of liver and biliary system
- Bilirubin metabolism
- Neonatal jaundice: diagnosis, monitoring, Management (Phototherapy, exchange transfusion and others)
- Conjugated hyperbilirubinemia
- Congenital malformations
- Necrotising enterocolitis
- Diarrheal diseases

iv) Renal system

- Developmental disorders
- Renal functions
- Acute renal failure
- Urinary tract infection

v) Endocrine and metabolic

- Hypoglycemia, hyperglycemia
- Calcium disorders
- Magnesium disorders
- Pituitary disorders
- Thyroid disorders
- Adrenal disorders
- Ambiguous genitalia
- Inborn errors of metabolism
- Other endocrine and metabolic disorders

vi) Hematology

- Clinical evaluation of a neonate with hematological problems
- Anemia
- Polycythemia
- Bleeding and coagulation disorders
- Rh and ABO hemolytic disease
- Hydrops fetalis : Immune and Non-immune
- Other hemolytic disease

vii) Neurology

- Neurological evaluation
- Neonatal seizures
- Intracranial hemorrhage
- Hypoxic ischemic encephalopathy
- CNS malformation and neural tube defects
- Developmental assessment

viii) Nutrition

- Breast feeding
- Lactation management
- Lactation counseling and education
- Recommended daily requirements of nutrients
- Enteral feeding in special situations including LBW / preterm neonate -
Vitamins and micronutrients in newborn health and disease
- Parenteral nutrition

ix) Surgery and Orthopedics

- Neonatal surgical conditions
- Pre and post operative management
- Neonatal Orthopedic problems : Congenital and acquired

x) Neonatal Ophthalmology – Retinopathy of prematurity

xi) Neonatal Dermatology – Common problems

E. Neonatal Infections

- Intrauterine infections
- Perinatal HIV
- Bacterial infection
- Viral infections
- Fungal infections
- Septicemia
- Meningitis
- Osteomyelitis and arthritis
- Pneumonias
- Diarrhoea
- Nosocomial infections
- Superficial infections
- Infection control measures

F. Community Neonatology

- Vital statistics, health system
- Causes of neonatal and perinatal mortality
- Neonatal care priorities
- Care at primary health center
- Care of secondary level
- Role of different health functionaries
- National programmes pertaining to newborn care
- National Neonatology Forum

G. Investigations and imaging

- Laboratory medicine
- Normal values
- X-rays, ultrasound, MRI, CT Scan etc

CLINICAL SKILLS

- Neonatal resuscitation
- Neonatal examination, anthropometry
- Gestation assessment
- Developmental assessment
- Blood sampling : Capillary, venous, arterial
- Cannulation of peripheral artery and umbilical arterial catheterisation
- Intraosseous needle insertion
- Neonatal ventilation
- Monitoring : Non-invasive
- Enteral feeding (Katori-spoon,gavage,breast)
- Lactation management
- Lumbar puncture
- Suprapubic aspiration
- Placing of intercostal tube
- Exchange transfusion : peripheral and central
- Peritoneal dialysis
- Phototherapy
- Kangaroo Mother Care
- Chest physiotherapy
- Endotracheal tube suction

- Fundus examination
- Limb restraintment
- Bed side tests : Shake test, apt test, sepsis screen, hematocrit, urine analysis - CSF analysis, Kleihauer technique etc.,
- Neonatal drug therapy
- Nursery house keeping routines and asperis procedures
- Universal precautions
- Handling, effective utilization and trouble shooting of neonatal equipment
- Infection control
- Interpretation of investigations and imaging studies
- Record keeping
- Computer data entry

Education / Training

- Teaching skills: Lectures, Tutorials
- Participatory and small group learning skill
- Self-Directed Learning
- Learning need assessment, literature search, evaluating evidence
- Communication
- Communication with parents, families and community - Counselling parents
- Communicating neonatal death
- Obtaining informed consent
- Genetic counselling

Additional: Desirable for the candidate to know about neonatal transport, inhaled Nitric oxide and ventilation.

TEACHING LEARNING METHODS AND ACTIVITIES

Learning will be self-directed and will take place as a continuous process but in addition the following formal sessions are recommended

1. Academic session

In addition to attending all the academic sessions, the candidate needs to make a minimum number of presentations in these academic sessions during the training period of 1 year

Presentations

- a. Seminars / Symposia
- b. Journal club
- c. Perinatal meeting
- d. Clinical case conference
- e. Bedside presentation
- f. Interdepartmental meeting with Radiology / Pediatric surgery and others g. Grand rounds
- g. Mortality meeting and audit meeting

Teaching learning process will also take place during the daily ward rounds and during teaching rounds.

Clinical postings:

Total period of fellowship course is 12 months

Essential Rotation

- Obstetrics department 15 days - Pediatric surgery 15 days

Conference, CME's and Workshops

During the one year training period he/she should attend at least One State / National Conference One CME Programme should present a paper in the conference

Teaching

The candidate will be involved in teaching nursing students , nursing staff Undergraduate and post - graduate students

Special Training Programme

The candidate must attend and be certified in the following training programs
Neonatal resuscitation programme (NRP)

Dissertation

Preparation and presentation of a dissertation: Every Fellow trainee will be required to carry out one research project over 6 months under the supervision of his guide as identified by the institution. The project should be completed within 6 months of training, and then reviewed by the guide and given its final shape by the end of eleven months, one month before the stipulated date of completion of the Fellowship course

Selection: candidate will be selected based on written test/interview

Fees & Stipend: As per the Fee Fixation Committee

Attendance & Leave:

As per University Guidelines

RECOMMENDED BOOKS AND JOURNALS

1. Taeusch HW, Ballard RA. Diseases of the newborn.
2. Avery GB, Fletcher MA. Neonatology Pathophysiology and Management of the newborn. 3. Rennie M, Robertson NRC. Textbook of Neonatology
3. Singh M. Care of the newborn
4. Clotherty's Manual of Neonatal Care
5. Klaus MH, Fanaroff AA. Care of the high risk neonate
6. Remington JS, Klein JO. Infectious diseases of the fetus and newborn infant
7. Goldsmith JP, Karotkin EH. Assisted ventilation of the neonate
8. Jones KL. Smith's recognizable patterns of human malformation

Journals

- Clinics in Perinatology
- Archives of diseases of childhood
- Journal of pediatrics
- Pediatrics
- Pediatric Clinics of North America
- Indian Pediatrics
- Indian Journal of Pediatrics
- Journal of Neonatology (National Neonatology Forum of India) - Seminars in neonatology
- Tropical pediatrics

Note: Books and Journals mentioned above are suggestive. Students can refer to any other books and Journals. Refer to the most recent edition of the books and Journals

Websites

www.cochrane.mcmaster.ca/neonatal/

www.nichd.nih.gov/cochrane

www.neonatology.org

www.emedicine.com/ped/neonatology.htm

www.nnfi.org

SCHEME OF EXAMINATION

THEORY EXAMINATION – includes 2 theory papers 100 marks each.

PRACTICAL EXAMINATION – 2 Cases – 75 marks each VIVA VOCE – 50 marks

One external examiner, preferably teacher in neonatology and 5 years of experience

One internal examiner from the institute, decided by the university



SDM College of Medical Sciences & Hospital



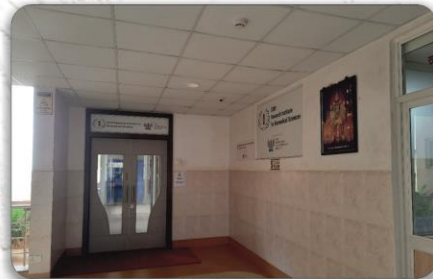
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