

# STUDENT HANDBOOK (2024)

### FOUNDATION COURSE ON PHARMACEUTICAL SCIENCES











### **ISURU WIJESINGHE**

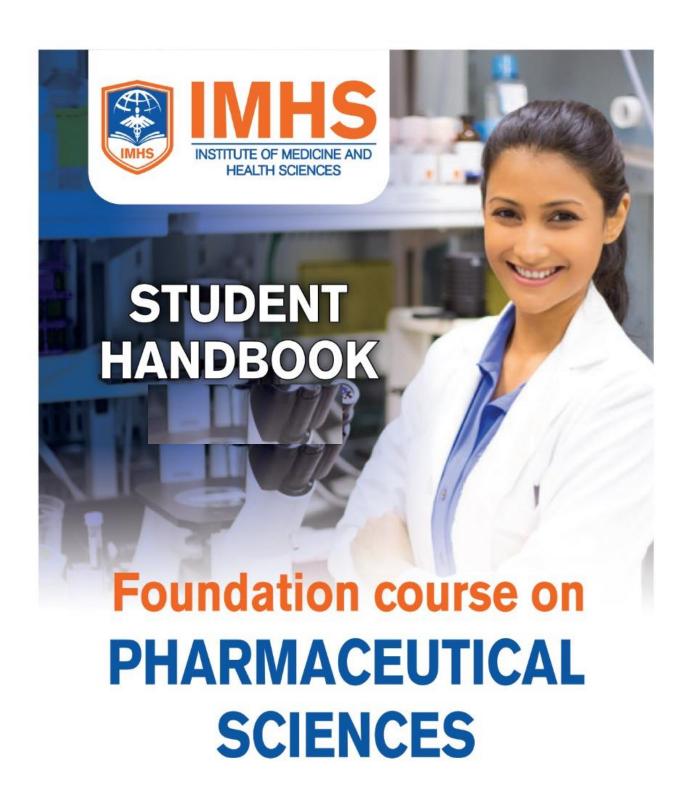
PhD USA / Bpharm (Special) SL





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INSTITUTE OF MEDICINE AND HEALTH SCIENCES

(IMHS) SRI LANKA

## FOUNDATION COURSE ON PHARMACEUTICAL SCIENCES

#### **COURSE SYLLABUS**

#### **ACADEMIC YEAR 2023/24**

LECTURE	CRITERIA	
DAY 01	UNDERSTANDING THE COURSE CONTENT	
	IMHS	
LECTURE 01	THE ORIGIN OF DRUGS	
	CLASSIFICATIONS OF DRUGS	
LECTURE 02	PRESCRIPTION AND RATIONAL PRESCRIBING PRACTICES	
LECTURE 03	BRITISH NATIONAL FORMULARY	
INIO	TITLITE OF MEDICINE AND	
LECTURE 04	ROUTES OF ADMINISTRATION	
	HEALTH SCIENCES	
LECTURE 05	THE BODY AND ITS CONSTITUTION	
	HUMAN ANATOMY & PYSIOLOGY	

LECULDE 06	ANATOMY & DITYGIOLOGY & DIGODDEDG OF CIT
LECTURE 06	ANATOMY & PHYSIOLOGY & DISORDERS OF GIT
LECTURE 07	PEPTIC ULCER & MEDICATIONS
LECTURE 07	TEITIC CLCER & MEDICATIONS
LECTURE 08	CONSTIPATION & MEDICATIONS
LECTURE 09	DIARRHEA & MEDICATIONS
LECTURE 10	VOMITING MOTION SICKNESS & MEDICATIONS
	IMHS //
LECTURE 11	ANATOMY & PHYSIOLOGY & DISEASE OF RESPIRATORY SYSTEM
LECTURE II	ANATOMI & HITSIOLOGI & DISEASE OF RESHRATORI SISIEM
LECTURE 12	ASTHMA & MEDICATIONS
LECTURE 13	ALLERGIES & MEDICATIONS
INIC	TITUTE OF MEDICINE AND
LECTURE 14	DRUGS USED IN NASAL CONGESTION
LECTURE 14	LIE ALTIL COLENIOEC
	HEALIH SCIENCES
LECTURE 15	ANATOMY PHYSIOLOGY DISESES CARDIOVASCULAR SYSTEM

LECTURE 16	HYPERTENSION & MEDICATIONS
LECTURE 17	CARDIAC ARRYTHMIA & MEDICATIONS  ANGINA & MEDICATIONS
	HEART FAILURE & MEDICATIONS
LECTURE 18	HPERLIPIDAEIA & MEDICATIONS
LECTURE 19	URINARY SYSTEM & DIUREICS
LECTURE 20	THYROID GLAND  HYPERTHYROIDSM & MEDICATIONS  HYPOTHROIDISM & MEDICATIONS
LECTURE 21	PANCREASE  DIABETES MELLITES & MEDICATIONS  LIE ALTI-L SCIENCES
LECTURE 22	ARENAL GLAND STEROID MEDICATIONS

LECTURE 23	BONE & BONE RELATED DISORDERS & MEDICATIONS
LECTURE 24	REPRODUCTIVE SYSTEM & MEDICATIONS
	CONTARCEPTIVES
LECTURE 25	BACTERIAL INFECTIONS & ANTIBACTERIAL MEDICATIONS
LECTURE 26	VIRAL INFECTIONS & ANTIVIRAL MEDICATIONS
	IMHS /
LECTURE 27	FUNGAL INFECTIONS & ANTIFUNGAL MEDICATIONS
LECTURE 28	HELMINTHIC INFECTIONS & ANTHELMINTIC MEDICATIONS
LECTURE 20	HELMINTING INTECTIONS & ANTIBELMINTIC MEDICATIONS
LECTURE 29	PROTOZOAN INFECTIONS & ANTIPROTOZOAL MEDICATIONS
A FIGURE 20	THE PROPERTY OF THE PROPERTY
LECTURE 30	TUBERCULOSIS & LEPROSY    O
	HEALTH SCIENCES
LECTURE 31	ANTI-INFLAMMATORY DRUGS
LECTURE 32	GOUT ARTHRITIS
ELCTORE 32	
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LECTURE 33	PAIN AND ANALGESICS
LECTURE 34	ANAESTHETICS
LECTURE 35	IMMUNITY, VACCINES , IMMUNE GLOBULINS AND OTHER BIOLOGICAL PRODUCTS
LECTURE 36	POISON AND ANTIDOTES  TOXICITY ANTIDOTES CHEMOTHERAPEUTIC DRUGS
LECTURE 37	HUMAN NERVOUS SYSTEM & MEDICATIONS FOR CNS DISORDERS
INS	TITUTE OF MEDICINE AND HEALTH SCIENCES

LECTURE 38	PHARMACEUTICS
	PHARMACEUTICALS DOSAGE FORMS  PHARMACEUTICALS PACKAGING AND STORAGE  PHARMACEUTICALS MANUFACTURING
LECTURE 39	FORENSIC PHARMACY
	(RELATED LAW AND REGULATION IN PHARMACY FIELD)
	NATIONAL MEDICINES REGULATORY AUTHORITY ACT AND
	REGULATION

## INSTITUTE OF MEDICINE AND HEALTH SCIENCES

The 'Foundation Course on Pharmaceutical Sciences' is meticulously designed to provide a comprehensive overview of the pharmaceutical field. This course encompasses a spectrum of critical subjects that form the backbone of pharmaceutical knowledge:

#### • Human Anatomy:

• An in-depth exploration of the human body's structure, providing a foundational understanding for medical and healthcare professionals.

#### • Human Physiology:

 A study of the human body's functions, essential for grasping the complex biological processes within the body.

#### Human Pathophysiology:

 Insight into various diseases, focusing on their causes and effects on the body's systems.

#### Pharmacology:

 A detailed examination of drug actions, including therapeutic effects and mechanisms of action, critical for the development and usage of medications.

### • Microbiology and Immunology:

 These modules delve into infectious diseases and immune system responses, paving the way for the creation of new antimicrobial treatments and vaccines.

#### • Toxicology:

• The science of understanding the harmful interactions between chemicals and living organisms, vital for assessing drug safety and environmental health.

#### • Pharmaceutics:

o The art and science of preparing and dispensing drugs, covering all aspects of the process of turning new chemical entities into safe and effective medications.

#### • Forensic Pharmacy:

 A study of the legal aspects of pharmacy practice, encompassing the regulations and ethical considerations of the pharmaceutical industry.



#### **Faculty Members of the IMHS**

#### Dr. Isuru Wijesinghe (PhD) – Leading Lecturer to this Course

- Senior Lecturer / Director IMHS
- PHD (USA) Healthcare & Pharmaceutical Sciences
- MSc (USA) Pharmaceutical Sciences
- BPharm Special (SL)
- Registered in Sri Lanka Medical Council
- LLB (Reading) (SL)
- 15 Years experiences in the field



#### Mrs. MGEJ Dharmasiri

- Senior Lecturer / Director IMHS
- BPharm (Reading) (SL)
- Diploma in Pharmacy (Proficiency) (SL)
- Registered in Sri Lanka Medical Council
- Chief Pharmacist (Government)
- 14 Years experiences in the field



#### Dr. Niranga Meegaskada (MBBS)

- Senior Lecturer IMHS
- MBBS (SL)
- Senior Medical Officer (Government)
- Obstetrics and Gynecology
- 14 Years experiences in the field



#### Dr. P. Rasika Sanjeewa Pathirana (PhD)

- Senior Lecturer IMHS
- PHD (SL) in Plant Molecular genetics
- MSc (SL) in Biotechnology
- Msater of Arts
- B.Sc Molecular Biology & Biochemistry
- Diploma in Pharmaceutical Management & Practice
- Registered Sri Lanka Medical Council
- 15 Years experiences in the field



#### Mr. V Hari Harshan

- Senior Lecturer IMHS
- MPharm (India)
- BPharm Special (India)
- Registered in Sri Lanka Medical Council
- Head of Formulation Development (SL)
- 10 Years experiences in the field



#### Ms. GWT Madhumali

- Senior Lecturer IMHS
- BSc Nursing (Special) SL
- Registered Nurse (Nursing Council, SL)
- Nursing officer (Government)
- 10 Years experiences in the field



INSTITUTE OF MEDICINE AND HEALTH SCIENCES
(IMHS) SRI LANKA

HEALTH SCIENCES

#### **Course highlights**

- Highly Qualified Lecturers
- 60 + Lecture Hours
- Distance Learning (ONLINE)
- Provide Recordings
- Unlimited Access of Lecture Recordings
- Modules
- Oral and Written Tests
- Evaluation report for every Student
- Certificate with Transcript

\*\*\* IMHS will issue the "Certificate" on completion of this Course









#### **Admission criteria**

Candidates aspiring to join our esteemed program are invited to present one of the following qualifications:

Academic Excellence: (Minimum) GCE Ordinary Level certification from Sri Lanka or an equivalent qualification, demonstrating a strong foundational education.

**Professional Registration:** Current registration as a Pharmacist with the Sri Lanka Medical Council, reflecting a recognized level of professional competence.

**Dedicated Apprenticeship:** At least one year of committed study as an apprentice pharmacist, indicating practical experience and ongoing learning.

Industry Involvement: Individuals who are either newly embarking upon or have established a career in the pharmaceutical industry, with a keen interest in further professional development.

We warmly encourage those who meet any of the above criteria to consider this opportunity as a step towards advancing their professional journey.

#### **Course Assignments**

- 01) Prescription book for 'Good Pharmacy and Dispensing Practices'
- 02) Identification of categories of medicine in pharmaceutical industry
  - Solid preparation
  - Semi-solid preparation
  - Liquid preparation
  - Pediatrics dosage form
  - Pharmaceutical devices
  - Sterile Pharmaceutical devices
  - Non-sterile Pharmaceutical devices
  - Herbal products
  - Veterinary products
  - Diagnostic instrument E OF MEDICINE AND
  - Contraceptives HEALTH SCIENCES
  - Dietary supplements
  - Sanitary products
  - Borderline products

- Products with blisters
- Products with Strips
- Products with Bottles
- Products with Vials
- Products with Ampoules
- Products with Injection syringes
- Products with Cartridges
- Products with Tubes
- Products with Single dose containers
- Products with Pressurize containers

#### 03) Written Papers

## INSTITUTE OF MEDICINE AND HEALTH SCIENCES



#### **Educational Objectives of IMHS**

This program has been crafted with the following educational objectives:

#### 1. Knowledge Expansion:

• To broaden the understanding of healthcare professionals, colleagues, and the wider community regarding the intricacies of the pharmaceutical industry and the overall healthcare system.

#### 2. Professional Development:

• To cultivate a workforce that is both knowledgeable and competent, thereby enhancing the quality of personnel within the pharmaceutical sector and healthcare infrastructure.

#### 3. Educational Advancement:

• To establish a structured educational route that guides individuals through the complexities of the pharmaceutical landscape and healthcare services.

#### 4. Career Exploration:

• To spotlight the multitude of vocational opportunities available within the pharmaceutical field and healthcare system, thus informing and inspiring the public about potential career paths.

Each goal is aimed at not only enriching participants with knowledge but also at fostering a more efficient, informed, and prepared community of healthcare practitioners and industry professionals.

#### **Program's Outcomes**

#### 1. Anatomical and Physiological Acumen:

• A profound comprehension of the architecture and operations of the human form, afforded by our modules in Human Anatomy and Physiology.

#### 2. Medicinal Proficiency:

• An insightful understanding of contemporary pharmaceuticals, embracing their therapeutic applications, administration methods, and other essential particulars.

#### 3. Pharmaceutical Insight:

• A solid grounding in the vibrant pharmaceutical sector, including the pivotal processes of drug development and manufacturing.

#### 4. Regulatory Wisdom:

• A thorough awareness of the legal frameworks, regulatory requirements, and ethical considerations that underpin the pharmaceutical industry.

#### 5. Research Literacy:

• An enhanced appreciation for the ongoing research and development initiatives that propel the pharmaceutical field forward.

#### 6. Communicative Excellence:

• An adeptness in engaging with and disseminating healthcare services via pharmaceutical channels to the community, ensuring clear and effective communication.

We trust that these outcomes will not only enrich our participants' professional endeavors but also contribute significantly to the community's wellbeing.

#### **JOB OPPORTUNITIES**

- Research and Development related to the Pharmaceutical industry
  - Clinical Research Coordinator
  - Clinical Project Manager
  - o Pharmaceutical Research Scientist
- Sales & Marketing related to the Pharmaceutical industry
  - Pharmaceutical Marketing Manager
  - o Pharmaceutical Sales Representative
  - Clinical Research Associate



- Academia
  - Lecturer
  - Pharmaceutical Education Coordinator
  - Curriculum Developer
  - Educational Researcher
  - Clinical Skills Trainer
  - Tutor
  - Online Course Instructor



#### • Entrepreneurship

- o Pharmacy Chain
- o Pharmaceutical Distribution Business
- Pharmaceutical Import-Export Business
- o Pharmaceutical Consulting Firm
- Medical Writer



- Pharmacy Technician
- Pharmacy Manager
- Pharmacy Informatics Specialist
- o Pharmacy Clinical Coordinator
- o Medication Safety Officer





# INSTITUTE OF MEDICINE AND HEALTH SCIENCES

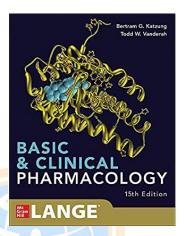
#### **RECOMMENDED BOOKS**

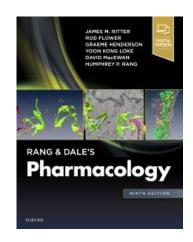
- 1. BRITISH NATIONAL FORMULARY
- 2. BASIC & CLINICAL PHARMACOLOGY BY BERTRAM KATZUNG
- 3. RANG & DALE'S PHARMACOLOGY
- 4. LIPPINCOTT ILLUSTRATED REVIEWS: PHARMACOLOGY (LIPPINCOTT ILLUSTRATED REVIEWS SERIES)
- 5. GOODMAN AND GILMAN MANUAL OF PHARMACOLOGY AND THERAPEUTICS (GOODMAN AND GILMAN'S MANUAL OF PHARMACOLOGY AND THERAPEUTICS)
- 6. ATLAS OF HUMAN ANATOMY, PROFESSIONAL EDITION
- 7. ROSS & WILSON ANATOMY AND PHYSIOLOGY IN HEALTH AND ILLNESS
- 8. AULTON'S PHARMACEUTICS
- 9. RAMINGTON ESSENTIALS OF PHARMACEUTICS
- 10.PHARMACEUTICAL MICROBIOLOGY, ESSENTIALS FOR QUALITY ASSURANCE AND QUALITY CONTROL

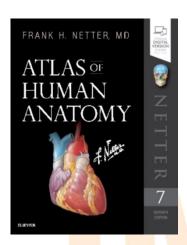
HEALTH SCIENCES

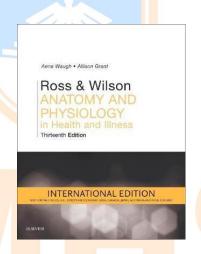
- 11.WHO GUIDELINES ON GMP
- 12.MHRA GUIDELINES ON GMP

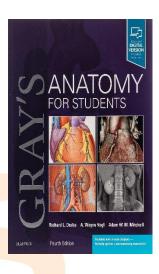


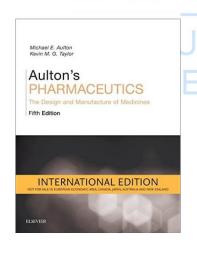


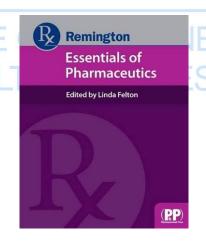


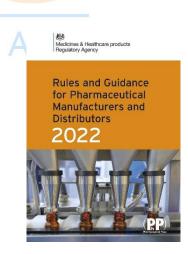








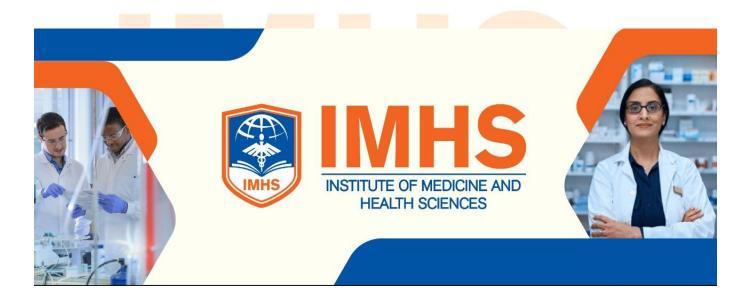




#### **About IMHS**

IMHS (Institute of Medicine & Health Sciences) was established in 2019 with the aim of facilitating Professional Healthcare Education for the professionals involved in the healthcare sector, students pursuing their studies in Healthcare & Medicine and the members of the general public who wishes to acquire & enhance their knowledge on health education.

Since the inception, over 3000 students have successfully completed the courses offered by IMHS.



#### **IMHS Vision**

To be a globally renowned Healthcare Education Provider.

#### **IMHS Mission:**

To impart quality healthcare system and healthcare education and to undertake research and extension with emphasis on application and innovation that cater to the emerging societal needs through all-round development of students of all sections enabling them to be globally competitive and socially responsible citizens with intrinsic value s.



#### Chairman's / Managing Director's Message

The Pharmaceutical Industry has been evolving in Sri Lanka and around the world, over the years. Technological advancements, process re-engineering, knowledge sharing & up-skilling have resulted in elevating the overall standards of the industry and its stakeholders.

We established IMHS in 2019, in order to facilitate and share up-to-date knowledge on a number of subject areas within the Pharmaceutical industry. The learned, professional panel of lecturers work tirelessly in developing, further improving & delivering quality course content to students across the subject areas of drug action on diseases, medicine legislation, patient counseling and good pharmaceutical manufacturing practices, to name a few.

By completing our courses successfully, you will be empowered with knowledge and skills related to become a professional in the pharmaceutical industry; may it be in a hospital, a retail or wholesale pharmacy, or even in a pharmaceutical manufacturing facility. Our result-driven subject curriculum & teaching methods will equip you with the required skills and knowledge, for career progressions within and beyond the Pharmaceutical Science industries.

#### R.M Isuru Gayashan Wijesinghe

#### Senior Lecturer

PhD in Healthcare & Pharmaceutical Sciences, USA

M.Sc in Pharmaceutical Sciences, USA

BPharm (Special) Sri Lanka, LLB (Reading) SL



#### **Director's Message**

Our journey at IMHS started with the aim of developing a center of globally known excellence in Pharmaceutical education in Sri Lanka. Toward achieving this dream, we promote high-quality education and training in pharmaceutical science as well as entrepreneurship and innovation that cater to emerging societal needs.

As a Pharmacist with years of knowledge and experience in the industry, I believe proper knowledge of medicine with good ethics makes our community healthier which is very important for the growth of our country. So, we are committed to creating a learning, innovative, scientific, and carefully planned course curriculum for our students. This will help them gain knowledge of Pharmaceutical industry and relevant skills to claim their professional place in healthcare.

So, I invite you to join us to embark on a meaningful and rewarding career where you can play a part to safeguard health by making quality drugs and imparting knowledge on the safe use of medicines.

#### M.G.E.J Dharmasiri

#### **Senior Lecturer**

BPharm (Reading), Sri Lanka

Diploma in. Pharmacy, Sri Lanka

Chief Pharmacist - Government Hospital



#### **IMHS Academic Goals**

- 1. To offer a healthcare education pathway to healthcare professionals and the general public with the industrial and global requirements, and enhance the healthcare knowledge of the people.
- 2. To identify and introduce new education providing areas and incorporate curriculums and arrange relevant education high standard processes to the global.
- 3. To design and implement an educational system adhering to outcome-based international models
- 4. To introduce and implement innovation in the teaching and learning process to strengthen academic delivery



#### **IMHS Courses:**

- Medication Handling and Safety for Caregivers
- Foundation Course on Pharmaceutical Sciences
  - Certificate Course on Pharmacy Practice (Assistant Pharmacist Course)
  - Certificate Course on "Basics of Pharmaceutical Manufacturing"
  - Advanced Courses on Pharmaceutical Manufacturing
  - Advanced Courses on Pharmaceutical Law and Regulation
  - Advanced Courses on Community Pharmacy Practices
  - Diploma in Pharmaceutical Sciences
- Pharmacists' Course for Sri Lanka Medical Council (SLMC) registration
- Revision Courses External Pharmacist Examination (SLMC Registration)
- OSPE & VIVA External Pharmacist Examination (SLMC Registration)
- Higher Diploma in Pharmaceutical Sciences

- Skill Development for Pharmaceutical Industry Pharmaceutical Manufacturing (Production)
- Skill Development for Pharmaceutical Industry Research & Development
- Skill Development for Pharmaceutical Industry Quality Assurance
- Pharmaceutical Marketing Management, and Economic Insights
- Medical English Course For Healthcare Professionals
- Medical English Course For Medical Students
- Healthcare Education Courses for General Public
  - First Aid Fundamentals for Everyone
  - Living Well with Diabetes
- Healthy Pregnancy and Lactation Essentials (Pregnancy and Location)
- Living Well with High Blood Pressure & High Blood Cholesterol
- Living Well with Pain and Arthritis
- Living Well with Gastro-intestinal & Respiratory Disorders

#### **IMHS CONVOCATION 2023**











#### **IMHS CONVOCATION 2022**













#### **IMHS GET-TOGETHER**



#### IMHS HELPING HANDS PROGRAM



INSTITUTE OF MEDICINE AND HEALTH SCIENCES



Institute of Medicine and Health Sciences - IMHS

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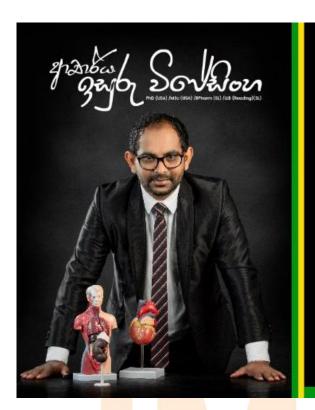
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## Pharmacist Course

Dr Isuru Wijesinghe

THEORY CLASS





