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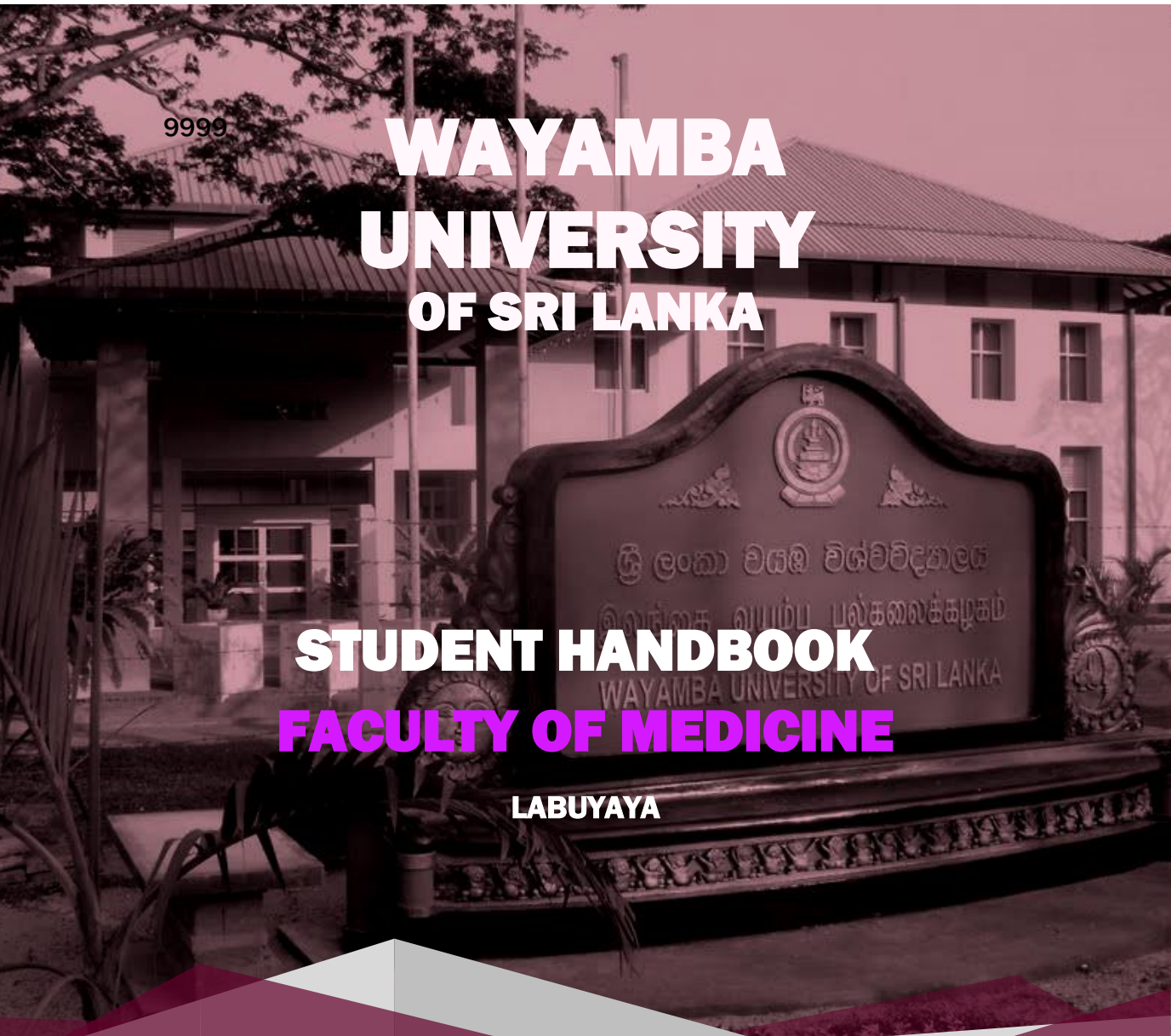
WAYAMBA UNIVERSITY OF SRI LANKA



STUDENT HANDBOOK

FACULTY OF MEDICINE

LABUYAYA

2019

Message from the Vice-Chancellor

I am pleased to write this message for the Students' Handbook to be issued to the undergraduates of the Bachelor of Medicine and Bachelor of Surgery [MBBS] Degree Programme offered by the Wayamba University.

I am happy to welcome the second batch of undergraduates to the Faculty of Medicine of this University. You are fortunate to commence your degree programme in the newly opened Faculty Complex at Labuyaya Premises, whereas your predecessors followed their first year in makeshift buildings, although the quality of the programme was in no way lessened. The Faculty Complex comprises of lecture halls, laboratories, library etc. with state-of-the-art facilities. Further, the Professorial Unit at Kuliyapitiya Teaching Hospital will be completed by the time you progress to clinical programmes. Medical professionals from across the country have been drawn in to ensure the quality of the MBBS Programme.

I take this opportunity to congratulate you in obtaining admission to the Faculty of Medicine through your hard work. You are about to embark on five years of dedication and sacrifice in order to fulfill your dream. You are expected to become versatile, compassionate, dedicated and accountable medical professionals. Your personal dedication is essential for the teachers and mentors of the Faculty to guide you to the above goal.

I would also like to express my appreciation of Prof. M D Lamawansa, Acting Dean of the Faculty of Medicine, and his staff for their unstinted efforts towards the development of the Faculty and the admission of the second batch on time.

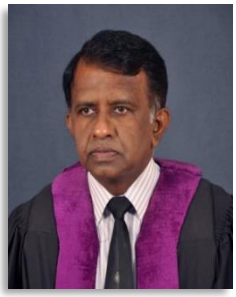
I wish the staff and students a productive and fruitful medical education.

Prof. E M P Ekanayake

The Vice-Chancellor

Wayamba University of Sri Lanka

Message from the Dean



It is indeed a pleasure for me to welcome you - the second batch of students. You are fortunate that you enter a faculty which is more developed than your seniors entered, having more matured staff and the presence of a batch of senior students to guide you. However, most of the challenges faced by your seniors are still present at large and I am fully cognizance of your predicament in fulfilling your wishes and that of University expectations, for that myself belong to the second batch of a new Faculty of Medicine (University of Ruhuna). You need to put in hard labor to make yourselves none less than graduates of more established medical faculties.

Our aim is to produce highly skilled healthcare professional with the highest professional standards, while stressing the development of non technical skills such as team work, respect for diversity, effective communication and ethical behavior. In this respect, it is relevant for you to reflect on different components of intelligence and relative importance of emotional intelligence which contributes up to 80% in shaping up young learners like you. You will be guided in the initial stages, but slowly withdrawn as you acquire principles and skills to self guide, keeping with the common notion that " You are responsible for the development of yourself".

We wish you the best in the coming years!

Prof M D Lamawansa

Acting Dean

Faculty of Medicine

Wayamba University of Sri Lanka

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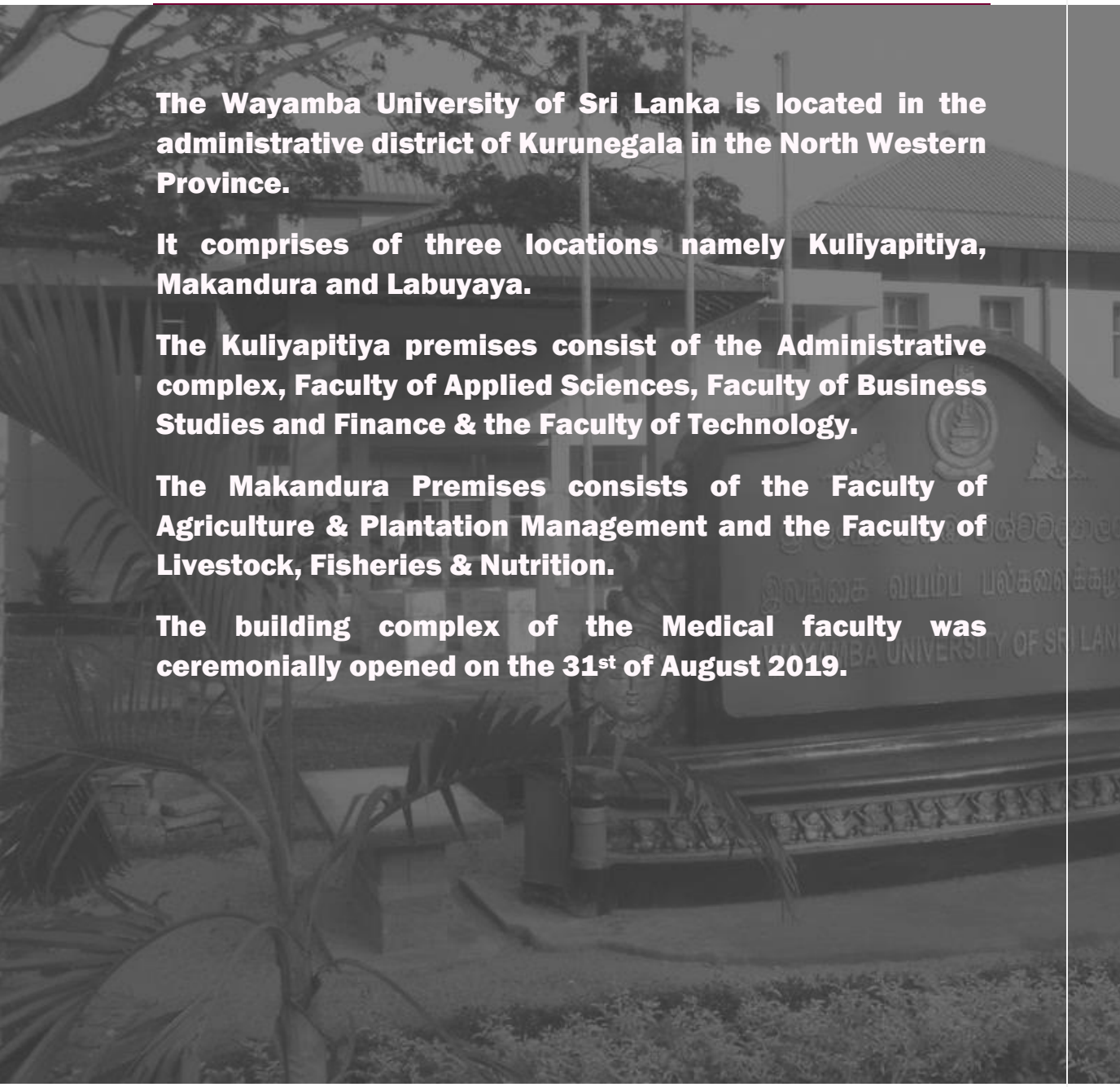
LOCATIONS



The Wayamba University of Sri Lanka is located in the administrative district of Kurunegala in the North Western Province.

It comprises of three locations namely Kuliyapitiya, Makandura and Labuyaya.

The Kuliyapitiya premises consist of the Administrative complex, Faculty of Applied Sciences, Faculty of Business Studies and Finance & the Faculty of Technology.

The Makandura Premises consists of the Faculty of Agriculture & Plantation Management and the Faculty of Livestock, Fisheries & Nutrition.

The building complex of the Medical faculty was ceremonially opened on the 31st of August 2019.

HISTORY OF THE UNIVERSITY

The Wayamba Campus of the Rajarata University of Sri Lanka was established on the recommendation of a committee chaired by Hon. Vishva Warnapala, Deputy Minister of Education & Higher Education. This committee was appointed by the Minister of Education and Higher Education late Honourable Richard Pathirana on 22nd December 1994 to report on the future of affiliated University Colleges. On the recommendation of the above Committee, nine affiliated University Colleges spread out in various provinces of the country were merged to form the: Rajarata and Sabaragamuwa Universities of Sri Lanka, on 07th November 1995.

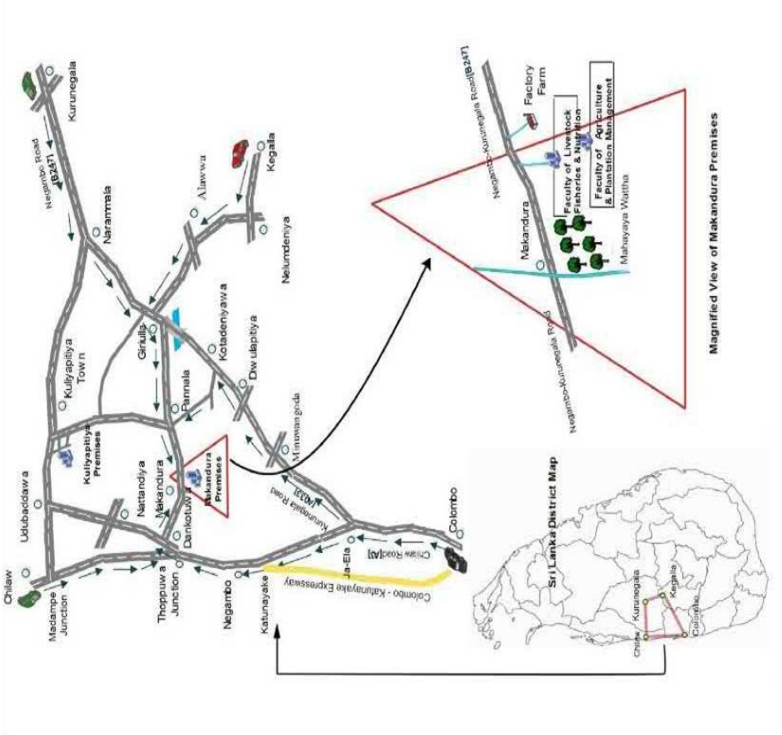
The affiliated University College of the North Western Province consisted of two academic sections:

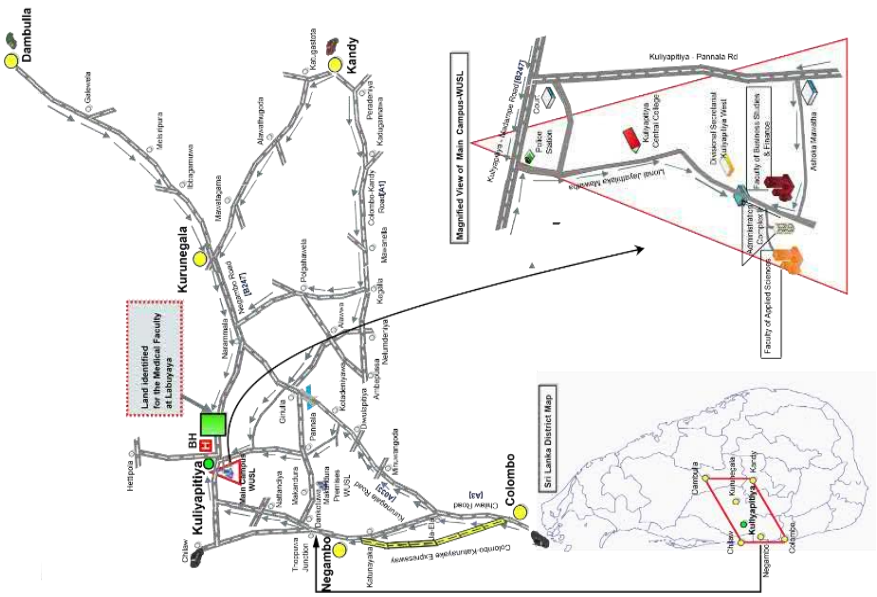
- Home Science & Nutrition – affiliated to Kelaniya University
- Agriculture - affi liated to Peradeniya University

The two colleges were merged to form the Wayamba Campus, established in terms of the provisions of the Sections 18 and 47 (1) of the Universities Act No. 16 of 1978 and the Campus Board Ordinance No. 3 of 1995. As provided in the Act referred above, two Faculties were established: the Faculty of Agricultural Sciences and the Faculty of Applied Sciences.

The Faculty of Agricultural Sciences consisted of the Departments of Plantation Management, Horticultural Sciences and Food Technology & Agricultural Engineering. The Faculty of Applied Sciences consisted of the Departments of Mathematical Sciences, Industrial Management & Computer Studies and Nutrition & Community Resources Management.

MASTER PLAN OF THE UNIVERSITY






wayamba university
master plan and layout proposals
CONCEPT PLAN FOR
PHYSICAL DEVELOPMENTS
KULIYAPITIYA PREMISES.
PROJECT CONSULTANCY UNIT,
FACULTY OF ARCHITECTURE,
UNIVERSITY OF MORATUWA.


wayamba university
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CONCEPT PLAN FOR
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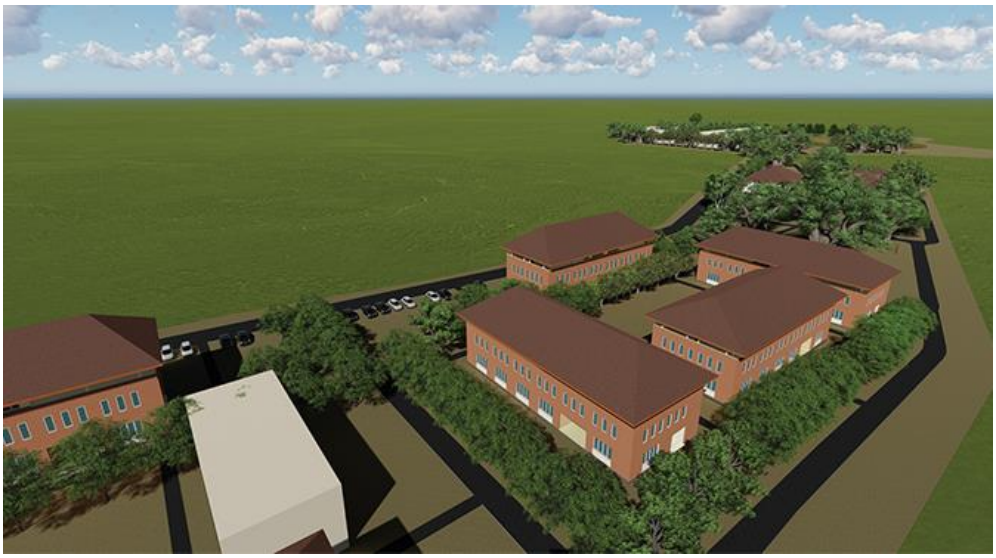
FACULTY OF ARCHITECTURE,
UNIVERSITY OF MORATUWA.

LABUYAYA PREMISES



The new medical faculty is located in a splendid environment with seventeen buildings. As you pass through the impressive entrance, the Deans' Office & the administrative block will meet your eyes. The other buildings spread throughout the compound, will accommodate the library, auditorium, laboratories, pre clinical, para clinical & clinical departments, lecture halls, sports complex & the community center.

The hostels & staff quarters are located at the rear of the complex with separate access

VISION, MISSION, VALUES, GOALS AND OBJECTIVES OF THE UNIVERSITY

VISION

To be a leading higher education institute in Sri Lanka recognized for its outstanding academic programs, innovative research, and scholarship outreach with the ultimate target of serving the mankind.

MISSION

To develop highly qualified and responsible citizens who contribute to the improvement of society and sustainable development of the country.

GOALS & OBJECTIVES

The goals of the Wayamba University of Sri Lanka to be achieved during the period of 2018 -2022 are as follows:

- Quality enhanced and accredited education meeting the national and international standards at the level of undergraduate and postgraduate as well as professional.
- Meeting the growing demand for higher education through an increased student access.
- Entrepreneurial graduates with high employability to meet the legitimate expectations of the stakeholders.
- Conducive environment for research, innovations, scholarships and outreach/commercialization.
- Committed university community serving mankind.

UNIVERSITY CREST

The **crest** of the Wayamba University of Sri Lanka contains six cultural symbols of national significance, namely a lotus, a book, a lamp, two sheaves of paddy, a conch shell and a lion with a sword in hand, on top of it.

The lotus which adorns the Moon Stones of Sri Lanka is an acclaimed symbol of purity and serenity. Above the lotus is a book which is a manifest representation of knowledge. The lamp with three flames over the book depicts the enlightened state of mind one should reach with University education

The lamp has its upper flame in the shape of a conch shell. From one angle, it resembles a flame, which is symbolical of the light of knowledge & from another angle, a **conch shell**. What does the conch shell in the crest depict? It is firstly a device of communication and secondly it implies fame and repute - an essential attribute of a University. Universities, as seats of learning and scholarship, are meant to radiate its eminence to horizons far and wide. The combination of the flame of light and the conch shell signifies this particular attribute of university education.

The two sheaves of paddy represent prosperity. Prosperity is an extremely wide term, which encompasses many shades of meaning.

Commonly it denotes economic prosperity, but social, cultural & even scientific & technological prosperity can be signified by paddy sheaves. The paddy sheave in this crest can be taken as a geographical marker of the North Western Province which is a predominantly an agriculture

The lion symbol, at the top of the crest expresses that ours is a University of national magnitude. Our University, along with the other state Universities are the pride of the nation.

UNIVERSITY FLAG

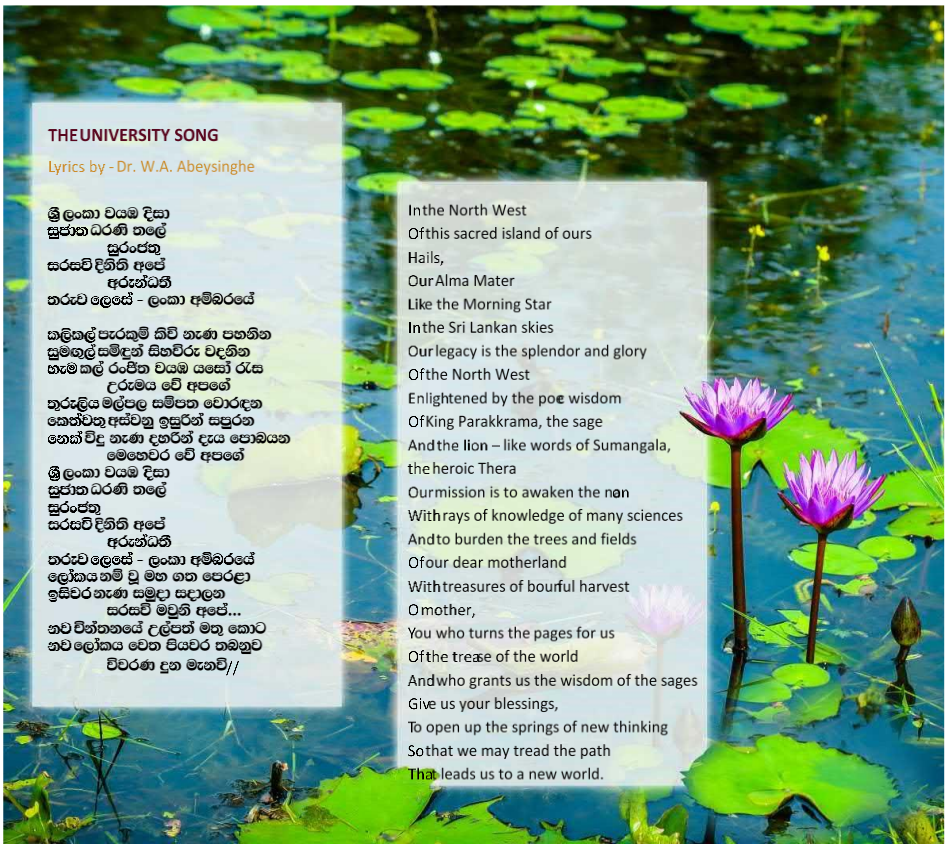
THE UNIVERSITY COLOURS

- Gold & Maroon

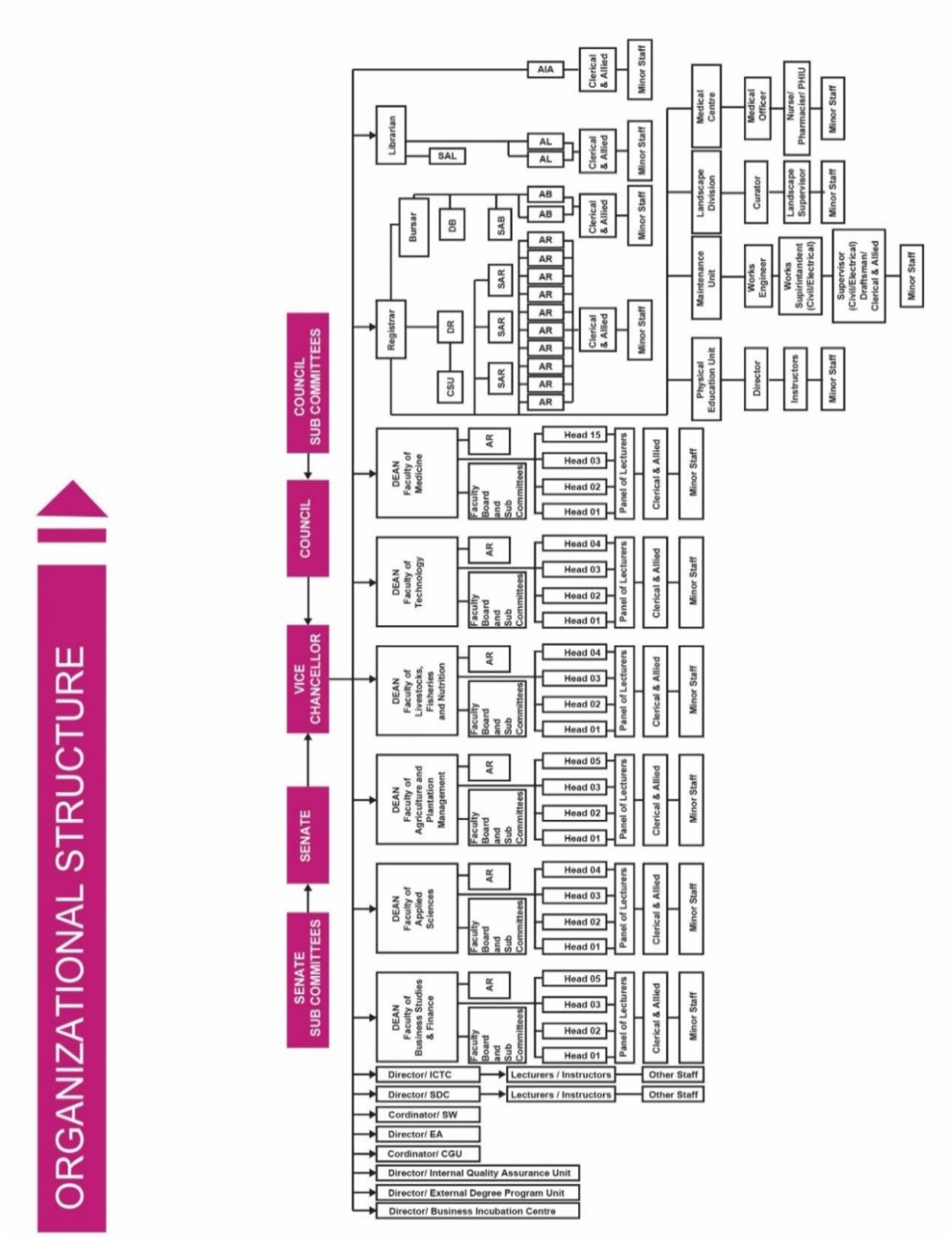
FACULTY COLOURS

- Agriculture & Plantation Management - Green
- Applied Sciences - Orange
- Business Studies & Finance - Maroon
- Livestock, Fisheries & Nutrition - Light Blue
- Technology - Yellow
- Medicine - Purple

THE UNIVERSITY SONG



ORGANIZATION OF THE UNIVERSITY



FACULTIES AND INSTITUTES

I. Faculty of Medicine
II. Faculty of Agriculture & Plantation Management
III. Faculty of Applied Sciences
IV. Faculty of Business Studies & Finance
V. Faculty of Livestock, Fisheries & Nutrition
VI. Faculty of Technology

VISION, MISSION AND VALUES OF THE FACULTY

VISION

To gain international eminence as an institute which strives towards building healthier societies by responding to the needs of the community.

MISSION

To produce highly skilled, socially accountable, health care professionals with the highest professional standards and commitment towards advancement of the discipline in a culture that supports diversity, inclusion, critical thinking and creativity.

VALUES

In order to fulfill its mission and achieve its vision the graduate is expected to have the following values

I. Commitment to advancement and excellence
II. Leadership and team work
III. Respect for diversity
IV. Commitment to social and public health
V. Effective collaboration and communication
VI. Ethical Behaviour and Professionalism

HISTORY OF THE FACULTY

The University Grants Commission and the relevant Ministries determined the need to establish a Faculty of Medicine at the Wayamaba University and followed up with making detailed plans. The proposal to establish a Faculty of Medicine was confirmed with the gazette notification (no 1954/43) by the government on 19th February 2016. The foundation stone was laid for the new Faculty of Medicine at Labuyaya on the 12th of October 2016.The ceremonial opening of the Labuyaya Premises was held on 31st of August 2019.The faculty enrolled its first batch of students on the 10th of December 2018 while being located in a temporary building adjacent to the Kuliyapitiya premises. .

GENERAL INFORMATION

FACULTY OF MEDICINE

Temporary address	Permanent address
WUSL	Labuyaya
Lionel Jayathilake Mawatha	Kuliyapitiya
Kanadulla	
Kuliyapitiya	

WEBSITE

www.wyb.ac.lk/index.php/academics/faculties/faculty-of-medicine

DEAN'S OFFICE

Acting Dean	Prof. M.D. Lamawansa
Telephone	037-3138252
Email	deanfm@wyb.ac.lk

Dr.(Mrs). C.D. Gunaratne	Senior Lecturer grade I
Mrs. K.A.I. Jayamali	Assistant Lecturer
Miss. P.M. Nanayakkara	Assistant Lecturer

Staff - Dean's Office	
Mr. W.M.U. Keerthirathna	Senior Assistant Registrar
Mrs. D.S.K. Amarapala	Management Assistant
Miss. B.A.T. Madushani	Management Assistant
Ms. L.H.M.K.D. Lansakara	Work Aid
Mr. H.M.H.U. Indika	Work Aid

DEPARTMENTS

DEPARTMENT OF ANATOMY (T.P. 037-3139795)

Academic Staff	
Dr. K.M. Chandimal	Senior Lecturer grade II & Head
Dr. N.J.D. Gunaratne	Senior Lecturer grade I
Dr. (Mrs.) E.M.D.P. Ekanayake	Lecturer (Probationary)
Dr. (Mrs.)E.A.A.M Wickramarathna	Lecturer (Probationary)

Non Academic Staff	
Mrs. H.P.S. Jayaweera	Technical Officer
Mr. R.D.B. Show	Lab Attendant
Mr. H.M.J.P. Kumara	Work Aid

DEPARTMENT OF PHYSIOLOGY (T.P. 037-3139799)

Academic Staff	
Dr. (Mrs.) RAN Ranathunga	Senior Lecturer grade II & Head
Dr. M.M. Muthuthamby	Lecturer (Probationary)
Miss. J.D. Thakshila	Demonstrator

Non Academic Staff	
Mr. E.K. Udagedara	Technical Officer
Miss. H.D.N.K. Hathurusinghe	Lab Attendant
Mrs. LHMKD Lansakara	Work Aid

DEPARTMENT OF BIOCHEMISTRY (T.P 0373139798)

Academic Staff	
Prof. P.H.P. Fernando	Senior Lecturer grade I & Acting Head
Dr. S. Jeevathayaparan	Senior Lecturer grade I
Dr.(Mrs.) K.M.D.G.D.N. Kekulandara	Senior Lecturer grade II
Miss. K.N Nilmini	Assistant Lecturer
Mr. H.E.G. Wedaarachchi	Demonstrator

Non Academic Staff	
Mr. K.M.P.M.N.K. Mahapathirana	Technical Officer
Ms. H.M.N.K. Herath	Lab Attendant

SERVICES

STUDENT COUNSELLING SERVICE

The student counseling service of the Wayamba University of Sri Lanka provides services and programs which promote the personal development and psychological well-being of students. It helps to develop an environment which ensures students' educational attainments. Students will have the opportunity to privately and confidentially discuss their personal, psychological, social and financial issues or any other difficulties faced during their university education, with the student counselors and obtain advice and guidance.

Student Counselor:

Dr.(Mrs.) Nayomi Ranathunga
Department of Physiology
Faculty of Medicine
037-3139799

Deputy Proctor:

Dr. KM Chandimal
Department of Anatomy
Faculty of Medicine
037-3139795

ACADEMIC MENTORS

Dean's Office

Dr. (Mrs.). C.D. Gunaratne - Mentoring Coordinator
chda@wyb.ac.lk
037-3138252

Department of Anatomy

Dr. K.M. Chandimal chandimal@wyb.ac.lk 037-3139795	Dr. N.J.D. Gunaratne nandalal@wyb.ac.lk
Dr. (Mrs.)E.M.D.P. Ekanayake dhammini29@gmail.com	Dr. (Mrs.)E.A.A.M Wickramarathna amilawickramarathna998@gmail.com

Department of Physiology

Dr. (Mrs). RAN Ranathunga ranayomi@wyb.ac.lk 037-3139799	Dr. M.M. Muthuthamby, muthuthamby@gmail.com

Department of Biochemistry

Dr. P.H.P. Fernando phps@wyb.ac.lk 0373139798	Dr. S. Jeevathayaparan sjeevathayaparan@gmail.com
Dr.(Mrs.) K.M.D.G.D.N. Kekulandara niwarthanak@gmail.com	

INFORMATION COMMUNICATION TECHNOLOGY (ICT) CENTRE

Information Communication Technology (ICT) Centre is the primary provider of computing and information technology to the Kuliyapitiya Premises. It provides IT training programs for students, staff, and external professionals to improve IT skills. To ensure the smooth proceeding of educational and research activities, the centre also offers comprehensive services using the latest advances in information technology. These services include running servers (mail, web, and Learning Management Systems), maintaining the networks that form the university's IT infrastructure, promoting e-learning initiatives such as computerization of teaching materials and the use of learning management systems, and providing support to departments and units in order make their information and data available online.

ICT provides its fullest cooperation to use the facilities on every weekday from 8.00am to 8.00pm and 8.00am to 4.00pm on Saturdays.

THE LIBRARY

The Main Library is situated in the administrative complex of the Wayamba University of Sri Lanka. The Library commenced as an affiliated college library. In 1999 the library became an independent national university library. Library consists of three sections –lending, reference, computer services.

OPENING HOURS

Monday - Friday: 8.00 am - 6.30pm
Saturday: 8.00 am - 4.30pm (Exam period only)

The Library is closed on Sundays, public holidays and special University holidays. The closing time of the library is extended to 8.00 pm during the university examination periods.

There are two Divisions, two Units, three Sections and one Special Collection in the main library:

1. Reader Services Division
2. Acquisitions, Cataloguing and Classification Division
3. Computer Unit
4. Binding Unit
5. Reference Section
6. Lending Section
7. Periodicals Section
8. Special collections

LIBRARY SERVICES

1. Borrowing facility
2. Reference facilities including the use of computer facilities
3. OPAC service
4. Web page service -includes new arrivals special notice etc.
5. Referral service
6. Photocopying facility
7. SLSTINET Service
8. Inter library loan facilities
9. Electronic media services
10. Content and paper clipping service
11. Bibliography and indexing service
12. Extension services within and outside the University
13. Library orientation and Learning Skills Development

The collection of periodicals in print version is about 25 titles and all university scholars, researchers and undergraduates are provided access to online database. Users can freely access this web based information from within both premises the University.

A purpose built space is available to commence a library at Labuyaya. It is planned to establish a state of the art library which will focus on medical education.

DEPARTMENT OF ENGLISH LANGUAGE TEACHING (DELT)

Department of English Language Teaching (DELT) is a department that conducts various programs to improve the English language proficiency of the undergraduates, the University staff and the outside community. The department uses all its human and physical resources to provide effective learning activities leading to a mastery of all facets (listening, speaking, reading and writing) of English as a second language. On acquiring effective communication skills through the courses offered by the DELT, the students will develop a greater confidence as professionals in the job market and also will learn to think critically about the world around them.

HEALTH CENTRE

There are two Medical Centers (Kuliyapitiya & Makandura) in Wayamba University of Sri Lanka.

Both Medical Centres provide free access & good medical care to all students of the University. Students have to register at the Medical Centreprior to consulting the University medical officer.Registration has to be done by providing the students record book or identification card to the medical centre office. Medicines are issued free of charge.

OPENING HOURS

Monday to Friday: 8.00 am - 4.30 pm

MEDICAL CERTIFICATES

If a student is unable to attend lectures and/or practical classes due to an illness he/she should inform the University Medical Officer within two weeks. Students can seek medical care from a government or a registered private medical officer if they wish to. All medical certificates issued have to be scrutinized & approved by the University Medical Officer.

ILLNESS DURING EXAMINATION PERIOD

If a student is unable to sit for the exam due to an illness he/she should inform the Head of the Department immediately. The medical certificates obtained from outside hospitals should be submitted to the Faculty with the approval of the University Medical Officer.

PHARMACY

The two pharmacists in the indoor pharmacies issue all available drugs prescribed by the Medical officers.

PREVENTIVE HEALTH CARE

Two Public Health Inspectors (PHI) are responsible for the hygiene & sanitary aspects of the Campus.

AYURVEDIC CENTRE

In order to provide the Wayamba University Community with indigenous medical treatments, an Ayurvedic Centre was opened on 07th of March 2013. Advice & treatment is available for staff & students

OPENING HOURS

Mondays: 9.00 am - 4.00 pm
Thursdays: 9.00 am - 4.00 pm

CAREER GUIDANCE UNIT

The Career Guidance Unit (CGU) of the Wayamba University was established in 2003 with the objectives of enhancing professional skills of students and to strengthen links between university students and the corporate sector. Since the establishment, the CGU has been organizing events to facilitate a variety of career guidance activities for undergraduates with the assistance of Faculty Coordinators of Career Guidance.

The undergraduates, who are selected to participate in career guidance activities organized by the CGU go through personal development programs in the form of workshops and seminars on core skills, entrepreneurship and other related areas, considered as useful for their survival in the corporate world.

OTHER SERVICES

BANKING FACILITIES

Bank of Ceylon has University branches in the Faculty of Business Studies and Finance premises & the temporary Medical Faculty premises. It provides students with banking facilities.ATM machines are located at the entrance of the Faculty of Business Studies and Finance premises and the temporary Medical Faculty premises.

CANTEENS

The Wayamba University of Sri Lanka provides facilities to operate student canteens and staff canteens at both premises for the benefit of the University community. The service providers will be selected through National Competitive Bidding procedure for a one year period.

The University canteen committee consisting of relevant stake holders of the University has been established to monitor the proper management and maintenance of the canteens facilities Electricity and water are provided free of charge to the service providers by the University to facilitate healthy meals at a minimum cost.

The canteen at Labuyaya currently meets the needs of the students in the hostel but it is planned to expand the services.

List of student and staff canteens operating at present are as follows;

Kuliyapitiya Premises

I. Main Canteen – Faculty of Business Studies and Finance
II. Hostel Canteen
III. Staff Canteen

Labuyaya Premises

I. Hostel Canteen

HOSTELS

Presently, the University has thirteen hostels in both premises. All the students from more than 30km distance will be provided with the hostel facilities. Labuya has two new hostels which can accommodate approximately 400 students. Currently the 1st batch of medical students use this facility.

All students who wish to apply for hostel accommodation should submit their applications by hand or registered post to reach the Assistant Registrar/Students' Registration and Welfare of the Kuliyapitiya premises before the due dates.

According to the Hostel Policy of the University, students whose permanent residence is more than 30km will be considered for hostel accommodation. The students from less than 30km will be considered if there are vacancies available.The criteria of selecting students, is as follows and 1st category will be filled at first and so on.

- **01stCategory** - All first year students from more than 30 km distance
- **02ndCategory –** All fourth year students from more than 30 km distance (including the students who are completing their degree programme within three years)
- **03rdCategory –** All third year students from more than 30 km distance
- **04thCategory –** All second year students from more than 30 km distance

The hostel fee for one academic year is Rs.550/-. This should be paid at the **beginning of every academic year.**

Selected students should report to the hostel on the given date. If a student fails to report for accommodation within 7 days of the expected date the position will be granted to another student.

PHOTOCOPYING SERVICES

Following photocopying centres are being operated to enable the students to fulfill their requirements at reasonable rates.

- Kuliyapitiya premises
- At the Faculty of Business Studies and premises
- At the Hostel canteen

MONTHLY SEASON TICKETS FOR RAILWAYS

Railway season tickets are issued for the students who are in the internship programme. These are issued in January and July every year by the Students' Registration and Welfare division.

STUDENTS' CENTRE

A student centre is available at the Kuliyapitiya premises and opened for all the students. Reservation of the Student Centre for a specific purpose is done by the Students' Registration and Welfare division on the request of relevant parties.

SCHOLARSHIPS

BURSARY SCHOLARSHIPS

Bursary is another form of financial assistance given to needy students. Every student who enrolled at the University will be issued an application for Bursary. The students who satisfy the eligibility criteria given in the University Grants Commission Circular: 856 and 900 will be awarded the Bursary scholarships. Students who wish to apply for Bursary scholarships should complete the application forms and hand over to Grama Niladari of the division with all relevant documents enabling him/her to dispatch the same through the Divisional Secretary to reach Assistant Registrar/Students' Registration and Welfare (Kuliyapitiya premises) on or before the closing date.

Transferred Students are requested to instruct the earlier University to forward their bursary applications to this University. No duplicate applications are issued except for a loss of an application.

After processing the applications, acceptance letter along with a form is issued to the students who are eligible to receive the Bursary (according to the Selection Criteria) are requested to submit the completed attached form with the Bank of Ceylon savings account details of a student. A list of rejected students will be available at the Student Welfare Branch and students can verify and appeal with proof of changes in the income (retirement, death, pension etc. of parents/guardian)

Students are selected for merit or ordinary Bursary scholarship according to the marking scheme. Payments are made in 10 installments per academic year and a student selected for merit bursary will receive Rs.4000/- and a student selected for ordinary bursary will receive Rs.3900/- per installment from the University Grants Commission.

The payment will be made for all students who sign the signature sheet for Bursary Scholarship every month by crediting to the bank accounts. Students will be informed by notices about the dates on which these installments will be paid by the Student Affairs Branch.

Those who fail to sign the signature sheets before the dead line can appeal to obtain the relevant Bursary installments by forwarding a duly completed application (Download).

The payment of Bursary/Mahapola scholarship to any student may be completely stopped or temporarily suspended for any one or more of the following reasons;

- If a student fails to pass any examination completely, provided however, that the Bursary may be paid to any student who has been referred at the first year examination and who is following the course of study prescribed for the second year.
- If a student does not pursue his studies diligently.
- If the student conducts himself/herself in an indisciplinary manner.

For any other valid reason which is to be decided upon at the discretion of the Vice Chancellor

MAHAPOLA SCHOLARSHIPS

University Grants Commission selects students who satisfy the eligibility criteria to receive the Mahapola scholarships in every admission year. The selected list of students will be notified to the university.

Mahapola scholarships are awarded on two different basis namely merit scholarships and ordinary scholarships. Merit scholarships are awarded to the students who have scored highest marks at G.C.E. A/L examination and ordinary scholarships are awarded to the students from families of lower income levels.

Payments are made in 10 installments per academic year and a student receives a sum of Rs.5050/- or Rs.5000/- per installment as merit or ordinary scholarship jointly from the Mahapola Trust Fund and University Grants Commission.

Selected students are requested to mandate a bank account at the BOC Bank (in any branch) and to submit the details of account to the Students' Registration and Welfare Branch for payment arrangements. The payment will be made for all students who sign the signature sheets of the Mahapola scholarships every month by crediting to the bank accounts. Students will be informed by notices about the dates on which these installments will be paid by the Branch.

The Mahapola scholarship payment will be suspended by the Mahapola Trust Fund if it is found to be a fraudulent signature by a student.

WITHHOLDING FINANCIAL ASSISTANCE

A cancellation or suspension of financial assistance would befall on the students should they indulge in violation of student discipline, not maintain regular attendance, become eligible for more than one scholarship, get paid employment or not register for an academic year and not making signatures for two Mahapola installments continuously.

OTHER SCHOLARSHIPS

There are other scholarships awarded by institutions and individuals.

Applications for the following scholarships could be obtained from relevant institutions.

- Education Employees Cooperative Thrift & Credit Society Ltd. (EECTCS)
- Watawala Plantation
- Petroleum Corporation
- Sri Lanka Ports Authority
- Commercial Bank of Ceylon
- Government Officers Benefit Association
- Colombo Youth Buddhists Association
- Sri Lanka Police Central Welfare Council Benefit Scheme

SPORTS FACILITIES

PHYSICAL EDUCATION UNIT

The Department of Physical Education is the key provider and the promoter of the best possible sports and recreation environment for the University Community. The main unit is located at the Kuliyapitiya Premises and the sub unit is located at the Makandura Premises. All the administrative processes are handled by the main unit.

INFRASTRUCTURAL FACILITIES

- Indoor Stadium
- Fitness Centres
- Play Grounds
- Volleyball Court (outdoor)
- Basketball Court (outdoor)
- Carom Room
- Chess Room

Swimming pool facilities are provided in collaboration with the Department of Physical Education in a location out of the campus.

There are almost 32 sports events under 22 sporting categories facilitated by the department including Badminton, Baseball, Basketball, Carom, Chess, Cricket, Elle, Football, Hockey, Karate, Road Races, Rugby, Netball, Swimming, Table Tennis, Taekwondo, Tennis, Track and Field, Volleyball, Weightlifting, and Wrestling. All sports goods and equipment are freely accessible to all university students and the staff with valid university identification for a given time of period.

SERVICES OF PHYSICAL EDUCATION UNIT

The Department of Physical Education operates across three key areas.

- **Provide Infrastructure & Sports Facilities -** management of sports and recreation facilities; indoor stadium, playgrounds, outdoor playing courts (basketball, volleyball), fitness centres, sports goods & gym equipment, sportswear
- **People Development -** provide information, advice and education support to the persons involved in competitive sports and sports for recreation through services provided by the administrator, officials (IPE), coaches and volunteers.
- **Organize Sports Programs & Participation of Students In Outside Tournaments -** Inter Faculty Freshers', Inter Faculty Championships, Inter University Championships and other competitive and recreational tournaments annually and facilitate students' participation in national and international competitions including South Asian, Asian and World University Games.

CAMPUS SOCIETIES

ORGANIZING EVENTS

The application for organizing events by the Faculty Students' Unions / Societies should be forwarded to the Vice-Chancellor through the proper channel. The letter of approval will be issued by the Students Registration and Welfare division for the programmes approved by the Vice-Chancellor.

STUDENTS' UNIONS/ SOCIETIES AND ASSOCIATIONS

As per the Universities **Act No.16 of 1978, By-Laws of the university and guidelines for students** societies the recognition of Student Unions / Societies and other Associations in the University shall be made with the approval of the Council. All Student Societies and other Associations should renew their registration in the University annually and submit annual financial statements for auditing.

WHOM TO CONTACT

ORGANIZING EVENTS

Item	Name and Designation	Telephone	Fax
Reservation of Auditorium	Assistant Registrar General Administration	037-2281151	037-2284775
Reservation of Students' Centre	Assistant Registrar Students' Registration and Welfare	037-2283167	037-2283167
Dancing Dresses (VesAndum)	Assistant Registrar Students' Registration and Welfare	037-2283167	037-2283167
Transport Arrangements	Assistant Registrar General Administration	037-2281151	037-2284775
Music Equipment	Assistant Registrars of Faculties	FAS -037-2283623 FBSF-037-2284215 FoT- 037-2283623	

PHYSICAL HEALTH

Premise	Designation	Telephone
Kuliyapitiya	Medical Officer	037-2284779

SECURITY AND SAFETY

Premise	Designation	Telephone
Kuliyapitiya	Security Office	037-2283166

TRANSPORT FACILITIES

Premise	Name	Designation	Division	Telephone	Fax
Kuliyapitiya	Mr. R.M.D.K.A.Rathnayake	Assistant Registrar	General Administration	037-2281151	037-2284775

WELFARE RELATED MATTERS

Premise	Name	Designation	Division	Telephone	Fax
Kuliyapitiya	Ms. S.N. Priyadarshani	Assistant Registrar/	Welfare and Student Registration	037-2283167	037-2283167

COORDINATORS STUDENTS' SUPPORT SERVICES AND WELFARE

Premise	Name	Designation	Telephone
Kuliyapitiya	Dr. P.M.N. Dharmawardane	Coordinator Student Support Services and Welfare	037-2283170

ENTERTAINMENT

Stage dramas are held at the Open Theater while cultural events, social events and other student activities are held in the Pundit Amaradewa Auditorium

A new auditorium is under construction at the Labuyaya premises.

DETAILED CURRICULUM OF THE MBBS PROGRAM

(Preclinical phase)

DETAILED LEARNING OUTCOMES OF THE DEGREE PROGRAMME

The following table gives the core values and intended learning outcomes pertaining to the MBBS program

Core values / outcome areas	Intended learning outcomes
1. Commitment to providing optimum health care, advancement and excellence	The graduate should be able to; • Apply scientific principles and a multidisciplinary body of scientific knowledge in the prevention, diagnosis& management, of clinical problems. • Explain the variation in the expression of health and disease through critical evaluation of biomedical research. • Demonstrate the highest level of efficiency in data collection, analysis & use of conclusions for prevention, diagnosis, and management of diseases. • Seek expert advice & guidance when a need arises. • Respond to emergencies immediately and appropriately. • Demonstrate intellectual curiosity in updating & upgrading new knowledge & skills with a view to improving efficiency in medical practice & contributing to scientific medical knowledge.
2. Leadership and team work	• Take leadership (initiate) in optimal patient care & institutional improvement ,also recognise & respect the capabilities & ideas of members of a team
3. Respect for diversity	• Recognise the ethnical, social, religious & economical diversity of populations under ones care & deliver health care in a manner acceptable to each individual or community.

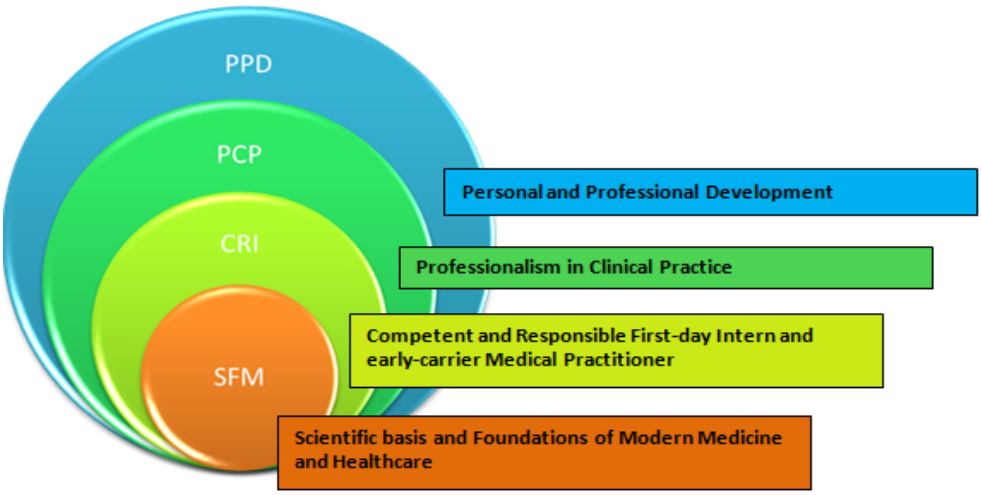
4. Commitment to social and public health	• Identify immediate, direct & underlying causes of ill health & take remedial measures within ones capacity • Be familiar with the important preventive & rehabilitation programs implemented by governmental & non-governmental organisations.
5. Effective collaboration and communication	• Effectively mobilise, organise & implement patient care & organisational improvement strategies with health sector other governmental sectors & the non-governmental sector. • Develop the confidence & trust of the patient & ensure the patient has an informed choice in taking medications acknowledge the role of all the health staff in the institution & ensure a patient friendly health care delivery system. • Use information and communication technology to enhance the quality of care, health promotion and professional development
6. Ethical Behaviour and Professionalism	• Display compassion, empathy, honesty and integrity in relationships with patients, families, and the medical community. • Adhere to the ethical code of conduct for medical officers. • Self appraise ones knowledge & practice of medicine & receive & impart constructive appraisal from healthcare professionals, patients, families & care givers. Impartially & efficiently attend to medico legal matters.

CURRICULUM MODEL OF THE MBBS PROGRAM, WAYAMBA UNIVERSITY OF SRI LANKA

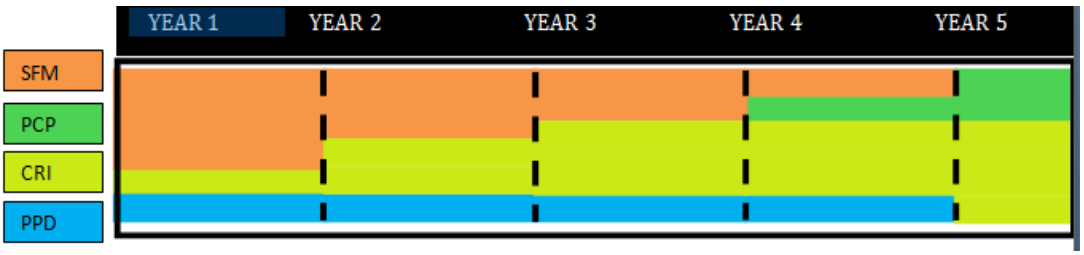
The curriculum model considers that biological, behavioral and sociological aspects are fundamental to medical practice and delivery of health care by WUSL graduates. Based on the foundation knowledge students are expected to master the basic clinical, medico-legal and public health competencies required for efficient functioning as an intern medical officer and thereafter as an early career medical officer, both nationally and internationally. The WUSL graduate will also require adopting a professional approach to their work and be mindful and skillful in maintaining their personal well-being and continuing professional development.

Study content of the MBBS program is arranged under four different streams as depicted below; scientific basis and Foundations of Modern Medicine and Healthcare, Competent and Responsible First-day Intern and Early-career Medical Practitioner, Professionalism in Clinical Practice, Personal and Professional Development. Streams along the five-year time line are given in the table below. The competencies expected of a medical graduate which are possession of medical knowledge, patient care, practice based learning, system based practice, communication, professionalism, prevention and health promotion and digital health are included in the curriculum and given due attention at the relevant stages of the five-year program.

CURRICULUM MODEL OF THE MBBS PROGRAM, WUSL



CURRICULUM STREAMS ALONG THE FIVE-YEAR TIME LINE



SFM Scientific Basis and Foundations of Modern Medicine

CRI Competent and Responsible First-day Intern and early-career Medical Practitioner

PCP Professionalism in Clinical Practice

PPD Personal and Professional Development

Streams & relevant ILOs

SCIENTIFIC BASIS AND FOUNDATIONS OF MODERN MEDICINE (SFM)

ILOs:

- Apply scientific principles and a multidisciplinary body of scientific knowledge of structure and function of human body to understand causation, effects& prevention of diseases.
- Understand the limits of personal knowledge and experience and demonstrate intellectual curiosity to contribute to the scientific body of medical knowledge
- Explain the variation in the expression of health and disease through critical evaluation of biomedical research
- The social, behavioural, and economical factors that influence health, disease and medical care.

COMPETENT AND RESPONSIBLE FIRST-DAY INTERN AND EARLY-CAREER MEDICAL PRACTITIONER (CRI)

ILOs:

- Apply scientific principles and a multidisciplinary body of scientific knowledge to the diagnosis, management, and prevention of clinical problems
- Respond to emergencies immediately and appropriately
- Demonstrate the highest level of effective and efficient performance in data collection, analysis&, interpretation and use of conclusions in the prevention, diagnosis, and management of diseases
- Present information and ideas in an organized and clear manner to educate or inform patients, families, colleagues and community
- Respond to factors that influence the social, behavioral, and economical aspects in health, disease and medical care
- Ensure justice through medical practice by way of responding appropriately to Medico-legal problems

PROFESSIONALISM IN CLINICAL PRACTICE (PCP)

ILOs:

- Seek help in instances where a situation is beyond one's expertise
- Demonstrate effective and compassionate interpersonal communication skills toward patients and families necessary to provide and sustain effective medical care.
- Display the personal attributes of compassion, honesty and integrity in relationships with patients, families, and the medical community
- Demonstrate adherence to the highest ethical standards of judgment and conduct as it applies to the healthcare milieu
- Demonstrate a critical self-appraisal in the knowledge and practice of medicine, as well as receive and give constructive appraisal to/from patients, families, colleagues and other healthcare professionals
- Demonstrate ability work in the capacity of a leader as well as a member of a health care team
- Demonstrate the ability to manage the needs of diverse populations during discharging duties or decision making during patient management

PERSONAL AND PROFESSIONAL DEVELOPMENT (PPD)

ILOs:

- Understand the limits of personal knowledge and experience and demonstrate intellectual curiosity to actively pursue the acquisition of new knowledge and skills necessary to refine and improve medical practice
- Use information and communication technology to enhance the quality of care, networking, personal and professional development
- Demonstrate healthy behavior at workplace and outside

OUTLINE OF THE ACADEMIC PROGRAM

MBBS program at the Wayamba University of Sri Lanka is a five-year program, module based and is divided into three phases; Preclinical, Para clinical and Clinical. Prior to the commencement of academic program all students will be enrolled for orientation program which is also called Professional Transition Program (PTP).Preclinical phase runs over the first three semesters after which there will be a comprehensive examination. Marks obtained at the module examinations and the comprehensive examination contributes to the 2nd MBBS barrier examination. This is followed by paraclinical and clinical phases which are overlapped in the semesters 4 to 7. Last three semesters are exclusively for clinical disciplines. The weight age of modules are expressed in hours.

Teaching/Learning activities are aimed at self-learning, group learning, critical thinking, problem solving and life-long learning, and includes traditionallectures, small group discussions, assignments, team-based learning, flipped class room learning, seminars, practical sessions, cadaver dissections, case discussions and presentations, use of teaching/learning aids such as audio-video material, models, prosected specimens, clinical case discussions etc. There will be clinical exposure commencing from the first semester itself.

Modules are assessed in both in-course and end-course examinations and also in three composite examinations; second MBBS examination, Third MBBS examination and Final MBBS examination. The assessment done at the end of modules in the preclinical phase is a progress point examination (the students cannot progress to the next component of the curriculum without successful completion of this examination). This examination is named as the second MBBS examination. In the second MBBS examination assessment will include cumulative knowledge of all the modules of preclinical phase.

SCHEDULE OF MODULES/SUBJECTS

Year	Semester	Subjects, Module/s	Assessment type
1	I	*Communication and Information Technology Foundation,* *Body tissues and locomotor system,* *Blood and Immune system*	In-course and End-course
1	II	*Cardiovascular system and circulation, Respiratory system and gas exchange, Gastrointestinal system Nutrition and Metabolism,* *Renal and urinary system*	In-course and End-course
2	III	*Endocrine system,* *Reproductive system,* *Central nervous system and control of body functions,* *Basic Sciences for Clinical Practice*	In-course and End-Course *Assessed in the Second MBBS examination*
Comprehensive Examination (main and supplementary) **Consist of Three Subjects:** • Basic Sciences for Clinical Practice I- Anatomy • Basic Sciences for Clinical Practice II-Biochemistry • Basic Sciences for Clinical Practice III-Physiology **Second MBBS barriers Examination** (contributed to by marks obtained from module examinations and comprehensive examination)			
Year	**Semester**	**Subjects, Module/s**	**Assessment type**
2	IV	**Main subjects** Microbiology I, Parasitology I, Clinical Pharmacology & Therapeutics I, Pathology I, Community Medicine-I	In-course and End-course
		Other Subjects Clinical Medicine, Obstetrics and Gynaecology Paediatrics, Psychiatry, Surgery	In-course

3	V	**Main Subjects** Microbiology II Parasitology II Clinical Pharmacology & Therapeutics II Pathology II Community Medicine-II Forensic Medicine and Toxicology I	In-course In-course and End-course
		Other Subjects Clinical Medicine, Obstetrics and Gynaecology Paediatrics, Psychiatry, Surgery	In-course

Year	Semester	Subjects, Module/s	Assessment type
Third MBBS Part I Examination, (main and supplementary)			
3	VI	**Main Subjects** Clinical Pharmacology & Therapeutics III Pathology III Community Medicine-III Forensic Medicine and Toxicology II	In-course and End-course
		Other Subjects Clinical Medicine, Obstetrics and Gynaecology Paediatrics, Psychiatry, Surgery	In-course
4	**VII**	**Main Subjects** Clinical Pharmacology & Therapeutics IV Pathology IV Community Medicine IV	In-course

		Family Medicine (Family Medicine/General Practice) Forensic Medicine and Toxicology III	
		Other Subjects Clinical Medicine, Obstetrics and Gynaecology Paediatrics, Psychiatry, Surgery	In-course
Third MBBS Part II Examination, (main and supplementary)			
4	**VIII**	**Main Subjects** Clinical Medicine, Obstetrics and Gynaecology Paediatrics, Psychiatry, Surgery	In-course
5	**IX**	**Main Subjects** Clinical Medicine, Obstetrics and Gynaecology Paediatrics, Psychiatry, Surgery	In-course
5	**X**	**Main Subjects** Clinical Medicine, Obstetrics and Gynaecology Paediatrics, Psychiatry, Surgery	In-course and End-course

DETAILED DESCRIPTION OF COURSE/SUBJECTS

COMMUNICATION AND INFORMATION TECHNOLOGY

Course No : **MED1101**
Course Title : **Communication and Information Technology**
Core/Optional : **Core**
Prerequisites : **None**

Aim:

To enable students to become Proficient in English Language, communication, Information Technology, study methods and appropriate use of medical literature are essential components of studying Medicine effectively and efficiently.

Intended Learning Outcomes

At the end of completion of the module, students should be able to;

- Comprehend the meaning of written and verbal form of General and Medical English.
- Make contextual reference and efficiently take down notes
- Communicate in both written and verbal forms
- Draft applications and curriculum vitae
- Use internet for literature search
- Use technology for creating word documents, spread sheet, create graph and power point presentation, effective interpersonal communication

Course **Content**

Reading, writing and listening comprehension of general English, use of medical terms and basis of origin of medical terms, use of medical text books and other medical literature, searching of information on the web, use of word processing software and data entry software, use of formula in excel sheet, creation of graph and making power point presentation.

Time Allocation

Lectures - 45 hrs
Small Group Discussion - 15hrs
Assignment - Four assignments
This module will be delivered in semesters 1

Assessment

In course : Formative
End course : 100% (Written examination, Viva and Practical)
(This module contributes 2% to the Second MBBS examination)

Recommended Reading/References

- Teaching Listening Comprehension-Penny UR-Eleventh Printing 1993
- A communicative grammar of English-Geoffrey Leech/Jan Svartvik, 3rd Edition
- Last's Anatomy: Regional and Applied-CS Sinnathamby
- Text book Medical Physiology-Guyton and Hall
- Harper's Illustrate Biochemistry-R Murray

BASIC MEDICAL SCIENCES/THE PRE-CLINICAL SCIENCES

INTRODUCTION

Preclinical phase focuses on the normal structure and function of the human being i.e. Human Biology. Modules are developed based on the body systems. Three main subjects (Anatomy, Physiology, and Biochemistry) are horizontally integrated using system-based modules. Application and clinical relevance of basic sciences are highlighted in each module. The last module (subject) encompasses basic sciences and clinical relevance of all three subjects and focuses on vertical integration with paraclinical subjects/modules.

The following description, given under three disciplines, namely Anatomy, Biochemistry and Physiology is given for better understanding of the spatial contribution and relevance of disciplines (subjects) to the system-based modules of the preclinical phase of the curriculum of the Wayamba University of Sri Lanka.

ANATOMY

The subject of anatomy is taught over three semesters included in 11 horizontally integrated modules. The components of anatomy are: macroscopic anatomy, microscopic anatomy, developmental anatomy and genetics. All components of anatomy focus on understanding the organization and structure of the human body and regions or systems in order to understand the functions, anatomical basis of the common disorders, diagnostics and management. Structure should include both gross anatomy, and microscopic anatomy. Where relevant, the development and development anomalies and genetic basis are emphasized. Under macroscopic anatomy, the gross morphology of body regions/systems are learned. Surface anatomy and radiological anatomy are included under macroscopic anatomy.

BIOCHEMISTRY

Biochemistry is the study of the chemical basis of life which encompasses the application of chemistry to the study of biological processes at the cellular, molecular and sub-molecular levels. Biochemistry for the medical professions is a "physiological" chemistry; the chemistry needed to understand the structure and functions of the human body and their malfunction in disease. Analytical knowledge on biochemistry helps to understand the molecular basis of diseases, current therapies, and action of new drugs. In future, biochemistry in its broadest form which includes nucleic acid and study of gene will possible make a significant component of newer therapies e.g. gene therapy to prevent organ failure rather than organ transplants. Pharmacogenomics and nutritional genomics will possible create a basis for designer treatments customized to an individual's genetic makeup.

To understand all this it is essential to know functional interactions between metabolic pathways, organs and tissues. A good knowledge of biochemistry enables a student to understand normal healthy life and disease atmolecular level. Content of the subject of Biochemistry to eleven modules are designed to cover the aspects of biochemistry relevant to medicine.

PHYSIOLOGY

The subject of human physiology is the study of the function of the human body. It integrates the functions of cells, tissues, organs, and organ systems into one whole human body. It explains how the human being adapts to the changes in the internal and external environment. Thus, Physiology as a discipline links science, medicine, and health.

At the end of the preclinical phase, in relation to Physiology the students will be able to draw independent rational conclusions regarding the normal functions and the basis of deranged functions of the human body in the further study of medicine.

FOUNDATION

Course No : MED1102
Course Title : Foundation
Core/Optional : Core
Prerequisites : Nil

Aims

- To enable students to understand the cellular basis of the life
- To provide a comprehensive knowledge of structure and functions of bio-molecules at cellular level, extra-cellular level and their role in the human body
- To provide knowledge on homeostasis
- To enable students to understand the developmental biology, basic human embryology and evolution in order to understand the developmental anomalies.

Intended Learning Outcomes

At the end of completion of the module, students should be able to ;

- Describe the structure of the cell and cell organelles and organization of multi-cellular organisms
- Demonstrate an understanding of the structure and function of bio-molecules and their importance
- Demonstrate an understanding of the functions of the bio-molecules at cellular level (membrane function) and their importance in the homeostasis
- Describe the role of enzymes as biological catalysts and the effect of pH on biological function
- State the composition of body and body compartments
- Describe the mechanisms that maintain homeostasis
- Demonstrate an understanding of the basic embryology and application of that knowledge in clinical context.
- Describe fundamentals of human genetics and application of that knowledge in clinical context.

Course Content

The Cell

The Cell structure and microscope, Cell organelles, Cell cycle

Body fluids

Body fluid compartments, Role of water and macromolecules in biological system, Transport across cell membrane, Tissue fluid formation (Starling forces), Derangements of Starling forces (oedema), Dehydration, IV fluids,

Biological macromolecules

Carbohydrates, Amino acids, Proteins, Lipids, Nucleic acids, Molecules that recognize other structures

Biological catalysts

Role of enzymes in biological systems and enzyme inhibition as a method of manipulating body functions

Extracellular Matrix

Composition and components of extra cellular matrix

pH and Buffers

Basics and importance of pH and buffers in body functions.

Early Embryogenesis

Male and female gametes, fertilization and implantation, bilaminar and trilaminar germ discs, placenta and foetal membranes, formation of neural tube and somites, introduction to congenital anomalies

Fundamentals of Genetics

Introduction to human Genetics, Gene and chromosomes, Significance of the genetic code and inheritance patterns, Human evolution

Time Allocation

Lectures – 42 hours
Tutorials/SGD – 12 hours
Dissection/practical – 21 hours
Seminars -4 hours (2hours per seminar)

Assessment

In-course: 30%
End Course assessment: 70%
This module contributes 3% to the total marks of the second MBBS examination.

Recommended Reading/References

- An Introduction to Medical Genetics, Roberts,J.A.F. 3rd edition, 1963, Oxford University Press, Oxford medical publications

BODY TISSUES AND LOCOMOTOR SYSTEM

Course No	**: MED1103**
Course Title	**: Body tissues and locomotor system**
Core/Optional	**: Core**
Prerequisites	**: None**

Aims

- To enable students to understand the organization and structure of tissues of the musculoskeletal system and limbs of the human body
- To enable students to understand the organization of structure of limbs of the body, reference to their functions, anatomical basis of disorders, diagnostics and management strategies.
- To provide the knowledge on physiological basis of muscles and its disorders
- To understand the chemical nature of bone and cartilage and the process of bone remodelling

Intended Learning Outcomes

At the end of completion of the module, students should be able to;

- Demonstrate an understanding of growth and development, organization and structure of the tissues of musculoskeletal system, limbs of the human body
- Describe gross structure of limbs and the microscopic structure of musculoskeletal tissues
- Demonstrate an understanding of basic biomechanics of limb movements and adaptations to perform their functions
- Describe the anatomical basis of related disorders, diagnostic and management strategies.
- Describe the structural and functional arrangement of the autonomic nervous system.
- Describe the structural arrangement of the different types of muscles and its functions
- Demonstrate an understanding of chemical nature of bone and cartilage in relation to their function, and the process of bone remodelling.

Course Content

Body tissues

Introduction to tissues, epithelial tissues, connective tissues, muscle tissue, nerve tissue, autonomic nervous system, muscle disorders

Skin and subcutaneous tissues

Structural arrangement of skin and subcutaneous tissues and their functions

Musculoskeletal system

Joints and movements, gross anatomy of muscles, embryological development of limbs and development anomalies, surface marking and osteology of upper limb, pectoral region and breast, shoulder and scapular region, axilla and brachial plexus, arm, cubital fossa and forearm, hand structure and functions, joints of the upper limb, blood supply, venous drainage and lymphatic drainage of the upper limb, innervations of the upper limb and clinical

correlation, surface marking and osteology of lower limb, femoral region and thigh, gluteal region and popliteal fossae, leg and foot, joints of the lower limb, blood supply, venous drainage and lymphatic drainage of the lower limb, innervations of the lower limb and clinical correlation, arches of the foot, posture and gait, imaging of the limbs.

Bone and cartilage

Histology of skeletal tissues, chemical nature of bone and cartilage in relation to their function and understand the process of bone remodelling. metabolic bone disorders; rickets, osteomalacia, osteoporosis, biomarkers of disease diagnosis; skeletal muscles

Time Allocation

Lectures – 30hours
Tutorials/SGD – 12 hours
Dissection/practical – 84 hours
Seminars - 18 hours (3hoursper seminar)

Assessment

In-course Assessment: 30%
End-course assessment: 70%
This module contributes 4% to the total marks of the second MBBS examination.

Recommended Reading/References

- Clinically Oriented Anatomy, Keith L. Moore, Arthur F. Dalley I.I. & Anne M.R. Agur. 7thedition, 2014,Wolters Kluwer Health/Lippincott Williams & Wilkins,
- Cunningham's Manual of Practical Anatomy, VOL I, Upper and Lower limbs, Rachel K., Oxford University Press, New Delhi

BLOOD AND IMMUNE SYSTEM

Course No : **MED1104**
Course Title : **Blood and Immune system module**
Core/Optional : **Core**
Prerequisites : **None**

Aims

- To provide knowledge on haemostasis and physiological basis of disorders affecting blood and immune system.
- To understand the functional relevance of the structure of haemoglobin, the metabolism of red blood cells, and the plasma proteins, including lipoproteins and immunoglobulins.

Intended Learning Outcomes

At the end of completion of the module students should be able to;

- Describe the composition of blood and functional role of its components.
- Demonstrate an understanding of the functional relevance of the structure of haemoglobin, the metabolism of red blood cells, and the plasma proteins
- Describe the structure, function and derangement of the human immune system.
- Describe the factors affecting haemostasis and its disorders

Course Content

Blood
Haemopoiesis, anaemia, plasma proteins, platelets, haemostasis, blood grouping, blood transfusion, rh incompatibility and haemolytic disease of the newborn
Immune system
Development of immune system, gross and microscopic anatomy of immune organs, non-specific immunity, specific immunity
Haemoglobin
Structure function relationship of haemoglobin, disorders of abnormal haemoglobin, thalassemia, sickle cell anaemia
Plasma proteins
Plasma proteins, functions and detection and quantification, classes and components of lipoproteins, structure of immunoglobulins
Red cell metabolism
Importance of glutathione, carbonic anhydrase, 2,3-Bisphosphoglycerate and hexose mono phosphate shunt, and in red cell metabolism
Antibodies
Antibodies as therapeutic agents and diagnostic reagents
Interpretation of laboratory results
Clinical enzymology – analysis of non-functional enzymes in blood,

Time Allocation

Lectures – 27 hours
Tutorials/SGD – 5hours
Dissection/practical – 29 hours

Assessment

In-course Assessment: 30%
End-course assessment: 70%
This module contributes 3% to the total marks of the second MBBS examination.

Recommended Reading/References

- Clinically Oriented Anatomy,Keith L. M., Arthur F. D. I.I. & Anne M.R. A., 7th edition, 2014,Wolters Kluwer Health/Lippincott Williams & Wilkins,
- Cunningham's Manual of Practical Anatomy, VOL II, Thorax and abdomen, Rachel K., Oxford University Press, New Delhi
- Basic Immunology - Functions and Disorders of the Immune System, Abul K. A., Andrew H. H. L., & Shiv P. 5th Edition, 2015, Elsevier
- Hoffbrand's Essential Haematology, Victor H. &Paul A.H.M., 7th Edition,2015, Wiley-Blackwell

COMMON RECOMMENDED READING/REFERENCES FOR 1ST SEMESTER

Recommended Reading/References

- Clinical Anatomy, Applied anatomy for students and junior doctors, Harold, E., & Vishy, M.,13thedition, 2013, Chichester, West Sussex, UK Wiley- Blackwell
- Wheater's Functional Histology, Young, B., Heath, J. W., Stevens, A., Lowe, J. S., Wheater, P. R., &Burkitt, H. G.7th edition, 2000, Edinburgh: Churchill Livingstone
- Lasts Human Anatomy: Regional and Applied ,Sinnatamby, C. S., 12th edition, 2011, Churchill Livingstone
- Langman's Medical Embryology, Sadler, T. W. ,& Jan L., 13th edition, 2015, Lippincott Williams & Wilkins/Wolters Kluwer Health, London, Philadelphia
- Harper's Illustrated Biochemistry, Victor W. R., David A. B., Kathleen M. B., Peter J. K. P., & Anthony W., 31st edition, 2018, McGraw-Hill; Illustrated edition
- Lippincott's Illustrated Reviews Biochemistry , Harvey, R.A. & Ferrier, D.R,.5th edition, 2018, Lippincott Williams & Wilkins /Wolters Kluwer business
- Ganong's Review of Medical Physiology, Barrett K.E., Barman S.M., Boitano S., & Heddwen B.L., 25th edition, 2012,McGraw-Hill. New York.

- Textbook of Medical Physiology, Hall J.E., 12th edition, 2011, Elsevier Science Health science division. Philadelphia.
- Hutchinson's Clinical Methods, Glynn M., & Drake W., 23rd edition, 2012, Saunders Ltd, Philadelphia.
- Kumar & Clark – Clinical Medicine, Parveen, K., and Michael C., 9th Edition, 2016, Elsevier Publication

Supplementary Reading

- Grants atlas, Ann, M.R.A., & Arthur, F. D., 14th edition, 2016, LWW
- McMinnsClinical Atlas of Human Anatomy, Peter, A., Jonathan S., Marios L., &Albert-Neels van S., 7th edition, 2013, Mosby Ltd
- An Introduction to Medical Genetics ,Roberts ,J.A.F., 3rd edition, 1963, Oxford University Press, Oxford medical publications

CARDIOVASCULAR SYSTEM AND CIRCULATION

Course No : **MED1205**
Course Title : **Cardiovascular system and circulation**
Core/Optional : **Core**
Prerequisites : **None**

Aims

- To enable students to understand the organization and structures of the mediastinum, embryological development and histology of cardiovascular system with reference to their functions
- To enable students to understand anatomical basis for the related disorders, diagnostics and management strategies.
- To provide knowledge on functions and physiological basis of disorders affecting cardiovascular system
- To enable students to understand the use of cardiac markers in diagnosis of cardiac disorders.

Intended Learning Outcomes

At the end of completion of the module, students should be able to;

- Demonstrate an understanding of the organization and structures of the mediastinum
- Demonstrate an understanding of the gross structure, embryological development and microscopic structure of the organs/ organ systems in the cardiovascular system.
- Describe the functions and perform clinical examination related to the cardio vascular system.
- Explain the physiological basis of common disorders of cardiovascular system and their investigation.
- Demonstrate an understanding of the cardiac markers and their use in disease diagnosis

Course Content

Mediastinum, cardiovascular system

Mediastinum and its divisions and contents, Development of heart, arterial and venous system & congenital anomalies, histology of heart and blood vessels, gross structure of heart, conducting system, innervations of heart, coronary circulation and venous drainage, surface marking of heart and great vessels, gross anatomy of great vessels: - aorta, pulmonary trunk, superior and inferior vena cava, cardiac imaging, clinical correlation of cardiovascular anatomy.

Cardiac function

Electrical properties of cardiac muscles, excitation-contraction coupling, mechanical events of the cardiac cycle, pressure changes in atria, ventricles, large arteries, veins, jugular venous pulse, arterial pulse, heart sounds and murmurs, myocardial contractility (starling's law), arterial blood pressure, cardiovascular regulatory mechanisms, control of peripheral circulation, special circulation; cerebral, coronary, feto-placental, circulation of skin, kidney and gut, cardiovascular adjustments in haemorrhage and shock, pathophysiology of heart failure, hypertension, ECG, atherosclerosis and its risk factors.

Cardiac markers

Cardiac markers, time course application in cardiac disease diagnosis.

Time Allocation

Lectures- 19hours
Tutorials/SGD – 13hours
Dissection/practical – 23 hours
Seminar – 12 hours (3 hours per seminar)

Assessment

In-course Assessment: 30%
End-course assessment: 70%
This module contributes 5% to the total marks of the second MBBS examination.

RESPIRATORY SYSTEM AND GAS EXCHANGE

Course No : **MED1206**
Course Title : **Respiratory system and gas exchange**
Core/Optional : **Core**
Prerequisites : **None**

Aims

- To enable students to understand the organization and structures of the thorax, embryological development and histology of respiratory organs/organ systems with reference to their functions, anatomical basis for the related disorders, diagnostics and management strategies.
- To provide knowledge on functions of respiratory system and physiological basis of disorders affecting respiratory system and their investigation.

Intended Learning Outcomes

At the end of completion of the module, students should be able to;

- Demonstrate an understanding of the organization and structures of the thorax
- Demonstrate an understanding of the gross structure, embryological development and microscopic structure of the organs/ organ systems in the respiratory system.
- Demonstrate an understanding of the knowledge to explain the anatomical basis of related disorders of respiratory system, diagnostics and management strategies.
- Describe the functions and perform clinical examination related to respiratory system, explain common disorders of respiratory system and their investigation.
- Demonstrate an understanding of the importance of surfactant in lung function.

Course Content

Thorax and respiratory system
Thoracic cage and surface marking, embryological development of respiratory system, structure of the upper airway, larynx, structure of the lower airway, lungs and pleura, diaphragm, histology of airway and lungs, cross sectional anatomy of thorax, imaging and endoscopy of respiratory system, applied anatomy of chest wall and clinical correlation.

Respiration and gas exchange
Factors affecting ventilation, gas exchange, pulmonary circulation, other functions of respiratory system, o_2 and co_2 transport, regulation of respiration, respiratory adjustments in health and disease, hypercapnoea, hypocapnoea, o_2 treatment, other respiratory abnormalities, effects of increased barometric pressure.

Lung Surfactant
Composition of surfactant, its role in normal respiration, and how it prevents respiratory distress.

Time Allocation

Lectures- 19hours Tutorials/SGD – 7hours Dissection/practical – 30 hours Seminar 9 hours (3 hours per seminar)
Assessment In-course Assessment: 30% End-course assessment: 70% This module contributes 5% to the total marks of the second MBBS examination.

GASTRO INTESTINAL SYSTEM, NUTRITION AND METABOLISM

Course No	**: MED1207**
Course Title	**: Gastrointestinal system, Nutrition and Metabolism**
Core/Optional	**: Core**
Prerequisites	**: None**

Aims

- To enable students to understand the organization and structures of the abdomen and embryological development and histology of gastro intestinal system with reference to their functions
- To enable students to understand the anatomical basis for the related disorders, diagnostics and management strategies
- To provide knowledge on functions of gastro intestinal system and physiological basis of disorders affecting Gastrointestinal system and their investigation
- To provide a comprehensive knowledge on the digestion and absorption of nutrients
- To enable students to understand the chemical pathways involved in cellular respiration, synthesis of biological macromolecules and integration of metabolism
- To provide knowledge on the components of diet that provide macronutrients and micronutrients and understand the importance of micronutrients
- To provide knowledge on the process of gene expression, and cell cycle
- To provide knowledge on the metabolism of lipoproteins, biliary components and xenobiotics
- To provide knowledge on the assessment of nutritional status

Intended Learning Outcomes

At the end of completion of the module, students should be able to;

- Describe the functions of gastro intestinal tract
- Explain the physiological basis of common disorders of gastrointestinal system, and their investigations.
- Demonstrate an understanding of the organization and structures of the abdomen
- Demonstrate an understanding of the gross structure, embryological development and microscopic structure of the organs/ organ systems in the gastrointestinal system.
- Demonstrate an understanding of the knowledge to explain the anatomical basis of related disorders, diagnostics and management strategies.

- Demonstrate an understanding of the processes involved in the digestion and absorption of nutrients
- Demonstrate an understanding of the chemical pathways involved in cellular respiration, synthesis of biological macromolecules and integration of metabolism
- Demonstrate an understanding of the components of diet that provide macronutrients and micronutrients and understand the importance of micronutrients
- Demonstrate an understanding of the process of gene expression, and the basics of cell cycle
- Demonstrate an understanding of the metabolism of lipoproteins, biliary components and xenobiotics
- Demonstrate an understanding of the assessment of nutritional status of individuals and populations

Course Content

Abdomen and gastrointestinal system

Surface anatomy and surface marking of the abdomen, anterior abdominal wall and inguinal canal, abdominal cavity, embryological development of gastro intestinal tract, functions and histology of git; mouth, oral cavity, tongue, salivary glands, pharynx, oesophagus, stomach, gastric secretion and gastric motility, peptic ulcers and other functions of the stomach, duodenum, jejunum, ileum, embryological development of accessory glands of git, histology of accessory glands of git, liver and biliary system, pancreas, large intestine, rectum and anal canal, blood supply, venous drainage, lymph drainage and nerve supply of git, abdominal aorta, posterior abdominal wall, imaging and endoscopy of git, clinical correlation of git cross sectional anatomy of abdomen, regulation of functions of git.

Digestion & Absorption of Food

Digestion and absorption of carbohydrates, proteins and lipids. Absorption of vitamins and minerals

Cellular Respiration

Glycolysis, TCA cycle, respiratory chain, oxidative phosphorylation and oxidation of fatty acids

Synthesis of macromolecules

Gluconeogenesis, glycogen metabolism, HMP shunt galactose & fructose metabolism, synthesis of fatty acids, triglycerides, cholesterol, and ketone body metabolism, amino acid metabolism and urea cycle, synthesis of creatine phosphate, nucleic acid metabolism

Sources of food

Plant and animal origin foods, diet formulation and functional foods

Gene Expression & cell cycle

DNA organization, replication transcription, translation, regulation of gene expression, post-translational modifications and related disorders, basic events in cell cycle

Biliary and xenobiotic metabolism

Haem and bilirubin metabolism, formation secretion and transport of bile, gall stone formation, jaundice – mechanism, metabolism of xenobiotics and alcohol, Liver function tests

Lipid and lipoprotein metabolism

Lipid transport and lipoprotein metabolism. Interpretation of lipid profiles

Vitamin and Mineral metabolism

Role of vitamins and minerals in body functions, their sources and conditions relating to assimilation

Integration of metabolism

Integration of the metabolic pathways and their integrated regulation

Assessment of nutritional status

Biochemical parameters for the assessment of nutritional status

Molecular basis of selected disorders

Biochemical basis of derangement of glucose homeostasis and biochemical basis of complications of diabetes, Inherited Metabolic Diseases, Molecular basis of cancer, Molecular basis of ageing.

Nutrition in health and disease

Principles of Nutrition, Energy and Protein requirements at different physiological status

Disorders in Digestion and Absorption

Biochemical basis of nutrition in diseases, DM, HT, hyperlipidemia, CKD chronic liver failure, trauma and major surgeries

Biochemistry of alcoholism and substance abuse including cigarette smoking

Time Allocation

Lectures- 84hours
Tutorials/SGD – 24hours
Dissection/practical – 78 hours
Seminar 9 hours (3hours per seminar)

Assessment

In-course Assessment 30%
End-course assessment 70%
This module contributes 6% to the total marks of the second MBBS examination.

RENAL AND URINARY SYSTEMS

Course No : **MED1208**
Course Title : **Renal and urinary system**
Core/Optional : **Core**
Prerequisites : **None**

Aims

- To acquire the knowledge in basic sciences of the normal structure and function of the renal and urinary systems in order to identify and manage the common signs and symptoms associated its abnormalities
- To provide knowledge on physiological basis of disorders affecting renal system and their investigations.
- To enable students to understand the mechanisms of excretion, renal functions tests and urine analysis

Intended Learning Outcomes

At the end of completion of the module, students should be able to;

- Describe the functions, the physiological basis of common disorders of renal system, and their investigations
- Demonstrate an understanding of the Mechanisms involved in excretion, renal functions tests and urine analysis
- Demonstrate an understanding of the gross structure, embryological development and microscopic structure of the organs/ organ systems in the renal and urinary systems
- Demonstrate an understanding of the knowledge to explain the anatomical basis of related disorders of renal and urinary systems, diagnostics and management strategies.

Course Content

Introduction to renal and urinary systems, embryological development of renal and urinary systems, histology of renal and urinary systems, kidney, ureter, urinary bladder, urethra, imaging of renal and urinary systems, clinical correlation of renal and urinary systems, GFR, renal clearance, countercurrent mechanism, tubular functions, water conservation, acidification of urine, regulation of Na+, Cl-, K+ excretion, other functions of the kidney, diuretics, alteration of physiology in renal disorders, functions and dysfunctions of bladder, acid/base and electrolyte disturbances, and their compensation and biomarkers of renal disease diagnosis.

Interpretation of laboratory results

Interpretation of urinalysis, kidney function tests

Time Allocation

Lectures - 22hours
Tutorials/SGD – 8hours
Dissection/practical – 18 hours
Seminar – 6 hours (3hours per seminar)

Assessment

In-course Assessment: 30%
End-course assessment: 70%
This module contributes 4% to the total marks of the second MBBS examination.

ENDOCRINE SYSTEM

Course No : 2309
Course Title : Endocrine system
Core/Optional : Core
Prerequisites : None

Aims

- To acquire the knowledge in basic sciences of the normal structure and function of endocrine organs in order to understand the related disorders, diagnostics and management strategies
- To enable students to understand the functional organization of endocrine system
- To provide a comprehensive knowledge of structure and functions of pituitary, adrenal, thyroid and pancreatic hormones
- To provide knowledge on physiological basis of disorders affecting endocrine system and their investigations
- To provide a comprehensive knowledge on the application of laboratory diagnosis in Diabetes mellitus
- To acquire the knowledge on the molecular biological techniques used in medicine

Intended Learning Outcomes

At the end of completion of the module, students should be able to

- Demonstrate an understanding of the gross structure, development and microscopic structure of endocrine organs
- Demonstrate an understanding of the importance of hormones and their receptors
- Demonstrate an understanding of the actions and synthesis of pituitary, adrenal and thyroid hormones.
- Demonstrate an understanding of the Pancreatic hormones, Diabetes mellitus and laboratory diagnosis of diabetes and its complications
- Describe the functions; explain the physiological basis of common disorders of endocrine system, and their investigations.
- Describe the molecular biological techniques used in medicine.

Course Content

Endocrine organs
Introduction to endocrine system and hypothalamo -pituitary axis, pituitary gland, functions of pituitary hormones, pituitary dysfunctions, thyroid gland, adrenal cortex, adrenal medulla, synthesis and functions of adrenal and thyroid hormones, endocrine pancreas, action of pancreatic hormones, diabetes mellitus and laboratory diagnosis of diabetes and its complications, physiology of calcium homeostasis, other endocrine glands.

Functional organization of endocrine system
Types of hormones, transport in blood and types of receptor in target tissues

Interpretation of laboratory results

Interpretation of hormone profiles (thyroid, adrenal cortical hormones, parathyroid).

Molecular Biology

Molecular techniques in Medicine, Human insulin production and gene therapy

Time Allocation

Lectures- 25hours
Tutorials/SGD – 9hours
Dissection/practical – 15 hours
Seminar – 6 hours (3hours per seminar)

Assessment

In-course Assessment: 30%
End-course assessment: 70%
This module contributes 4% to the total marks of the second MBBS examination.

REPRODUCTIVE SYSTEM

Course No	**: 2310**
Course Title	**: Reproductive system**
Core/Optional	**: Core**
Prerequisites	**: None**

Aims

- To enable students to understand the organization and structures of the pelvis and perineum
- To acquire knowledge in basic sciences of the normal structure and function of male and female reproductive systems in order to understand the related disorders, diagnostics and management strategies
- To provide knowledge on functions and physiological basis of disorders affecting Reproductive system.

Intended Learning Outcomes

At the end of completion of the module, students should be able to;

- Describe the functions and perform clinical examination related to reproductive system and explain the physiological basis of common disorders of reproductive system, and their investigations.
- Demonstrate an understanding of the organization and structures of the pelvis and perineum
- Demonstrate an understanding of the gross structure, embryological development and microscopic structure of the male and female reproductive organs
- Demonstrate an understanding of the knowledge to explain the anatomical basis of related disorders of reproductive system, diagnostics and management strategies.

Course Content

Pelvis and perineum

Surface anatomy and osteology of pelvis, pelvis and pelvic viscera, perineum and external genitalia, blood supply, venous drainage, lymphatics of pelvis and perineum, main nerve plexus and innervations of pelvis and perineum, imaging of pelvis, clinical correlation of pelvis and perineum.

Reproductive organs and functions

Introduction to reproduction, embryological development of reproductive organs, histology of reproductive organs, breast, ovary, fallopian tube, uterus, vagina, ovarian cycle, gametogenesis, ovarian hormones, uterine, cervical and vaginal cycle, testis, epididymis, ductus difference, prostate gland, ejaculatory ducts, seminal vesicles, seminal fluid, ejaculation and endocrine functions of testis, puberty and testicular dysfunctions, puberty and menopause, contraception, human sexuality, male sexual response, female sexual response, pregnancy, lactation.

Time Allocation

Lectures- 23hours
Tutorials/SGD – 11hours
Dissection/practical – 32 hours
Seminar – 9 hours (3hours per seminar)

Assessment

In-course Assessment 30%
End-course assessment 70%
This module contributes 4% to the total marks of the second MBBS examination.

CENTRAL NERVOUS SYSTEM AND CONTROL OF BODY FUNCTIONS

Course No	**: 2311**
Course Title	**: Central nervous system and control of body functions**
Core/Optional	**: Core**
Prerequisites	**: None**

Aims

- To acquire basic knowledge in basic sciences of the normal development, structure, functions of head and neck, vertebral column and back, and nervous system in order to understand the related disorders, diagnostics and management strategies.
- To provide knowledge on functions and physiological basis of disorders affecting Nervous system.
- To enable students to understand the importance of neurotransmitters.

Intended Learning Outcomes

At the end of completion of the module, students should be able to;

- Demonstrate an understanding of the organization and structures of the head and neck, and vertebral column and back,
- Demonstrate an understanding of the gross structure, embryological development and microscopic structure of central nervous system
- Demonstrate an understanding of the knowledge to explain the anatomical basis of related disorders of head and neck, vertebral column and back, and nervous system, diagnostics and management strategies.
- Describe the physiological and biochemical basis of common disorders of nervous system, and their investigation.
- Demonstrate an understanding of the structure and function of neurotransmitters and their receptors.

Course Content

Head and neck

Surface Anatomy, surface marking and osteology of head and neck, scalp, face, temporal fossa, sub occipital and parotid region, embryological development of the face and neck, pharyngeal arches, infratemporal region, pterygopalatine fossa and tempero mandibular junction(TMJ), facial structure and contents of neck, root of the neck, oral cavity, soft palate and hard palate, larynx and pharynx, nose and paranasalsinuses, eye and ear, blood supply, venous drainage, lymphatic drainage of head and neck, imaging of head and neck, clinical correlation of head and neck.

Vertebral column and back

Vertebral column and muscles of the back, Imaging of head and neck, Imaging of vertebral column and back, Clinical correlation of vertebral column and back.

Central nervous system

Embryological development of CNS, arrangement of CNS (brain and spinal cord), cerebellum, meninges, CSF, ventricles, cranial nerves, sensory and motor systems, extra pyramidal system, peripheral nerves, blood supply and venous drain of brain, imaging of central nervous system, clinical correlation of CNS,basic principles of nerve functions, synapse, pharmacology, biochemistry of neurotransmitters, sense organs and receptors, hearing tests, audiometry, monosynaptic reflexes, polysynaptic reflexes, light perception, balance and nystagmus, physiology of pain, posture gait and ataxia, learning and memory, behavior and emotions, limbic system, cerebrospinal fluid, sleep, EEG, ENG/EMG, examination of CNS (cranial nerves & higher functions, sensory system, motor system & reflexes), biochemical basis of neurological disorders; Alzheimer's, Parkinson's, depression, schizophrenia, , organophosphate poisoning.

Time Allocation

Lectures- 50hours
Tutorials/SGD – 19hours
Dissection/practical – 69 hours
Seminar – 21 hours (3hours per seminar)

Assessment

In-course Assessment 30%
End-course assessment 70%
This module contributes 5% to the total marks of the second MBBS examination.

BASIC SCIENCES FOR CLINICAL PRACTICE

This module which consists of components of three traditional subjects (Anatomy, Biochemistry and Physiology) aims at revising the basic sciences modules, relevance of basic sciences in the study of paraclinical subjects/sciences and clinical practice.

Course No	**: 2312**
Course Title	**: Basic Sciences for Clinical Practice**
Core/Optional	**: Core**
Prerequisites	**: Completion of study work of other preclinical modules**

Aims

- To provide comprehensive knowledge on the relevance of basic sciences in the study of paraclinical and clinical sciences.
- To interpretation of laboratory results
- To understand the
- To understand the relevance of nutrition in health and disease
- To provide an overview of the molecular laboratory methods used in medicine.

Intended Learning Outcomes

At the end of completion of the module, students should be able to;

- Relevance of basic sciences to the study of paraclinical and clinical sciences
- Describe the anatomical, pathophysiological, chemical, biochemical and molecular basis of selected disorders
- Understand the molecular techniques used in genetic studies and disease diagnosis
- Discuss the importance of nutrition in health and disease

Course Content

Myasthenia

The pathophysiological basis of clinical features of myasthenia, anatomical basis of clinical features of myasthenia, biochemical basis of diagnostic tests and the treatment of the disease.

Diabetes

A complicated case of a type II diabetes mellitus with all the micro-vascular and macro-vascular complications, pathophysiological basis of the development of the clinical features of the patient, anatomical basis of the different clinical features of myocardial infarctions in

different territories due to macro-vascular involvement, biochemical basis of the diagnosis and treatment of the disease.

Thalassaemia

Complicated case of a thalassaemia major patient with iron overload features. Pathophysiological basis of the clinical features of the patient, biochemical and pathophysiological basis of clinical features of iron overload. Biochemical basis of the treatment of iron chelation.

Haemophelia

Types of haemophelia, inheritance of the disease in relation to genetics, pathophysiological basis of the clinical features of the disease and the treatment modalities, biochemical basis of the disease diagnosis and the detection of the complications.

Diarrhoea

Types of diarrhoea, biochemical and physiological basis of the treatment modalities.

Chronic Liver disease

Describe the disease, Anatomical basis of the development of clinical features, Pathophysiological basis of clinical features, biochemical basis of the diagnosis, control and the treatment of the disease.

Diseases of the thyroid gland

Describe the disease conditions of thyroid gland, physiological and biochemical basis of the development of the clinical features, biochemical basis of the diagnosis and the monitoring of the disease.

Cerebrovascular accident

Ischaemic and haemorrhagic stroke, Anatomical basis of the clinical features of different levels of occlusion in a relevant artery, Pathophysiological basis of the worsening or improvement of clinical features of stroke patient.

Alzheimer's disease

Biochemical and pathophysiological basis of clinical features and the treatment of the disease.

Spinal cord injuries

Different types of injury involving different places of the spinal cord, Anatomical basis of the development of clinical features, Pathophysiological basis of clinical features, Anatomical basis of the diagnostics and management strategies.

Nutritional Deficiency disorders

Pathological basis of clinical features of protein energy malnutrition, vitamin deficiency and mineral deficiency.

Anatomical basis of Common injuries

Head injury with intra cerebral haemorrhage, Cervical spine injury, Cut injuries of the neck, Intra vertebral disc prolapse, Crush/wedge fractures of vertebrae, Spinal cord injuries, Fractures of ribs, Flail segment, pneumothorax and haemothorax, blunt and penetrating abdominal injuries to solid organs and hollow viscera. Pelvic fracture, Fracture of humerus shaft and supracondylar, fracture dislocations of forearm, Colles fracture, Scaphoid fracture. Cut injuries of the forearm, Fracture of neck of femur, fracture and ligament injuries of knee and ankle, Compartment syndrome in the leg.

Anatomical basis of common tumours and their clinical presentation and surgical approach

Tumours of brain, thyroid, salivary glands, pancreas, kidney, prostate, uterus and large bowel.

Anatomical basis for the diagnosis and treatment of Vascular conditions

Aneurysmal disease of arteries, peripheral vascular disease (includes development of alternative pathways) embolism, superior and inferior vein obstruction.

Anatomical basis of open surgical access in common conditions affecting the organs and body systems

Brain including Pituitary tumours, removal of blood clots: parotid gland surgery, thyroid surgery, cardiac surgery, surgery on the lung, abdominal cavity and pelvis (incisions and approaches), approach to a long bone fracture (femur), varicose vein and inguinal and femoral hernia surgery.

Anatomical basis of Minimal access procedures

Laparoscopy and endoscopy: creating a pneumoperitoneum, laparoscopic cholecystectomy, oesophageal banding, turp, endoscopic resection of endometrium, arthroscopic repair of a tendon injury of knee, removal of a colonic polyp.

Time Allocation

Lectures – 20 hours
Tutorials/SGD – 15 hr
Dissection/practical – 6 hrs
Seminar - 15 hours (3 hours per seminar)

Assessment

Assessment of this module is included in the Second MBBS examination. In the second MBBS examination, the entire content of the preclinical phase is assessed, in addition to this module.

COMMON RECOMMENDED READING/REFERENCES FOR 2ND AND 3RD SEMESTER

Recommended Reading/References:

- Clinical Anatomy, Applied anatomy for students and junior doctors, Harold, E., & Vishy, M.,13thedition, 2013, Chichester, West Sussex, UK Wiley- Blackwell
- Wheater's Functional Histology, Young, B., Heath, J. W., Stevens, A., Lowe, J. S., Wheater, P. R., & Burkitt, H. G.7th edition, 2000, Edinburgh: Churchill Livingstone
- Lasts Human Anatomy: Regional and Applied ,Sinnatamby, C. S., 12th edition, 2011, Churchill Livingstone
- Langman's Medical Embryology, Sadler, T. W. , & Jan L., 13th edition, 2015, Lippincott Williams & Wilkins/Wolters Kluwer Health, London, Philadelphia
- Clinically Oriented Anatomy ,Keith L. M., Arthur F. D. I.I.,& Anne M.R. A., 7th edition, 2014,Wolters Kluwer Health/Lippincott Williams & Wilkins,
- Cunningham's Manual of Practical Anatomy, VOL II, Thorax and abdomen, Rachel, K., Oxford University Press, New Delhi
- Cunningham's Manual of Practical Anatomy, VOL III, Head and neck, Rachel, K., Oxford University Press, New Delhi
- Harper's Illustrated Biochemistry, Victor W. R., David A. B., Kathleen M. B., Peter J. K. P., & Anthony W., 31st edition, 2018, McGraw-Hill; Illustrated edition
- Lippincott's Illustrated Reviews Biochemistry , Harvey, R.A. & Ferrier, D.R,.5th edition, 2018, Lippincott Williams & Wilkins /Wolters Kluwer business
- Ganong's Review of Medical Physiology, Barrett K.E., Barman S.M., Boitano S., & Heddwen B.L., 25th edition, 2012,McGraw-Hill. New York.
- Textbook of Medical Physiology, Hall J.E., 12th edition, 2011, Elsevier Science Health science division. Philadelphia.
- Hutchinson's Clinical Methods, Glynn M., & Drake W., 23rd edition, 2012, Saunders Ltd, Philadelphia.
- Kumar & Clark – Clinical Medicine , Parveen, K., and Michael C., 9th Edition, 2016, Elsevier Publication

Supplementary Reading:

- Grants atlas, Ann, M.R.A., & Arthur, F. D., 14th edition, 2016, LWW

- McMinns Clinical Atlas of Human Anatomy, Peter, A., Jonathan S., Marios L., &Albert-Neels van S., 7th edition, 2013, Mosby Ltd
- An Introduction to Medical Genetics ,Roberts J.A.F., 3rd edition, 1963, Oxford University Press, Oxford medical publications

ASSESSMENT OF COURSES

PRECLINICAL PHASE

CONTINUOUS ASSESSMENT

Courses delivered in semester I-III are assessed as in-course and end-course examinations, except the last course which is Basic Sciences for Clinical Practice. In-course assessment contributes to 30% of the final marks of each course and end-course contributes the remaining 70%. There will be a total of 11 modules assessed before the comprehensive examination. Each continuous assessment comprises of one or more of theory, practical and viva components. The Basic Sciences for Clinical Practice module is assessed at the comprehensive. Modules assessed as continuous assessment and their weight age and that of the three subjects of the comprehensive examination, to the second MBBS examination is given below.

Contribution of marks for the Second MBBS barrier examination

Module	Percentage contribution
Communication and Information Technology	*2%*
Foundation	*3%*
Body tissues and locomotor system	*4%*
Blood and Immune system	*3%*
Cardiovascular system and circulation,	*5%*
Respiratory system and gas exchange,	*5%*
Gastrointestinal system Nutrition and Metabolism,	*6%*
Renal and urinary system	*4%*
Endocrine system	*4%*
Reproductive system,	*4%*
Central nervous system and control of body functions,	*5%*

Basic Sciences for Clinical practice I (Anatomy) *Basic Sciences for Clinical practice II (Physiology)* *Basic Sciences for Clinical practice III (Biochemistry)*	*20%* *20%* *15%*
Total	*100*

Marks obtained at module examinations contribute 45% of the total marks of the 2nd MBBS examination.

ABSENCE FROM SEMESTER ASSESSMENTS (CONTINUOUS ASSESSMENTS)

If a candidate is unable to sit for a semester assessment without a valid excuse acceptable to the Senate to cover the absence, he/ she will be given a zero mark for that particular assessment. If a candidate is unable to sit for any module/subject in semesters I-III with a valid excuse acceptable to the Senate to cover the absence he/ she will be given the opportunity to sit that particular subject/s in the respective semester assessment with the next batch of students if possible or to sit for another relevant assessment as specified by the respective Department/s and approved by the Faculty Board of Medicine. If a candidate is unable to sit for assessments one/more specific modules/subjects in two or more semesters without any valid excuse acceptable to the Senate to cover the absence that student will not be eligible to sit for the 2nd MBBS examination.

COMPREHENSIVE EXAMINATION

Content of all modules of the Preclinical Phase are included in the assessment of the comprehensive examination. The examination is conducted at the end of the third semester as three subjects. They are Basic Sciences for Clinical practice I (Anatomy), Basic Sciences for Clinical practice II (Physiology), Basic Sciences for Clinical practice III (Biochemistry). Comprehensive examination conducted at the end of the third semester contributes 55% marks for the 2nd MBBS bar examination and the rest will be derived from the examinations conducted for all modules.

FORMAT OF THE COMPREHENSIVE EXAMINATION

BASIC SCIENCES FOR CLINICAL PRACTICE I-ANATOMY

		Marks %
Multiple Choice /SBR questions	60	30%
Structured Essay	10	30%
OSPE	40	30%
Oral Examination	10min	10%
Total		100%

(Contributes to 20% of the marks of 2nd MBBS)

BASIC SCIENCES FOR CLINICAL PRACTICE II-BIOCHEMISTRY

		Marks %
Multiple Choice /SBR questions	40	40%
Structured Essay	06	30%
OSPE	20	20%
Oral Examination	10min	10%
Total		100%

(Contributes to 15% of the marks of 2nd MBBS)

BASIC SCIENCES FOR CLINICAL PRACTICE III-PHYSIOLOGY

		Marks %
Multiple Choice /SBR questions	50	30%
Structured Essay	06	30%
OSPE	25	30%
Oral Examination	10min	10%
Total		100%

(Contributes to 20% of the marks of 2nd MBBS)

2ND MBBS (BARRIER) EXAMINATION

55% of marks obtained at the comprehensive examination and 45% of marks from module examinations constitute the final mark of the 2nd MBBS examination. A student will be given four attempts to pass the second MBBS examination and semester marks will not be considered from the second attempt onwards. No marks will be carried from continuous assessments for subsequent attempts (repeat examinations).

Components of the mid semester examination shall be held announced or unannounced in MOODLE or written papers.

BY-LAWS GOVERNING THE MBBS PROGRAMME (PROGRAMME AND ASSESSMENT- PROCEDURE/RULES)

(MCQ – Multiple Choice Questions, SEQ – Structured Essay Questions, SBR- Single Best Response Questions, OSPEs- Objective Structured Practical Examination)

1) These By-Laws may be cited as the Bachelor of Medicine and Bachelor of Surgery(MBBS) Degree By-Laws

2) Subject to these By-Laws a student may be awarded the Degree of Bachelor of Medicine and Bachelor of Surgery if he/she

   I. has been admitted as an internal student of the University, and
   II. has been registered as a student of the University for a period not less than 4 years and 9 months, and
   III. has completed the courses of study prescribed by the By-Laws, rules and regulations, to the satisfaction of the Vice-Chancellor, and
   IV. has passed the 2nd MBBS examination for Bachelor of Medicine and Bachelor of Surgery(MBBS), and
   V. has passed the Third Examination for Bachelor of Medicine and Bachelor of Surgery(MBBS), and
   VI. has passed the Final Examination for Bachelor of Medicine and Bachelor of Surgery (MBBS), and,
   VII. has paid such fees or other dues as may be prescribed by the University, and
   VIII. has fulfilled any other conditions or requirements as may be prescribed by the University

3) The Examinations leading to the Degree of Bachelor of Medicine and Bachelor of Surgery (MBBS) shall be:

I. 2nd MBBS Examination which is called 2nd MBBS examination for Bachelor of Medicine and Bachelor of Surgery (MBBS),
II. Second Examination which is called 3rd MBBS examination for Bachelor of Medicine and Bachelor of Surgery (MBBS) which has two components Part I and Part II, and
III. Final Examination for Bachelor of Medicine and Bachelor of Surgery (MBBS) respectively.

4) The subjects/ streams within the courses of study and syllabi for the examinations leading to the Degree of Bachelor of Medicine and Bachelor of Surgery and the number of papers, oral examinations and other forms of evaluation in each subject/ stream shall be prescribed by the Regulations made by the Senate.

5) Each of the examinations prescribed by these By-Laws and the Regulations there under shall be conducted by a Board of Examiners constituted for the conduct of that examination.

6) A candidate shall present himself/herself for each examination leading to the Degree of Bachelor of Medicine and Bachelor of Surgery on the first occasion at which he/she is required to do so provided that it shall be within the power of the Senate to declare that he/she is eligible to appear for that examination on a subsequent occasion.

7) A candidate may be granted permission to postpone a scheduled attempt on the basis of a valid excuse* submitted and accepted by the Senate and the attempt at which he/she sits the examination after the postponement shall be regarded as the attempt for which he/she has submitted a valid excuse.

8) In the absence of an accepted excuse, failure to sit any due or scheduled examination shall be considered as an unsuccessful attempt at that examination.

9) The candidate must have been issued a valid admission pertaining to a particular examination before being eligible to sit all the components/subjects of an examination. The candidate will not be

allowed to sit for a separate component/subject in a particular examination if he/she has not been referred in that component/subject.

10) The candidate should have a minimum of 80% attendance at tutorials, practical classes, within each term for each subject/stream assessed for the term, and satisfactory completion of clinical appointments (where applicable) to be eligible to sit for the relevant subject/stream examination.

11) If the absence for tutorials / practical classes / clinical appointments is covered by a valid excuse acceptable to the Senate, the candidate will be eligible to sit for the next scheduled examination only after completion of 80% attendance for tutorials, practical classes within each term and satisfactory attendance at clinical. If this scheduled examination is the candidate's first attempt he/she will be eligible for distinctions and Honours.

12) If the candidate fails to sit for a component of a main examination without a valid excuse acceptable to the Senate, the candidate will receive zero marks for that component/subject and will fail the whole examination. A candidate should take the entire examination next time as his/her second attempt. The candidate therefore would not be eligible for Honors and distinctions.

13) In the event a candidate fails to sit a component/subject of an examination due to a valid excuse, the results of the component/subject that the candidate sat for would be withheld until the results of all the components/subjects can be released. The maximum marks the candidate will be given for that particular component/subject at the next scheduled exam will be 50%.

Or

The candidate could request the whole examination to be considered null and void and take all the components/subjects at the next examination, which would be considered as his/her first attempt. The candidate would therefore be eligible for Honours and distinctions.

14) When a candidate is unable to sit for a scheduled examination and sits an examination in the second or subsequent attempt, continuous

assessment marks will be taken into consideration only for his/her first attempt irrespective of the scheduled examination for which he/she was unable to sit.

15) A candidate who is absent with a valid excuse acceptable to the Senate to cover the absence for a continuous assessment, should sit another continuous assessment.

16)

16.1. Should a candidate be unable to sit for the examination at the first scheduled attempt due to his /her being repeated in a clinical appointment on account of a valid excuse, he/she may be allowed to sit for the next examination after completion of the repeat clinical appointment. If the missed examination is the candidate's first attempt he/she will be eligible for honors and distinctions at the next scheduled examination.

16.2. If the candidate is unable to sit for a scheduled examination due to his/her being repeated in a clinical appointment not on account of a valid excuse, the candidate will not be eligible for honors and distinction

17)

17.1 A candidate who has been successful at the 2nd MBBS examination for MBBS degree, 3rd MBBS examination for MBBS degree and Final Examination for MBBS degree may be awarded First Class Honors or Second Class Honors (Upper division) or Second Class Honors (Lower division) or a pass, as the case may be.

17.2 A candidate shall not be eligible for honors unless he/she has taken the examination on the earliest occasion on which he/she is qualified to do so, provided that it shall be within the power of the Senate to declare, for some specified reason, that he/she is eligible for honors at a subsequent attempt.

17.3 A candidate shall not be eligible for honors unless he/she has passed the examination at his/her first scheduled attempt.

2ND MBBS EXAMINATION FOR BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (MBBS) DEGREE

18) The 2nd MBBS examination for Bachelor of Medicine and Bachelor of Surgery (MBBS) degree consists of examination of Preclinical Phase modules and any other subject approved by the Senate.

19) A candidate for the 2nd MBBS Examination for MBBS degree should have

19.1 followed the prescribed course of study in each of these subjects, to the satisfaction of the Vice-Chancellor

19.2 completed the specified continuous assessments, and

19.3 Should have a minimum of 80% attendance at tutorials, and practical classes within each term.

20) The course shall be of three semester duration with continuous assessment and the 2nd MBBS Examination for MBBS degree will be held at the end of the third semester, and a supplementary examination will be held not less than six weeks after the release of the results of the previous examination.

21) The examination immediately following the completion of the course shall deemed to be the first due or scheduled attempt.

22) A candidate shall be deemed to have sat the first scheduled examination irrespective of whether it has been actually attempted or not, unless a valid excuse has been submitted and accepted by the Senate.

23) If the excuse has been accepted, the examination immediately following the expiry of the period of postponement recommended by the Senate shall be the candidate's first attempt.

24) In the absence of an accepted excuse, failure to sit any due or scheduled examination will be considered as an unsuccessful attempt at the examination.

25) A student should sit for the first attempt of the 2nd MBBS Examination for MBBS degree within four years of his/her registration with or without a valid excuse.

26) A student must complete the 2nd MBBS Examination for MBBS degree in not more than four scheduled attempts not counting attempts with a valid excuse.

27) Criteria for Pass/Fail/Referred for the 2nd MBBS Examination for MBBS degree for First attempt:

27.1 A candidate who obtains 50% or above for all three subjects for the second MBBS examination (calculated from the marks of module examinations and the comprehensive examination) considered to have passed all three subjects and the 2nd MBBS Examination for MBBS degree provided that average marks obtained are not less than 40% for each of the two components of the second MBBS examination; modules and comprehensive examinations.

27.2 A candidate who has obtained at least 50% in one or two subjects of the comprehensive examination and has received an average of 40% or above for module examinations is considered to have passed those one/two subjects provided that the other subject has scored more than 25%.

27.3 A candidate who has scored less than 50% for any subject of the 2nd MBBS examination is considered referred in those subject.

27.4 If a candidate receives less than 25% for any Part in the 2nd MBBS Examination for MBBS degree he/she will be considered as having failed the whole examination of the 2nd MBBS Examination for MBBS degree.

28) Award of classes for the 2nd MBBS Examination for MBBS degree

28.1 A candidate who passes the 2nd MBBS Examination for MBBS degree at the first scheduled attempt and obtains an overall average of 70% or above at that examination shall be eligible for First Class (Honours).

28.2 A candidate who passes the 2nd MBBS Examination for MBBS degree at the first scheduled attempt and obtains an overall average of 65% to 69% at that examination shall be eligible for Second Class Upper Division (Honours).

28.3 A candidate who passes the 2nd MBBS Examination for MBBS degree at the first scheduled attempt and obtains an overall average of 60% to 64% at that examination shall be eligible for Second Class Lower Division (Honours).

29) Award of Distinctions for the 2nd MBBS Examination for MBBS degree

29.1. A candidate who obtains 70% or above for any of the three subjects with an average minimum of 70% or above in the module examinations will be awarded a distinction in the respective subject, provided that the candidate has passed the 2nd MBBS Examination for MBBS degree in the first attempt.

30) Criteria for Pass/Fail/Referred for the 2nd MBBS subsequent/repeat Examination

30.1 Module marks shall not be considered in deciding pass/fail/referred at the subsequent examination

30.2 A candidate who has obtained more than 50% marks for any subject shall considered to have passed that subject provided that

he/she has not received less than 25% marks for any other subject at the repeat examination.

31) Absence from semester assessments

31.1 If a candidate is unable to sit for a semester assessment without a valid excuse acceptable to the Senate to cover the absence, he/ she will be given a zero mark for that particular assessment

31.2 If a candidate is unable to sit for any module/subject in semesters I-III with a valid excuse acceptable to the Senate to cover the absence he/ she will be given the opportunity to sit that particular subject/s in the respective semester assessment with the next batch of students if possible or to sit for another relevant assessment as specified by the respective Department/s and approved by the Faculty board of Medicine.

31.3 If a candidate is unable to sit for assessment one/more specific modules/subjects in two or more semesters without any valid excuse acceptable to the Senate to cover the absence that student will not be eligible to sit for the 2nd MBBS examination.

32) English Language Competency Test (ELCT)

32.1 Passing the English Language Competency Test (ELCT) is compulsory to obtain the MBBS degree certificate

32.2 MBBS undergraduates are expected to achieve a minimum level of 6 in reading, writing, listening and speaking as specified in the University Test of English Language (UTEL) bench marks.

32.3 If a student fails to achieve pass marks at the English Language Competency Test (ELCT) conducted at the end of the 2nd MBBS Examination for MBBS degree, he/she is required to pass the ELCT at a subsequently scheduled ELCT Examination before award of the MBBS degree