Basic information:	
Program on which the Block is offered	PharmD
Qualification Awarded	BPharmD
Block title - Code - Year	Biomedical Sciences – 3104– Foundational Year I
Block Type	Foundational
Total contact Hours / week [33 hrs.]	(Lectures: 7, Lab: 5, Tutorials: 2, Seminars: 2, PBL: 9, Self-study: 6, Exams: 2)
ECTS Hours	8
Pre-requisites for this Block	Fundamentals of Analytical Chemistry, Organic Chemistry, English Language, Biochemistry, Histology, Physiology, Anatomy and Microbiology.
Week period	4

Block Description:

This block outlines histology, physiology and anatomy of urinary, cardiovascular, digestive and endocrine systems. This block also deals with biochemical aspects of enzymes, vitamins and minerals. This block also covers basic concepts of pharmaceutical microbiology, complexometric and presiptimetric titration and chemistry of six-membered and fused ring compounds. This block also covers electrochemical and spectrophotometric methods of drug analysis. Problem-based learning strategies are used for this block delivery.

Block Objectives:

By the end of this Block the student should be able to:

- Discuss aromatic six membered heterocyclic and fused ring compounds regarding their nomenclature, properties, preparation and chemical reactions mechanisms.
- Recognize and practice different drugs analyzing methods (complexometric and preciptimetric titration).
- Describe the histological and the physiological principles of cardiovascular, urinary, digestive and endocrine systems.
- Describe anatomical structure of cardiovascular, urinary, digestive, central and peripheral nervous systems.
- Discuss different biochemical aspects of enzymes, vitamins, minerals, digestive and endocrine systems.
- Explain basic aspects of pharmaceutical microbiology.
- Develop skills of observation and critical reading.
- Analyze, interpret, and evaluate data from various sources.

Learning and Teaching Methods, & Assessment Methods

Learning and Teaching Methods:

- Problem-Based Learning (PBL)
- Lectures
- Tutorials
- Practice in lab
- Independent study assignments
- Presentations
- Seminars

Assessment methods:

- **Continuous assessment:**
  - Problem Based Learning sessions (Brain-storming/Debriefing)
  - Reports
  - Report Discussion
  - Individual reassurance test (IRAT): MCQs
  - Group reassurance test (GRAT): MCQs
  - Presentations (oral/ poster)
  - Practice in lab
  - Open-book/open-web exam
- **End-Block exam:**
  - Written
- **Final-Block exam:**
  - Written
  - Objective structured practical examination (OSPE)

Weighting of Assessment:	
Continuous assessment:	**60%**
• PBL sessions	• 30%
• Practical sessions	• 10%
• Other Activities (Tutorial/Seminar/Assignments/Moodle Activities)	• 10%
• End-block exam	• 10%
Final Exam:	**40%**
• Written	• 30%
• OSPE	• 10%
Total:	**100%**

Assessment Schedule:	
Continuous assessment:	**During the block**
• PBL sessions	Weeks 1-4

• Practical sessions	Weeks 1-4
• Other Activities (Tutorial/Seminar/Assignments/Moodle Activities)	Weeks 1-4
• End-block exam	At the end of the block
Final exam:	**At the end of the year**
• Written	At the end of the year
• OSPE	At the end of the block

Examination Regulations:

- If the student absenteeism is more than 25 % he/she cannot attempt the final exam.
- The total required percentage to pass this course is at least 60 %

List of textbooks and references:

- **Course Notes:**
  - PowerPoint presentations, videos and other materials related to lectures, tutorials and practical sessions are uploaded to the Moodle by experts on weekly basis according to teaching schedule.
- **Essential Books (Text Books):**
  - Christian,G., Dasgupta, P., Schug, K.(2014) Analytical Chemistry. 7th edition. Wiley, USA.
  - Costanzo L. S. (2011) BRS Physiology. 5th edition. Lippincott Williams & Wilkin.
  - Drake, R. L. Vogl, A.W. (2015) Gray's Anatomy. Churchill Livingstone, Elsevier.
  - Fisher B. D., Nau Cornelissen C., Harvey R. A. (2013) Lippincott's Illustrated Reviews: Microbiology. 3rd Edition. Lippincott Williams & Wilkins.
  - Hall J. E. (2011) Guyton and Hall Textbook of Medical Physiology.12th edition. Saunders, an imprint of Elsevier In.
  - Harvey, R.A., Ferrier, D. R. Lippincott's illustrated Reviews Biochemistry. 3rd edition. Lippincott Williams & Wilkins.
  - Hugo W.B. and Russell A.D. (editors) *Pharmaceutical Microbiology*. 5th edition. Blackwell Science.
  - Jeffery, G.H., Bassett, J., Mendham, J, Denney, R. C. (1989) Vogel's Textbook of Quantitative Chemical Analysis. 5th edition. Lgngman scientific and technical.
  - Junqueira L.C., Carneiro J., Kelly, R. *Basic Histology*. 11th edition.
  - Kumar, S. (2016) Essentials of Microbiology. 1st edition. Jaypee Brothers Medical Publishers (P) Ltd.
  - McMurry, J.E., 2015. Organic chemistry. Cengage Learning.
  - Mescher, A. L. (2013) Junqueira's Basic Histology text and atlas, 13th edition. McGraw-Hill Education.

- Miller,S., Karen C. Carroll, Morse, S.A., Meitzner, T.A. (2013) Jawetz, Melnick, & Adelberg's Medical Microbiology. Twenty-Seventh Edition. McGraw-Hill Education.
- Murrary, R.A., Radwell, V.W., Granner, D. K., Mayes, P. A. (2003) Harper's Illustrated Biochemistry. 26th edition. Mcgraw Hills companies.
- Peckham, M. (2011) Histology at a Glance.1ST edition. Wiley Blackwell.
- RYAN K. J., RAY C. G. (2014) Sherris Medical Microbiology. 6th Edition. McGraw-Hill Education.
- Satyajit D. Sarker, Lutfun Nahar. (2007) Chemistry for Pharmacy Students General, Organic and Natural Product Chemistry, UK: John Wiley & Son, Ltd.
- Roth, J.A.,. Organic Chemistry, (Solomons, TW Graham).

- **Periodicals and websites:**

  - Sarker, S. D., & Nahar, L. (2013). Chemistry for Pharmacy Students: General, Organic, and Natural Product Chemistry. Chemistry for Pharmacy Students: General, Organic, and Natural Product Chemistry. http://doi.org/10.1002/9781118687529.

Block Policies:

Code of conduct

Please refer to LIMU code of ethics http://limu.edu.ly/images/11/ethcode.pdf

Academic integrity

Please be aware that cheating, plagiarism, in-class disruption and dishonesty are vigorously prosecuted and that LIMU has a zero-tolerance policy.