



LITE Regal
EDUCATION

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2018

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Medical School Preparation Course Syllabus MP203 – Lite Regal Medicine Course

Duration: 2 weeks Medical Preparation (Plus Optional 1 or 2 Week Shadowing Doctor Programme)

Location: Cambridge or London University

Age Range: 15-18 Senior High School / Senior or Higher Secondary School

Credit : Gain 3-4 credits in the US system, and 7.5 ECTS in the European system (please consult on acceptance by your School / College).

Outline

Medicine is a combination of science and human interactions along with a long path of hard work and very rewarding experiences. This course is meant to be for High School Students who wish to know more about medicine, wish to take this at University Level and wish to be successful in their application process. It will also help students to ensure that medicine or a medical related carrier is the right course for them. The content of this course will allow students to master all aspects of the application process, approach the study process that will lead them to become doctors, and learn basic concepts in the medical science. A variety of teaching and learning methods are employed in order to ensure the acquisition and development of appropriate concepts, knowledge and skills. Students will take lectures and practical workshops in the best facilities with other young doctors to be from all over the world.

By the end of the course students will have:

- Understood what studying medicine at university level involves
- Understood the best way to prepare for their application, including writing an effective personal statement
- Knowledge the structure of entrance exams and know how to best prepare for them
- A better understanding of the course outline and tasks you will perform Medicine
- Cover in Overview Areas of 1st year Medical School – Workshops and Lectures
- Decided whether they want to apply to medicine
- Visit Different Top Medical university School - UCL / Imperial / Kings College University London / Cambridge and Oxford University Colleges
- Field Visits to a Large Teaching Hospital UCLH – London and Various Medical Talks

MODULE 1: APPLICATION PROCESS



This module serves the student to approach the application process and be successful at it when the time comes. The process will be fully reviewed, starting with an introduction to the medical school application. Individual lectures on the interview, personal statement and application exams will be part of the outline. Students will be advised on how to properly approach each one and handle the challenges that may arise.

1. Personal Statement

- Why is your personal statement important and how is it used by the Universities? What should it include? How long does it have to be? In this lecture these questions will be discussed by medical tutors. During the program, students will produce their personal statement and receive feedback in order to make an outstanding.
- Students will start writing their personal statement and improve it during the course length, having a final review at the end.

2. Interview

Prepare the student for the face by face encounter and gain insight on what the real interview is like. Practise with Real Medical Admission Officers and Doctors who have been through the process to get into a top Medical University. Check things such as appropriate use of body language, eloquence and intonation, confidence when talking under stress, and independent thinking are key for the interview but also for the practice doctor, who needs strong interpersonal and communication skills. A Mock interview would be performed during the course followed by a detailed feedback on the performance.

3. Application Exams: How to approach UKCAT, BMAT and MCAT (USA)

The right practice and preparation can make a big difference in the student test score. All components of these exams will be reviewed, learning several methods and techniques for arriving at the right answers. Practicing on past exams and a full length mock test under exam conditions will prepare the students for the subject but also gain confidence and familiarity with these exams.

MODULE 2: THE LIFE THAT IS WAITING FOR YOU



This module serves the student to better understand the implications of becoming a doctor. First, the medical career course outline will be reviewed for both pre-clinical and clinical courses. An introduction of topics will be covered with a brief summary of the subjects, as well as examples of what will be learned and its application during the career. University schedule, lecture's length, and other important details should be taken in consideration.

In order to better understand not only what doctors do but what they working day is like, they will receive a lecture by a Doctor who will share his/her experience. What's they schedule like, what do they do during the day (clinical sessions, private practice, and academic sessions), day interactions, duties and responsibilities will be addressed. The Doctor will also recall what it was like to be a medical student, and advise on how to achieve a work-life balance. What's the most rewarding and the most difficult part of being a medical student and later a doctor?

- Consider how life was as a university student, a resident, and finally a doctor.
- Students should be advised on shadowing a Doctor in order to get a broader approach on a doctor's life and its surroundings.
- Exercise on: In which medical field would you like to perform? Do you imagine yourself as a doctor? What kind of doctor would you like to be?

MODULE 3: INTRODUCTION TO PRE-CLINICAL COURSES AND WORKSHOPS

A broader approach to pre-medical courses will be addressed in this module. Key concepts such as homeostasis, physiology, histology, pharmacology and semiology will be studied. Workshops in the afternoon are meant to deepen and better understand the acquired knowledge.

1. Basic medical equipment: Students will get familiar with the basic medical equipment used in practice such as stethoscope, otoscopes, laryngoscope, blood pressure monitors and cuffs, reflex hammers, blood glucose strips, dental instruments, pulse oximeters, EKG machines, etc. They will learn their function and if possible, manipulate them, and learn how to use them. Later they will enforce this knowledge in the workshop.
2. The heart: Students will get familiar with the basic anatomy and physiology of the heart and the circulatory system as well as a brief comment on high blood pressure. They will learn the anatomic positioning of the heart as well as cardiac auscultation. In a later workshop they will learn how to accurately take the blood pressure.



3. The Nervous system: Students will get familiar with the basic anatomy and physiology of the nervous system, both the central nervous system and the peripheral nervous system. Acquired knowledge will be reinforced in dissection of the brain workshop.
4. Introduction to physiology: What is physiology? What is physiopathology? What's the body made of? Students will address a general understanding on the functioning of the human body and how it works to maintain a homeostatic condition. When this is altered, a decontrol in the system occurs, leading to a pathology.
5. Introduction to histology: After finishing this lecture, students will have an understanding of what histology is and its importance in medicine. Pathologist work with corps and laboratory equipment, having very few contact with the patient itself.
6. Introduction to pharmacology: Fundamentals of clinical pharmacology and the differences and similarities between doctors and pharmacologist will be assessed.
7. Introduction to doctor-patient working relationship:
 - How to properly approach a patient
 - The medical interview: developing and maintaining a therapeutic relationship, communicating information, and gathering information.
 - Factors that could affect the patient- doctor relationship
 - Professional standards
8. Investigation in medicine: Investigating and reading investigations is a big part of a medical student's training. During the career, they will learn how to investigate but also how to properly approach investigation articles. They will receive an introduction to research in medicine and get to know different resources for clinical investigations as well as courses investigation.
9. Introduction to NHS: Students from UK and the world will learn about the NHS's history and actual condition of service. A brief introduction on how the NHS works and it's managed should be included. Students from around the world will gather in small groups and discuss which other health care systems they know. Later a debate on different health care systems, questions and opinions about the NHS will be addressed.



Workshops:

A. **Basic Life Support (BLS)**: A practical workshop that will teach students single rescuer and team basic life support in victims with life-threatening illnesses or injuries until they can be given full medical care at this hospital. Team work and thinking under stress are environments that will be faced daily in the medical practice

- ABC: airway, breathing, circulation
- Use of AED (defibrillator)
- Adequate and effective CPR

Reading recommendations: *Basic Life Support Provider Manual - AHA*

B. **The Heart**: Students will handle a real heart (Cow) and dissect it in order to better understand its anatomy, main blood vessels, the four chambers of the heart and its valves, etc. The structure, or anatomy, of a cow and human heart are virtually identical. In fact, it is very common for science and medical classes to dissect a cow heart in place of a human heart. Students will look at the heart's anatomic position and compare heart sizes from different specimens. If possible, perform auscultation of the heart between the students while other do the dissection.

C. **Dissection of the Brain**: after familiarizing with the anatomy and physiology of the central nervous system, students will get the chance of looking at an actual brain (cow or sheep), brain stem and cord. They would be given the task to identify the main lobules and fissures of the brain, as well as their main function.

D. **Injectable/ Taking blood**: Either workshop would be a good addition to reinforce the adequate use of medical equipment, and review anatomy. Students could practice giving shots to oranges, or taking blood samples from the radial artery, using the correct aseptic technique and performing an accurate procedure. They will have to prepare the equipment, wear gloves, and discard the equipment, such as if they were performing the procedure at the hospital.

E. **Imaging samples**: Students will have the change to look at different imaging forms such as x- rays (chest x-ray, abdominal x-ray), ultrasound, tomography, magnetic resonance and others. An exercise on identifying the anatomy of an x-ray could be performed, specially the anatomy of the heart. What do doctors expect to see in these imaging samples, how does imaging help to verify a clinical diagnostic?



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F. Suturing : Students will learn and practice Different Suture Techniques and learn to tie knots and use of forceps and needle – Simple Interrupted Suture, Vertical Mattress Suture, Horizontal Mattress Suture, Subcuticular Suture.

READING RECOMMENDATIONS:

Books

- *Netter- Atlas of Human Anatomy - 6th Edition*
- *Guyton and Hall Textbook of Medical Physiology, 13e (Guyton Physiology)*
- *Basic Neurology (Gilroy, Basic Neurology) 3rd Edition*
- *White Coat, by Ellen L. Rothman, M.D.*

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