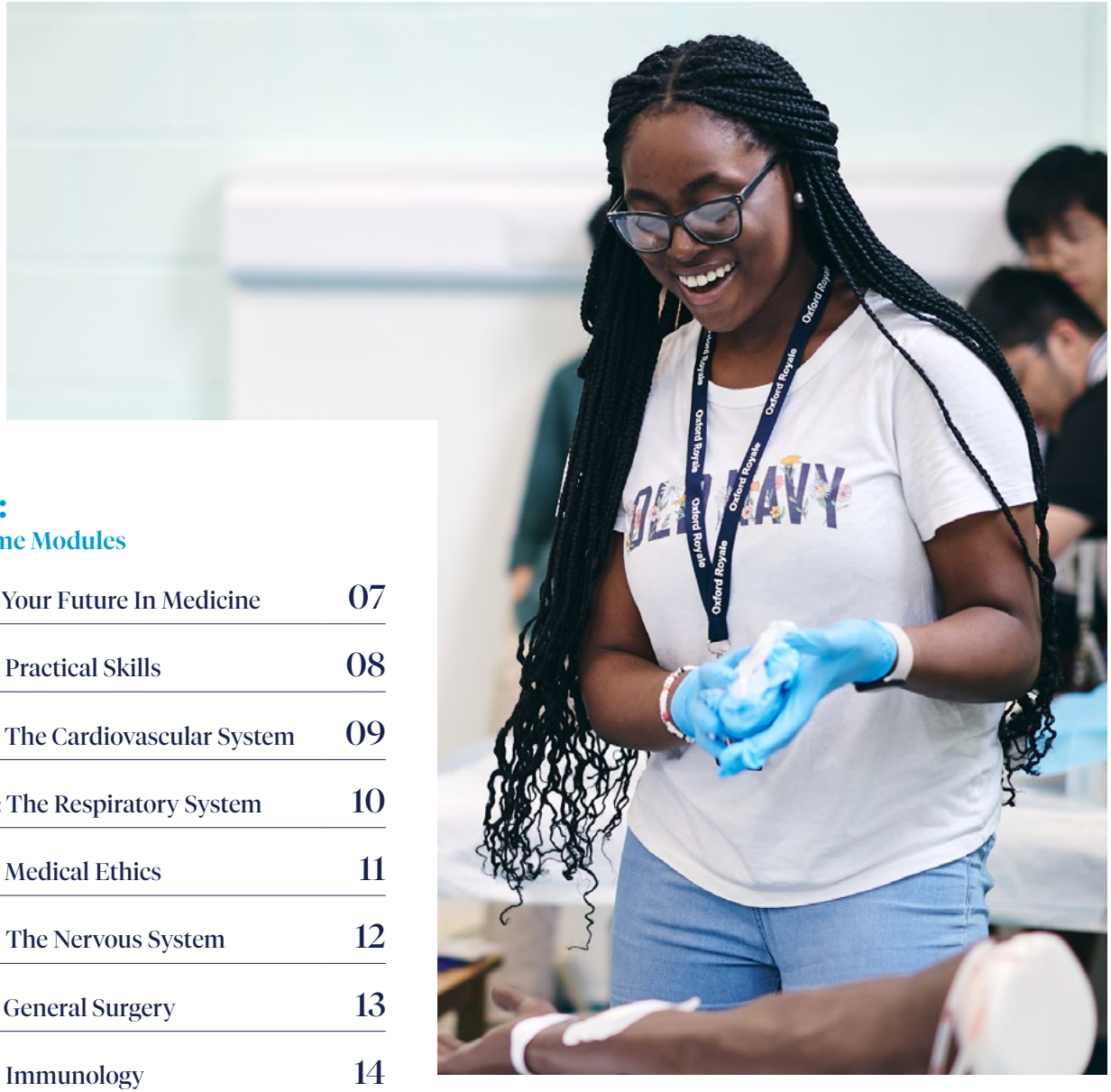
OXFORD ROYALE®

Medicine

Syllabus Guide

For Ages 16 – 18

Contents



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Programme Overview

The Oxford Royale Medicine programme aims to help students master both the theoretical and practical fundamentals of Medicine, whilst providing a thorough understanding of different pathways and careers within the medical field.

You'll delve into the structure and function of major organ systems, learn about pathology through real-life case studies, and explore technological innovations and research. Meanwhile, you'll cultivate essential practical skills such as physical examinations, learning to assess and diagnose acutely unwell patients. Guided by world-class academics and medical practitioners, you'll get access to university-level teaching, developing an understanding of medical research and contemporary ethical debates that will prepare you to excel in this field as an undergraduate student.

Who It's For

Whether you aspire to become a medical professional or simply wish to explore the wonders of the human body, this programme will equip you with invaluable insights into health, disease, and the future of healthcare.

Elevate your understanding, ignite your passion, and chart your path to a future in medicine. An undergraduate degree in Medicine is a big commitment: it is one of the most competitive subjects and entails many years of study before completion. It is therefore beneficial for prospective students to gain valuable experience that is often not accessible as part of secondary education, not only to boost their medical school application, but also to make an informed decision as to whether a career in the field is right for them.

"The lessons are really different from what I learn in regular Biology. You learn practical skills, such as how to talk like a doctor, all the symptoms and the diseases that cause them, and how the brain functions."

Philip, France
Oxford Royale Student

Upon completion of this programme at Oxford Royale, you will:

1. Have a thorough understanding of the anatomy and physiology of key body systems.
2. Demonstrate proficiency in essential medical skills, such as physical examinations and effective communication.
3. Gain clarity on the pathway to becoming a doctor, including the challenges and rewards associated with this career.
4. Understand the importance of basic sciences like immunology and genetics in clinical practice.
5. Be prepared to create and present research posters, a vital skill for medical school and professional conferences.
6. Be able to analyse how diseases disrupt normal bodily functions and evaluate current medical research.

During the programme you will also develop a number of core skills:

1. **Collaborate with international peers:**
   Work with global peers and hone your communication and teamwork skills through workshops and group projects.

2. **Develop problem-solving skills:**
   Enhance your critical thinking and problem-solving abilities with daily lessons and workshops.

3. **Build confidence:**
   Thrive in a supportive environment, think creatively, share ideas, and discover your strengths.

4. **Showcase your success:**
   Showcase achievements, explore peer projects, and engage in critical discourse during subject challenges and Exhibition Days.

5. **Gain a taste of independence:**
   Manage your assignments and schedule while exploring a new location with new friends and staff support.

How You'll Learn

Our Medicine programme transcends traditional classroom learning, offering a blend of seminars, case-based learning, problem-based learning, and simulation.

You will also participate in hands-on sessions learning skills taught exclusively at medical schools, such as practical examinations and assessing acutely unwell patients through simulation.

Teaching methods include:

1. Practical clinical skills sessions
2. Case-based learning
3. Academic workshops
4. Practical assignments
5. Seminars
6. Lectures from esteemed medical practitioners and / or academics working in the field

Module 1:

Your Future In Medicine

Forming an overall introduction to the course, this module will take you through new horizons in the field of medicine. You will learn about changes in medicine enabled by technological advancements and shifting medical paradigms; the role of AI and MedTech in healthcare; and the rise of personalised medicine (also known as precision medicine). You'll walk through how to become a doctor, with an overview of the UK training pathway, and entry into other medical specialisms. Finally, you will create your own academic research poster – a popular form of disseminating new research at conferences and scientific meetings – with information about a disease of your choice and current research surrounding it.

Module 2:

Practical Skills

This module covers core practical medical skills, their importance in influencing patient care and outcomes. You will rehearse effective communication techniques in medicine across various situations, from an initial consultation to the empathetic delivery of a diagnosis, using detailed case scenarios. These will also be used to instruct you in the A&E Assessment following the ABCDE (Airway, Breathing, Circulation, Disability, and Exposure) approach. Finally, you will learn to take a patient's history. These skills will be employed throughout the two-week course and tested in a final assignment.

Module 3:

The Cardiovascular System

You'll learn about the overall function of the cardiovascular system and innovations in cardiovascular medicine, whilst delving into the various career pathways in this specialism. You'll also learn about the intricacies of the cardiovascular system in health and disease, mastering the fundamentals of heart anatomy, cardiac physiology, and cardiovascular disease with supporting case studies, before learning how to conduct a cardiovascular examination.

Module 4:

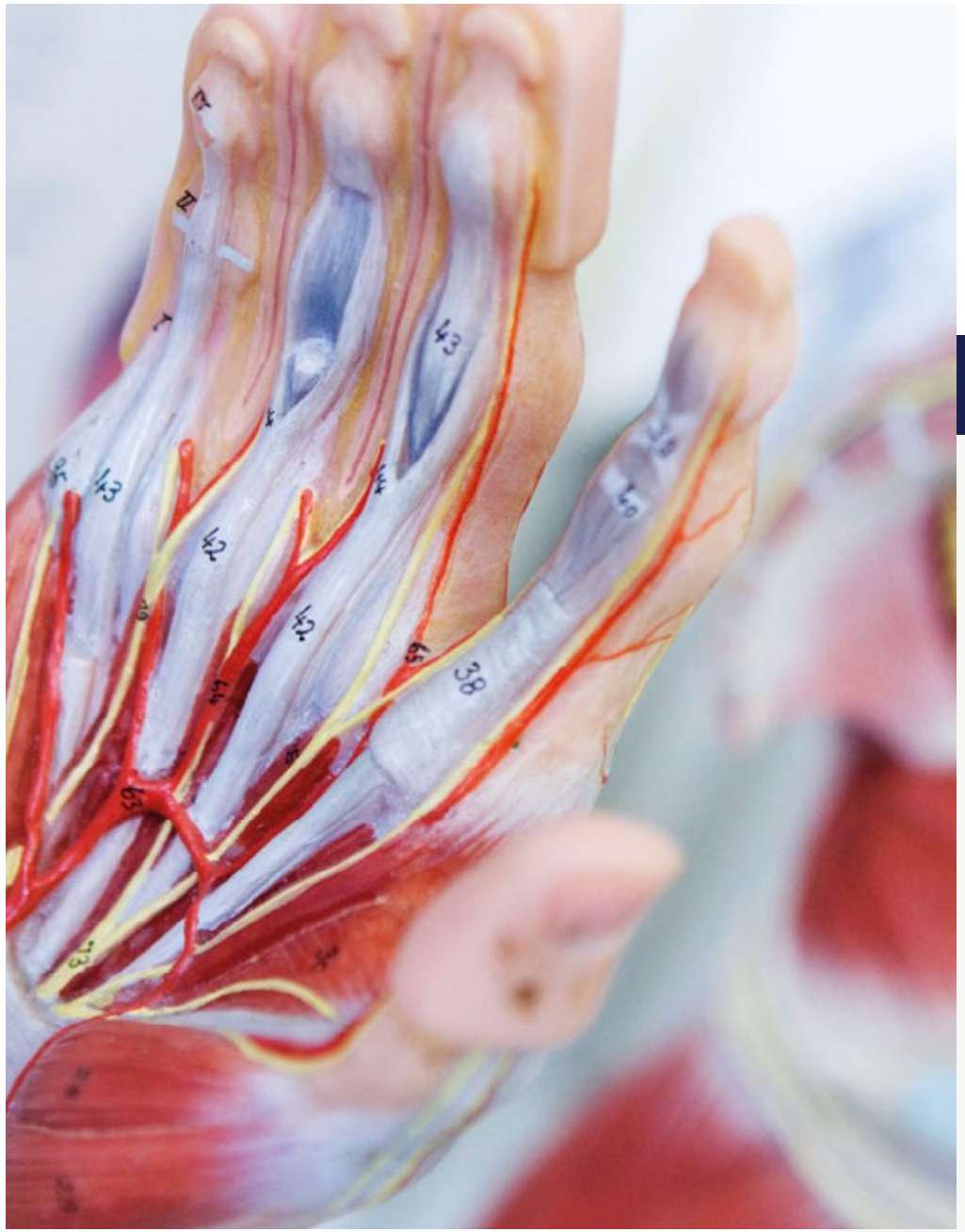
The Respiratory System

Delving into the respiratory system, you'll study the system's roles in gas exchange, lung anatomy, the maintenance of the body's acid-base balance, and the prevention of infection, learning about the various careers stemming from respiratory medicine. You'll go into depth about the anatomy and physiology of the lungs, before tackling the pathology, clinical manifestations, and treatment of common respiratory diseases. Finally, you'll learn to conduct a respiratory examination.

Module 5:

Medical Ethics

Doctors must adhere to a well-defined code of good medical practice, with new medics taking oaths to preserve life and prevent harm at the beginning of their careers. This module explores the core pillars of medical ethics – autonomy, beneficence, non-maleficence, and justice – introducing students to the roles of medical lawyers and healthcare administrators, who oversee and regulate medical ethics in practice. You will go on to study topical issues, before exploring case scenarios which have presented dilemmas in terms of ethical practice.



Module 6:

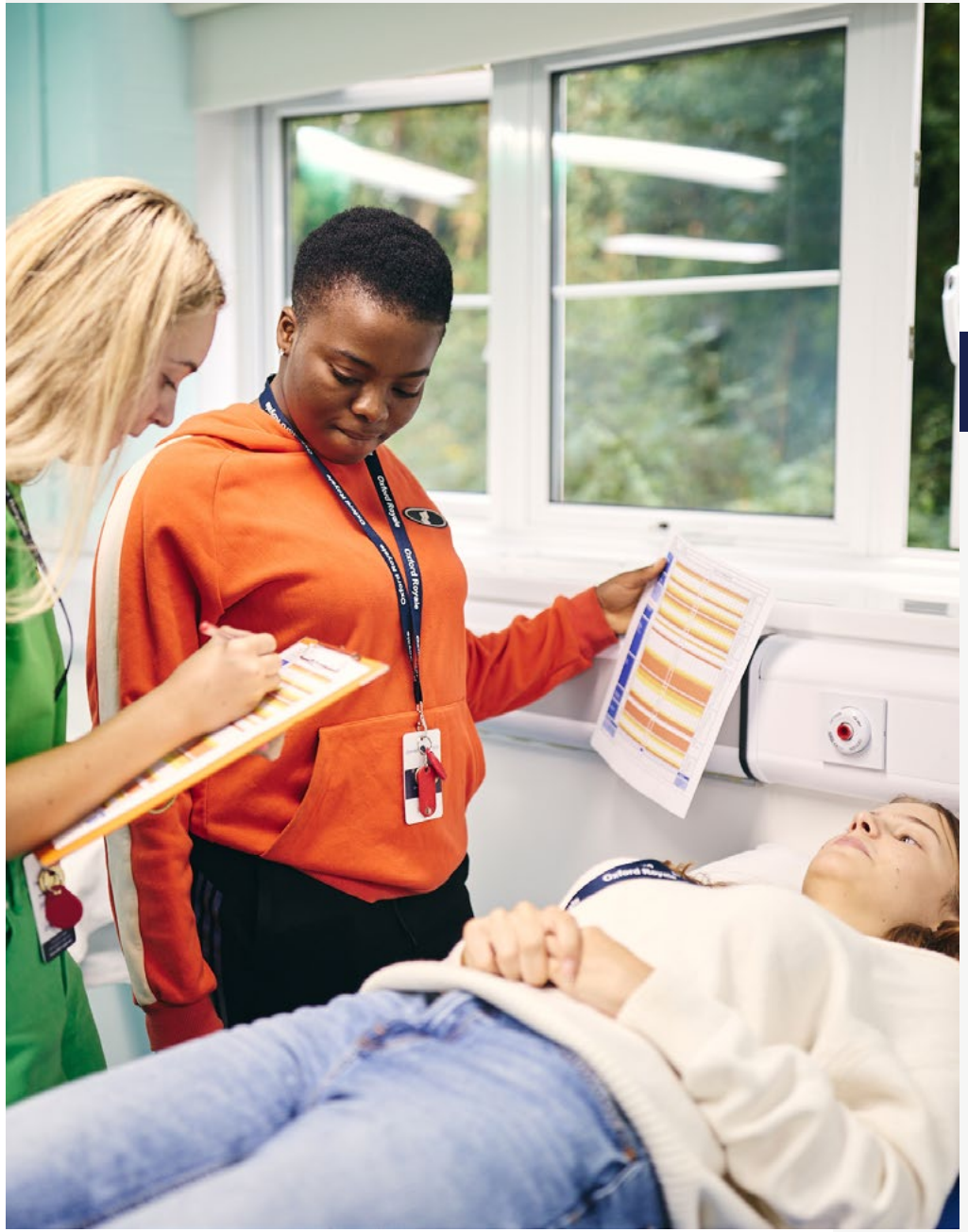
Neurology

Neurology concerns the diagnosis and treatment of disorders of the nervous system, which comprises the brain, spinal cord, nerves, and muscles. For this module, you'll examine the fascinating careers stemming from neurology, including neurosurgery, neurophysiology, and neuroscience, before delving into core areas of neurology: the anatomy of the brain, electrical signal transmission in neurons, neurotransmitters, and the structure of the nervous system. You'll also learn to describe, and diagnose conditions related to the nervous system, including dementia, stroke, and seizures. Finally, you'll learn to conduct a neurological examination, crucial in identifying neurological disorders and measuring disease progression.

Module 7:

General Surgery

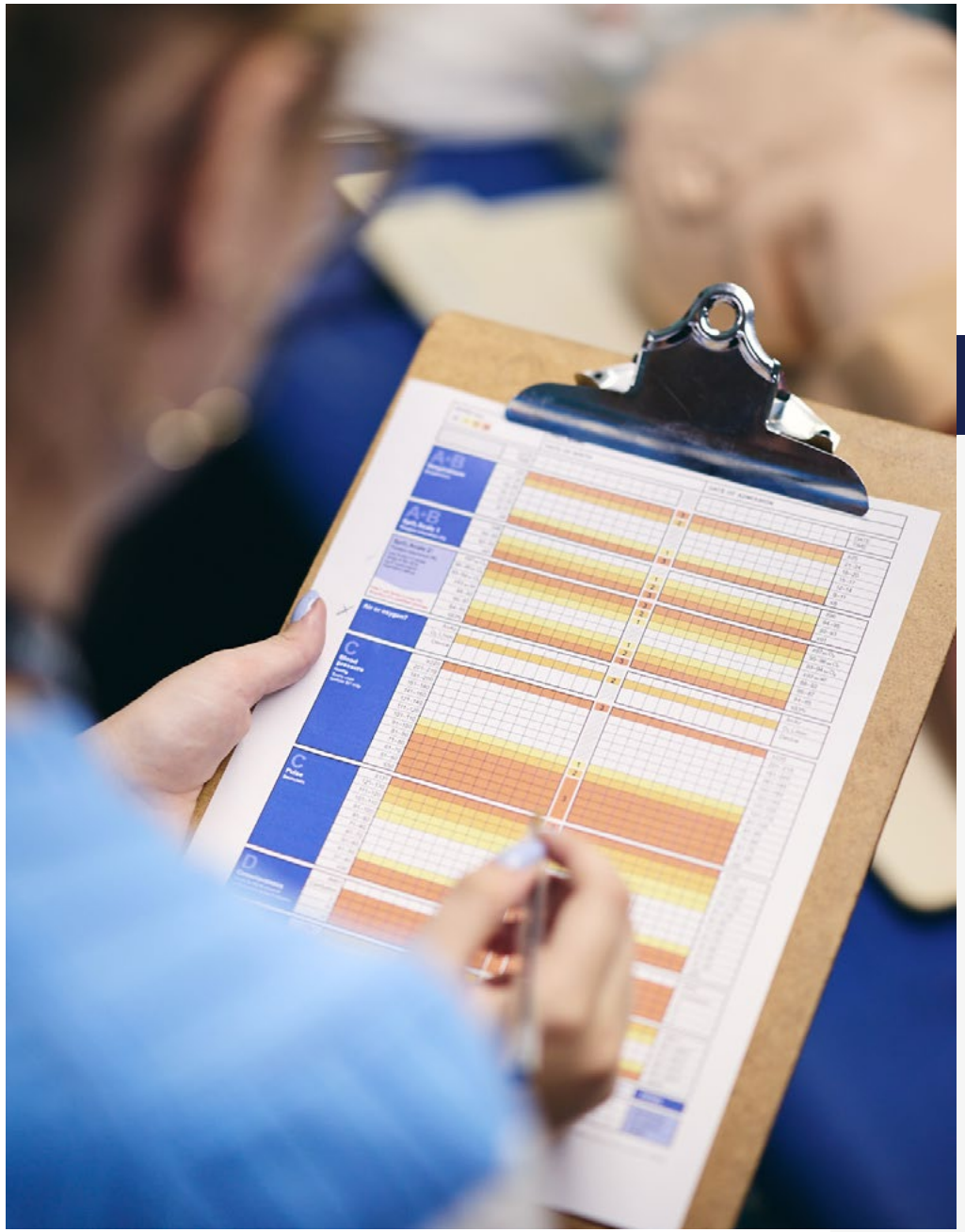
Surgery encompasses the surgery and treatment of various common conditions affecting internal organs and soft tissues, including appendectomies, hernia repairs, and gallbladder removals. This module covers different career pathways within this discipline, types of surgery, and future innovations and advancements. Furthermore, you'll study the anatomy of the gastrointestinal system, before examining the pathophysiology and treatment of conditions such as appendicitis, gallstones, and colorectal cancer through case-based learning.



Module 8:

Immunology

Immunology is the study of the immune system, and is crucial for understanding how the body defends itself against infections, diseases, and foreign substances. It plays a crucial role in public health, guiding disease management and prevention. For this module, you'll delve into three core topics: the structure and function of the immune system, the function and creation of vaccinations, and the use of gene-editing to find cures for genetic diseases – including sickle cell anaemia, cystic fibrosis, and muscular dystrophy – as well as its employment in other fields such as agriculture.



Module 9:

Genetics

Genetics is the branch of biology that deals with genes, heredity, and genetic variation. Should you choose to specialise in this field after reviewing the career paths available – including roles as a genetic counsellor, genetic engineer, and bioinformatician – you'll benefit from an introduction to genetics. This covers the flow of genetic information within a biological organism; types and consequences of genetic mutations; categories of genetic disease; and the use of pedigree trees, graphical representations of family relationships, and medical history.

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All information correct at the time of publication.