

immerse
EDUCATION

Medicine

SYLLABUS OVERVIEW

15-18 YEARS OLD

immerse EDUCATION

About the Programme

Immerse Education is an award-winning provider of summer experiences offering academic and career-focused programmes for high school students from worldwide, in such locations as Boston, Cambridge, London, New York, Oxford, San Francisco, Singapore, Sydney, Tokyo, and Toronto. These programmes aim to deliver engaging, academically challenging content within a university-style classroom environment.

The Career Insights programmes bring together industry professionals and university tutors in a unique learning model grounded in project-based learning. Students gain valuable insight into what it's like to study their chosen subject at an advanced level and apply their skills in real-world contexts through interactive academic sessions, practical workshops, and industry visits.

Explore Future Careers

Do you have your sights set on a particular career path? The Career Insights summer programme will introduce you to a world of opportunities in the field, using project-based learning and practical study to enhance your skills and knowledge.

On this unique programme, you will explore real- world issues relating to the context of your chosen subject, working alongside other academically talented participants to innovate and pitch groundbreaking ideas. Interactive workshops and networking events offer you the opportunity to learn from professionals in the business. The Career Insights educational model is designed to support you in finding the career path best suited to your long-term goals and ambitions. Immerse Education has worked with expert guidance counsellors, seasoned educators and experienced career advisors to design the ultimate career preparation course.





Project Based Sessions

Career Insights lessons are built on the foundation of hands-on learning. We want you not just to retain knowledge, but also to apply your newfound understanding to real-world, practical examples as you develop throughout the programme. Our Project Based sessions are designed for you to have ample opportunity to apply what you are learning to practical tasks, allowing you to further identify gaps in your knowledge and skillset while solidifying your growth and understanding.



Industry Visits

One of the most exciting parts of the Career Insights programme is the unique opportunity for participants to attend inspiring industry visits whereby they can interact and learn from industry professionals in their field of study. Industry visits take learning out of the classroom and into the real world, where students can observe and explore how the skills and knowledge built throughout the programme apply to a career in their subject. This unique aspect of our programme ensures students also gain the chance to network directly with industry professionals who may share with you opportunities you hadn't otherwise envisioned.

Why Get Career Ready?

High-quality career guidance is essential for young people making informed decisions about their future. To bridge this gap between the excellent work of schools throughout the year and practical experience, the Career Insights programme aligns with the eight Gatsby Benchmarks of Good Career Guidance, an educational framework designed to prepare students for future careers.



Careers guidance embedded in a residential experience



Encounters with employers and employees



Learning from career and labour market information



Experiences of workplaces



Addressing the needs of each student



Encounters with further and higher education



Linking curriculum learning to careers



Personal guidance

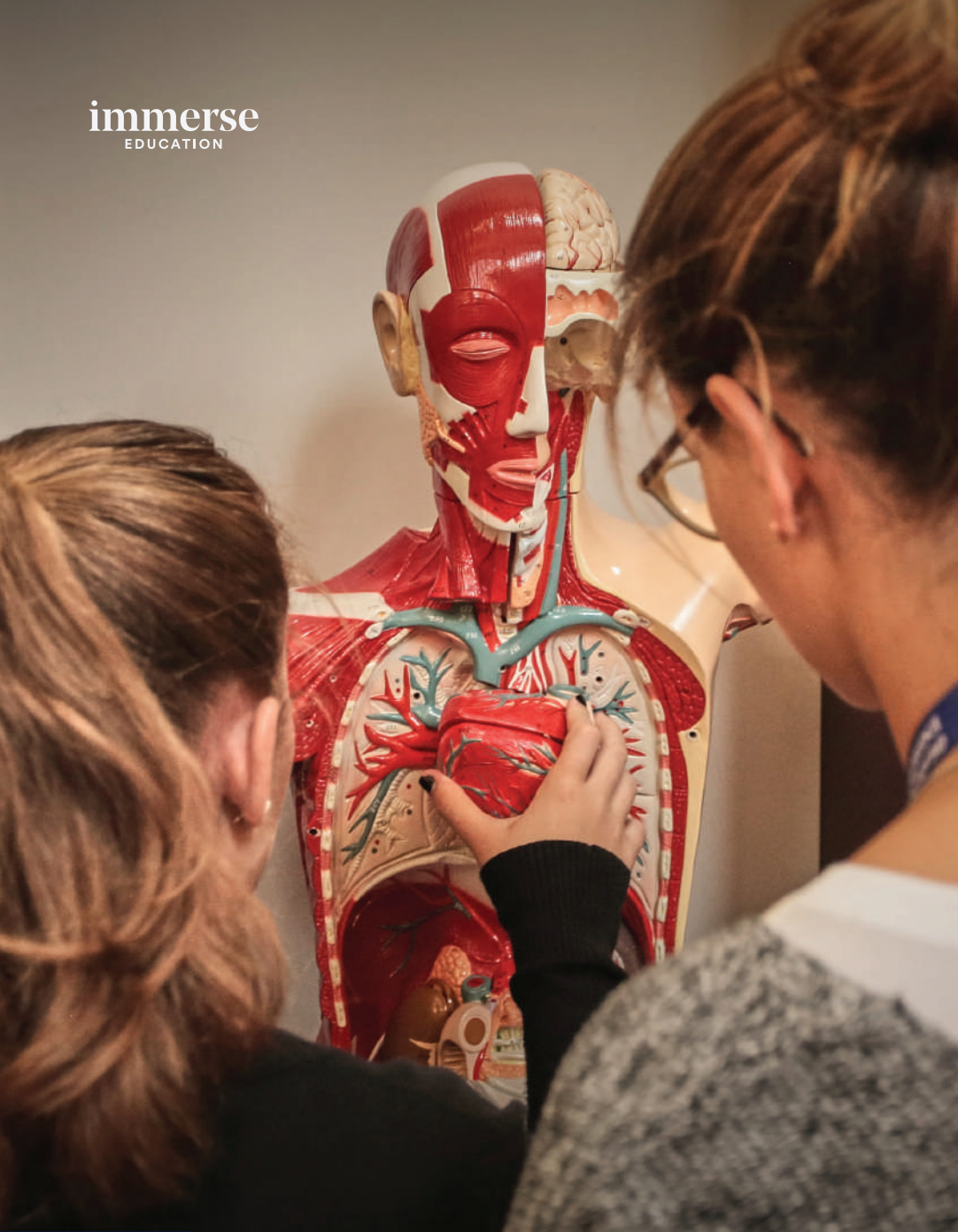
Aim of the Medicine Programme

The Immerse Education Medicine programme is designed to build upon the foundation of scientific knowledge that participants have already gained in a traditional classroom environment and highlight how this can be used to inspire further study at university. Participants are encouraged to explore new material in-depth and to form independent and considered opinions and ideas based on sound academic knowledge and research. With a strong foundation of theory, participants will explore the practical side of medicine through a series of practicals. By the end of the programme participants will have a good understanding, not only of university-level content, but also the variety of degree programmes available in subjects related to biological sciences. Beyond this, participants will also explore the career opportunities available to graduates in this field.



Medical Research & Theory

You will revisit the principles of scientific methods working through various stages of medical research. You will use skills to investigate a specific medical condition, using relevant real-world data to explore diagnosis, treatment plans and social implications. In this module, you will learn how to use your insights to inform decision making. You will take the lead to discuss and present your findings.



Practical Experiences

Getting out and about across London to receive hands-on, practical experience will help you decide where you best fit in the world of medicine. With site visits to Old Operating Theatre, Anaesthesia Heritage Centre and The Science Museum, you will get to see dramatic changes in the field and the huge impact technology is having on the world of medicine. You will have opportunities to explore new technologies including advanced telemedicine, artificial intelligence, wearable technology and 3D printing.

Medical Research: From Bench to Bedside

Scientific research is an incremental process occurring over years or decades, costing millions, and requiring pain-staking work to be undertaken by vast teams of scientists and clinicians spanning various fundamental, translational and clinical research disciplines. In this session we will reaffirm the principles of the scientific method, delve into the various stages of medical research and the growing necessity for interdisciplinary approaches and international collaboration. In particular we will focus on the journey of laboratory bench discoveries to patient bedside, clinical trials, and careers in medical research.



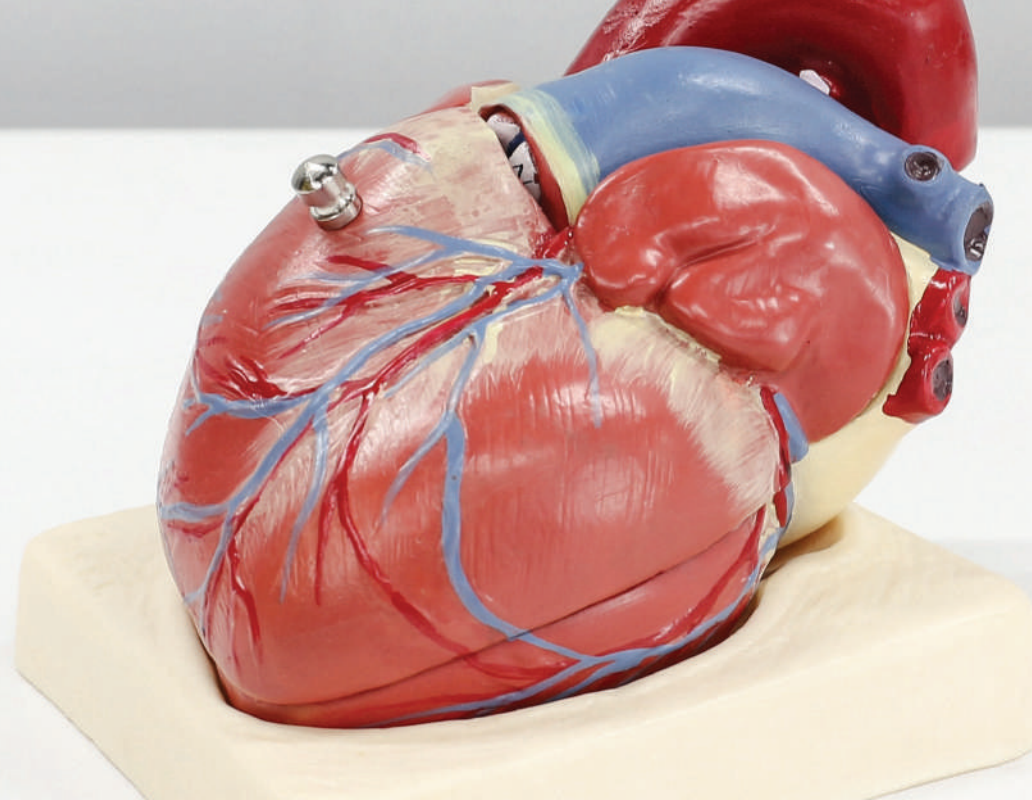
Functional Genomics and Epigenetics

In the 60+ years after the discovery of DNA's structure there has been astonishing progress in our understanding of heritability, gene function and variability. Since the completion of the Human Genome Project, considerable attention has been given to the emerging field of epigenetics, an area of research that focuses on the modifiers of gene expression. In class, we will extract and isolate DNA, and learn about the influences of parents on children in the womb, transgenerational epigenetics, and evidence for inherited memories.



Anatomy and Histology

Humans have long been fascinated with anatomy, yet it wasn't until the invention of the microscope a few centuries ago, that we discovered the building blocks of life – cells, and thus the field of histology was born. Today we know our cells make up four basic tissue types which together form organs that carry out specific functions and work in concert with one another to comprise the 11 systems of the human body. During this session, students will become familiar with the anatomical locations, characteristics and microanatomical features of several vital organs through dissections and microscopy analysis so as to better understand their structure-function relationships.



Cardiovascular and Respiratory Physiology

During this session, we will probe current scientific questions and consider current and emerging therapies to fight cardiovascular and respiratory diseases. Students will have an opportunity to investigate cardio-espriatory functions and perform a series of mini-experiments to investigate the regulation of breathing and heart rate. By the end, you will have developed a deeper understanding of the roles of CPR and AED in the emergency treatment of heart attacks and addressed the following questions: ‘Why do some people get altitude sickness?’, ‘Is snoring bad forAt the most detailed biochemical level, no two cancers are identical – but most share certain characteristic features known as the ‘hallmarks of cancer’. The accumulation of multiple mutations in somatic cells over time are thought to remove an elaborate set of controls that are important in regulating cell division.



Pharmacology

Drugs form an intrinsic part of modern medicine. But do you understand exactly what a drug is doing to your body, and also what is your body doing to that drug? Why do we get side effects? How do we determine drug safety and when does a drug become a poison? Here we will learn about the world of pharmacodynamics, pharmacokinetics and toxicology. We will also debate the changes humanity must make to stave the antibiotic resistance crisis, where we might find potential sources of novel drugs and if society should reconsider its handling of the substance abuse and addiction pandemic.





The Career Insights programme has been really (for lack of a better word) immersive. I think Immerse has given me a lot of clarity in terms of having a better understanding of what a career, or even university education, in medicine looks like.

Mia

Immerse Career Insights Alumni



Partnerships & Accreditation



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