

Medical Science Bridging Work

Level 3 Diploma, WJEC.



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INTRODUCTION

Welcome to all of you and thank you for your interest in studying Medical Science, LLevel 3 Diploma (WJEC) with us at King Edward VI School. The MEdical Science Diploma is an A-level equivalent and, as such, is graded A-E. The 2-year course includes an exciting mix of practical and theoretical learning, which is assessed through both examination and coursework components, throughout both year 12 and year 13. The course includes modules on the structure and function of the human body, from our basic biochemistry and cell structure, to the function of organ systems and their role in health. The physiological measurements module will involve using simple pieces of medical equipment, such as peak flow meters and sphygmomanometers, on live patients to ascertain their health. Year 13 will see you apply the understanding of the body and health in understanding how medicines work at a molecular level and how clinical tests can be used by clinicians to assist in diagnosis, requiring you to plan, carry out and interpret your own clinical tests on “patient samples”. Details of the content covered in the course and how they are assessed can be found here...

[Specification.](#)

Starting points

Whether you have studied “Separate Sciences” or Combined Sciences” at GCSE, with AQA or an alternative examination board, will not determine your success in Medical Science and all the content in the specification will be delivered and supported by a team of subject experts in the Science department. However, if you would like to get a head-start with the subject, we have some suggestions of how you might use your time to prepare and some activities to increase your understanding from GCSE.

“Reading is essential for those who seek to rise above the ordinary.” Jim Rohn

Reading about the subjects you are studying is the single best way for you to improve your understanding of the subject and for you to gain more enjoyment from it. There is no prescribed reading list for Medical Science and we will use a range of textbooks and resources during the course. However, we have a few suggested books that will really give you a taste of the exciting content that you will be covering. You are under no obligation to buy any of them, but we have included links to online sellers (shop around and borrow or buy second hand if you can!).

We don’t expect you to dedicate your entire life to reading scientific literature and there are many websites, TV shows and even social media accounts (though be selective) that can offer stimulating and informative content on Medical Science. We’ve recommended some of those too..

Books

Anatomy 101: A Crash Course in Anatomy and Physiology, by Kevin Langford ([available on amazon](#))

This “pocket-sized companion” provides a succinct and accurate introduction to Human Anatomy and Physiology, starting with basic biochemistry and cell biology, before moving on to organ and system function... much like Unit 1 of Medical science!

The Body: A Guide for Occupants, by Bill Bryson ([available on amazon](#))

“We spend our whole lives in one body and yet most of us have practically no idea how it works and what goes on inside it. The idea of the book is simply to try to understand the extraordinary contraption that is us.’ Bill Bryson sets off to explore the human body, how it functions and its remarkable ability to heal itself. Full of extraordinary facts and astonishing stories The Body: A Guide for Occupants is a brilliant, often very funny attempt to understand the miracle of our physical and neurological make up.”

This book will give you a fantastic insight into the inner workings of the human body, written in an easily accessible style with fascinating anecdotes and facts to bring it to life.

Smoking Ears and Screaming Teeth, by Trevor Norton ([available on amazon](#))

“Smoking Ears and Screaming Teeth is a hilarious celebration of the great eccentrics who have performed dangerous experiments on themselves for the benefit of humankind, written with all the wit, humour and eye for the beauties of nature - and machinery and scientific equipment - that have gained Trevor Norton a cult following and critical acclaim.”

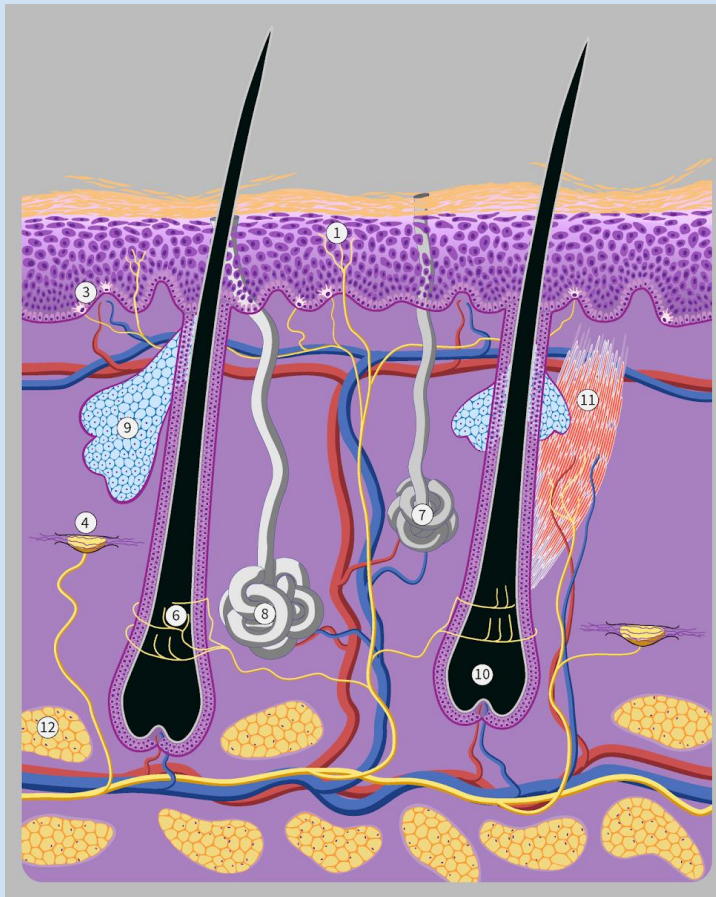
A funny and astonishing account of some of the more bizarre lengths the scientific community have gone to to improve our understanding of health.

TV Shows...

Pain, Pus and Poisons: The Search for Modern Medicine (available on [iplayer](#) at the moment, and [youtube](#) at lower quality, episodes [1](#), [2](#) & [3](#))

“Dr Michael Mosley tells the story of the creation of our most useful and valuable drugs. Charting some of the bizarre, serendipitous and often courageous experiments and discoveries that have given us the wonder drugs that transformed medicine, many of which we often take for granted!”

Taster Activities...



The Integumentary system

This is the Integumentary System: the largest external organ in the human body. On average, it covers an area of 2m^2 , accounts for up to 15% of a person's mass and provides our first line of defence against invading organisms as well as helping us to regulate our body temperature. What is it better known as...

Skin!

During the first year of Medical Science, we explore the structure, special adaptations and functions of all of the major body systems (Cardiovascular, Nervous, Digestive, Respiratory, Renal, Respiratory etc...) and are expected to be able to identify the major organs and

features of those systems, explain how they function in a healthy individual and describe how disease can affect their normal function.

As an introduction to the course, we would like you to do just that for the integumentary system. Please read the pdf excerpt from one of the course text books found [here](#) and complete the independent task found [here](#).

Measuring aerobic fitness.

As part of the first year's assessment, you will need to learn how to administer and interpret a number of physiological tests, using pieces of specialist equipment (such as a sphygmomanometer to measure blood pressure). We can't expect you to have access to these pieces of equipment, however, we have provided a practical activity for you to use to determine your "aerobic fitness" and BMI, which are both used as (crude) measures of health, without the need for specialist equipment. Please find the

instructions for these measurements [here](#). As mentioned, these are very crude measures of health and should not be used to inform you of your general health. You are under no obligation to complete them and your information will not be requested.