UL PARAMEDIC STUDENTS GO ON VIRTUAL REALITY TOUR

The Paramedic Studies Division of the Graduate Entry Medical School at University of Limerick has introduced 21st century technology to Ireland's only CAO entry paramedic programme by incorporating Virtual Reality as part of the new anatomy teaching systems for this year's cohort of paramedic students, writes Mark Dixon, Senior Lecturer and Course Director.

Core anatomy and physiology has played an essential underpinning role in medical education since the genesis of the science documented in ancient Greece and Egypt. Since this time very little as changed in the learning modalities utilised to disseminate such information.

Conventional wisdom has relied on three parameters; printed materials such as books and posters, development of re-creative physical models and actual human post mortem dissection.

The glue holding this trilogy together has been the experienced medical lecturer whose role is to ensure the would-be doctor, nurse or paramedic has attained and synthesised such information in a manner which facilitates the underlying diagnosis and treatment of ailments and disease.

Paramedic Studies, of the Graduate Entry Medical School, University of Limerick have introduced 21st century technology to Ireland's only CAO entry paramedic programme and has implemented new anatomy teaching systems with the incoming undergraduate 2018 cohort of Paramedic Studies' students.

VIRTUAL REALITY TOURS

The new systems will function via Virtual Reality (VR) as part of an integrated problem-based learning pedagogy. Yes, standard flat two dimensional didactic lectures will take place, however students will be facilitated in the use of extremely high fidelity virtual reality tours of the human body to augment traditional learning.

Students will be able to actually walk through the heart, follow a blood cell, tour the arteries of the brain and indeed visit the inner most workings of any human cell. The system uses a range of bespoke software packages and provides incredibly detailed digitally designed imagery, which is completely self-directed by the learner.

High-end gaming personal computers utilize virtual space playrooms to completely immerse the student into the human body from the inside. Images are reinforced with detailed descriptions and even pronunciation for those tricky Latin spellings. To increase fidelity for the user sounds, actions and views are controlled by hand 'wands' that assist in focused tours of all body systems.

'Repeat' feeds of the students view are displayed on large screen televisions and allow the entire problem based learning group to view each body system as one cohort. Naturally, as a digital feed .mp4 recordings can be taken to aid in later revision with students being able to produce their own review material.

Getting ready for a virtual reality tour - Bisola Salaja, one of the first year medical students at the Graduate Entry Medical School (GEMS) University of Limerick (UL).

EMBRACING TECHNOLOGY

The principles of virtual reality use in medical education are very well established, while existing models have focused on traditional skills rather than factual knowledge. The way forward is to embrace technology, and VR will become the norm across all healthcare settings.

If models such as the Paramedic Studies system prove as beneficial as those utilised in VR surgery training, then the evidence will very quickly define this methodology as the way forward.

In an attempt to demonstrate our new learning principle to the Irish pre-hospital community, Paramedic Studies at the University of Limerick is proposing an open trial of the software, whereby students will receive 2D views of the simulations. However, the overall principle will be clear.

Our staff have dissected the Pre-Hospital Emergency Care Council (PHECC) teaching and learning objectives for the cardio-vascular system and built an mp4 model, which will guide the user through all points of the CVS required to meet the current standard.

This will form part of an online trial with the overriding aim to expand the project to other research partner universities in Europe and further afield. If you wish to see how it works keep an eye on UL's Paramedic Studies social media platforms for details.

For further information contact ***paramedicstudies@ul.ie***