Study Online, Interact with Peers and Teachers in Real Time!

ESV will enable Year 10 Science students in government schools across Victoria to study an emerging science subject as part of their own courses. The aims of the ESV programs are:

- deliver high quality, face-to-face learning experiences in a digital space;
- engage learners in the study of Emerging Sciences;
- increase student aspirations in Science as a career;
- allow learners from different schools to learn collaboratively;
- give young people the opportunity to engage with working scientists on the cutting edge of their field.

Students study these subjects from their own schools via a live, interactive video link to specialist teachers in the teaching studio at John Monash Science School in Melbourne.

www.emsci.vic.edu.au

Further Information

The program works best when participating schools select a liaison teacher who can liaise with both JMSS staff and their own students about the courses, expectations and work.

The liaison staff will monitor attendance, assist students with the work if they can, and communicate with JMSS staff about the program. The liaison person can be a teacher or ES staff member.

Ideally this teacher could also participate in some of the lessons and become familiar with the content themselves, with a view to being able to incorporate some of it into their own teaching.

There will be a charge for each semester-length course of $100 to assist with the costs of sustaining this program.

We look forward to your students’ involvement in this exciting project.

The partnership between JMSS and Monash University is unique in education in Victoria, and has been responsible for the creation of an exciting contemporary curriculum in science which has brought the cutting edge of scientific research into the modern secondary classroom.

ESV brings significant aspects of this innovative curriculum to all Victorian Year 10 students who are passionate about science. ESV is a wonderful opportunity to build capacity in our science students and their teachers.

Our Memorandum of Understanding with DET gives us a three-year window to develop and sustain this program into 2017.

ESV is already being implemented in many schools across Victoria.

As the student numbers are capped for each course, schools are advised to make the necessary enquiries and allow their students to complete the enrolment process as soon as possible. All enquiries should be directed to enquiries@emsci.vic.edu.au.

Expressions of interest are now open at www.emsci.vic.edu.au.
Who will these programs suit best?

The programs will be most suitable for Year 10 students who are passionate about Science and wish to extend their knowledge into areas not part of the current Science curriculum in schools.

Students who enrol in a course should be permitted by their school to replace an existing elective study with their chosen ESV study.

Students will interact with real teachers and scientists in live classes, enabling them to engage with contemporary theories and research, to develop their understanding collaboratively within a state-wide community of learners, and build relationships with teachers, academics and peers from other schools.

Students are expected to attend all lessons, and complete all set work. Every lesson will be recorded and students will be able to access those recordings on a private YouTube channel to revise or catch up on missed lessons.

Learning at the cutting edge

We provide access to a learning platform using Google Apps for Education, realsmart (a learning and assessment portfolio), all with single sign-on access via a website, and the Cisco Webex video classroom.

Biotechnology and Bioinformatics

Explore how we use technology to understand DNA and genetic codes. Students examine the structure and function of the cell, DNA and proteins, the development and uses of genetic technology. Students will gain a range of experiences in state-of-the-art laboratory techniques and how biotechnology is changing every aspect of our world.

Frontiers of Physics

Investigate some of the most recent developments in the fields of astrophysics and quantum mechanics. Go on a journey through the Universe where they explore weird and wonderful phenomenon such as black holes and dark energy. They investigate the potential for life in the universe, how stars form and how they die. Explore theories that led to the development of quantum mechanics and particle physics, and the experiments that today’s scientists use to test these theories.

Nanoscience and Nanotechnology

Nanotechnology integrates chemistry, physics, biology, engineering and material science. Students are introduced to fundamental scientific ideas that contribute to the unique properties of substances on the nanoscale. They study how scale and the properties of materials are linked, and how this leads to unusual and unexpected behaviour of materials. This understanding of nanoscience is extended to explore how properties of nanoscale materials can be exploited in a range of current and developing applications, and to gain insight into how nanotechnology could play a role in solving global issues.

Mathematical Logic 2 Magic

Standing on the shoulders of giants like Archimedes, Escher, Mandelbrot and Fibonacci, students will explore numbers like pi, phi, & tau, mathematics of higher dimensions, mathematical art including tessellations and fractals, and the magic behind card shuffling and mental arithmetic.