Faculty	Science
School	School of Chemistry & Molecular Biosciences
Activity	Online interactive learning
Lead	Associate Professor Gwen Lawrie, Dr Effie Kartsonaki and Dr Philip Sharpe
Course	Chemistry 2 Summer Semester CHEM1200
Average no. of students	100

The course

- This course aims to develop knowledge and understanding across inorganic, physical and organic chemistry necessary for advancement to the higher levels of study in chemistry, biochemistry and engineering courses.
- Core topics include: reaction profiles and kinetics, structure, reactivity and mechanisms, organic functional group chemistry, structural determination, acid/base chemistry, and transition metal chemistry.

Flexible and Active elements

- Multimodal content is delivered through video lectorials (UQ instructors). Animations and/or simulations of concepts (i.e. PhET, one developed by eLIPSE programmers) are used alongside practice problems with video explanations.
- Two face-to-face workshops are also held. The first is at the beginning of the course to set expectations, establish a course community and scaffold students in how to learn through the available resources. It also includes an active learning task section to establish chemistry concepts that students should know before beginning studying CHEM1200. The second workshop is held at the end of the course and includes active learning tasks to review concepts and consolidate what students have learnt.
- Networked learning: Use of Piazza as a course community and discussion board. A peer review assessment task (PeerWise) was also introduced in which students wrote exam questions then peer-reviewed those of their peers. In the summer semester 2017-18 we intend to use MOOCchat in collaboration with the eLIPSE team from EAIT Faculty.
- Peer learning support: PASS are study sessions (tutorials) led by 2nd and 3rd year students that focus on problem-solving tasks and student group work. CHEM1200 offers both face-to-face PASS classes and iPASS. In iPASS 2nd and 3rd year students use a document camera and the Adobe Connect screen sharing platform to lead synchronous online study sessions.

Learning outcomes

- Students appreciated the flexibility they had in studying to suit their own circumstances schedules and preferences during the summer semester.
- Student feedback in regard to the structure of the course was generally positive and demonstrated their awareness of their own self-regulation in completing course activities.

What the students say

“The short, sharp, punchy videos which were straight to the point and had the screen split between lecturer explaining and relevant chart/diagram/illustration were a highlight. For me, this is the best learning tool I have come across in all of my university studies.

The video modules were also very useful as they were so well structured and unlike a live lecture allowed me to pause and consider things longer. The fact that they were condensed and split into small bits of learning was very helpful.”