

Chemistry

Learning Materials Production, OTEN – DE designed and developed these modules for distance education students.

They can be used flexibly in the face to face classroom by:

- facilitating self paced individual student learning for the accelerated or struggling student
- providing teachers with exercises for assessment
- supplementing teacher notes
- providing assignment/assessment activities
- facilitating revision
- giving additional content examples
- providing simple alternatives to complex experiments
- modelling the inclusion of current internet information into learning activities
- ensuring student learning outcomes align with NSW Board of Studies syllabus, originally issued in 1999.
- providing examples of learning activities that address compulsory inclusive policies.

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The HSC Chemistry Materials

Chemistry is often called the central science since some knowledge of chemistry is needed for the study of Biology, Physics, Earth and Environmental Science and other sciences.

This chemistry course involves the study of chemistry at three levels:

- the macro level where you make observations on chemicals using your senses
- the micro level where you interpret and explain your observations using the model that matter is made up of particles with energy
- the symbolic level where symbols, formulas and equations are used to represent and communicate what you have observed at the macro level and wish to explain at the micro level.

There are three modules on this CD which cover the HSC core modules.

The identification and production of materials

This module covers fossil fuel addition polymers, biomass conversion to condensation biopolymers, production of ethanol fuel and feedstock from renewable resources, electrochemistry and nuclear chemistry.

Humans have always exploited their natural environment for their needs including food, clothing and shelter. As the cultural development of humans continued, they looked for a greater variety of materials to cater to these needs. Added to this was a reduction in availability of traditional resources to supply the increasing world population. Chemists are continually searching for compounds to be used in the design and production of new materials to replace those in high demand.

Chemical monitoring and management

This module encourages discussion of how chemists can assist in reversing or minimising the environmental problems caused by technology and the human demand for goods and services.

Quantitative chemical analysis now enables humans to establish baselines for natural environments and better measure and assess changes produced by human impact.

The Acidic Environment

This module encourages the use of household chemicals and gives alternatives to expensive laboratory equipment (eg. use of syringes and medicine measure instead of burette, pipette and conical flask for titrations). It includes exercises on understanding draft performance band descriptors, Material Safety Data Sheets and a chemistry skills check list.

Learning Materials Production, OTEN – DE designed and developed these modules for distance education students. On-line support is available at <http://www.lmpc.edu.au/science>

Materials for the Chemistry Preliminary Course

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