

Research Methods in Chemistry Course for undergraduates at the College of Chemical Sciences, Institute of Chemistry Ceylon

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The Graduateship Programme in Chemistry of the Institute of Chemistry Ceylon has been producing graduate chemists in Sri Lanka for 25 years. The student numbers have been on the increase and to accommodate the large numbers, the Programme is currently being managed by the

College of Chemical Sciences of the Institute of Chemistry Ceylon at its new premises at Adamantane House in Rajagiriya, which has two fully fledged degree laboratories.

The Graduateship in Chemistry courses are considered equivalent to the four year B.Sc chemistry honours courses offered by all the Sri Lankan Universities. The students following the Graduateship in Chemistry courses are advantaged and are also proud to be taught by a select group of well-qualified Chemistry staff members from Universities such as University of Colombo, University of Peradeniya, University of Sri Jayewardenepura, The Open University of Sri Lanka and University of Kelaniya.

Many of the graduates passing out of the College of Chemical Sciences, Institute of Chemistry Ceylon, and wishing to do higher studies prefer to go to overseas Universities in the USA, UK and Australia, for postgraduate studies, and thus required adequate training in research methods to undertake research for degrees such as M.Phil and Ph.D. To achieve this, the Academic Board of the College of Chemical Sciences decided to introduce an optional course titled Research Methods in Chemistry for a selected group of students at the College following the programme of study under the old structure in their 3rd and 4th years during 2007 and 2008.

The Research Methods in Chemistry course is also currently being offered to students who have successfully completed all the chemistry courses at Levels 1 and 2 in the newly revised Graduateship Programme effective from 2007.

Using my services in the capacity of visiting Senior Professor, full-time Senior Lecturers in Chemistry at the College (Dr Sisira Welivegama and Dr Vinitha Thadhani) and several chemistry professors, academics & other researchers from the various Universities in Sri Lanka and from a few Research Institutes based in Colombo, students who

opt for this course are taught research methodologies, scientific writing, evaluation of research papers, writing research proposals, literature search including web literature search, safety in chemistry laboratories and data analysis. Data analysis is taught by Mr J M Ranasinghe Banda.

Students are then given the research interests of the chemistry staff who teach them and they are asked to select a topic of interest to them and discuss their research projects with their prospective staff supervisors. The students are then asked to write their research proposals and start their bench work using the facilities at the College of Chemical Sciences.

The progress of their research work is continuously monitored by the staff members with help from the Teaching Assistants of the College. At the end of the bench work (normally for about 8 weeks) the students are asked to write up their final research reports, which are then assessed by chemistry staff. The students are called upon to present their research work at a seminar and their performance is assessed.

During 2006/2007, 18 third and fourth year students followed the course. The final year students, who will be graduating in February 2008, completed their research projects and satisfactorily defended their results at a seminar to the staff members. They will also present their results at the first College Research Session scheduled for 16th February 2008.

Overall, many students have shown interest in following the Research Methods in Chemistry course and have followed the lectures conducted in December 2006, July 2007 and January 2008. Research has now become a part of the Graduateship Programme in Chemistry and students have been using instruments such as gas chromatography and atomic absorption spectrophotometer in their research projects. The College of Chemical Sciences does not charge any additional tuition or bench fees from those following the research course.

The inclusion of the Research Methods in Chemistry course, as part of the Graduateship Programme, has corrected an important drawback that continuously surfaced in the Graduateship Programme. However its absence did not, over the past 24 years, prove to be a significant drawback to the College students pursuing research degrees abroad. It has instilled, amongst the students at the College, the importance of research in the chemistry curricula at the degree level.