

1. INTRODUCTION

Chemistry is the foundation for all other sciences. It embraces the areas of medicine, engineering, agriculture, environment, biotechnology and nanotechnology. The beauty of this subject lies in its applicability to all aspects of our lives. In recognizing the importance of chemistry, Sri Lankan education system has made it a key subject in the curriculum of the secondary level of science education. It is imperative that the teaching of chemistry be conducted in such a manner to lay a strong foundation on which the students' future careers would be building upon. With the advancement of science & technology, the understanding of core concepts in chemistry has been made easier, enabling the learning of Chemistry interesting and rewarding.

This program is, therefore, designed to impart new approaches to teaching and learning chemistry, and to update the subject knowledge in both chemistry and science education. This course is of value to those who are currently working in the field of chemistry education in state or private sectors and for those seeking employment in the field of chemistry education.

2. COURSE AIMS

- Reinforce and update the knowledge of Chemistry
- Enhance the teaching skills and motivation by using modern methods of teaching, lecture demonstrations and laboratory experiments
- Use of information technology and molecular modeling in teaching chemistry
- Train the teachers to design and implement new activities related to the content in G.C.E. Advanced Level syllabus to make teaching more attractive and interesting
- Expose the teachers to modern chemistry equipment
- Develop the ability to effectively manage a chemistry laboratory
- Introduce effective evaluation and assessment methods
- Train the teachers to design curricula, lessons and assessments
- Encourage teachers to obtain feedback from students and use them constructively to improve the classroom activities
- Introduce the concepts of student-centered, inquiry-based, activity-based and technology-enabled education into the conventional classroom
- Train the teachers to recognize the various psychological aspects of students
- Develop and enhance the presentation skills of the teachers
- Develop the ability for research in education and in chemistry
- Improve scientific writing skills

3. DURATION

Part 1: Theory and Practical Modules

Duration: 12 – 18 months

Conducted on Saturdays (8 a.m. – 5 p.m.) and Sundays (8 a.m. – 12 p.m.)

Part 2: Chemistry Education Project

Duration: Full time; 6 months

Eligibility decided from the results for Part 1

4. ELIGIBILITY & SELECTION

Application for admission to the course will be entertained from candidates who have passed the B.Sc Degree with Chemistry as a subject from a recognized university or an equivalent qualification acceptable to the Faculty Board of the Faculty of Science, University of Colombo. The selection will be on the basis of M.C.Q Examination and / or an interview.

5. COURSE CONTENT - Part 1

Postgraduate Diploma in Chemistry Education (SLQF 8)

- Foundations of Science Education
- Technology Enabled Learning
- Methodology of Teaching and Learning Science
- Assessment and Evaluation Methods in Chemistry Education
- Research Methods in Chemistry Education
- Chemistry Education Seminar/Teaching Practice
- Lecture Demonstrations in Chemistry Education
- Chemistry Laboratory
- Chemical Calculations in Analytical Chemistry
- Chemical Bonding
- Organic Chemistry
- Modern Physical Chemistry
- Special Topics in Chemistry

6. COURSE CONTENT - Part 2

Masters in Chemistry Education (course work) (SLQF 9)

- Chemistry Education Project

6. COURSE EVALUATION

PART 1

Students will be assessed both on continuous basis as well as by periodical tests during the course. There will be a written examination for theory modules at the end of each semester. Candidates will be allowed to proceed to Part 2 when he/ she obtained a minimum GPA stipulated by the Faculty.

PART 2

The report submitted by the candidate at the end of the Chemistry Education Project will be evaluated.

A *viva voce* examination will be held.

DIPLOMA IN CHEMISTRY EDUCATION

Candidates who are not eligible to proceed to Part 2 may opt out for a Diploma if the GPA requirements are fulfilled.

7. COURSE FEE

Registration fee – Rs. 2,500/=

Library fee – Rs. 2,000/=

Library deposit (refundable) – Rs. 5,000/=

Course Fee: Rs. 250,000/=

EXAMINATION FEES

Rs. 10,000/= payable on application for Part '1' examination.

*** Please note that fees paid are not refundable and subject to revision from time to time



DEPARTMENT OF CHEMISTRY University of Colombo



Master of Science Degree/ Postgraduate Diploma in CHEMISTRY EDUCATION

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