

# GENERAL INFORMATION FOR PROSPECTIVE STUDENTS



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA  
Faculty of Natural and Agricultural Sciences

## BSc (Honours) CHEMISTRY

## CMY 700

Provisional: 2024  
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### 1. General

The programme is only offered full time and extends over one year. The curriculum comprises an advanced study of the four major fields of chemistry. Because of the advanced level of the courses, the content of each module reflects the expertise and the research profile of the individual lecturers involved in the programme. The availability of the lecturers involved with this course, due to factors, such as unavailability due to study leave, may influence some of the content of the course offered.

### 2. Admission

The BSc Hons (Chemistry) programme is open to all BSc graduates with Chemistry as one of their majors, and to all holders of an equivalent three-year degree in Chemistry obtained at a recognized university. Admission of applicants with a BSc (Chemistry) degree into the Honours programme is not automatic. The applicants are accepted on the basis of their undergraduate academic record (to be submitted with their application) and/or an interview in the Department. A mark of 60% or more for Chemistry at 300 level is a prerequisite for entry into the selection process. The maximum number of students that can be accepted will be dictated by the infrastructure in the Department. The general Regulations G 1.3, G.16 – G.29, G.62 and the Post-graduate Regulations of the University of Pretoria are applicable.

### 3. Applications

Prospective students must apply for admission using the University's on-line application process and will be notified of the outcome by **15 December** provided final results have been submitted as part of the original application. The closing dates for submission of applications are **30 September 2023** for South African students and **30 September 2023** for international students. If you experience problems submitting final results via the online application system, you may submit these to the Honours Programme Coordinator (see below).

Lectures normally commence on the third Monday of January at 08:00 in the Avogadro (room 3-22), Chemistry Building.

### 4. Course structure

There are two modules for each of the four major disciplines in chemistry. One of the two modules is presented in the 1<sup>st</sup> semester and the other in the 2<sup>nd</sup> semester. The course consists of the following theoretical modules of 10 credits each:

CMY 706: Analytical (Mass Spectrometry and Chromatography)

CMY 707: Analytical (Electrochemistry, Statistics, Metrology)

CMY 708: Organic (Retrosynthesis, Diastereoselectivity, Aromatic chemistry)

CMY 709: Organic (Pericyclic reactions, Catalysis, Enantioselectivity, Amines)

CMY 714: Inorganic (Organometallics, Ligands and Complexes, Homogeneous catalysis)

CMY 715: Inorganic (Main group, Clusters, Kinetics, Bio- & Medicinal inorganic chemistry, Supramolecular chemistry)

CMY 716: Physical (Crystallography and Modelling)

CMY 717: Physical (Kinetics and Statistical mechanics)

The focus of the practical component of the course, including the research projects, is training in laboratory techniques and research skills ranging from technical skills, use of the scientific literature, data management and the interpretation and reporting of results, to professional conduct. Students need to choose two research projects, one each from two of the three subject areas.

CMY 718 Organic/Inorganic Project 718 20 credits

This project has a significant laboratory component requiring preparation or manipulation of inorganic or organic chemicals. A report and a presentation are required.

CMY 719 Physical/Analytical Project 719 20 credits

This project has a significant component that can be described as instrumental or computational or analysis of data or theoretical. A report and a presentation are required.

CMY 731 Chemistry Education Research 731 20 credits

This project can be described as research into the teaching and learning of chemistry at tertiary level. A report and a presentation are required.

CMY 730 Advanced practical techniques 730 15 credits

Chemical information literacy; Molecular modelling; NMR spectroscopy; Mass spectrometry; Crystallography, Metrology and Scientific writing skills will be presented from a practical point of view with an emphasis on the interpretation of data and use of instrumentation rather than on underlying theory. This is a year module, half of which is run before projects start in the first semester and the other half is run before projects start in the second semester.

## 5. Pass requirements

Admission to Chemistry 700 is conditional and subject to satisfactory progress in the 1<sup>st</sup> semester. A full-time student who is registered for an honours degree must complete his or her study within one year of registering for the degree. A student may not enrol for the same module in the honours degree more than once, unless the dean has approved a second enrolment based on an application supported by a valid reason or motivation. Such motivation must be supported by the Honours coordinator and the Head of Department.

The departmental Postgraduate Committee monitors the progress of students. In order to progress to the 2<sup>nd</sup> semester a student must obtain at least the subminimum of 40% in all four first semester modules and pass at least two modules. The registration of students who do not meet this requirement will be terminated at the end of the 1<sup>st</sup> semester.

A final mark of at least 50% for each of the modules of the CMY700 course is required to pass. The degree is awarded with distinction if an average mark of 75% and a mark of at least 65% in all of the modules are obtained.

## 6. Timetable

In general, theory classes are from 08:30 to 10:00, five days a week according to the calendar unless the lecturer has other commitments and makes alternative arrangements. The practical classes associated with CMY 730 are offered later in the day, usually from 13:30- 17:00. Once projects start, four days ( $\pm$  5 hrs per day) a week are allocated to projects and one day to tutoring in the case of students who have successfully applied for tutoring positions in the Department.

Attendance of Departmental seminars (Normally Fridays 11:30-12:30) is compulsory and regarded as an essential part of the course.

## 7. Honours Programme Coordinator

Dr Shankara Radhakrishnan will act as programme coordinator for CMY 700 during 2024 and will handle all administrative matters related to the course.

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