

Universiteit van Pretoria Jaarboek 2017

BScHons Chemie (02240123)

Duur van studie 1 jaar

Totale krediete 135

Programinligting

Hierdie inligting is slegs in Engels beskikbaar.

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Renewal of registration

1. Subject to exceptions approved by the Dean, on the recommendation of the head of department, and in the case of distance education where the Dean formulates the stipulations that will apply, a student may not sit for an examination for the honours degree more than twice in the same module.
2. A student for an honours degree must complete his or her study, in the case of full-time students, within two years and, in the case of after-hours students, within three years of first registering for the degree and, in the case of distance education students, within the period stipulated by the Dean. Under special circumstances, the Dean, on the recommendation of the head of department, may give approval for a limited extension of this period.

In calculating marks, General Regulation G.12.2 applies.

Apart from the prescribed coursework, a research project is an integral part of the study.

Toelatingsvereistes

'n Toepaslike BSc-graad met ten minste 60% vir Chemie aan 300-vlak.

Eksamens en slaagvereistes

A final mark of 50% for each module. To continue to a second semester, a minimum of 40% is required in each module in the first semester. The registration of students who do not meet this requirement will be terminated at the end of the first semester.

Slaag met lof

The BScHons degree is awarded with distinction to a candidate who obtains a weighted average of at least 75% in all the prescribed modules and a minimum of 65% in any one module.



Kurrikulum: Finale jaar

Minimum krediete: 135

Kernmodules

Anorganiese chemie A 714 (CMY 714)

Modulekrediete 10.00

Kontaktyd 1 besprekingsperiode per week vir 4 weke, 6 lesings per week vir 4 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 of Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Inorganic and organometallic chemistry. Classification of ligands and complexes. Synthesis, structure, bonding and reactivity of complexes. From complexes to clusters to networks. Reaction kinetics and mechanisms.

Fisiese/analitiese projek 719 (CMY 719)

Modulekrediete 20.00

Kontaktyd 1 prakties per week vir 7 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Students work on one project during the year which 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.

Fisiese chemie A 716 (CMY 716)

Modulekrediete 10.00

Kontaktyd 1 besprekingsperiode per week vir 4 weke, 6 lesings per week vir 4 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 of Semester 2



Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Crystallography: theoretical principles, symmetry elements and operations, point groups, space groups, theory of crystals, X-rays, crystallographic techniques, structure determinations, powder diffraction and crystallographic data bases.

Molecular modelling: molecular structure/energy, methodology, principles and and molecular surfaces.

Organiese/anorganiese projek 718 (CMY 718)

Modulekrediete 20.00

Kontaktyd 1 seminaar per week, 1 prakties per week vir 7 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Students work on one project during the year which 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.

Analitiese chemie A 706 (CMY 706)

Modulekrediete 10.00

Kontaktyd 6 lesings per week vir 4 weke, 1 besprekingsperiode per week vir 4 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 of Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Selected aspects of: Mass spectrometry: ion sources, analysers, detectors, isotope ratios, accurate mass, ion fragmentation, tandem mass spectrometry. Chromatography: theory and instrumentation of gas, liquid and supercritical fluid chromatography, multidimensional systems and coupling to mass spectrometry.

Fisiese chemie B 717 (CMY 717)

Modulekrediete 10.00

Kontaktyd 6 lesings per week vir 4 weke, 1 prakties per week vir 7 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 of Semester 2



Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Chemical kinetics: rates of chemical reactions, equilibrium reactions, temperature dependence of reactions, complex reactions, reaction mechanisms and kinetics by thermal analysis. Statistical mechanics: Boltzmann distribution, partition functions, ensembles, thermodynamic functions, equilibria.

Organiese chemie A 708 (CMY 708)

Modulekrediete 10.00

Kontaktyd 1 besprekingsperiode per week vir 4 weke, 6 lesings per week vir 4 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 of Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Stereocontrolled organic synthesis: substrate stereocontrol in diastereoselective synthesis. Retrosynthesis: principles and applications. Protecting groups in synthesis. Aromatic and heteroaromatic chemistry.

Anorganiese chemie B 715 (CMY 715)

Modulekrediete 10.00

Kontaktyd 1 besprekingsperiode per week vir 4 weke, 6 lesings per week vir 4 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 of Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Main group chemistry. Bioinorganic and bioorganometallic compounds. Metals in medicine. Homogeneous catalysis and template effects. Supramolecular chemistry.

Analitiese chemie B 707 (CMY 707)

Modulekrediete 10.00

Kontaktyd 1 besprekingsperiode per week vir 4 weke, 6 lesings per week vir 4 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 of Semester 2



Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Selected aspects: Electrochemistry: fundamental theory, voltammetry, metal-ligand equilibria, modelling and measurement of solution composition. Statistics: precision and accuracy, random errors, hypothesis testing, method of least squares, curve fitting, multivariate statistics, interpreting patterns of data. Chemical metrology: propagation of errors, quality control of quantitative and qualitative analytical information, international standards, interlaboratory calibration.

Organiese chemie B 709 (CMY 709)

Modulekrediete 10.00

Kontaktyd 6 lesings per week vir 4 weke, 1 besprekingsperiode per week vir 4 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Semester 1 of Semester 2

Module-inhoud

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Stereocontrolled organic synthesis: chiral auxiliaries in synthesis; reagent controlled synthesis; catalyst controlled synthetic methods. Pericyclic reactions and transition metals in organic synthesis. Aliphatic and heterocyclic amine chemistry.

Gevorderde praktiese tegnieke 730 (CMY 730)

Modulekrediete 15.00

Kontaktyd 5 tutoriaal periodes per week vir 6 weke, 5 lesings per week vir 6 weke

Onderrigtaal Module word in Engels aangebied

Akademiese organisasie Chemie

Aanbiedingstydperk Jaar

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Chemical information literacy; Molecular modelling; NMR spectroscopy; Mass spectrometry; Crystallography and Metrology 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.

Die inligting wat hier verskyn, is onderhewig aan verandering en kan na die publikasie van hierdie inligting gewysig word.. Die [Algemene Regulasies \(G Regulasies\)](#) is op alle fakulteite van die Universiteit van Pretoria van toepassing. Dit word vereis dat elke student volkome vertrouwd met hierdie regulasies sowel as met die inligting vervat in die [Algemene Reëls](#) sal wees. Onkunde betreffende hierdie regulasies en reëls sal nie as 'n verskoning by oortreding daarvan aangebied kan word nie.