

2019

Postgraduate course list

Chemical and Physical Sciences



School of Chemical and Physical Sciences Te Wānanga Matū

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January 2019

COURSE INFORMATION INDEX

Course code	Course reference number	Title	Points	Trimester
↓	↓	↓	↓	↓
CHEM 423	CRN 13727	PHYSICAL CHEMISTRY	15 PTS	1/3

QUALIFICATIONS AVAILABLE

The diagram below represents the structure of postgraduate study in science.



HONOURS: BSc(Hons) in Chemistry or Physics

- A one year programme.
- Has a research project with the component (62–75%) in taught postgraduate courses.
- Requires a B+ grade average in related 300-level subjects for admission. An exemption may be granted with approval of the Head of School.
- Awarded with Honours and may allow direct admission to a PhD degree.

POSTGRADUATE CERTIFICATE IN SCIENCE: PGCertSc in Chemistry or Physics:

- One semester full-time or up to two years part-time.
- Usually consists of all course work (60 points) at postgraduate level.
- Usually requires a B grade average in related 300-level subjects for admission.
- Endorsed in a subject offered for the MSc degree.
- May be converted to a PGDipSc programme with the addition of 60 further approved points.

POSTGRADUATE DIPLOMA IN SCIENCE: PGDipSc in Chemistry or Physics:

- One year full-time or up to four years part-time.
- Usually consists of course work and a research project (120 points total) at postgraduate (400) level.
- Usually requires a B grade average in related 300-level subjects for admission.
- Endorsed in a subject offered for the MSc degree.
- May permit admission to an MSc by Thesis if achieved at a high academic level.

MASTER OF SCIENCE: MSc in Chemistry or Physics:

- Two years full-time or up to four years part-time.

- Consists of postgraduate course work in the first year and usually includes research preparation.
- Admission to Part 2 based on academic performance in Part 1 or BSc(Hons).
- The second year involves research and submission of a thesis.
- Requires a B+ grade average in related 300-level subjects for admission.
- Awarded with Honours (two year MSc) or distinction/merit (MSc by thesis only).

DRUG DISCOVERY AND DEVELOPMENT: Postgraduate Certificate, Postgraduate Diploma or Master's: see page 11 for more information.

POSTGRADUATE CHEMISTRY PROGRAMMES

Chemistry is the study of matter in all its many and varied forms. Chemistry is concerned with the synthesis, composition, structure, properties, and reactivity of matter. As such, chemistry intersects with physics and underpins geology and biology.

HONOURS

The programme leading to an Honours degree in Chemistry is intended to provide candidates with a thorough understanding of the important principles and practices in the subject. The course work is rigorous and the experimental project work (carried out under the supervision and guidance of a member of the academic staff) is demanding.

A total of 120 points are required for Honours, with the standard option being CHEM 421–425 together with CHEM 480 (Research Preparation) and CHEM 489 (Research Project).

Flexibility is provided through CHEM 441 (Directed Individual Study) which is a programme that can be tailored to the requirements of the individual student.

400-LEVEL COURSES

CHEM 421	CRN 13725	ORGANIC AND BIO-ORGANIC CHEMISTRY	15 PTS	2/3
Prerequisite:		CHEM 301		

An 18 lecture course, with tutorials, covering important aspects of modern organic chemistry and its interface with the bio-sciences.

CHEM 422	CRN 13726	INORGANIC CHEMISTRY	15 PTS	1/3
Prerequisite:		CHEM 302		

An 18 lecture course, with tutorials, covering key areas of modern inorganic and organometallic chemistry.

CHEM 423	CRN 13727	PHYSICAL CHEMISTRY	15 PTS	1/3
Prerequisite:		CHEM 303		

An 18 lecture course, with tutorials, covering key areas of physical and materials chemistry.

CHEM 424	CRN 13728	ADVANCED ASPECTS OF CHEMISTRY A	15 PTS	1/3
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Students select from topics offered by research staff covering a range of chemistry.

CHEM 425	CRN 13729	ADVANCED ASPECTS OF CHEMISTRY B	15 PTS	2/3
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Students select from further topics offered by staff covering a range of chemistry.

CHEM 440	CRN 10014	DIRECTED INDIVIDUAL STUDY	30 PTS	1+2/3
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A supervised programme of study approved by the Head of School.

CHEM 441	CRN 13732	DIRECTED INDIVIDUAL STUDY	15 PTS	1/3
	CRN 13733			2/3
	CRN 13734			3/3

A supervised programme of study approved by the Head of School. This might involve, where appropriate, following a course of study as prescribed for CHEM 301, 302 or 303 but with assessment appropriate for a 400-level course.

CHEM 480	CRN 13735	RESEARCH PREPARATION	15 PTS	1/3
	CRN 13736			2/3
	CRN 28320			3/3

Corequisite: CHEM 489
 Restriction: CHEM 580

This course entails training in advanced skills required to research and to communicate the results, including using the chemical literature, record keeping, writing reports and research proposals, and techniques of oral communication.

CHEM 489	CRN 735	RESEARCH PROJECT	30 PTS	1+2/3
	CRN 13723			2+3/3
	CRN 13724			3+1/3

An individual research project that includes training in advanced laboratory skills, supervised by an academic staff member.

MASTER'S

MASTER OF SCIENCE IN CHEMISTRY

The Master of Science (MSc) in Chemistry programme includes the same 400-level lecture courses as above for Honours, with the exception of CHEM 480 and CHEM 489 which are replaced by CHEM 580. CHEM 580 is a compulsory course for the MSc in chemistry and is worth 30 points. BSc(Hons) candidates are eligible to change to MSc Part 1 at any time prior to examination for the BSc(Hons) degree, with approval of the School.

The research project (CHEM 591) forms Part 2 of the degree programme with a formal thesis submission. The time commitment for Part 2 is normally 12 months but not more than 18 months including write-up and submission.

Candidates may register for Part 2 immediately after completion and assessment of the written courses, including CHEM 580, on 1 December or at any time thereafter, but normally no later than the commencement of the next academic teaching year.

Other assessments for MSc include two oral presentations, a full research proposal, an introduction to the thesis and draft submissions of the final thesis. Final submission must be no later than 18 months after first registration for Part 2 as this is the maximum time allowable under the MSc regulations for full-time study.

Students who have reached a satisfactory standard in the BSc(Hons) degree, PGDipSc or their equivalent may obtain an MSc degree by thesis alone by enrolling for the MSc Part 2. In this case the assessment is by thesis only, Honours are not awarded. However, the MSc may be awarded with merit or with distinction.

CHEM 580	CRN 7773	RESEARCH PREPARATION	30 PTS	1+2/3
	CRN 19937			2+3/3
Restriction:		CHEM 480		

Training in advanced skills required to perform the research to be conducted during CHEM 591 and in the communication of scientific results. Specific aspects will include advanced laboratory skills, use of the chemical literature, record keeping, writing reports and proposals, and the techniques of oral communication.

CHEM 591	CRN 744	THESIS	120 PTS	F/Y
An individual research project that includes training in advanced laboratory skills.				

PhD

The PhD is the internationally-recognised research degree in the scientific community, and the School of Chemical and Physical Sciences has a long history of successful completions.

The Chemistry academic staff of the School of Chemical and Physical Sciences have many years of experience in teaching, and you can see a list of academics research areas in the table on page 6.

Requirements:

- All students must give three presentations during their studies, and prepare and defend a full research proposal.
- Students are encouraged to attend, and participate in, national and international conferences.
- Formal assessment of the Chemistry PhD degree is by means of a thesis and an oral examination, but there are progress reports and seminars required during the course.

Prerequisites:

- Students must have a BSc(Hons), MSc, or equivalent, to be admitted to the PhD programme. MSc candidates may be eligible to change to a PhD at any time prior to examination for the MSc degree, with approval of the School.

Note:

- Part-time students may carry out some of their research at their place of work and distance supervision for full-time and part-time students is also possible.

- Students may visit other national or international laboratories to complete part of their studies.
- All students are enrolled on a provisional basis for a minimum of 12 months before gaining full registration based on successful completion and examination of a full research proposal and oral presentation.

ACADEMICS—RESEARCH AREAS- CHEMISTRY

Suzanne Boniface, PhD (<i>Auck</i>), Lecturer suzanne.boniface@vuw.ac.nz	Chemistry education
Martyn P. Coles, PhD (<i>Durham</i>), Professor martyn.coles@vuw.ac.nz	Inorganic chemistry
Nathanial Davis, PhD (<i>Camb</i>), Lecturer nate.davis@vuw.ac.nz	Photophysics and solar energy, nanocrystals, organic chromophores, up and down conversion, light harvesting antenna complexes
J. Robin Fulton, PhD (<i>Berkeley</i>), Senior Lecturer j.robin.fulton@vuw.ac.nz	Carbon dioxide activation, materials precursors, and environmental degradation
Renee Goreham, PhD (<i>S Aust</i>), Lecturer renee.goreham@vuw.ac.nz	Bio-inspired nanoclusters and bio-derived nanoparticles
Joanne Harvey, PhD (<i>ANU</i>), Senior Lecturer joanne.harvey@vuw.ac.nz	Synthetic organic chemistry
Justin Hodgkiss, PhD (<i>MIT</i>), Professor / Rutherford Discovery Fellow justin.hodgkiss@vuw.ac.nz	Time-resolved optical spectroscopy, conjugated polymers, organic solar cells
James Johnston, MSc PhD (<i>Well</i>), FRSNZ, FNZIC, Professor jim.johnston@vuw.ac.nz	Applied chemistry: new materials, nano-structured materials and technology development
Rob Keyzers, PhD (<i>Well</i>), Senior Lecturer rob.keyzers@vuw.ac.nz	Organic and analytical chemistry
Thomas Nann, PhD (<i>Freiburg</i>), Alan MacDiarmid Professor thomas.nann@vuw.ac.nz	Physical and materials chemistry
Emily Parker, PhD (<i>Camb</i>), FRSNZ, Professor emily.parker@vuw.ac.nz	Synthetic biology
John Spencer, PhD (<i>Otago</i>), FNZIC, Professor john.spencer@vuw.ac.nz	Organometallic chemistry
Bridget Stocker, PhD (<i>Well</i>), Associate Professor bridget.stocker@vuw.ac.nz	Immunoglycomics, bio-organic, green chemistry
Mattie Timmer, PhD (<i>Leiden</i>), Associate Professor mattie.timmer@vuw.ac.nz	Immunoglycomics—design and synthesis of glycoconjugate probes

POSTGRADUATE PHYSICS PROGRAMMES

Physics is the most fundamental of the sciences, providing the basis for understanding a wide range of science and technology, ranging from the properties of stars to the operation of semiconductors in electronic devices.

HONOURS

Honours courses are usually taken in the fourth year of study after completing a three-year BSc degree course. They teach the principles and practice in different areas of physics to give students the background to pursue a research degree (MSc or PhD), or to pursue careers requiring a solid foundation in physical science.

Requirements: 120 points are needed for a full-time course. Two of the courses must be the Research Project courses PHYS 490 and PHYS 491 (these courses are assessed internally). Other courses are assessed primarily by end-of-course examinations (80%), with a contribution from work performed during the year (20%).

Note: With the approval of the Head of School, appropriate papers from other disciplines, e.g. Chemistry, Electronic and Computer Systems Engineering, Geophysics or Mathematics, may be substituted in place of up to four Physics courses. Part-time study over two years is possible.

400-LEVEL COURSES

PHYS 411	CRN 9069	QUANTUM MECHANICS	15 PTS	1/3
Restrictions:		PHYS 322, 403		

Non-relativistic quantum mechanics applied to atoms, molecules and nuclei.

PHYS 412	CRN 9070	THEORETICAL PHYSICS	15 PTS	2/3
Restriction:		PHYS 403		

The theory of phase transitions, critical phenomena and methods in many-particle physics.

PHYS 413	CRN 9071	CONDENSED MATTER PHYSICS A	15 PTS	1/3
Restriction:		PHYS 404		

Vibrational and electron states in crystalline insulators, metals, semiconductors and novel conducting materials. Charge and heat transport.

PHYS 414	CRN 9072	CONDENSED MATTER PHYSICS B	15 PTS	2/3
Restriction:		PHYS 404		

Soft matter: polymer physics, fundamentals of semiconductors, optical properties of structured materials and topics in current research.

PHYS 415	CRN 9073	ELECTROMAGNETISM	15 PTS	1/3
Restriction:		PHYS 410		
Static and dynamic solutions to Maxwell's equations including electromagnetic waves in materials and in confined geometries. Electromagnetic momentum and power flow, guided waves, scattering, and generation of radiation.				
PHYS 416	CRN 9074	RELATIVITY AND ELECTRODYNAMICS	15 PTS	2/3
Restriction:		PHYS 410		
Einstein's theory of special relativity, the dynamics of relativistic particles and electromagnetic fields and radiation by moving charges.				
PHYS 417	CRN 9075	ASTROPHYSICS	15 PTS	2/3
A selection of topics in modern astrophysics such as stellar structure and evolution, nuclear astrophysics, the physics of white dwarfs and observational general relativity. Formation of large-scale structure in relation to currently favoured cosmological models, evolution and properties of galaxy clusters, radiative processes in astrophysics with particular emphasis on synchrotron emission as observed by radio telescopes.				
PHYS 440	CRN 15212	DIRECTED INDIVIDUAL STUDY	15 PTS	1/3
	CRN 28431			2/3
A supervised programme of study approved by the Head of School. This might include, where appropriate, following a course of study prescribed for a 300-level course not previously taken, but with assessment appropriate for a 400-level course				
PHYS 441	CRN 9083	SOLID EARTH GEOPHYSICS	15 PTS	1/3
Restriction:		GPHS 405, 441, PHYS 406		
Methods of radiometric dating, the age of the Earth, and the thermal and gravitational structures of the Earth. Also taught as GPHS 441.				
PHYS 447	CRN 9607	INTRODUCTION TO GEOMAGNETISM	15 PTS	2/3
Restriction:		GPHS 408, 442, 447, PHYS 442		
An introduction to the geomagnetic field including physical and mathematical models, study of the past behaviour of the field, and magnetohydrodynamic theory of the geodynamo. Also taught as GPHS 447.				
PHYS 460	CRN 15213	DIRECTED INDIVIDUAL STUDY	15 PTS	2/3
A supervised programme of study approved by the Head of School. This might include, where appropriate, following a course of study prescribed for a 300-level course not previously taken, but with assessment appropriate for a 400-level course.				
PHYS 490	CRN 9085	RESEARCH PROJECT A	15 PTS	1/3
Restriction:		PHYS 489		
PHYS 491	CRN 9086	RESEARCH PROJECT B	15 PTS	2/3
Restriction:		PHYS 489		

Note: research project must be approved by the Head of School.

MASTER'S

MSC PARTS 1 AND 2

The MSc in Physics programme in its first year (Part 1) involves the same 400-level lecture courses as listed for the BSc Honours programme. The MSc also includes a second year (Part 2) in which students complete a research project and submit a formal thesis that is examined by internal and external examiners.

The time for submission of the thesis for Part 2 is exactly 12 months.

With permission from the Head of School, candidates may register for Part 2 immediately after completion and assessment of the written papers on 1 December or any time thereafter, but normally no later than the commencement of the next academic teaching year.

BSc(Hons) candidates may elect to change to MSc Part 1 at any time prior to examination for the BSc(Hons) degree.

MSC BY THESIS ONLY (PART 2)

Students who have reached a satisfactory standard in the BSc(Hons) degree or its equivalent may obtain an MSc degree by thesis alone by enrolling for the MSc (Part 2). In this case, where the assessment is by thesis only, Honours are not awarded. However, the MSc may be awarded with merit or with distinction.

PHYS 591	CRN 1253	THESIS	120 PTS	F/Y
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MSc thesis in Physics.

PHD

Victoria University offers an outstanding PhD programme. Victoria's Physics group was ranked best in terms of research activity among all New Zealand university physics research groups in the latest Performance-Based Research Fund evaluation. The research environment in the School is also greatly enhanced by the fact that it hosts the MacDiarmid Institute for Advanced Materials and Nanotechnology, the first Centre of Research Excellence in the physical sciences to be set up by the government. Eleven of its staff are Principal Investigators of the Institute, and others are Associate Investigators. The School has numerous international research collaborations with leading universities and laboratories in the USA, Europe and Asia, many involving exchange visits of staff and students.

The general areas of research in physics available for PhD students are listed on the next page together with the names of staff supervisors (please consult the research summaries of individual staff members for more detailed information).

ACADEMICS—RESEARCH AREAS- PHYSICS

Baptiste Auguie, PhD (<i>Exe</i>), Senior Lecturer baptiste.auguie@vuw.ac.nz	Nano-optics, spectroscopy, data analysis and visualisation
Stephen Curran, PhD (<i>Chalmers Tekniska Högskola</i>), Senior Lecturer stephen.curran@vuw.ac.nz	Astrophysics
Petrik Galvosas, PhD (<i>Leipzig</i>), Associate Professor petrik.galvosas@vuw.ac.nz	NMR in Porous Media and Soft Matter
Michele Governale, PhD (<i>Pisa</i>), Professor michele.governale@vuw.ac.nz	Quantum transport in nanostructures
Malcolm Ingham, PhD (<i>Edinburgh</i>), Senior Lecturer malcolm.ingham@vuw.ac.nz	Environmental physics, geophysics
Eric Le Ru, PhD (<i>Paris</i>), Professor eric.leru@vuw.ac.nz	Nano-plasmonics: theory and applications
Franck Natali, PhD (<i>Nice</i>), Senior Lecturer franck.natali@vuw.ac.nz	Semiconductor material science, ultra-high vacuum technology, epitaxial growth, Light Emitting Diodes and transistors
Yvette Perrott, PhD (<i>Camb</i>), Lecturer yvette.perrott@vuw.ac.nz	Astrophysics
Natalie Plank, PhD (<i>Edinburgh</i>), Senior Lecturer natalie.plank@vuw.ac.nz	Electronic structure of nanomaterials
Andrew Ross, PhD (<i>Brist</i>), Lecturer andrew.ross@vuw.ac.nz	Applied physics
Ben Ruck, PhD (<i>Victoria</i>), Associate Professor ben.ruck@vuw.ac.nz	Experimental condensed matter physics
Gillian Turner, PhD (<i>Edinburgh</i>), Associate Professor gillian.turner@vuw.ac.nz	Geophysics, palaeomagnetism, geomagnetism
Grant Williams, PhD (<i>Victoria</i>), Professorial Research Fellow grant.williams@vuw.ac.nz	Superconductors, magnetic nanoparticles, spin transport electronics, radiation detection and imaging, and nonlinear optics.
Ulrich Zuelicke, PhD (<i>Indiana</i>), FNZIP, Professor uli.zuelicke@vuw.ac.nz	Theoretical condensed matter physics

DRUG DISCOVERY AND DEVELOPMENT

Research in drug discovery and development enables the identification of new drug targets and therapeutics. Postgraduate programmes in Drug Discovery and Development programmes are offered in a collaboration between the Centre for Biodiscovery, the Ferrier Research Institute and the Schools of Biological Sciences and Chemical and Physical Sciences.

These programmes (Postgraduate Certificate, Postgraduate Diploma and Master's) operate on the interface between the fields of chemistry and biological sciences, drawing on the research expertise of the Ferrier Research Institute in drug design and development and on expertise from the Centre for Biodiscovery in the discovery and design of bioactive compounds and the determination of their modes of action.

Students will be provided with a programme of study tailored to their personal skills and interests, with flexibility being offered by the opportunity to undertake directed individual study courses. It uses a mix of academic and practical skills, and is closely aligned to the needs of pharmaceutical industry in the areas of drug design and development, including bioanalytical, chemical and related industries, nutraceuticals and agrichemicals.

For more information see www.victoria.ac.nz/scps/study/postgraduate-study/drug-discovery-and-development or contact Dr Bradley Williams, Programme Director bradley.williams@vuw.ac.nz 04-463 0065

Entry requirements:

- A Bachelor's degree in a biological or other relevant discipline or approval of the Associate Dean (Students).

POSTGRADUATE CERTIFICATE

- DRDG 401; one of CHEM 421, DRDG 402
- a further 30 points from BMSC 400-441, BTEC 435-441, CHEM 400-441, CLNR 401-405, DRGD 402-403, MBIO 434-440

POSTGRADUATE DIPLOMA

The personal course of study the Postgraduate Diploma in Drug Discovery and Development consists of 120 points including:

- DRDG 401; one of CHEM 421, DRDG 402
- a further 60 points from BMSC 400-441, BTEC 435-441, CHEM 400-441, CLNR 401-405, DRGD 402-403, MBIO 434-440
- DRDG 580

MASTER'S

The Master of Drug Discovery and Development (MDDD) is a one-year (full-time) 180-point Master's programme that includes a 60-point research project.

Part 1 consists of:

- DRDG 401; one of CHEM 421, DRDG 402
- a further 30 points from BMSC 400-441, BTEC 435-441, CHEM 400-441, CLNR 401-405, DRGD 402-403, MBIO 434-440
- DRDG 580

Part 2:

- DRGD 561 or 590

The MDDD may be endorsed with one of the following specialisations:

Drug Development: DRGD 401, 402 and 403

Drug Discovery: DRGD 401; one of DRGD 402 or CHEM 421; 15 further points from DRGD 402, CHEM 421, BMSC 432, BTEC 435, MBIO 401

Chemical Biology: DRGD 401, CHEM 421; 15 further points from BMSC 405, 430–433, CHEM 424–425

The option of a thesis is available for suitably qualified students. Students may replace DRGD 580 or 590 with DRGD 595 (Research Thesis) with permission from the Programme Director.

400 AND 500-LEVEL COURSES

DRGD 401	CRN 28255	CHEMICAL BIOLOGY AND DRUG DISCOVERY	15 PTS	1/3
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Prerequisite: CHEM 301 or corequisite of CHEM 441

An advanced course covering target identification and validation, biological assays and use of natural products in the context of drug discovery.

DRGD 402	CRN 28256	DRUG DESIGN	15 PTS	2/3
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Prerequisite: CHEM 201; 35 points from an approved combination of 300-level BMSC, BIOL, CHEM courses

An advanced course with a focus on medicinal chemistry and the formulation of active pharmaceutical products.

DRGD 403	CRN 28257	DRUG DEVELOPMENT	15 PTS	2/3
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Prerequisite: 15 points from CHEM 201, 203, 225; 35 points from an approved combination of 300-level BMSC, BIOL, CHEM, SCIE courses

An introduction to advanced-stage development of drugs, synthesis scale-up and cGMP practices, pharmaceutical analytical chemistry, protection of intellectual property and regulatory requirements.

DRGD 561	CRN 28258	APPLIED RESEARCH PROJECT	60 PTS	3/3
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Prerequisite: 120 points from an approved combination of 400-level BMSC, BIOL, CHEM, DRGD courses or approval of the Programme Director

Restrictions: DRGD 590

One or more problem-solving projects that provide students with experimental and research skills.

DRGD 580	CRN 28259	RESEARCH PREPARATION	30 PTS	1+2/3
Prerequisite:		As required for acceptance into the programme		

A course which equips students with the skills required to effectively perform research, and includes literature retrieval and surveys, report writing, data reporting and statistical analysis, development of a research proposal and problem-solving skills.

DRGD 590	CRN 28260	RESEARCH PROJECT	60 PTS	3/3
Prerequisite:		120 points from an approved combination of 400-level BMSC, BIOL, CBIO, CHEM, DRGD, to include 30 points from DRGD 580, CHEM 580, CBIO 580 or approval of the programme director		
Restrictions:		DRGD 561		

A research project leading to a comprehensive report.

DRGD 595	CRN 28261	RESEARCH THESIS	90 PTS	F/Y
Prerequisite:		45 points from an approved combination of 400-level BMSC, BIOL, CBIO, CHEM, DRGD with a minimum grade average of B+ or approval of the Programme Director		
Restrictions:		DRGD 561, 580, 590		

A research project leading to a research thesis.

WHO TO CONTACT

STUDENT AND ACADEMIC SERVICES—FACULTY OF SCIENCE

Te Wāhanga Pūtaiao

Address: Level 1, Cotton Building
 Phone: 04-463 5101
 Email: science-faculty@vuw.ac.nz
 Web: www.victoria.ac.nz/science
 Hours: 8.30 am–5.00pm Monday, Wednesday, Thursday, Friday
 9.30 am–5.00pm Tuesday

At the Faculty of Science Student Administration Office, student advisers can help with admission requirements, degree planning, changing courses and transfer of credit from other tertiary institutions. They also deal with other aspects of student administration such as enrolment, exams organisation and the maintenance of student records.

Patricia Stein manages all postgraduate students:
patricia.stein@vuw.ac.nz 04-463 5982

Johan Barnard	Manager, Student and Academic Services	04-463 5980
Shona de Sain	Associate Dean (Students)	04-463 5092

STAFF CONTACTS

		Room	Contact
Head of School	Prof Martyn Coles	406a	463 6357
Deputy Head of School	A/Prof Ben Ruck	506	463 5089
Manager, School Administration	Kara Eaton	406	463 5946 027 564 5946
General Enquiries	Gabriel Ferguson	101	463 5335
Chemistry Enquiries			
BSc(Hons) and MSc Pt 1	Dr Robin Fulton	514	463 9799
MSc / PhD	Dr Matthias Lein	505	463 6926
Physics Enquiries			
BSc(Hons) and MSc Pt 1	Dr Ben Ruck	506	463 5089
MSc / PhD	Dr Petrik Galvosas	404	463 6062
Drug Discovery and Development	Dr Simon Hinkley	Ferrier	463 0065
Laboratory Operations Manager	Dr Gordon Heeley	104	463 5955 021 130 1592

CHEMISTRY

Academic Staff	Research Areas	Room	Contact
Dr Suzanne Boniface	<i>Chemistry education</i>	101a	463 6485
Prof Martyn Coles	<i>Catalysis, organometallic chemistry, hydrogen-bonded materials</i>	406a	463 6357
Dr Nate Davis	<i>Photophysics and solar energy, nanocrystals, organic chromophores, up and down conversion, light harvesting antenna complexes</i>	AM209	463 9693
A/Prof Robin Fulton	<i>Inorganic synthesis and mechanisms, environmental chemistry</i>	524	463 9799
Dr Renee Goreham	<i>Bio-inspired nanoclusters and bio-derived nanoparticles</i>	AM202	463 5591
Dr Joanne Harvey	<i>Total synthesis, design and synthesis of natural product analogues, organic reaction methodology</i>	AM207	463 5956
Prof Justin Hodgkiss	<i>Ultrafast laser spectroscopy, conjugated polymers, organic solar cells</i>	AM209	463 6983
Prof James Johnston	<i>Applied chemistry; new materials, nano-structured and nano-hybrid materials, new products and technology development and commercialisation</i>	303	463 5334
Dr Rob Keyzers	<i>Natural products, food and wine chemistry, NMR spectroscopy and mass spectrometry</i>	AM208	463 5117
Prof Thomas Nann	<i>Physical Chemistry, Nanomaterials for energy conversion and storage</i>	411	463 5804
Prof Emily Parker	<i>Synthetic Biology</i>	412	463 9055
Prof John Spencer	<i>Organometallic chemistry</i>	403	463 5119
A/Prof Bridget Stocker	<i>Immunoglycomics, bio-organic, green chemistry</i>	508	463 6481
A/Prof Mattie Timmer	<i>Immunoglycomics, design and synthesis of glyconjugate probes</i>	507	463 6529
Emeritus Professors			
E/Prof Neil Curtis		102	463 6514
E/Prof Brian Halton		102	463 5954

PHYSICS

Academic Staff	Research Areas	Room	Contact
Dr Baptiste Auguie	<i>Nano-optics and spectroscopy</i>	522	463 5547
Dr Stephen Curran	<i>Astrophysics: Radio astronomy</i>	501	463 6109
A/Prof Petrik Galvosas	<i>NMR methodologies for molecular dynamics in soft matter and porous material, NMR instrumentation</i>	404 /308	463 6062 /5911
Prof Michele Governale	<i>Theoretical condensed-matter physics, quantum transport in nanoscale systems</i>	402	463 5951
Dr Malcolm Ingham	<i>Environmental physics, geophysics</i>	515	463 5216

Prof Eric Le Ru	<i>Electromagnetism, fluorescence and Raman spectroscopy</i>	AM205	463 5233 ext. 7509
Dr Franck Natali	<i>Novel materials for electronic and optoelectronic applications</i>	510	463 5809
Dr Yvette Perrott	<i>Astrophysics</i>	523	463 6543
Dr Natalie Plank	<i>Electronic device properties of nanomaterials</i>	503	463 5031
Dr Andrew Ross	<i>Applied Physics</i>	204	463 5819
A/Prof Ben Ruck	<i>Experimental condensed matter physics</i>	506	463 5089
A/Prof Gillian Turner	<i>Geophysics, geomagnetism</i>	521	463 6478
Prof Ulrich Zuelicke	<i>Theoretical condensed-matter physics, nano-electronic transport and spin-electronic devices, ultra-cold atom systems</i>	413	463 6851
Professorial Research Fellow			
Dr Grant Williams	<i>Superconductors, magnetic nanoparticles, spin transport electronics, radiation detection and imaging, and nonlinear optics</i>	523	463 5544
Emeritus Professors			
E/Prof Alan Kaiser	<i>Electronic properties of novel materials, especially nanoscale materials</i>	504	463 5957
E/Prof John Lekner	<i>Electrodynamics, quantum theory, fluid mechanics. Theory of reflection of waves.</i>	519	463 5959
E/Prof Joe Trodahl	<i>Ferromagnetic semiconductors for spintronics, ferroelectric oxides, heat flow in sea ice</i>	516	463 5964