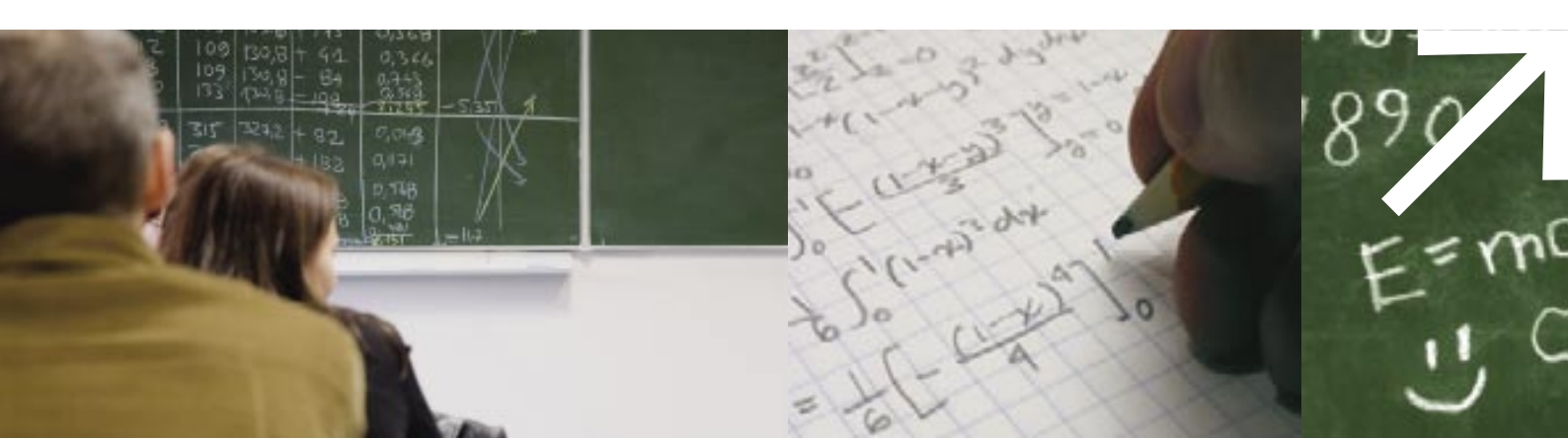




enquiry

science education,
maths education,
curriculum studies/



THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is the second oldest university in Australia and is recognised internationally for its high teaching standards, prestigious international links, and the quality of its academic staff and students.

The University of Melbourne continually confirms its position as Australia's leading research university, winning millions in major competitive research funding each year. The University of Melbourne continues to be the university of choice for Victorians, and increasingly the nation's most outstanding students. A national survey conducted by the Melbourne Institute of Applied Economics and Social Research ranked the University of Melbourne equal first within Australia.

The University of Melbourne's teaching and research is complemented by local and international links with industry and with leading education institutions. The University of Melbourne is a member of the prestigious Group of 8 universities in Australia and the global education partnership Universitas 21. These memberships build strong global links and enable the University to work collaboratively to deliver programs, undertake research and facilitate staff and student exchanges with over 100 leading institutions worldwide.

From 2008, the University will introduce landmark educational reforms known collectively as the Melbourne Model - based on six broad undergraduate programs followed by a professional graduate degree, research higher degree or entry directly into employment. These reforms are designed to create a distinctive Melbourne Experience for all students. In moving to the new model, the University is responding to the challenges of today's changing environment as well as aligning itself with the best of European and Asian practice and North American traditions.

THE FACULTY OF EDUCATION

The University of Melbourne's Faculty of Education is one of the most respected and innovative schools of pre-service and postgraduate teacher education in Australia and internationally. By choosing the University of Melbourne for your postgraduate study, you will be opting for a leading research university and joining leaders in the field, internationally recognised for their quality research, prestigious international links and excellence in knowledge transfer.

Relevant, original and contemporary research plays a critical role in shaping successful education practice, both here and abroad. In 2006 the Faculty created the Melbourne Education Research Institute (MERI) to maintain its leadership of educational research in this country, and to provide practising educators with the resources they need to function effectively in a rapidly changing profession.

Nowhere is there a greater need for lifelong learning than in education. Postgraduate study in the Faculty of Education will enable you to take your place among the significant next generation of educationists and equip you for continued career success.

THE FACULTY'S MATHEMATICS AND SCIENCE EDUCATION POSTGRADUATE PROGRAMS ARE DESIGNED TO ASSIST YOU TO UPGRADE YOUR QUALIFICATIONS, REFRESH YOUR SUBJECT KNOWLEDGE, AND GROUND YOUR TEACHING IN RELEVANT RESEARCH IN THE KEY AREAS OF MATHEMATICS AND SCIENCE EDUCATION TODAY.

PROGRAMS IN MATHEMATICS AND SCIENCE EDUCATION

You can specialise in Mathematics or Science Education by choosing one of the following programs:

Program	Part Time	Full Time
Postgraduate Certificate in Educational Studies	1 year	6 months
Postgraduate Certificate in Mathematics and Mathematics Education	1 year	6 months
Postgraduate Diploma in Educational Studies	2 years	1 year
Master of Education (by coursework)	2 years	1 year
Master of Education (by coursework)	3 years	18 months
Master of Education (by research, major thesis)	2 years	1 year
Master of Education (by research, major thesis)	3 years	18 months
Master of Education (by combination of coursework & research)	2 years	1 year
Master of Education (by combination of coursework & research)	3 years	18 months
Doctor of Education (by research)	6 years	3 years
Doctor of Education (by coursework)	6 years	3 years
Doctor of Philosophy	6 years	3 years

(NB. The differing lengths of the Masters programs are based on the previous qualifications/work experience of the applicant)

GOOD MATHEMATICS TEACHING IS CENTRAL TO AUSTRALIA'S GOAL OF BECOMING AN INNOVATIVE AND GLOBALLY COMPETITIVE SOCIETY.

AS SCHOOL EXPECTATIONS RISE, NEW CURRICULUM INITIATIVES ARE INTRODUCED, AND AS NEW TECHNOLOGIES IMPACT ON MATHEMATICS CURRICULUM, TEACHING AND LEARNING, LIFELONG LEARNING IS BECOMING ESSENTIAL FOR TEACHERS.

study mathematics education with us

PROGRAMS IN MATHEMATICS EDUCATION

Study one of our comprehensive programs and illuminate questions such as:

- How is the mathematics curriculum being changed by new knowledge and technologies?
- What does current research tell us about teaching fractions?
- What can you do for gifted students?
- How do teachers in other countries teach mathematics?

Postgraduate Certificate in Mathematics and Mathematics Education (PGCMME)

provides a mathematics sub-major sequence that will fully qualify you for appointment or promotion to mathematics positions in secondary schools.

The program is also popular with secondary mathematics teachers wanting to update their subject knowledge, or prepare for teaching senior mathematics. The PGCMME consists of two compulsory subjects, both of which can be completed online.

Master of Education (MEd) enables you to study in-depth children's mathematical thinking: problem solving, concept and skill development. You will also analyse teaching, and its impact on the learner. You can complete your MEd by coursework, thesis or a combination of the two, in either one or one and a half years of full time study depending on your previous qualifications.

Doctor of Philosophy (PhD) and Doctor of Education (DEd) programs are intended for experienced professionals who wish to develop their expertise under skilled and committed supervision and as part of an established and supportive research community. The PhD is undertaken by research thesis alone. The DEd can be completed as either a research or coursework classified program.

Excellent facilities, including a well-equipped study area with state-of-the-art computer workstations, are available for research students. Depending on your research interests, opportunities exist to join project teams engaged in world-class research in key areas of mathematics education.

PROGRAM STRUCTURE / DELIVERY MODE

The mathematics education subjects are generally taught for 3 hours per week for 12 weeks in a semester. Online study is available for the PGCMME.

STAFF IN MATHEMATICS EDUCATION

The Mathematics Education area aims to preserve, refine and advance knowledge of how students learn mathematics at all levels and how these discipline can best be taught. We provide high-quality research-based education for all those involved in the teaching of mathematics, through award and non-award programs.

The Faculty is fortunate in having two senior Mathematics Education staff – Professor Kaye Stacey and Professor David Clarke – who are at the forefront of educational research in their specialist fields, in Australia and internationally.

Professor Kaye Stacey is a world-renowned researcher, educator and author. Her research teams are currently investigating subjects central to the future of mathematics teaching and learning in the 21st century.

In recent years the eyes of the international mathematics education community have been on the CAS-CAT study, which investigated the impact of the CAS (Computer Algebra Systems) calculator on the teaching of mathematics in senior secondary classrooms. The project has impacted on the Victorian mathematics curriculum and provided information regarding teaching and learning with CAS to the broader Australian and international audiences.

Professor Stacey's research team has since initiated the RITEMATHS project. Working with partner schools and industry partners, the team is creating and implementing a curriculum that uses technologies to link mathematics to the real world for the middle secondary years.

Professor David Clarke heads the University's International Centre for Classroom Research (ICCR) – one of the few such centres in the world and a magnet for international scholars. The ICCR is the base for an international community of classroom researchers who use its facilities to conduct analyses of video data gathered from many countries.

The results of this research are making a significant contribution to the improvement of classroom practices.

The mathematics education group leads the integration of theory and practice. In 2006 and 2007, Dr Helen Chick, Dr Vicki Steinle, Lynda Ball and Cath Pearn have prepared the Department of Education's Mathematics Developmental Continuum P-10 for Victorian teachers. This resource draws on University of Melbourne and other Australian and international research to provide teachers with deep insights into students' mathematical development.

“ It's years since I did my initial teacher training, I'd been out of full time teaching for a while, and I wanted to update and upgrade my qualifications.

I first took a number of postgraduate coursework subjects and this was like revisiting my original teaching method - updating it with the current ideas and thinking regarding some of the crucial topics in mathematics, such as algebra, decimals and fractions. The confidence I gained from this probably helped in my successful job application to my present school. ”

Bernadette Coultas MEd (Mathematics) student

SCIENCE HAS CHANGED THE CONDITIONS OF OUR LIVES - AS INDIVIDUALS AND COMMUNITIES. BY CHANGING THEM IT HAS ALTERED: OUR WORK AND RECREATION; OUR POWER AND THE LIMITS OF THAT POWER; THE MEANS AND INSTRUMENTS AS WELL AS THE SUBSTANCE OF OUR LEARNING; THE TERMS AND FORM IN WHICH DECISIONS OF RIGHT AND WRONG COME BEFORE US.



study science education with us

THE IDEAS OF SCIENCE HAVE CHANGED THE WAY WE THINK OF OURSELVES AND OF THE WORLD. SCIENCE EDUCATION IS VALUED BECAUSE THERE IS THE PERVASIVE SENSE IN SOCIETY THAT PEOPLE MUST BE ASSISTED TO RECOGNISE AND ADAPT TO A CHANGING WORLD.

PROGRAMS IN SCIENCE EDUCATION

This program of study offers teachers and other educators an opportunity to critically consider key local and international issues impinging on front-line management of science education in schools and research. These programs balance the teaching of professional skills and theoretical insights.

PROGRAM STRUCTURE / DELIVERY MODE

Program/ subject planning leading to supervised research is normally planned with the science education staff. A peer-support group meets each week to assist students writing theses supervised by the science education staff – resulting in very high completion rates.

THEMES AND SUBJECTS IN SCIENCE EDUCATION

Science Education students are working with educators passionate about the future of science to explore themes such as:

- Student learning with simulations, iconic models and artefacts in science classes.
- Situated learning, pupil interest and commitment in science education;
- The role of the science coordinator in faculty and school development;
- Children's and teachers' perceptions and use of visualising technologies in science teaching and;
- Individualised learning programs and structural reform of school science programs.
- The aspirations and experiences of mature-age and second-career entrants to secondary teaching

STAFF IN THE SCIENCE EDUCATION AREA

The Science Education area aims to preserve, refine and advance knowledge of how students learn science at all levels and how this discipline can best be taught. They also provide high-quality research-based education for all those involved in the teaching of science, through award and non-award programs.

Dr Christine Redman's award-winning research deals with teacher and student learning with technologies. The transformative material activity of teachers and learners in classroom settings is central to her teaching and research. She is an expert in primary education, teacher education and the evaluation and use of technologies in learning and teaching.

Dr Maurizio Toscano is a trained astronomer and teaches Science method in the Faculty. He has an interest in the cultural and philosophical foundations to science teaching and learning. He has won awards for his research in students' thought experiments and model building in science particularly in concept areas of Physics and Chemistry and aesthetics in astronomical observations.

Dr Rod Fawns is an experienced university teacher, researcher and research supervisor. He has been consulted widely on science education both by Government and schools. He has published widely in, and has particular interest in the theory of curriculum and leadership in science education. He has had extended involvement in teacher education in the Faculty.

WHO ARE THESE PROGRAMS SUITABLE FOR?

Christine's Masters/Doctorate program Education for a Technological Age and Maurice's Big Science in a Small School are both suitable for teachers at any level of education. They are both skill directed and provide theoretical insight. Rod Fawns' subject Curriculum Coordination: Theory and Practice, is suitable for all teachers concerned with leading faculty and curriculum development.

CAREER OUTCOMES

Each of the Science Education staff has had recognised success as classroom teachers in different areas, has acted as a consultant to schools and government in these areas, as well as published research. They are in a strong position to advise and support students on the development of their career opportunities:

- Skilled classroom teaching;
- Subject and Curriculum coordination; or
- Research and writing.

BENEFITS AND FEATURES

- The opportunity to participate in the rich experience of the professional and research culture of science education;
- Well organised and coherent teaching, scrutinising the central ideas shaping science education; and
- Personal experience in science education that fits, overlaps and reinforces teachers', commitment to teaching and learning.

CURRICULUM REFORM IS ONE OF THE CENTRAL CONCERNS OF THE FACULTY OF EDUCATION, IN BOTH TEACHING AND RESEARCH.

study curriculum education with us

You can explore current issues and specialise in Curriculum Studies within a range of courses at certificate, diploma, masters and doctorate level, by choosing one of the following programs:

PROGRAMS IN CURRICULUM STUDIES

Program	Part Time	Full Time
Postgraduate Certificate in Educational Studies	1 year	6 months
Postgraduate Diploma in Educational Studies	2 years	1 year
Master of Education (by coursework)	2 years	1 year
Master of Education (by coursework)	3 years	18 months
Master of Education (by research, major thesis)	2 years	1 year
Master of Education (by research, major thesis)	3 years	18 months
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Master of Education (by combination of coursework & research)	3 years	18 months
Doctor of Education (by research)	6 years	3 years
Doctor of Education (by coursework)	6 years	3 years
Doctor of Philosophy	6 years	3 years

(NB. The differing lengths of the Masters programs are based on the previous qualifications/work experience of the applicant)

SUBJECTS IN CURRICULUM STUDIES

Some subjects take broad approaches to curriculum, and are concerned with the nature of curriculum inquiry; with questions about knowledge and schooling, with the social context and effects of curriculum, or with curriculum inequalities and student difference. They take up issues such as Curriculum Theory, Approaches to Curriculum Research, Curriculum Design, Curriculum Improvement, Co-ordination of the Curriculum, Curriculum Leadership and Management.

Other subjects in the Curriculum stream focus on particular areas of curriculum, a particular stage of schooling, or a particular element of curriculum such as assessment or inclusiveness.

The full list of subjects for each program is available at: www.edfac.unimelb.edu.au/futurestudents/courses/postgraduate/programs/curri/index.html

BENEFITS AND FEATURES

- Collaborative and multi-disciplinary approaches to research and teaching.
- Student-centred reflective learning and curriculum.

- Academic staff offer a wealth of classroom experience.
- Learn how to integrate new knowledge, and new learning and teaching technologies into curricula at all levels.
- Explore how to develop teaching methods, resources, materials and subject designs suited to the new curricula.

WHO ARE THESE PROGRAMS SUITABLE FOR?

- Anyone interested in questions about what is taught and why; about what is learned and why; and about what might be done better.
- Educators who design, deliver, evaluate and/or coordinate curriculum for learners.
- Individuals working in related fields of educational endeavour such as museums, field study centres, local government and in the tertiary sector.

STAFF IN THE CURRICULUM EDUCATION AREA

The Faculty has established important professorial chairs in a number of key subjects and pedagogical aspects of curriculum, and has appointed internationally renowned researchers to those positions. Students wishing to undertake research degrees should

access the websites of these researchers for more detail about projects and current interests of research groups in the Faculty.

Leading curriculum researchers in the Faculty include Professor Kaye Stacey, Chair of Mathematics Education; Professor Joe Lo Bianco, Chair of Language Education; Professor John O'Toole, Chair of Arts Education; Professor Patrick Griffin, Chair of Assessment; and Professor David Clarke who holds a personal Chair and directs the International Centre for Classroom Research.

In early 2005, the Faculty formalised the importance it places on curriculum by appointing Lyn Yates to its Foundation Chair in Curriculum. A widely published author and former President of the Australian Association for Research in Education, Professor Yates is an authority on issues surrounding curriculum and curriculum reform.

Dr Julianne Moss works in the field of curriculum inquiry. She is interested in developing school-based research and small scale studies. In recent years her research has focused on the middle years, teacher learning and the development of visual research methods.

Dr Peter Ferguson works in the field of pedagogy, curriculum and assessment. He has worked on many school-based curriculum projects and is particularly interested in students' perceptions of pedagogy and curriculum. His research has included many aspects of education including primary, secondary and tertiary, but he has a particular interest in the middle years of schooling and primary/secondary transition. He has also worked extensively in the area of professional standards for teachers.

CAREER OUTCOMES

For practising teachers and principals, curriculum leaders and educational administrators, further study in Curriculum Education provides a platform from which to influence debate, policy formation and practice in this important field.

Completion of Postgraduate programs in Curriculum Studies:

- Will provide educators with the skills to design, deliver, evaluate and/or coordinate curriculum for learners;
- May assist classroom teachers to move into subject coordination roles.

application information

ENTRY REQUIREMENTS

Entry requirements for the Faculty of Education's programs are specific to the program and can be viewed, with the program information, at: www.edfac.unimelb.edu.au/futurestudents/courses/postgraduate/programs/

HOW TO APPLY

If you are interested in undertaking a program with a thesis component at the Faculty of Education, you are required to complete an 'Expression of Interest' form before submitting an application. For more information, visit: www.edfac.unimelb.edu.au/research/eoi/index.html

Australian and New Zealand Students

To apply directly online and for further information on entry requirements, go to: www.futurestudents.unimelb.edu.au/aust/apg/

If you experience difficulties applying online, a PDF application form can be downloaded at: www.edfac.unimelb.edu.au/courses/pdf/application_form.pdf or contact the Faculty of Education Student Centre: <http://edfac-unimelb.custhelp.com>

International Students

To apply directly online and for further information on entry requirements and tuition fees, go to: www.futurestudents.unimelb.edu.au/int/ipg/

If you experience difficulties applying online, a PDF application form can be downloaded at: www.futurestudents.unimelb.edu.au/pdf/pgradapp/pgradapp.pdf

International students may also apply through one of our overseas representatives: <http://mureps.acs.unimelb.edu.au/index.asp>

English language requirements

Applicants whose most recent qualifications were gained in a language other than English must meet minimum English language requirements: www.futurestudents.unimelb.edu.au/courses/pgenglishreq.html

University of Melbourne English Language Bridging Program

Applicants may be eligible to take the University of Melbourne English Language Bridging Program, a 10-week intensive preparation program, offered at the Hawthorn English Language Centre in Melbourne.

Specialised support

The Faculty of Education offers dedicated support services for international students: www.edfac.unimelb.edu.au/futurestudents/international

Visa requirements

For information about visas and related issues, including family entry and work permits: www.services.unimelb.edu.au/international/visas

FEES

Many of our Postgraduate programs have a quota of Commonwealth Supported Places (CSPs) available to Australian and Permanent Residents. CSPs are subsidised by the Federal Government resulting in a reduced fee for students. Once the maximum quota of CSPs have been allocated, full fee paying places are also available.

NB. The Research Training Scheme (RTS) provides full funding to students enrolled in research-classified programs. Most Australian or permanent residents who enrol in a research-classified program are granted an RTS place, subject to availability.

The Education Discipline for postgraduate study attracts the following fees:

Commonwealth Supported Place (2007)

- \$3,998 per 100 points of study*
- \$999.50 per 25 point subject

Please note the above are 2007 fees, provided as a guide, as the 2008 fees were not available at the time of printing.

Australian Fees (2008)

- \$12,850 per 100 points of study*
- \$3,212.50 per 25 point subject

International Fees (2008)

- \$19,900 per 100 points of study*
- \$4,975 per 25 point subject

* 100 points of study represents a standard annual full-time program load.

For full information regarding Commonwealth supported, full-fee, and research classified places available for local students: www.unimelb.edu.au/student/fees.html or for international students: www.futurestudents.unimelb.edu.au/int/fees/2008fees.html

SCHOLARSHIPS

Information on faculty and university scholarships can be found at: www.edfac.unimelb.edu.au/student/saaf

PROGRAM INFORMATION

Further information regarding postgraduate study in Education can be found at: www.edfac.unimelb.edu.au/courses/postgraduate/programs/

FURTHER INFORMATION

Faculty of Education
Level 2, Alice Hoy Building
The University of Melbourne
Victoria 3010 Australia
Telephone: +61 3 8344 8285
Facsimile: +61 3 8344 8529
Web enquiries: <http://edfac-unimelb.custhelp.com>
Web site: www.edfac.unimelb.edu.au

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