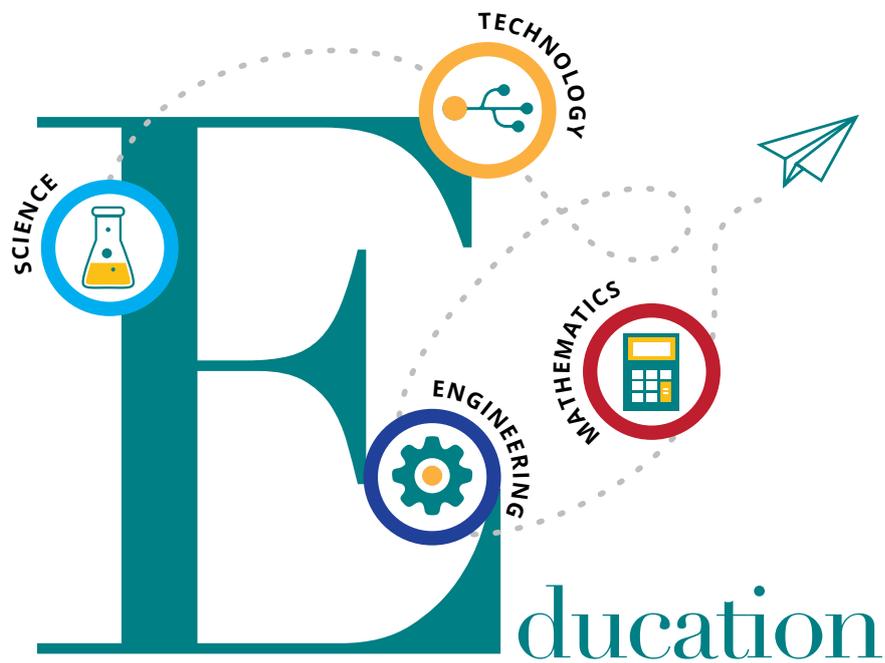




EXCELSIA  
COLLEGE  
— Sydney —



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## School of Education

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**COURSE INFORMATION**

Master of Education Research (STEM)

# About EXCELSIA COLLEGE

Established in 1983, Excelsia is one of Australia's leading Christian higher education providers, and is an innovative and creative community of people who are passionate about excelling and growing academically, professionally, personally and spiritually. Our students and alumni embark on a journey of lifelong learning and leadership.



## WORLD-CLASS MENTORSHIP

Be mentored by and learn from engaged and committed staff who are approachable and passionate about education.



## PASTORAL CARE

Excelsia College prioritises pastoral care which is fully integrated throughout the program. It is important to the College that we meet the personal, social wellbeing and academic needs of student and staff.



## ALUMNI AND INDUSTRY NETWORK

Over 3,000 alumni and accomplished academics around the world attest to our whole-of-person education.



## ULTRA FAST INTERNET

With speed of up to 1000 Mbps, making it one of Australia's fastest campuses\* (\*at the time of publication)

**OUR VISION:** Excelsia contributes to making a better world through active participation in a life-transforming global Christian learning community.

**OUR MISSION:** Excelsia is an academic community benefiting the world by producing research characterised by exemplary scholarship consistent with a Christian world view, and graduates prepared to lead in a range of professions.

OUR VALUES	GRADUATE ATTRIBUTES
<p>Our values reflect our vision and our mission:</p> <ol style="list-style-type: none"> <li><b>1. Christ-likeness:</b> striving to exemplify the life of Christ in our commitments, our actions and our relationships.</li> <li><b>2. Innovation and creativity:</b> working with passion and imagination in a range of influential professions, to further God's transformative work in the world.</li> <li><b>3. Scholarship:</b> creating a culture that values the search for truth, supports academic freedom and rewards rigorous thinking.</li> <li><b>4. Service to the community:</b> using our skills and abilities in and beyond the Institution in the service of others.</li> <li><b>5. Lifelong learning:</b> continually seeking knowledge, wisdom and capability to flourish and contribute in a changing world.</li> </ol>	<ol style="list-style-type: none"> <li><b>1. Deep Knowledge</b> A deep, coherent and extensive knowledge of studied disciplines characterised by intellectual openness, creativity and curiosity.</li> <li><b>2. Critical Analysis</b> Willingness and ability to analyse issues logically, consider different options and viewpoints fairly, and make informed decisions in relevant artistic, academic and/or professional contexts and settings.</li> <li><b>3. Lifelong Learning</b> A commitment to lifelong learning characterised by a willingness and ability to acquire, develop and apply knowledge and skills that facilitate positive adaptations to a changing world.</li> <li><b>4. Effective Communication</b> Aptitude to communicate information, arguments and ideas effectively and ethically through writing, speech and/or artistic expression as appropriate within each discipline.</li> <li><b>5. Christian Ethical Action</b> A sound knowledge and understanding of Christian values and beliefs, and of the relevance of Christian faith to personal life, professional ethics, and social concerns.</li> <li><b>6. Self Direction</b> A capacity for self-directed learning and activity while working effectively with others in scholarly, vocational, civic and/or artistic pursuits and endeavours.</li> <li><b>7. Technical Competence</b> Competence and facility with materials, processes and technologies relevant to learned disciplines, generic information literacy and professional practice.</li> <li><b>8. Responsible Innovation</b> Oriented towards exhibiting intellectual and artistic enterprise, innovation and independence in constructive, creative and responsible ways.</li> </ol>

# CAMPUS FEATURES

## CAMPUS FEATURES

-  Library

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-  Auditorium/Theatre

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-  Recording studio

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-  Mac lab

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-  Drama and music specialist rooms

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-  Counselling centre

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-  Student facilities
 

Free wi-fi	Table tennis
Study desks	Pool table
Snacks bar	Air hockey table
Free coffee	Outdoor balcony
Microwaves	Basketball ring
Frank Green Smart Cups	

## TRANSPORT

-  5-min walk from Macquarie Park Metro Station

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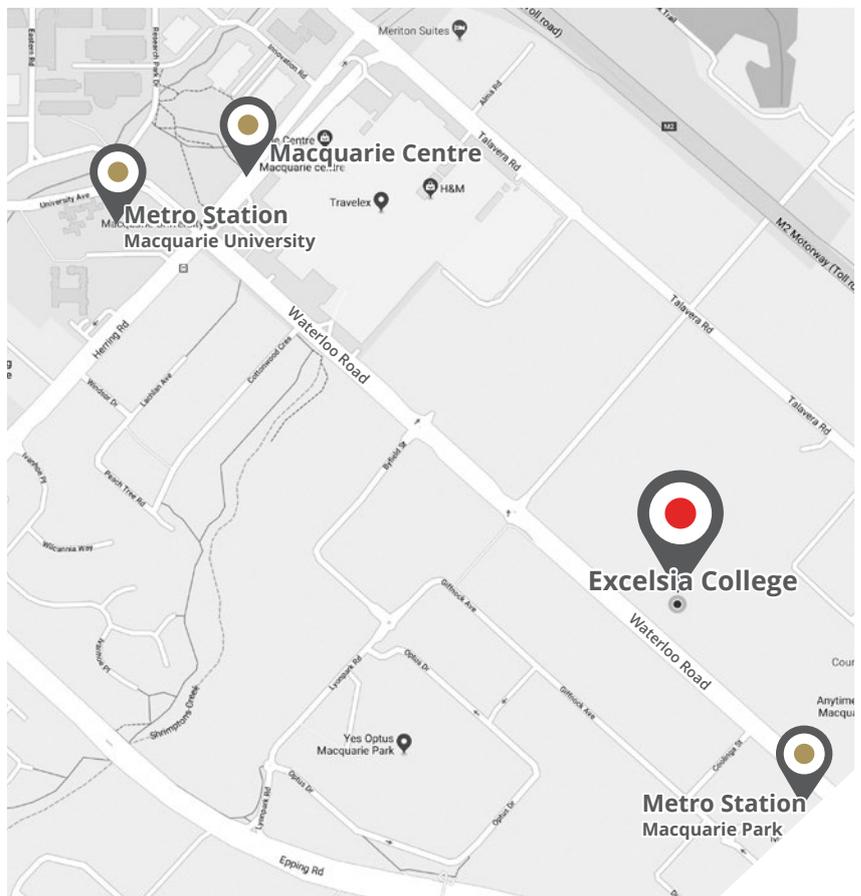
-  1-min walk to bus stop

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-  Free parking



## CONVENIENT LOCATION



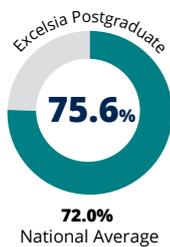
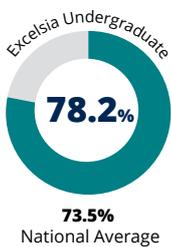
# WHY STUDY AT EXCELSIA COLLEGE?

## EXCELSIA COLLEGE RECEIVED EXCELLENT RESULTS

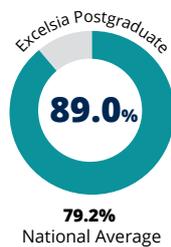
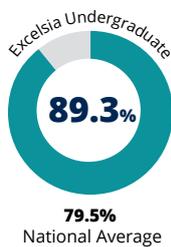
across the board in the 2020 QILT national survey, registering scores higher than the national average in all but one metric of student experience for undergraduate and postgraduate courses.



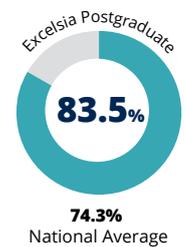
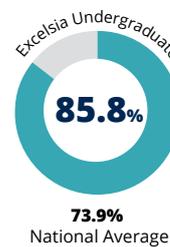
### Overall Quality of Educational Experience



### Teaching Quality



### Student Support



280,301 UNDERGRADUATE AND POSTGRADUATE STUDENTS  
135 HIGHER EDUCATION INSTITUTIONS ACROSS AUSTRALIA



For over 15 years, Dr Leonardo Veliz has held various teaching, lecturing and management roles within educational institutions. Beginning his career teaching English and English as a foreign language (EFL), Leonardo has global experience working in primary, secondary and tertiary classrooms across the United Kingdom, Australia and South America. His broad research interests are within the domain of teacher education, languages education, teacher identity, multiliteracies and multimodality, social semiotics, language testing and assessment, cultural conceptualisations and religious studies and Christian higher education. Leonardo has a Bachelor of Teaching (Secondary), a Certificate IV TESOL, Master of Applied Linguistics and PhD in Education.

— Dr Leonardo Veliz  
Head of School of Education

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# Master of EDUCATION RESEARCH (STEM)

The Master of Education Research (STEM) is a supervised research degree that requires candidates to propose, design and implement a significant research project in the field of STEM education. The program includes a one-semester coursework stage and a three-semester thesis stage. In the coursework stage candidates undertake four compulsory research training units which are intended to equip students with the knowledge and skills to design a STEM education research project, conduct a literature review, use quantitative and/or qualitative methods for data collection and analysis, and prepare a research and ethics proposal.

Employment opportunities in STEM specialised areas continue to emerge nationally and internationally. In Australia, research graduates in STEM have a wide range of employment prospects in some of the largest and most prestigious companies across different industries.

Course duration:	2 years full-time 4 years part-time (domestic students only)
Intake:	February and July
Credit points:	96
Delivery:	On campus and online
Available to:	Domestic and international
CRICOS Code:	107125J
IELTS:	6.5 with no band less than 6.0
AQF:	Level 9
Financial information:	FEE-HELP available
Course tuition fee:	International students: \$10,000 semester \$40,000 total tuition fee

For more information, refer to our [course fees](#) page.

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## ENTRY REQUIREMENTS

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- Minimum of three-year undergraduate degree\* in a STEM<sup>^</sup> discipline, with a Grade Point Average of a Credit or above, combined with relevant industry experience, or
- a bachelor (honours) OR master degree\* in a STEM<sup>^</sup> discipline, and
- 1,000-word expression of interest (EOI).<sup>#</sup>

In particular, the purpose of the EOI is to:

- demonstrate the extent to which the research project will result in a significant contribution to the advancement of knowledge
- showcase an applicant's mastery of subject knowledge and familiarity with current research trends
- show evidence of how an applicant's area of specialisation and varied levels of expertise are linked to educational settings
- match an applicant's research area with potential supervisors in terms of disciplinary orientation and research interests.

AND

In addition to the criteria above, applicants whose qualifying undergraduate studies were taken in a language other than English will be required to demonstrate English proficiency equivalent to the IELTS Academic minimum overall result of 6.5 with no band score below 6.0. Equivalent test requirements are as follows: TOEFL iBT (internet-based) = 79 (no score less than 20); PTE Academic = 58 (no score less than 51).

\* Equivalent overseas qualifications must be recognised by the National Office of Overseas Skills Recognition (NOOSR).

<sup>^</sup> Applicants from other disciplines may be considered based on merit. Evidence of relevant skills, industry experience, and capacity to undertake a STEM-based research project is required.

<sup>#</sup> Applicants are required to submit an expression of interest (EOI) of approximately 1,000 words to demonstrate their field of expertise, the broad areas within which they wish to position their research, and how their STEM speciality aligns to Education.

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# Units

## YEAR 1 SEMESTER 1

### STEM Foundations

This unit builds student understandings of the historical development of STEM as a concept and as a practice. Students of this unit critically evaluate both research and practice in relation to access to STEM learning and STEM-specific graduate employment. This includes new and emerging approaches to engaging students in STEM education through digital technologies, ways of thinking and practices such as 'making', coding programming, game-based learning, data visualisation and flipped classrooms. Throughout the course, participants will be given an opportunity to explore the fundamental concepts and contemporary issues underpinning STEM education, curriculum documents and policies at national and global levels to understand the impact of place and context on STEM practices. Pre- and post-class activities may include reading of academic texts, watching flipped class materials such as videos, quizzes, and individual and collaborative creation of digital artefacts. Students engage in the application of inquiry-based learning in relation to STEM education.

### Qualitative and Quantitative (Research) Methods

This unit aims to analyse the application of both qualitative and quantitative research in the human sciences, and in particular how the nature of the problem and the questions posed lend themselves to one or both research approaches.

This unit fosters the development of all eight Excelsia College graduate attributes and requires the rigorous development of higher-order skills in all its six objectives.



It is divided into three parts: 1) Philosophy and Context, 2) Design and Data Collection, and 3) Data Analysis.

#### 1. Philosophy and Context

Research within the human sciences unavoidably engages with the researcher's presuppositions and world view and gives rise to the approach to or paradigm of research employed in any research project or activity. It also recognises that research with a biblical Christian world view unavoidably engages with or finds its ground in considerations of practical theology and philosophy.

It examines and critically evaluates classical, current and emerging research paradigms including those arising from pragmatic, positivist, constructivist, critical theorist, and critical realist philosophies.

#### 2. Research Style and Data Collection

The unit asks students to consider issues relating to research design or style and the subsequent selection and adaptation of methodologies and the development of instruments for data collection.

Regardless of the nature of the research project proposed in the section that follows, all students must demonstrate a competent understanding of both qualitative and quantitative methods of analysis.

#### 3. Design

This section will focus on the design of a specific research project proposed by each student and approved by the lecturer. Approved research projects must demonstrate consistency with the selected research paradigm and adequate consideration of orienting decisions and constraints, the methodology to be deployed, awareness of relevant literature, how data will be gathered and analysed, how validity and reliability will be assessed, and how findings will be presented and reported. Students will need to consider the appropriateness of any chosen research methodology to the research enquiry and be able to justify this.

#### Literature Review

In this unit students will complete a critical review of scholarly and other significant literature that relates to their thesis topic or area of study. Tuition will be provided in an intensive format or by supervision, though much of the learning approach will be student-driven and performed independently. This course will directly support the completion of a postgraduate research project, such as a thesis.



## YEAR 1 SEMESTER 2

### Supervised Research and Thesis Writing

This unit, undertaken in Semesters 2, 3 and 4, is the capstone unit of the degree and provides the student with the opportunity to demonstrate, with respect to a defined topic, mastery of research in the field of education. In order to demonstrate this mastery, the student will be required to undertake a substantial research project resulting in a contribution to knowledge or understanding and/or the application of knowledge in a designated area of study within the field of education.

The work will include: a searching review of the literature; the use of observation, research methods and/or other systematic approach(es) to the acquisition of knowledge; the careful analysis of data; and the preparation of a well-ordered thesis demonstrating a thorough understanding of the relationship of the research to the broader frameworks of the field of study. The thesis will be of publishable quality, and peer-refereed publications arising from the research are a normal expectation. The process of completing the thesis represents the acquisition of complex knowledge, refined skills, and an extended capacity to apply both knowledge and skills in the pursuit of valued academic and professional outcomes. As such, the thesis unit prepares students for the intentional pursuit of lifelong learning and for high-level engagement in their chosen career(s).

## YEAR 2 SEMESTER 1

### Supervised Research and Thesis Writing

## YEAR 2 SEMESTER 2

### Supervised Research and Thesis Writing

A literature review will involve:

- demonstration of knowledge of the research field
- a summary of previous work in the field
- showing gaps in the existing research
- a synthesis and/or comparison of previous research
- a justification for new research
- a critical analysis of existing research and the problems being addressed
- the identification of problems, issues and questions that need further investigation.

Students will undertake a review of relevant literature leading to the generation of research questions. Students will develop their understanding of the main approaches to literature review – traditional or narrative, systematic, meta-analysis and meta-synthesis – in order to execute the literature review most appropriate to the research enquiry and discipline.

The literature review will lead students to select and justify the need for research on a particular problem that arises from theory, research and/or practice.

### Research and Ethics Proposal

This unit is designed to introduce conceptual, methodological, and procedural issues related to the preparation of a research project proposal. It develops a step-by-step approach involving the background to the project, framing of the research question and objectives, consideration of theoretical frameworks, justification of methodology selected for the research enquiry, the significance of ethics and ethical conduct in research, and research methodologies. It also enables the preparation of a research ethics application, which is a fundamental research skill for future research progression.

Upon completion of this unit students will have:

- applied ethical principles to research and an introduction to the different research paradigms in their discipline of study
- distinguished between qualitative and quantitative methods
- developed a research proposal based on critical analysis of current and relevant literature
- prepared a research ethics application.

Information about applications is available at: [excelsia.edu.au/application-guide](https://excelsia.edu.au/application-guide)

Step **1**

Select the course  
at: <https://excelsia.edu.au/courses>

Step **2**

Check entry requirements

Step **3**

Gather the required documents

Step **4**

Complete application form

Step **5**

Apply

Once you submit your application, Excelsia staff will contact you shortly to confirm receipt and talk through the next steps in the process.



EXCELSIA  
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— Sydney —

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CRICOS CODE 02664K



The information contained in this course guide was accurate at the time of publication. Excelsia reserves the right to amend the material contained in this guide without notice in response to changing circumstances or for any other reason. For the most up-to-date course information please visit our website.