

# Medical Imaging

Postgraduate Handbook 2024



**UNIVERSITY OF  
AUCKLAND**  
Waipapa Taumata Rau  
NEW ZEALAND

**MEDICAL AND  
HEALTH SCIENCES**  
SCHOOL OF MEDICAL SCIENCES

# Welcome to Medical Imaging at the University of Auckland

Medical Imaging (MI) is a dynamic and growing profession globally, the situation is not dissimilar in New Zealand. Among the areas at the forefront of developments are imaging equipment capabilities and intelligent MI analytics. These developments ensure that the MI profession remains a modern and enterprising profession that is congruent with technological advancements, patient care and safety, service delivery, and most importantly research. Further, these developments also bring about changes that are essential in the growth of the profession e.g. 1) a shift in practice owing to technological advancements, 2) skills mix and role changes that require the practitioners to be adaptable while welcoming new knowledge, skills and practice, 3) changing service needs and demands due to changing demographics, rise in chronic conditions, considerations for carbon emissions and the need for early diagnosis which is essential for a favourable prognosis. There are currently several engagements that are considering some of these changes and developments to introduce role extension and advanced practice in New Zealand. Simultaneously, the Medical Radiation Technology Board (MRTB) has initiated the process of reviewing the scopes of practice.

The above developments and changes cannot be harnessed in the absence of education and training, and evidence-based research that is responsive to the needs of the profession and the demands of service delivery that are contextual. The University of Auckland prides itself on continuing to be the only New Zealand university that offers MI postgraduate (PG) training programmes that meet these needs. Our PG programmes are not only recognised for registration with the MRTB, but they also prepare the graduates to take staff positions and prepare them with the knowledge they require to be able to adapt to advancements in their discipline. Our PG programmes enhance critical thinking and reflective practice that have been highlighted as fundamental skills required to

practice in MI. In addition, PG study can bring many career benefits e.g., specialist skills and enhanced knowledge, entry into specific occupations, higher starting salary/progression rates, research capability/achievement and evidence of high academic attainment/self-discipline.

We continue to ensure that our existing programmes are relevant while developing new programmes to align with the industry demands. For example, we recently launched the Postgraduate Diploma in Health Sciences in Cardiac Ultrasound, and we are currently getting the approval of the newly developed Postgraduate Certificate in Health Sciences in PET-CT. We are hopeful that the latter will be approved for the 2025/2026 academic year, and it will assist to meet the growing demands of PET-CT in New Zealand due to the growing number of PET-CT sites. We are also excited to see the number of students enrolled in the Master of Health Sciences degree and the Doctor of Philosophy (PhD) in Medical Imaging continue to increase.

I am excited to welcome you to journey with us as we together advance the profession and contribute to service delivery in New Zealand. The MI team is available to ensure that you have the best experience with your studies and that you are successful.



**DR SIBUSISO MDLETSHÉ**  
Medical Imaging  
Postgraduate Programme Director





# Contents

<b>Our postgraduate programmes</b>	4
<b>Specialisations</b>	5
Medical Imaging	5
Mammography	6 – 7
Magnetic Resonance Imaging (MRI)	8 – 9
Nuclear Medicine	10 – 11
Ultrasound	12 – 13
Cardiac Ultrasound	14 – 15
<b>Course descriptions</b>	16
Course descriptions	16 – 18
Course schedule 2024	19
<b>Eligibility for entry, timeframes and regulations</b>	20
Postgraduate Certificate in Health Sciences	20
Postgraduate Diploma in Health Sciences	21
Master of Health Sciences (MHSc)	22 – 23
Doctoral study in Medical Imaging	24 – 25
<b>Admission, enrolment and fees</b>	26
New Students	26
Apply and enrol online	27

# Our postgraduate programmes

Intended primarily for medical imaging technologists, our postgraduate medical imaging programmes are designed to produce graduates who will add to the clinical excellence of New Zealand's health sector and the research strengths of our country.

Our goal is to provide graduates with the knowledge, skills and attributes to enable them to meet the increasing levels of professional responsibility created by a rapidly evolving technological, clinical field.

Our focus is not just on acquiring new knowledge as an essential part of postgraduate education; we also see the development of clinical competence, critical thinking and reflective learning as crucial attributes for modern healthcare practitioners.

We have a range of postgraduate medical imaging programmes available - from postgraduate certificates and diplomas, through to masters and doctoral degrees for students who have already completed a form of postgraduate study.

You'll find a full description of the following programmes in this handbook:

- Postgraduate Certificate in Health Sciences (Medical Imaging)
- Postgraduate Certificate in Health Sciences (Mammography)
- Postgraduate Diploma in Health Sciences (Medical Imaging)
- Postgraduate Diploma in Health Sciences (Magnetic Resonance Imaging)
- Postgraduate Diploma in Health Sciences (Nuclear Medicine)
- Postgraduate Diploma in Health Sciences (Ultrasound)
- Postgraduate Diploma in Health Sciences (Cardiac Ultrasound)

We also offer the following research degrees, which may be of interest to students who have already completed some form of postgraduate study:

- Master of Health Sciences – MHSc
- Doctor of Philosophy – PhD

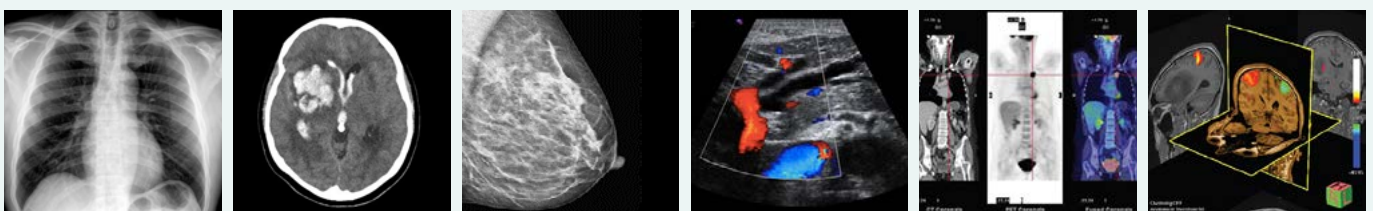
## The strengths of our programmes:

- Our teaching is research-led and informed by the latest education theories.
- The majority of our courses are delivered entirely online, so they can be completed from anywhere in the world, at any time, enabling flexibility to suit students' individual needs.
- Students may progress from individual certificates of proficiency through to postgraduate certificate, postgraduate diploma, masters and doctoral qualifications.
- Our MRI, ultrasound and nuclear medicine programmes are accredited by the New Zealand Medical Radiation Technologists Board (MRTB) and provide a route to registration.

A major feature of postgraduate study is a requirement for self-directed learning. This is achieved through assignments, reading, seminar presentations and online discussions. Study at postgraduate level means making a commitment to both professional and personal development as well as to new and challenging academic work. Postgraduate study is about investigating, analysing, critically evaluating, reflecting and responding to the challenges posed by practice and the academic environment.

All of our postgraduate programmes are predominantly comprised of courses selected from Medical Imaging (MEDIMAGE) and/or Clinical Imaging (CLINIMAG). These courses present the state-of-the-art in each discipline, are research-led and supported by the cutting-edge clinical and educational facilities offered in the faculty.

A clinical competency assessment requirement must be successfully completed for the specialty modalities of Cardiac Ultrasound, Mammography, MRI, Nuclear Medicine, and Ultrasound. For the postgraduate diploma programmes, this will enable registration with the Medical Radiation Technologists Board (MRTB) in the appropriate scope of practice.



# Medical Imaging

This programme is designed for medical imaging technologists seeking to extend their understanding of medical imaging and contribute to the improvement of clinical health services by implementing their knowledge and expertise within medical imaging services.

## Our PGCertHSc (Medical Imaging) programme

Many students complete a postgraduate certificate while looking for a clinical training position in MRI, ultrasound or nuclear medicine. These pathways provide the opportunity for students to demonstrate to potential employers their enthusiasm and aptitude for training in these modalities. In addition, should the student obtain a clinical training position within five years of completing this certificate, some courses may be credited towards their postgraduate diploma programme.

To be eligible for entry into this programme, the student needs to have completed an undergraduate qualification in medical imaging.

## Schedule of courses

### PGCertHSc (Medical Imaging)

Course Code	Course Name	S1	S2
MEDIMAGE 701	Imaging Anatomy and Pathology	■	■
MEDIMAGE 702	Professional Issues in Medical Imaging	■	■
At least 15 points from the following courses: MEDIMAGE 707-723, CLINIMAG 701-720		Dependent on student choice	
Up to 15 points from courses listed in the Master of Health Sciences Schedule			

## Our PGDipHSc (Medical Imaging) programme

This programme is designed for medical imaging technologists seeking to extend their understanding of medical imaging.

The PGDipHSc (Medical Imaging) will prepare our graduates to contribute to improving clinical health services for New Zealanders by implementing their medical imaging knowledge and expertise. Graduates will also be able to advance to masters level study and contribute to the development of medical imaging services through research.

**Please note that this programme does not lead to registration with the Medical Radiation Technologists Board (MRTB).**

### PGDipHSc (Medical Imaging)

Course Code	Course Name	S1	S2
MEDIMAGE 701	Imaging Anatomy and Pathology	■	■
MEDIMAGE 702	Professional Issues in Medical Imaging	■	■
60 points from MEDIMAGE 707-723, CLINIMAG 701-720		Dependent on student choice	
30 points from courses listed in the Master of Health Sciences Schedule		Dependent on student choice	

Please email the Postgraduate Academic Coordinator to confirm your proposed pathway meets the programme requirements.

**Adrienne Young**  
Postgraduate Academic Coordinator

**Email:** [medicalimaging@auckland.ac.nz](mailto:medicalimaging@auckland.ac.nz)

*“The secret of joy in work is contained in one word – excellence. To know how to do something well is to enjoy it.”*

– Pearl S Buck

**Find out more**  
[auckland.ac.nz/medical-imaging](http://auckland.ac.nz/medical-imaging)

# Mammography

This programme provides a combination of academic and clinical elements ensuring graduates from this programme will be eligible to work for BreastScreen Aotearoa (BSA).

## Our PGCertHSc (Mammography) programme

Graduates of the PGCertHSc (Mammography) will be able to provide high level expertise in breast imaging and may contribute to national breast screening programmes. They will also be able to progress to further study in medical imaging.

To satisfy admission into this programme, the student must be employed in an appropriate clinical training position. This is a paid position in a mammography practice in New Zealand and it is the responsibility of the student to find and secure this position. Appropriate supervision of the student must also be provided by a qualified and experienced member of staff who is registered in the medical imaging scope of practice and holds a current Annual Practising Certificate (APC).

This qualification is a New Zealand Medical Radiation Technologists Board (MRTB) approved pathway for:

- Radiation therapists to practise in mammography
- Return-to-work pathway for medical imaging technologists to return to work in mammography only.

Please note this pathway must be approved by the MRTB before study is commenced.

## Workplace clinical requirements

In order to develop the necessary technical, clinical and diagnostic skills, students must be exposed to a large number and wide range of mammographic examinations. Completion of the training period will require that the student has experienced a minimum of 300 clinical hours.

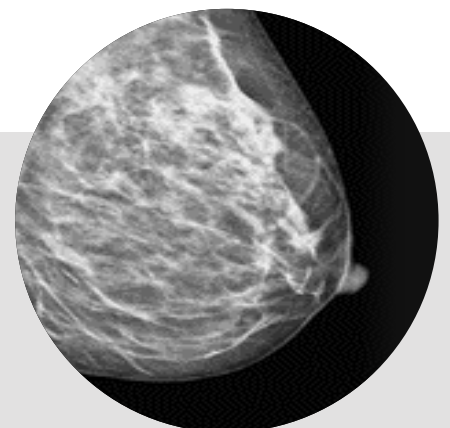
Assessment of clinical competency will also occur in the student's workplace throughout the duration of their enrolment in the two mammographic courses. Students will not be able to compensate an inadequate clinical assessment with excellent academic work.

## Schedule of courses

### PGCertHSc (Mammography)

Course Code	Course Name	S1	S2
CLINIMAG 721	Mammographic Practice	■	
CLINIMAG 722	Extended Mammographic Practice		■

***“After over 10 years of being a full-time mammographer, I still find mammography interesting and technically challenging”***







*"In 2007, I was offered a position in a dedicated mammography centre in Johannesburg. I was fortunate to work with a radiologist who was passionate about breast imaging. As a result, I realised that a mammogram was more than screening and obtaining four images.*

*"We as mammographers have a great responsibility to the women we image to make a scary, uncomfortable experience one they will return for. After over 10 years of being a full-time mammographer, I still find mammography interesting and technically challenging.*

*"I have always enjoyed teaching, and opted to do a Clinical Supervision course as part of my Postgraduate Certificate in Health Sciences (Mammography) at the University of Auckland. In 2017, I followed this with a Postgraduate Certificate in Clinical Education.*

*"Three years ago I became a clinical supervisor for BreastScreen Aotearoa. I find this role very interesting as I get to watch my students grow and develop - much like watching baby birds leave the nest! I enjoy establishing a relationship with my students, helping them develop the confidence to seek feedback and become more reflective in their practice. It's very fulfilling knowing that you have*

*contributed to teaching someone a skill they can use throughout their career."*

## **Fathima Okoroigwe**

**Postgraduate Certificate in Health Sciences (Mammography) graduate**

**Fathima Okoroigwe works at BreastScreen Waitematā Northland and was a clinical supervisor for the University of Auckland.**

 [auckland.ac.nz/mammography](https://auckland.ac.nz/mammography)



*“I chose to study MRI because it is the gold standard of all imaging technologies, and it keeps on evolving to better imaging. This has been my main goal since qualifying ten years ago as a medical imaging technologist.*”

*“I gravitated towards The University of Auckland knowing that it is the leading University of New Zealand and that the diploma in MRI is internationally recognised. The online academic programme fits well with my clinical training, rostered shiftwork and living in Whangārei. I am able to stay close to my whānau and complete the course.*”

*“I would promote a career in MRI scanning to our younger generations. Our Māori ancestors sailed from Hawaiiki and found Aotearoa with their technology, innovation and vision. So, I hope to be a beacon for Māori and Pasifika and inspire them to come and take a leap into medical imaging because I enjoy what I do, and others might too.*”

*“I found that the MAPAS (Māori and Pacific Admission Scheme) programme provided the extra support that links to other students or tutors who are like-minded and from similar cultural backgrounds, knowing that I'm not alone. I signed up for MAPAS to help me refocus and build that motivation again when times were hard to start studying again. Regardless, MAPAS made me feel like the University was a safe space to learn, share inspiration, and be confident when overcoming mistakes.*”

*“In the future, I hope to work up to senior roles in the department, learn cardiac MRI, or become a tutor. I know the opportunities are bountiful in this career.”*

## **Serena-Mei Wihongi**

Postgraduate Diploma in Health Sciences (MRI) student Serena-Mei Wihongi works as a trainee MRI technologist at Whangārei Hospital – Te Whatu Ora - Te Tai Tokerau District.

 [auckland.ac.nz/pg/mri](https://auckland.ac.nz/pg/mri)





# Magnetic Resonance Imaging (MRI)

This programme provides a combination of academic and clinical elements ensuring graduates from this programme will be eligible for registration with the regulatory body, the New Zealand Medical Radiation Technologists Board (MRTB).

## Our PGDipHSc (Magnetic Resonance Imaging) programme

Graduates of the PGDipHSc (Magnetic Resonance Imaging) will be prepared to contribute to the improvement of clinical health services offered to the New Zealand public by implementing their knowledge and expertise within medical imaging, specifically within MRI. Graduates will also be able to advance to master's level study and contribute to the development of medical imaging services through research.

To satisfy admission into this programme, the student must be employed in an appropriate clinical training position. This is a paid position in an MRI practice in New Zealand and it is the responsibility of the student to find and secure this position. Appropriate supervision of the student must also be provided by a qualified and experienced member of staff who is registered in the magnetic resonance imaging scope of practice and holds a current Annual Practising Certificate (APC).

For those interested in pursuing a career in MRI and who are not medical imaging technologists, please refer to the University of Auckland website for more information:

[auckland.ac.nz/pg/mri](http://auckland.ac.nz/pg/mri)

## Workplace clinical requirements

In order to develop the necessary technical, clinical and diagnostic skills, trainees must be exposed to a large number and wide range of MRI examinations. By completion of the training period the requirement is that the student has experienced a minimum of 2000 clinical hours.

Additionally, the minimum total number of MRI examinations to be recorded is 1000, of which no fewer than 500 must be performed without assistance.

Assessment of clinical competency will also occur in the student's workplace throughout the duration of their enrolment within this programme. Students will not be able to compensate an inadequate clinical assessment with excellent academic work.

A final clinical competency assessment, Structured Observation and Assessment of Practice (SOAP), must be performed at the student's workplace and passed. Successful completion of this qualification will enable registration with the MRTB in the magnetic resonance imaging scope of practice.

## Maximise your chances of obtaining an MRI clinical training position

To obtain a training position, you should approach MRI team leaders based in public hospitals and/ or private radiology facilities that provide MRI services. You should also consult employment websites where these roles are often advertised.

We offer medical imaging practitioners the opportunity to enrol in a PGCertHSc (Medical Imaging) and complete four courses which may then be credited towards an MRI diploma, should you succeed in obtaining a training position within five years. This option demonstrates to potential employers your enthusiasm and aptitude.

**This pathway is currently under review so please contact the Medical Imaging Postgraduate Academic Coordinator at [medicalimaging@auckland.ac.nz](mailto:medicalimaging@auckland.ac.nz) for more information before proceeding on this pathway.**

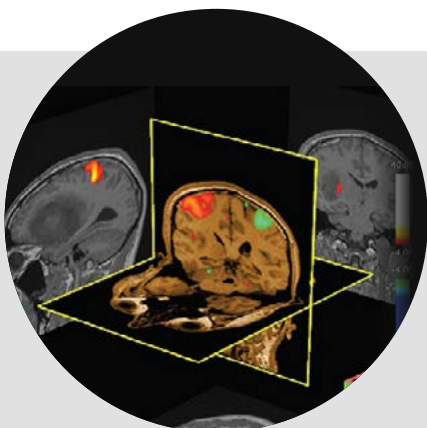
## Schedule of courses 2024\*\*

### PGDipHSc (Magnetic Resonance Imaging)

Course Code	Course Name	S1	S2
MEDIMAGE 701	Imaging Anatomy and Pathology	■	■
MEDIMAGE 702	Professional Issues in Medical Imaging	■	■
MEDIMAGE 714	Fundamentals of Clinical MRI*	■	■
MEDIMAGE 715	MRI Technology	■	■
MEDIMAGE 721	MRI Safety	■	■
CLINIMAG 710	MRI Clinical Applications I	■	
CLINIMAG 711	MRI Clinical Applications II		■
CLINIMAG 712	MRI Clinical Practice	■	■

\*As this course is a prerequisite for all of the other MRI-specific courses, it is expected that students complete this in the first semester of their programme of study

\*\*This schedule is subject to change each year. Please contact the Medical Imaging Postgraduate Academic Coordinator at [medicalimaging@auckland.ac.nz](mailto:medicalimaging@auckland.ac.nz) for an individual study plan.



**“Our Māori ancestors sailed from Hawaiki and found Aotearoa with their technology, innovation and vision. So, I hope to be a beacon for Māori and Pasifika and inspire them to come and take a leap into medical imaging because I enjoy what I do, and others might too.”**

# Nuclear Medicine

This programme provides a combination of academic and clinical elements ensuring graduates from this programme will be eligible for registration with the regulatory body, the New Zealand Medical Radiation Technologists Board (MRTB).

## Our PGDipHSc (Nuclear Medicine) programme

The PGDipHSc (Nuclear Medicine) prepares our graduates to contribute to clinical health services for New Zealanders to implement their nuclear medicine knowledge and expertise. Graduates will also be able to advance to master's level study and contribute to the development of medical imaging services through research.

To satisfy admission into this programme, the student must be employed in an appropriate clinical training position. This is a paid position in a nuclear medicine practice in New Zealand and it is the responsibility of the student to find and secure this position. Appropriate supervision of the student must also be provided by a qualified and experienced member of staff who is registered in the nuclear medicine scope of practice and holds a current Annual Practising Certificate (APC).

For those interested in pursuing a career in nuclear medicine and who are not medical imaging technologists, please refer to the University of Auckland website for more information:

[auckland.ac.nz/pg/nuclear-medicine](http://auckland.ac.nz/pg/nuclear-medicine)

## Workplace clinical requirements

In order to develop the necessary technical, clinical and diagnostic skills, trainees must be exposed to a large number and wide range of nuclear medicine examinations. By completion of the training period the requirement is that the student has experienced a minimum of 2000 clinical hours.

Additionally, the minimum total number of nuclear medicine examinations to be recorded is 1000, of which no fewer than 500 must be performed without assistance. Within the nuclear medicine programme, there is also a requirement for familiarisation and competency of processes and procedures additional to imaging. These are predominantly laboratory based and include a significant focus on quality assurance and radiation safety.

Assessment of clinical competency will also occur in the student's workplace throughout the duration of their enrolment within this programme. Students will not be able to compensate an inadequate clinical assessment with excellent academic work.

A final clinical competency assessment, Structured Observation and Assessment of Practice (SOAP), must be performed at the student's workplace and passed. Successful completion of this qualification will enable registration with the MRTB in the nuclear medicine scope of practice.

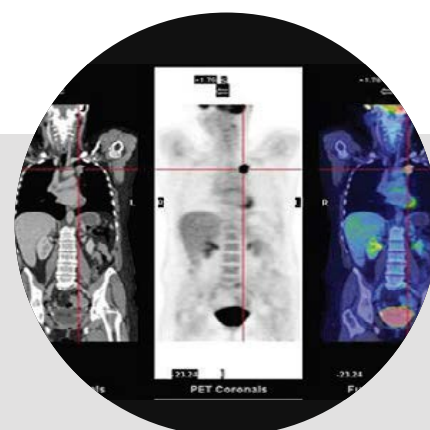
**“The idea that we can use radioactive materials to image how organs are functioning is fascinating.”**

## Schedule of courses 2024\*

### PGDipHSc (Nuclear Medicine)

Course Code	Course Name	S1	S2
MEDIMAGE 701	Imaging Anatomy and Pathology	■	■
MEDIMAGE 702	Professional Issues in Medical Imaging	■	■
MEDIMAGE 720	Fundamentals of Clinical Nuclear Medicine	These courses will next be offered in 2025	
MEDIMAGE 708	Nuclear Medicine Technology		
CLINIMAG 706	Nuclear Medicine Specialised Clinical Applications	■	
CLINIMAG 723	PET-CT Imaging		■
CLINIMAG 716	Nuclear Medicine Clinical Practice	■	■
CLINIMAG 707	CT Clinical Practice	■	

\*This schedule is subject to change each year. Please contact the Medical Imaging Postgraduate Academic Coordinator at [medicalimaging@auckland.ac.nz](mailto:medicalimaging@auckland.ac.nz) for an individual study plan.







*“From the moment I first learned about nuclear medicine, I knew I wanted to do it. I have a background in chemistry, so the idea of working in the hot lab really appealed to me. The idea that we can use radioactive materials to image how organs are functioning is fascinating.”*

*“You learn about many new pathologies, which for me has helped in my other role as a CT Medical Imaging Technologist. Because it’s such a niche job, you get to know people from all around the country.”*

*“The academic programme at The University of Auckland complements the clinical work I do. While I learn on the job how to do the exams, the academic aspect ensures that I have the knowledge to explain the procedure to patients and perform the exam safely. The teaching staff are fantastic and are really easy to talk to. They do everything they can to help you succeed in your studies.”*

## **Katie Percival**

Auckland City Hospital/Te Toka Tumai,  
Nuclear Medicine Technologist Trainee

# Ultrasound

This programme provides a combination of academic and clinical elements ensuring graduates from this programme will be eligible for registration with the regulatory body, the New Zealand Medical Radiation Technologists Board (MRTB).

## Our PGDipHSc (Ultrasound) programme

By pursuing the PGDipHSc (Ultrasound), our students will be equipped to implement their ultrasound knowledge and expertise to improve clinical health services for New Zealanders. Graduates will also be able to advance to master's level study and contribute to the development of medical imaging services through research.

To satisfy admission into this programme, the student must be employed in an appropriate clinical training position. This is a paid position in an ultrasound practice in New Zealand and it is the responsibility of the student to find and secure this position. Appropriate supervision of the student must also be provided by a qualified and experienced member of staff who is registered in the ultrasound scope of practice and holds a current Annual Practising Certificate (APC).

The Ultrasound programme is designed to be completed part-time and by distance learning, with the exception of the optional, full-time intensive course which requires on-campus attendance.

For those interested in pursuing a career in ultrasound and who are not medical imaging technologists, please refer to the University of Auckland website for more information:

[auckland.ac.nz/pg/ultrasound](http://auckland.ac.nz/pg/ultrasound)

## Workplace clinical requirements

In order to develop the necessary technical, clinical and diagnostic skills, trainees must be exposed to a large number and wide range of ultrasound examinations. By completion of the training period the requirement is that the student has experienced a minimum of 2000 clinical hours. Additionally, the minimum total number of ultrasound examinations to be recorded is 2000, of which no fewer than 1000 must be performed without assistance.

Assessment of clinical competency will also occur in the student's workplace throughout the duration of their enrolment within this programme. Students will not be able to compensate an inadequate clinical assessment with excellent academic work.

A final clinical competency assessment, Structured Observation and Assessment of Practice (SOAP), must be performed at the student's workplace and passed. Successful completion of this qualification will enable registration with the MRTB in the ultrasound scope of practice.

## Maximise your chances of obtaining an ultrasound clinical training position

To obtain a training position, you should approach ultrasound team leaders based in public hospitals and/ or private radiology facilities that provide ultrasound services. You should also consult employment websites where these roles are often advertised.

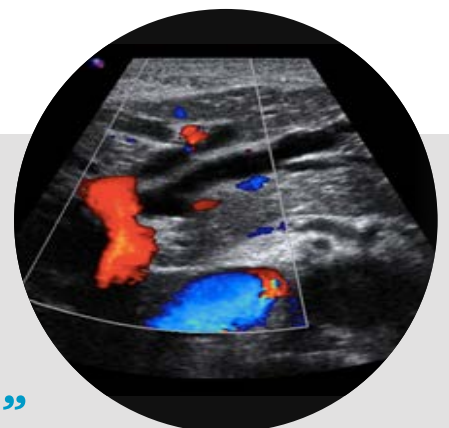
We offer medical imaging practitioners and graduates from other health science-related fields (e.g., biomedical science, or allied health professions) the opportunity to enrol in a Postgraduate Certificate in Health Sciences. In this certificate, you would complete four courses that could then be credited towards an ultrasound diploma, should you succeed in obtaining a training position within five years. This option demonstrates to potential employers your enthusiasm and aptitude.

**This pathway is currently under review so please contact the Medical Imaging Postgraduate Academic Coordinator at [medicalimaging@auckland.ac.nz](mailto:medicalimaging@auckland.ac.nz) for more information before proceeding on this pathway.**

## Schedule of courses

### PGDipHSc (Ultrasound)

Course Code	Course Name	S1	S2
MEDIMAGE 701	Imaging Anatomy and Pathology	■	■
MEDIMAGE 702	Professional Issues in Medical Imaging	■	■
MEDIMAGE 716	Fundamentals of Clinical Ultrasound	■	■
MEDIMAGE 717	Ultrasound Imaging Technology	■	■
CLINIMAG 719	Ultrasound Abdominal Clinical Applications		■
CLINIMAG 713	Ultrasound in Women's Health		■
CLINIMAG 720	Ultrasound Specialised Clinical Applications	■	
CLINIMAG 715	Ultrasound Clinical Practice	■	■



**“After seeing what sonographers do and the way they impact both patients and the diagnostic experience, I found that ultrasound was the perfect pathway for me”**





*“I have always had a passion for healthcare. I previously studied physiotherapy and decided it was not the right career pathway for me which is when I found myself in the radiology world.*”

*“After seeing what sonographers do and the way they impact both patients and the diagnostic experience, I found that ultrasound was the perfect pathway for me. I love the one-on-one patient care we provide and the way we can care for patients in a way that not all modalities do.*”

*“The University of Auckland is a renowned university for providing some of the best education for students to set them up for a successful and knowledgeable career. I love that the class sizes are small. It is always easy to reach out for help from the Course Coordinators.*”

*“The learning content is always relevant and useful in my ultrasound training. I find myself learning things in my coursework and immediately finding it come up in some of the scans I do.*”

*“I am hoping to become a qualified sonographer and potentially in the future specialise further in musculoskeletal scans and paediatric scanning! I have lots of musculoskeletal knowledge already from physiotherapy and love working with children so I am very excited for what I may be able to do in the future.”*

## **Alisha Heath**

Postgraduate Diploma in Health Sciences (Ultrasound) student Alisha Heath works as a trainee sonographer at Astra Radiology in Auckland.

 [auckland.ac.nz/pg/ultrasound](https://auckland.ac.nz/pg/ultrasound)

# Cardiac Ultrasound

This programme provides a combination of academic and clinical elements ensuring graduates from this programme will be eligible for registration with the regulatory body, the New Zealand Medical Radiation Technologists Board (MRTB).

## Our PGDipHSc (Cardiac Ultrasound) programme

By pursuing the PGDipHSc (Cardiac Ultrasound), our students will be equipped to implement their ultrasound knowledge and expertise to improve clinical health services for New Zealanders. Graduates will also be able to advance to master's level study and contribute to the development of medical imaging services through research.

To satisfy admission into this programme, the student must be employed in an appropriate clinical training position. This is a paid position in a cardiac ultrasound department in New Zealand and it is the responsibility of the student to find and secure this position. Appropriate supervision of the student must also be provided by a qualified and experienced member of staff who is registered in the ultrasound scope of practice (specifically cardiac ultrasound) and holds a current Annual Practising Certificate (APC).

The Cardiac Ultrasound programme is designed to be completed part-time and by distance learning, with the exception of some compulsory on-campus attendance events.

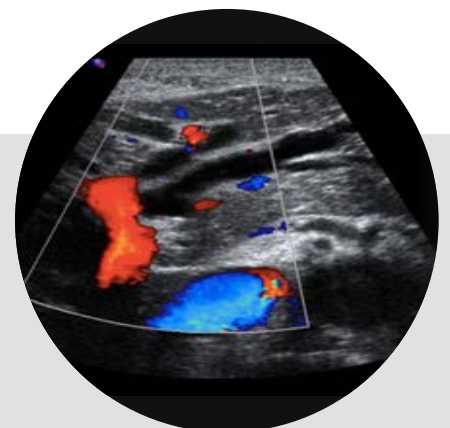
For those interested in pursuing a career in ultrasound and who are not medical imaging technologists, please contact the Medical Imaging team at [medicalimaging@auckland.ac.nz](mailto:medicalimaging@auckland.ac.nz) to determine your eligibility.

## Schedule of courses

### PGDipHSc (Cardiac Ultrasound)

Course Code	Course Name	S1	S2
MEDIMAGE 717	Ultrasound Imaging Technology	■	
MEDIMAGE 722	Introduction to Cardiac Ultrasound	■	
MEDIMAGE 724	Ultrasound Assessment of Heart Disease 1		■
MEDIMAGE 725	Cardiac Pathophysiology		■
MEDIMAGE 726	Ultrasound Assessment of Heart Disease 2		Next offered in 2025
MEDIMAGE 727	Introduction to Congenital Heart Disease		Next offered in 2025
MEDIMAGE 728	Advanced Concepts in Cardiac Ultrasound		Next offered in 2025
CLINIMAG 724	Cardiac Ultrasound Clinical Practice		Next offered in 2025

**“Diagnostic medical imaging is currently a fast-developing area of medical research that is filled with potential”**







*“I want to make a positive contribution during my career. This entails working in an environment driven by compassion, led with respect and where learning is valued. I believe medical imaging embodies these qualities and goals.”*

*“At work, I am inspired daily by the diverse community and the passion of my colleagues. This has encouraged me to further develop myself as a medical imaging technologist through undertaking postgraduate studies in cardiac ultrasound.”*

*“The University of Auckland is currently the only university that is offering a postgraduate degree in cardiac sonography in New Zealand. I appreciate the practicality of this programme as what I learn in the coursework always has real life applications. At the same time, the programme also encourages me to extract my own learnings from reflecting on my clinical practice.”*

*“The coursework is both interesting and directly applicable to our clinical practice. It covers the fundamental theories and at the same time discusses new developments in the field of medical imaging which means we can directly apply our coursework to our ever-evolving clinical practice. The assessments encourage students to explore their own areas of interest within the field.”*

*“This qualification will allow me to be a registered cardiac sonographer with the Medical Radiation Technologists Board. Obtaining this qualification will allow me to work in cardiac centres both within and outside of New Zealand.”*

*“In the future, I am greatly interested in further study and research. Diagnostic medical imaging is currently a fast-developing area of medical research that is filled with potential.”*

## **Cindy Cao**

Postgraduate Diploma in Health Sciences student Cindy Cao works as a trainee cardiac sonographer at Te Toka Tumai (Auckland Hospital).

# Course descriptions

Please note that the courses on offer each semester depend on sufficient student enrolment in each semester is dependent on sufficient student enrolment numbers and is therefore subject to change by the School of Medical Sciences.

## Enrolment information explained

### Prerequisite

*A course that you must pass before you can start to study in this course.*

### Restriction

*A course which is restricted against another course because the learning objectives, content, and/or assessment are so similar to the other course that you cannot gain credit for both courses towards a certificate, diploma, or degree.*

### Corequisite

*A course that should be taken in the same semester as another unless it has previously been satisfactorily completed.*

### Department consent required

*Before you can enrol in this course you must obtain permission to do so from the department. Contact your faculty student centre if you need help or advice. Refer to page 22 for further details.*

## MEDIMAGE 701

### Imaging Anatomy and Pathology

Addresses the principles of medical science at whole body, organ, tissue, cellular and subcellular levels by developing an integrated understanding of anatomy and pathology as it applies to medical imaging in the clinical context. Specific anatomical regions and pathologies will be investigated to explain imaging appearances and evaluate the role of a variety of imaging modalities in patient pathways.

## MEDIMAGE 702

### Professional Issues in Medical Imaging

Students will investigate the concept of professional practice leading to an exploration of current professional issues relevant to medical imaging. The course will develop students' ability to reflect on, and respond to, the wide variety of professional, ethical, medico-legal and clinical workplace issues generated in a rapidly changing environment.

## MEDIMAGE 708

### Nuclear Medicine Technology

Extends students' specialised theoretical knowledge and understanding of the underlying scientific principles of nuclear medicine technology. Students will develop the ability to apply this knowledge to obtain images of optimal diagnostic quality.

**Prerequisite:** MEDIMAGE 720

## MEDIMAGE 711

### Musculoskeletal Trauma Image Evaluation

Provides students with the knowledge to evaluate radiographs of common musculoskeletal trauma in the clinical setting. Using a systematic method of image interrogation and a critical approach, students will develop the ability to provide a preliminary clinical image evaluation of common musculoskeletal trauma radiographs.

## MEDIMAGE 714

### Fundamentals of Clinical MRI

Provides students with knowledge of the fundamental scientific principles of MRI. Students will examine components of the clinical environment in the context of patient care and safety. In addition, students will evaluate common clinical applications, developing the ability to analyse standard imaging protocols and explain normal and abnormal MR imaging appearances.

## MEDIMAGE 715

### MRI Technology

Extends students' specialised theoretical knowledge and understanding of the underlying scientific principles of MR technology. Students will develop the ability to apply this knowledge to obtain images of optimal diagnostic quality.

**Prerequisite:** MEDIMAGE 714

**Restriction:** MEDIMAGE 703, 704

## MEDIMAGE 716

### Fundamentals of Clinical Ultrasound

Provides students with knowledge of the fundamental scientific principles of ultrasound. Students will develop the ability to apply this knowledge to different patient populations. In addition, students will investigate standard sonography imaging techniques and analyse sonographic imaging appearances.

## MEDIMAGE 717

### Ultrasound Imaging Technology

Explores the principles of ultrasound physics and instrumentation. Students will have the opportunity to learn about the properties of sound waves and their behaviour with tissues in the production of ultrasound images. Students will develop the ability to manipulate and optimise image production by refining components and controls of the ultrasound machine, while considering the importance of bioeffects and safety.

## MEDIMAGE 720

### Fundamentals of Clinical Nuclear Medicine

Provides students with knowledge of the fundamental scientific principles of nuclear medicine. Students will examine components of the clinical environment in the context of patient care and safety. In addition, students will evaluate common clinical applications, developing the ability to analyse standard imaging protocols and explain normal and altered biodistribution and nuclear medicine imaging appearances.

## MEDIMAGE 721

### MRI Safety

Extends students' understanding of the underlying physical principles related to a range of MRI safety issues. The course will provide students with the opportunity to explore these safety issues in detail and to apply this knowledge in critically evaluating current policies and practices. New and emerging safety topics will also be examined.

**Prerequisite:** MEDIMAGE 714



## MEDIMAGE 722

### Introduction to Cardiac Ultrasound

Introduces cardiac ultrasound by exploring the analysis and interpretation of the 2D, m-mode, Spectral Doppler, and Colour Doppler components of the normal cardiac ultrasound examination. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical reasoning, decision-making and clinical competence.

## MEDIMAGE 723

### Research Methods

Provides students with a comprehensive understanding of the principles of research methodology and evidence based practice as applied to medical imaging. Addresses the knowledge required to evaluate research and the development of skills and research ethics necessary to conduct medical imaging research

**Restriction:** MEDIMAGE 307

## MEDIMAGE 724

### Ultrasound Assessment of Heart Disease 1

Expands on comprehension of the normal cardiac ultrasound examination, by developing the specialised skills and knowledge required to critically analyse and interpret ventricular function and complex forms of heart, disease including cardiomyopathies and pericardial diseases, using various ultrasound modalities. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical reasoning, decision-making, and clinical competence.

**Prerequisite:** MEDIMAGE 717, 722

## MEDIMAGE 725

### Cardiac Pathophysiology

Explore cardiovascular disease as it pertains to a disturbance in the normal structure and function of the heart. Students build on an introduction of normal cardiac structure and function to gain extensive knowledge of the changes to anatomy and physiology that lead to cardiovascular conditions. Students can integrate this knowledge of aetiology, clinical features, and treatment options, into the clinical setting.

## MEDIMAGE 726

### Ultrasound Assessment of Heart Disease 2

Expands on comprehension of the normal cardiac ultrasound examination, by developing the specialised skills and knowledge required to critically analyse and interpret common and complex forms of heart disease including valve disease and adult congenital heart disease. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical reasoning, decision-making and clinical competence.

**Prerequisite:** MEDIMAGE 724

## MEDIMAGE 727

### Introduction to Congenital Heart Disease

Expands knowledge of normal foetal cardiovascular system development which is imperative to understanding the intricacies of congenital heart lesions. Integrates a comprehension of congenital heart lesions with a systematic segmental approach to scanning allows practitioners to identify congenital lesions and interrogate the haemodynamic consequences using ultrasound, pre- and post-medical intervention.

## MEDIMAGE 728

### Advanced Concepts in Cardiac Ultrasound

Builds on knowledge of transthoracic Cardiac Ultrasound, explores advanced echocardiography techniques, and the role of the cardiac sonographer in these examinations. Complementary diagnostic modalities used in the investigation of heart disease are introduced. Integrating knowledge of a broader range of diagnostic modalities, allows practitioners the opportunity to correlate diagnostic findings, and provide a deeper understanding of underlying pathology.

**Prerequisite:** MEDIMAGE 726

## CLINIMAG 706

### Nuclear Medicine Specialised Clinical Applications

Addresses normal and altered radiopharmaceutical biodistribution appearances, and protocol selection and development, associated with cardiovascular, lymphatic and oncological applications in Nuclear Medicine, in addition to investigating new and evolving techniques and applications. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical reasoning, decision-making and clinical competence.

**Prerequisite:** MEDIMAGE 720

## CLINIMAG 707

### CT Clinical Practice

Provides students with a sound understanding of CT technology and its application including radiation safety and dose reduction. Addresses normal and abnormal computed tomography (CT) imaging appearances, protocol selection and modification, in relation to a range of standard clinical applications. Students will develop the knowledge, competencies, skills and attitudes needed to enable clinical competence in both academic and professional capability in CT practice and application to clinical practice.

## CLINIMAG 710

### MRI Specialised Clinical Applications I

Addresses normal and abnormal imaging appearances, protocol selection and development, and applications associated with a range of MRI examinations. Students will examine standard and advanced pulse sequences, in addition to investigating new and evolving techniques and applications. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical decision making and clinical competence.

**Prerequisite:** MEDIMAGE 714

**Restrictions:** CLINIMAG 701, 702

## CLINIMAG 711

### MRI Specialised Clinical Applications II

Addresses normal and abnormal imaging appearances, protocol selection and development, and applications associated with a range of MRI examinations. Students will examine standard and advanced pulse sequences in addition to investigating new and evolving techniques and applications. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical decision making and clinical competence.

**Prerequisite:** MEDIMAGE 714

**Restriction:** CLINIMAG 702

## CLINIMAG 712

### MRI Clinical Practice

Develops the knowledge, competencies, skills and attitudes needed to demonstrate mastery in both academic and professional capability in MRI practice.

**Prerequisite:** Departmental approval required

## CLINIMAG 713

### Ultrasound in Women's Health

Addresses normal and abnormal ultrasound imaging appearances, scanning techniques and applications relating to women's health. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical reasoning, decision-making and clinical competence.

**Prerequisite:** MEDIMAGE 716

**Restriction:** CLINIMAG 703

## CLINIMAG 715

### Ultrasound Clinical Practice

Develops the knowledge, competencies, skills and attitudes needed to demonstrate mastery in both academic and professional capability in ultrasound practice.

**Prerequisite:** Departmental approval required

## CLINIMAG 716

### Nuclear Medicine Clinical Practice

Develops the knowledge, competencies, skills and attitudes needed to demonstrate mastery in both academic and professional capability in nuclear medicine practice.

**Prerequisite:** Departmental approval required

## CLINIMAG 719

### Ultrasound Abdominal Clinical Applications

Addresses normal and abnormal ultrasound imaging appearances, scanning techniques and applications associated with abdominal ultrasound examinations. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical decision making and clinical competence.

**Prerequisite:** MEDIMAGE 716

**Restriction:** CLINIMAG 704, 7140

## CLINIMAG 720

### Ultrasound Specialised Clinical Applications

Addresses normal and abnormal ultrasound imaging appearances, scanning techniques and applications associated with specialised ultrasound imaging. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical reasoning, decision-making and clinical competence

**Prerequisite:** MEDIMAGE 716

**Restriction:** CLINIMAG 704, 714

## CLINIMAG 721

### Mammographic Practice

An in-depth understanding of mammographic imaging of breast anatomy and pathology, and the principles of mammographic technology and image quality. Addresses the knowledge, skills and attributes needed to demonstrate competence in clinical mammographic practice.

## CLINIMAG 722

### Extended Mammographic Practice

An in-depth understanding of mammography assessment, interventional techniques and quality assurance. Addresses the knowledge, skills and attributes needed to demonstrate competence in academic and extended clinical mammographic practice.

## CLINIMAG 723

### PET-CT Imaging

Addresses the fundamentals of PET-CT and hybrid imaging including equipment, normal and altered radiopharmaceutical biodistribution appearances and a range of clinical applications. An emphasis will be placed on integrating theory and clinical practice elements to facilitate sound clinical reasoning and decision-making.

**Prerequisite:** MEDIMAGE 720

## CLINIMAG 724

### Cardiac Ultrasound Clinical Practice

Refines and expands specialised skills, knowledge, and attitudes required to demonstrate proficiency in the competency domains set out by the New Zealand Medical Radiation Technologists Board, within the scope of practice of Cardiac Ultrasound.

**Prerequisite:** Department approval





# Course schedule 2024

Course Code	Course Name	S1	S2
MEDIMAGE 701	Imaging Anatomy and Pathology	■	■
MEDIMAGE 702	Professional Issues in Medical Imaging	■	■
MEDIMAGE 708	Nuclear Medicine Technology	Not offered in 2024	
MEDIMAGE 711	Musculoskeletal Trauma Image Evaluation		■
MEDIMAGE 714	Fundamentals of Clinical MRI	■	■
MEDIMAGE 715	MRI Technology	■	■
MEDIMAGE 716	Fundamentals of Clinical Ultrasound	■	■
MEDIMAGE 717	Ultrasound Imaging Technology	■	■
MEDIMAGE 720	Fundamentals of Clinical Nuclear Medicine	Not offered in 2024	
MEDIMAGE 721	MRI Safety	■	■
MEDIMAGE 722	Introduction to Cardiac Ultrasound	■	
MEDIMAGE 723	Research Methods	■	
MEDIMAGE 724	Ultrasound Assessment of Heart Disease 1		■
MEDIMAGE 725	Cardiac Pathophysiology		■
MEDIMAGE 726	Ultrasound Assessment of Heart Disease 2	Not available until 2025	
MEDIMAGE 727	Introduction to Congenital Heart Disease	Not available until 2025	
MEDIMAGE 728	Advanced Concepts in Cardiac Imaging	Not available until 2025	
CLINIMAG 706	Nuclear Medicine Specialised Clinical Applications	■	
CLINIMAG 707	CT Clinical Practice	■	■
CLINIMAG 710	MRI Clinical Applications	■	
CLINIMAG 711	MRI Specialised Clinical Applications		■
CLINIMAG 712	MRI Clinical Practice	■	■
CLINIMAG 713	Ultrasound in Women's Health		■
CLINIMAG 715	Ultrasound Clinical Practice	■	■
CLINIMAG 716	Nuclear Medicine Clinical Practice	■	■
CLINIMAG 719	Ultrasound Abdominal Clinical Applications		■
CLINIMAG 720	Ultrasound Specialised Clinical Applications	■	
CLINIMAG 721	Mammographic Practice	■	
CLINIMAG 722	Extended Mammographic Practice		■
CLINIMAG 723	PET-CT Imaging		■
CLINIMAG 724	Cardiac Ultrasound Clinical Practice	Not available until 2025	

*This course schedule lists all postgraduate courses that will be offered in 2024.*

*Please note: If you are not already enrolled in a postgraduate programme, you will need to apply online for admission.*

*To apply for admission to these programmes, please visit the University website at the following link:*  
[auckland.ac.nz/fmhs/postgraduate-admission-enrolment](http://auckland.ac.nz/fmhs/postgraduate-admission-enrolment)





# Postgraduate Certificate in Health Sciences

Postgraduate certificates can be used to give students a postgraduate qualification in an area of interest or in which they have some professional involvement. The PGCertHSc (Medical Imaging) and PGCertHSc (Mammography) programmes offer courses suitable for registered medical imaging technologists who wish to advance their career and/or own professional development. Within the Medical Imaging specialisation, students can choose their own combination of courses to suit their professional needs or follow prescribed pathways while seeking a clinical training position in MRI, ultrasound or nuclear medicine.

Often students begin with this qualification if they have been out of study for some time or they just want to see what postgraduate study is like. It is also the recommended initial qualification for non-university and overseas graduates.

Any course offered by the faculty can also be taken as a certificate of proficiency (COP). Students sometimes enrol in a course as a COP if they wish to take only one or two courses and know that they definitely will not be returning to the University to take up any further study in that particular area. COP courses cannot be reassigned into research master's degrees, and there are point limits and time limits for reassigning COPs into other postgraduate programmes. If you are considering enrolling in a course as a COP then you are advised to seek advice from either the department that offers the course or the Student Hubs (see pg. 24).

## Eligibility

Students applying for the Medical Imaging specialisation need to have:

- Completed a qualification in medical imaging.

And

- Must hold current registration with the New Zealand Medical Radiation Technologists Board (MRTB) in the medical imaging technologist scope of practice, or provide evidence of registration (or other evidence of the right to work) as a medical imaging technologist in their country of domicile.

Students applying for the Mammography specialisation need to have:

- Completed a qualification in medical imaging or radiation therapy.

And

- Must hold current registration with the New Zealand Medical Radiation Technologists Board in the medical imaging technologist or Radiation Therapist scope of practice, or provide evidence of registration (or other evidence of the right to work) as a medical imaging technologist or radiation therapist in their country of domicile.

And

- Must confirm that they have secured employment in a clinical training position approved by the Programme Director (or delegate).

## Duration and points value

Postgraduate certificates consist of 60 points of taught courses (usually four courses). Students in full-time work or with family responsibilities are advised to consider completing the programme over two years.

<b>Points required:</b>	60
<b>Time to complete:</b>	Within one semester if enrolled full-time, within two years in enrolled part-time
<b>Start semester:</b>	One or Two

This programme has a total enrolment clause of 90 points. This is the maximum number of points you can enrol in (including failed or withdrawn courses) towards this programme.

### End of study extension

If further time is required to complete the programme of study, an end of study extension may be requested under specific circumstances.

Please seek advice from:

**fmhs@auckland.ac.nz** regarding the application process for withdrawals, late deletions and suspensions of study.

## Regulations

Detailed information on admission criteria, programme structure and content, and the schedule of courses can be found in the calendar regulations for the Postgraduate Certificate in Health Sciences.

[auckland.ac.nz/pgcerthsc-regulations](http://auckland.ac.nz/pgcerthsc-regulations)

Students who successfully complete a postgraduate certificate may go on to complete a postgraduate diploma by completing a further 60 points (usually four courses).

### Transfer Credits and Reassignments

Transfer credits (credit from another tertiary institution) may not be awarded for a postgraduate certificate.

With the approval of the Head of Department, courses may be reassigned to a postgraduate certificate. Up to two COPs may be reassigned provided that the enrolment in the postgraduate qualification is no later than three semesters from the initial enrolment in the course(s) reassigned from a COP. This must be applied for at the time of admission to the postgraduate certificate programme.

Please note that all regulations should be read in conjunction with the General Regulations – Postgraduate Certificates.

# Postgraduate Diploma in Health Sciences

Postgraduate diplomas can be used to give students a postgraduate qualification in an area of interest or in which they have some professional involvement. The PGDipHSc (MRI), PGDipHSc (Ultrasound), PGDipHSc (Nuclear Medicine) and PGDipHSc (Medical Imaging) programmes offer courses suitable for registered medical imaging technologists who wish to advance their career and/or own professional development. Within the Medical Imaging specialisation, students can choose their own combination of courses to suit their professional needs.

The PGDipHSc (MRI), PGDipHSc (Ultrasound) and PGDipHSc (Nuclear Medicine) programmes provide a route to registration for magnetic resonance imaging technologists, sonographers and nuclear medicine technologists. These programmes have been accredited by the New Zealand Medical Radiation Technologists Board (MRTB).

## Eligibility

Students applying for the Medical Imaging specialisation need to have:

- Completed an undergraduate degree in medical imaging.

And

- Must hold current registration with the New Zealand Medical Radiation Technologists Board (MRTB) in the medical imaging technologist scope of practice, or provide evidence of registration (or other evidence of the right to work) as a medical imaging technologist in their country of domicile.

Students applying for the Magnetic Resonance Imaging, Nuclear Medicine, or Ultrasound specialisation need to have:

- Completed a qualification in medical imaging, or an undergraduate degree in a biomedical science related field or allied health profession as approved by the Programme Director (or delegate).

And

- Must confirm that they have secured employment in a clinical training position approved by the Programme Director (or delegate).

## Duration and points value

<b>Points required:</b>	120
<b>Time to complete:</b>	Within one year if enrolled full-time, within four years if enrolled part-time
<b>Start semester:</b>	One or Two

This programme has a total enrolment clause of 160 points. This is the maximum number of points you can enrol in (including failed or withdrawn courses) towards this programme.

The Postgraduate Diploma may be awarded with Distinction or Merit where a student's overall grade is sufficiently high.

### End of study extension

If further time is required to complete the programme of study, an end of study extension may be requested under specific circumstances.

Please seek advice from:

**fmhs@auckland.ac.nz** regarding the application process for withdrawals, late deletions and suspensions of study.

## Regulations

Detailed information on admission criteria, programme structure and content, and the schedule of courses can be found in the calendar regulations for the Postgraduate Diploma in Health Sciences.

### **auckland.ac.nz/fmhs/pgdiphsc-regulations**

Students who successfully complete the University of Auckland Postgraduate Certificate in Health Sciences (or its equivalent) may go on to complete the Postgraduate Diploma in Health Sciences by completing a further 60 points (usually four courses). Students must apply to credit their certificate courses to this diploma – please request this when applying online.

## Transfer credits, cross-credits and reassignments

### Transfer credits

Transfer credits (credit from another tertiary institution) may be awarded for a maximum of 30 points provided that the enrolment in the postgraduate qualification at the University of Auckland is no later than three semesters from the initial enrolment in the course(s) for which credit is to be given. This must be applied for at the time of admission to the postgraduate diploma programme. Transfer credit will not be given for courses from completed qualifications.

### Credit from a postgraduate certificate

For students who have completed a postgraduate certificate for which credit is to be granted to the Postgraduate Diploma in Health Sciences, admission to the Postgraduate Diploma must take place within five years of their completion of a postgraduate certificate.

In addition, the requirements for the Postgraduate Diploma must be completed within:

One semester of admission	If enrolled full-time
Two years of admission	If enrolled part-time

### Reassignments

With the approval of the Head of Department, courses may be reassigned to the Postgraduate Diploma. Up to two courses may be reassigned provided that the enrolment in the postgraduate qualification is no later than three semesters from the initial enrolment in the course(s) reassigned from a COP. This must be applied for at the time of admission to the Postgraduate Diploma programme. Please note that all regulations should be read in conjunction with the General Regulations – Postgraduate Diplomas.

# Master of Health Sciences (MHSc)

The regulations for this degree are to be read in conjunction with all other relevant statutes and regulations including the Academic Statutes and Regulations.

## Admission

In order to be admitted to this programme, a student needs to have completed the requirements for the Postgraduate Diploma in Health Sciences or its equivalent with an average grade of B or higher and not exceed 160 points for the total enrolment for this degree.

A 120 point thesis or research portfolio may be started on 1 March, 15 July or 1 December and must be completed within two years if enrolled part time.

### Research Masters

- 120 points: HLTHSCI 796 Thesis

OR

- 120 points: HLTHSCI 797 Research Portfolio

OR

- 90 points: HLTHSCI 793 Research Portfolio

And

- 30 points from courses listed in the Master of Health Sciences Schedule

### Taught Masters

- 60 points: HLTHSCI 790 Dissertation
- 60 points from the courses listed in the Master of Health Sciences Schedule

## Contact

### Medical Imaging Masters and PhD Advisor

Dr Beau Pontré

Email: b.pontre@auckland.ac.nz

## Thesis, dissertation or research portfolio?

This is usually decided in consultation with an academic supervisor/adviser as part of the discussion on a suitable topic and research question.

The aim of the research, whether a thesis, dissertation or research portfolio, is to give you the opportunity to research a health issue. The following skills will be learned in the context of your specific project:

- Identifying and accessing the resources necessary to undertake the research
- Reviewing and analysing relevant literature
- Choosing a research methodology appropriate to the problem and scope of the study (depending on whether the project is a dissertation, thesis or portfolio) and rigorously applying that methodology whether it be qualitative, quantitative or conceptual
- Reporting the project by covering purpose, backgrounds, method, findings, conclusions, and recommendations
- Interpreting the findings and identifying the wider implications of the project especially for healthcare in New Zealand
- Identifying and addressing ethical issues

## Scope of a thesis

A thesis generally constitutes 120 points and is a formal body of academic research which should display the following:

- It should constitute an investigation designed to analyse a proposition, problem area, or concept.
- It should display a critical approach to the topic.
- Relevant research literature will be reviewed and will make clear the parameters used, including literature and the search strategy.
- The planning and execution of the research or analysis should be competent.
- The findings of the research or the outcomes of the analysis should be clearly described, supported by appropriate arguments and suitably documented.
- The implications for future research should be discussed.

- The thesis should meet standards of technical accuracy in writing and presentation, readability, debate and analytical thinking.
- Its length may vary, but is expected to be about 40,000 - 50,000 words, including tables, figures and references; appendices can be additional. Length will vary with the nature of the topic, the methodology used and the credit point value.

## Scope of a dissertation

A dissertation, at 60 points, may also be a formal academic research work, though with lesser workload and expectation than a thesis. It may also be a critical review or a comprehensive proposal for a research that may involve a pilot study, or analysis of data that has already been collected. On completion of a dissertation students should have demonstrated they understand, can interpret and critique research.

The topic of a dissertation is preferably uncomplicated by requirements such as ethics approval or sample recruitment.

The expectations of a dissertation are:

- The dissertation should comprise a coherent and competently organised document.
- The rationale for the study should be clear, with a soundly constructed research question and objectives identified clearly.
- Relevant research literature will be reviewed, and will make clear the parameters used for including literature and the search strategy.
- Implications of the study and recommendations for theory and/or practice and for future research will be specified.
- The final document will meet standards of technical accuracy in writing and presentation, readability, debate and analytical thinking.
- Its length may vary but is expected to be about 20,000 words in length, including tables, figures and references; appendices are additional.





*“My Master’s research is investigating the impact training has on medical imaging technologists’ (MITs) ability to detect and describe acute abnormalities on extremity X-ray examinations in emergency departments, using a system known as preliminary image evaluation (PIE).”*

*“I decided to study this topic because extending MITs’ practice in New Zealand (NZ) into image evaluation has not been pursued for almost 10 years, and I saw this topic as a good step toward restarting the discussion. This research is important because while there is a significant amount of international research, particularly in UK and Australia, which demonstrates radiographers have a high performance when participating in PIE, there is currently no research in NZ. It is important that any advancement to our profession is supported by research that is done in a NZ context.”*

*“I chose to complete my Master’s degree at the University of Auckland because the Medical Imaging team understood my aims and goals, and my supervisors are the most supportive supervisors a student could ask for. I anticipate that my research will be useful to open the door to extended and advanced practice for MITs in NZ. I hope to continue this research in the future and demonstrate that NZ MITs are capable of moving into extended and advanced practice.”*

## **Kim Lewis**

Master of Health Sciences student Kim Lewis works as Clinical Tutor at Te Whatu Ora, Taranaki.

# Doctoral study in Medical Imaging

## Why study with us?

Our Department of Anatomy and Medical Imaging delivers the only postgraduate programmes in New Zealand for the medical imaging profession. The department is widely recognised for several outstanding features, including:

- Academic support for the state-of-the-art Biomedical Imaging Research Unit and Centre for Advanced MRI
- An internationally recognised human brain bank for neuroscience research
- A fully integrated facility that underpins anatomy, radiology and pathology teaching on the human body
- AMRF Medical Sciences Learning Centre – Whakaaro Pai
- A broad range of high-quality histology techniques in the Histology Laboratory
- Cutting edge anatomical research in the Auckland Clinical Anatomy Research Team

## Research opportunities

You could become involved in some of the important and life-changing research in our faculty.

Medical Imaging Research being undertaken in the Department of Anatomy and Medical Imaging covers a variety of aspects of medical imaging. These include imaging physics and technology, medical imaging practice, medical imaging education and more. The Department has experts in working across a variety of medical imaging modalities.

## Contact

### Medical Imaging Masters and PhD Advisor

**Dr Beau Pontré**

**Email:** [b.pontre@auckland.ac.nz](mailto:b.pontre@auckland.ac.nz)

***“I chose The University of Auckland for studying my PhD in Medical Imaging since this University has an excellent reputation for research in the field of medical imaging, with renowned faculty members and state-of-the-art facilities.”***





***“I studied a Bachelor of Radiology and Master of Medical Physics in Iran before working as an MRI technologist for around ten years in Iran.***

*“My PhD thesis topic is ‘Developing A Deep Learning-Based Radiomics Model Based On PET/CT Fused Images and Clinicopathological Factors to Predict Post-Surgical Recurrence Risk in Patients with Non-Small Cell Lung Cancer.*

*“I decided to study this topic because of AI’s potential to revolutionise patient care and outcomes in oncology. Traditional methods of assessing recurrence risk rely heavily on subjective criteria and have limitations in accuracy. By leveraging AI techniques, we can analyse vast amounts of patient data, including imaging scans, clinical parameters, and genetic markers, to develop predictive models with higher precision. Therefore, I am motivated by the prospect of contributing to advancements in cancer care and making a positive impact on patient outcomes through the application of artificial intelligence in healthcare.*

*“This research has the potential to improve post-surgical management decisions, such as determining the frequency of follow-up visits, initiating adjuvant therapy, and identifying patients who may benefit from personalised treatment strategies.*

*“I chose The University of Auckland for studying my PhD in Medical Imaging since this University has an excellent reputation for research in the field of medical imaging, with renowned faculty members and state-of-the-art facilities. Secondly, it provides opportunities for interdisciplinary collaboration and professional development.”*

## **Ghazal Mehrikavand**

PhD(Medical Imaging) student Ghazal Mehrikavand is an MRI technologist from Iran. Her research is focused on developing a deep learning-based radiomics model to improve prognostic accuracy for patients with lung cancer.



# New Students

## Admission

For information regarding application for admission in 2024 or 2025, students should visit the University of Auckland website: [auckland.ac.nz/applynow](http://auckland.ac.nz/applynow)

All students will need to upload the official documents listed below with their application.

- Verification of legal name, date of birth and citizenship status (e.g., passport, birth certificate, or certificate of citizenship). If names have been changed, for example through marriage, such documentation must be provided.
- Verification of admission qualifications (your highest qualification, e.g., hospital training certificate, polytechnic diploma, polytechnic degree, or university degree.
- If you hold a polytechnic diploma or university or polytechnic degree you must send in an official academic transcript.
- For Mammography, MRI, Nuclear Medicine and Ultrasound students, a completed clinical training position agreement form is required.

### Admission with an undergraduate degree

Students with an undergraduate degree may apply for either the Postgraduate Certificate in Health Sciences or Postgraduate Diploma in Health Sciences.

Students must have an undergraduate qualification in medical imaging to be admitted to the Medical Imaging and Mammography specialisations, although students with an undergraduate qualification in radiation therapy will also be considered for the Mammography specialisation.

A range of backgrounds including allied health professionals will be considered for admission to the Ultrasound, MRI and Nuclear Medicine specialisations. For more information contact: [medicalimaging@auckland.ac.nz](mailto:medicalimaging@auckland.ac.nz)

### Admission without an undergraduate degree

The University of Auckland may allow medical imaging technicians to enrol in a postgraduate programme without an undergraduate degree if they have a health professional qualification and at least two years of clinical practice.

### Admission with a postgraduate diploma

Students with a postgraduate diploma who have achieved a grade point average of B or higher may apply for the Master of Health Science.

## What's the difference between admission and enrolment?

They are two separate processes. First you must be admitted to the University (through the admission process) and then you can enrol in the individual courses you want to take.

New students should submit the online application for admission first:

[auckland.ac.nz/applynow](http://auckland.ac.nz/applynow)

Once you have met the entry requirements for the programme you have applied for, go online and accept the University's offer of a place. Within about 30 minutes you should be able to enrol yourself in courses online.

## When should I enrol?

Students can enrol from **1 November** for the following academic year. New students can enrol once they have gained admission and accepted their offer of a place.

It is best to enrol early. You can change your mind after you have enrolled, but be aware of the deadlines for you to make changes to your enrolment.

The deadline for adding and dropping courses is the second Friday of the semester.

If you miss the deadlines, changes to your enrolment become **'late enrolments'** and **'withdrawals'**. Certain fees or regulations may apply.

## Enrolment

Once you have gained admission to the programme of your choice, you should enrol for your courses online for future semesters:

Help and guidance on the enrolment process can be found on:

[auckland.ac.nz/enrolment](http://auckland.ac.nz/enrolment)

### Applying for an enrolment concession

For some courses you may be asked to apply for an enrolment concession. Please follow these step-by-step instructions:

1. Sign into Student Services Online.
2. Click on the 'Enrol' icon.
3. Click on the 'Enrolment Cart' button.
4. Add required courses to your enrolment cart.
5. Click the 'Validate choice(s)' button to check for enrolment errors.

6. Review enrolment error messages. You may be able to apply for an enrolment concession for courses showing an enrolment error. Click 'Return to Enrolment Cart'.
7. Re-select your class(es).
8. Read the Terms and Conditions and then select 'I Accept'.
9. Click on the green 'Confirm Enrolment' button to complete your enrolment request.
10. The Concessions button will be activated if you are able to submit an enrolment concession request for the listed course(s).
11. Click the green 'Concessions' button to apply for an enrolment concession. The 'Apply for a concession' page will appear, showing the course(s) that can be submitted.
12. Click on the 'select' button to change from 'no' to 'yes' to select a course and apply for an enrolment concession.
13. Select the concession reason that matches your circumstances from the drop-down list.
14. Enter any additional comments to support your application in the space provided (not required).
15. Click the green 'Submit' button. Your concession request has been submitted to the faculty for review.

### View progress or withdraw an enrolment concession request

1. Sign into Student Services Online (SSO)
2. From the home page quick link menu, click 'Concession Requests'. Select the term (semester) of the course your request applies to.

### What happens next?

The faculty will review your request, make a decision and let you know the outcome by email. The final status of your request will also show in Student Services Online.

# Apply and enrol online

## Returning students

Returning students wishing to progress to another qualification should apply online - for example, students who have completed a postgraduate certificate who wish to progress to a postgraduate diploma.

## Change of address

It is important that students notify the University of any change of address as soon as possible. Please update your personal details through Student Services Online (Update My Details): [auckland.ac.nz/uaa/student-services](http://auckland.ac.nz/uaa/student-services)

Applying to study at the University of Auckland is a four-step process:

1. Apply for admission to the University
2. Send required documentation to the University of Auckland
3. Accept an Offer of Place
4. Enrol in the course

## Fees

Information about fees is listed in the University of Auckland Calendar and is available at: [auckland.ac.nz/uaa/fp-tuition-fees](http://auckland.ac.nz/uaa/fp-tuition-fees)

Under government-to-government reciprocal agreements, students from Australia who reside in New Zealand and enrol in a graduate programme will pay the same fees as New Zealand students. For other international students the fees vary between faculties.

Contact the University of Auckland International Office for further details.

## Scholarships

We offer future and current postgraduate students a range of scholarships. To find out more about what you may be eligible for, visit:

[auckland.ac.nz/pg-scholarships](http://auckland.ac.nz/pg-scholarships)

1

## Apply for a place in a programme(s)

Go to [auckland.ac.nz](http://auckland.ac.nz)

Click on the '**Start your Application for Admission**' at the top of the page  
Complete the online application for a place in your programme of choice before the closing date.

For assistance, please phone the student helpdesk on: 0800 61 62 65

You will receive an acknowledgement of your application asking you to provide specific verified documentation before your application can be assessed. It will also tell you how to access the University's Student Services Online system to complete the next steps.

2

## Offer

Your application will be assessed and, if successful, you will receive an 'Offer of a place in a programme'.

3

## Accept

Accept your offer of a place in a programme online.

4

## Enrol in your choice of courses

Enrol in your chosen courses via the online Student Services Online system:

5

## Congratulations! You are now a student at the University of Auckland



### Medical Imaging contacts

*For academic or general medical imaging programme enquiries contact:*

**Adrienne Young**

Medical Imaging Postgraduate Academic Coordinator

Email: [medicalimaging@auckland.ac.nz](mailto:medicalimaging@auckland.ac.nz)

*For medical imaging clinical programme enquiries contact:*

**Shelley Park**

Medical Imaging Postgraduate Clinical Coordinator

Email: [MIclinical@auckland.ac.nz](mailto:MIclinical@auckland.ac.nz)

For personal assistance, please visit us at your local Student Hub, where students and whānau are welcome to talk with our expert advisers:

#### **Student Hub Grafton Campus:**

Philson Library, Building 503  
Level 1, 85 Park Rd, Grafton  
(Entry via the Atrium)

[auckland.ac.nz/askus](http://auckland.ac.nz/askus)

#### **Phone us:**

Auckland: (09) 923 5025

Outside Auckland: 0800 61 62 63

International: +64 9 373 7513