Bachelor of Applied Science (Medical Radiations) – medical imaging stream

Medical radiations is a rapidly advancing healthcare discipline that involves the application of ionising and non-ionising radiation for the diagnosis and treatment of injury and disease.

This is the only undergraduate professionally accredited program in Victoria that can be completed in three years. You will enrol directly into medical imaging.

Through medical images, radiographers assist in the diagnosis and management of patients. Images of disease and injury are obtained using x-rays, computed tomography (CT) and digital subtraction angiography (DSA). Magnetic resonance imaging (MRI) and ultrasound (U/S) may also be used. Radiographers combine knowledge of physical and biomedical sciences with technical expertise and patient care.

Industry connections
Each specialised stream of the program offers professional placement. You’ll spend 22 weeks of the three-year program in supervised clinical practice, making you work-ready upon graduation.

Clinical practice takes place in each year of the program. You will gain experience in a range of clinical settings including large public teaching hospitals, small private practices and metropolitan and rural centres.

Career outlook
Graduates are employed in either the public or private healthcare sector as nuclear medicine technologists, radiation therapists or diagnostic radiographers.

To practise in Victoria, you must fulfil the criteria for registration by the Medical Radiation Practitioners Board of Australia.

Graduates can undertake further study in the specialist fields of MRI, CT, U/S, position emission topography (PET) and specialist areas in medical imaging.

Professional recognition
The Australian Health Practitioner Regulation Agency (AHPRA) governs the national registration for medical radiations practitioners.

All students will be registered as students with AHPRA during the program. Upon successful completion of this program, you will be eligible to apply for provisional registration through the Medical Radiation Practice Board of Australia (MRPBA).

You will also be eligible to apply for the Supervised Practice Program that is overseen by the MRPBA.

Completion of the Supervised Practice Program is required before you can apply for full registration through the MRPBA.

www.rmit.edu.au/programs/bp148
## Program structure

### Year 1
You’ll study a general introduction to the practice and physical principles of clinical nuclear medicine, radiation therapy and medical imaging. Common courses include anatomy, physiology and the technology and physics of medical radiations. Introduction to research and to the professional streams of medical radiations practice are also taught.

The second semester courses focus on your area of specialisation and you undertake your first clinical placement.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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</thead>
<tbody>
<tr>
<td>Introduction to Medical Radiations</td>
<td>Medical Radiations Technology 1</td>
<td>Human Structure and Function 1</td>
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<tr>
<td>Introduction to Medical Imaging</td>
<td>Research in Medical Radiations</td>
<td>Medical Radiations Technology 2</td>
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<td>Human Structure and Function 2</td>
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<tr>
<td></td>
<td>Medical Imaging Practice 1</td>
<td>Medical Imaging Practice 2</td>
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<tr>
<td>Medical Imaging Methods 1</td>
<td>Medical Imaging Technology 1</td>
<td>Introduction to Pathology</td>
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<td>Medical Imaging Methods 2</td>
<td>Medical Imaging Technology 2</td>
<td>Imaging Anatomy and Pathology</td>
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<tr>
<td>Year 3</td>
<td>Medical Imaging 3</td>
<td>Medical Imaging Technology 3</td>
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<tr>
<td>Medical Imaging 4</td>
<td>Medical Imaging Technologies Interdisciplinary Applications</td>
<td>Magnetic Resonance Imaging</td>
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<td>Health Psychology</td>
</tr>
</tbody>
</table>

- **Compulsory courses**
- **University elective**

### Entrance requirements
Successful completion of an Australian Year 12 senior secondary certificate of education or equivalent.

**Prerequisites**
Current Year 12 prerequisites units 1 and 2 or units 3 and 4 – Biology or Chemistry; and units 3 and 4 – one of Mathematical Methods (CAS) or Specialist Mathematics; and a study score of at least 25 in any English (except EAL) or at least 30 in English (EAL).

**Selection tasks**
All applicants must complete and submit a supplementary information form.

**Additional information**
Working With Children Check: Students must hold a valid Working With Children Check prior to undertaking the clinical components of this program.

Police Check: Students must present evidence of a successful National Police Records Check prior to undertaking the clinical components of this program.

This information is designed for Australian and New Zealand citizens and permanent residents of Australia.

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Bachelor of Applied Science (Medical Radiations) – nuclear medicine stream

Medical radiations is a rapidly advancing healthcare discipline that involves the application of ionising and non-ionising radiation for the diagnosis and treatment of injury and disease.

This is the only undergraduate professionally accredited program in Victoria that can be completed in three years. You will enrol directly into nuclear medicine.

Nuclear medicine uses very small amounts of radioactive materials (radiopharmaceuticals) to diagnose and treat disease. Radiopharmaceuticals are detected by special cameras (gamma camera technology and positron emission tomography) that work with computers to provide images. In treatment, the radiopharmaceuticals go directly to the organ being treated.

Common nuclear medicine applications include cardiac stress tests to analyse heart function, bone scans for orthopaedic injuries and lung scans for blood clots.

Industry connections
Each specialised stream of the program offers professional placement. You’ll spend 22 weeks of the three year program in supervised clinical practice, making you work-ready upon graduation.

Clinical practice takes place in each year of the program. You will gain experience in a range of clinical settings including large public teaching hospitals, small private practices and metropolitan and rural centres.

Career outlook
Graduates are employed in either the public or private healthcare sector as nuclear medicine technologists, radiation therapists or diagnostic radiographers.

To practise in Victoria, you must fulfil the criteria for registration by the Medical Radiation Practitioners Board of Australia.

Graduates can undertake further study in the specialist fields of magnetic resonance imaging (MRI), computed tomography (CT), ultrasound (U/S), positron emission tomography (PET) and specialist areas in nuclear medicine.

Professional recognition
The Australian Health Practitioner Regulation Agency (AHPRA) governs the national registration for medical radiations practitioners.

All students will be registered as students with AHPRA during the program. Upon successful completion of this program, you will be eligible to apply for provisional registration through the Medical Radiation Practice Board of Australia (MRPBA).

You will also be eligible to apply for the Supervised Practice Program that is overseen by the MRPBA.

Completion of the Supervised Practice Program is required before you can apply for full registration through the MRPBA.
**Program structure**

**Year 1**
You'll study a general introduction to the practice and physical principles of clinical nuclear medicine, radiation therapy and medical imaging. Common courses include anatomy, physiology and the technology and physics of medical radiations. Introduction to research and to the professional streams of medical radiations practice are also taught.

The second semester courses focus on your area of specialisation and you undertake your first clinical placement.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Introduction to Medical Radiations</th>
<th>Medical Radiations Technology 1</th>
<th>Human Structure and Function 1</th>
<th>University elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Nuclear Medicine</td>
<td>Research in Medical Radiations</td>
<td>Medical Radiations Technology 2</td>
<td>Human Structure and Function 2</td>
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</tbody>
</table>

**Year 2**
You'll specialise in your chosen discipline. Common learning modules are also studied and these include imaging anatomy, pathology, hospital law and ethics, as well as psychology and advanced medical physics and instrumentation.

The second semester courses focus on your area of specialisation and you undertake your first clinical placement.

<table>
<thead>
<tr>
<th>Year 2</th>
<th>Nuclear Medicine Methods 1</th>
<th>Nuclear Medicine Practice 1</th>
<th>Nuclear Medicine Technology 1</th>
<th>Introduction to Pathology</th>
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<tbody>
<tr>
<td>Nuclear Medicine Methods 2</td>
<td>Nuclear Medicine Practice 2</td>
<td>Nuclear Terminology Technology 2</td>
<td>Imaging Anatomy and Pathology</td>
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</table>

**Year 3**
The third year is designed to explore the complementary nature of the medical radiations disciplines. You will examine techniques and case studies that highlight the multidisciplinary approach to diagnosis and treatment. It is also where you’ll learn the specialised areas of CT, MRI and U/S.

You also undertake more interdisciplinary learning to further enhance your understanding of the other professions.

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Nuclear Medicine 3</th>
<th>Nuclear Medicine Technology 3</th>
<th>Computed Tomography</th>
<th>Sonography</th>
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<tbody>
<tr>
<td>Nuclear Medicine 4</td>
<td>Medical Radiations Interdisciplinary Applications</td>
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**Entrance requirements**
Successful completion of an Australian Year 12 senior secondary certificate of education or equivalent.

**Prerequisites**
Current Year 12 prerequisites units 1 and 2 or units 3 and 4 – Biology or Chemistry, and units 3 and 4 – and a study score of at least 20 in one one of Mathematical Methods (CAS) or Specialist Mathematics; and a study score of at least 25 in any English (except EAL) or at least 30 in English (EAL).

**Selection tasks**
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**Additional information**
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Bachelor of Applied Science (Medical Radiations) – radiation therapy stream

Medical radiations is a rapidly advancing healthcare discipline that involves the application of ionising and non-ionising radiation for the diagnosis and treatment of injury and disease.

This is the only undergraduate professionally accredited program in Victoria that can be completed in three years. You will enrol directly into radiation therapy.

Radiation therapy is one of the main treatment options for patients diagnosed with cancer and contributes to the high cancer cure rates in Australia.

Radiation therapists are primarily concerned with the design and implementation of radiation treatment and issues of care and wellbeing for those diagnosed with cancer and other pathological conditions.

Treatment uses a variety of irradiation equipment. Radiation therapists combine knowledge of the physical and biomedical sciences in order to design and verify appropriate treatment plans, as well as conducting research.

Industry connections
Each specialised stream of the program offers professional placement. You’ll spend 22 weeks of the three year program in supervised clinical practice, making you work-ready upon graduation.

Clinical practice takes place in each year of the degree. You will gain experience in a range of clinical settings including large public teaching hospitals, small private practices, and metropolitan and rural centres.

Career outlook
Graduates are employed in either the public or private healthcare sector as nuclear medicine technologists, radiation therapists or diagnostic radiographers.

To practise in Victoria, you must fulfil the criteria for registration by the Medical Radiation Practitioners Board of Australia.

Graduates can undertake further study in the specialist fields of magnetic resonance imaging (MRI), computed tomography (CT), ultrasound (U/S), position emission topography (PET) and specialist areas in nuclear medicine.

Professional recognition
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All students will be registered as students with AHPRA during the program. Upon successful completion of this program, you will be eligible to apply for provisional registration through the Medical Radiation Practice Board of Australia (MRPBA).

You will also be eligible to apply for the Supervised Practice Program that is overseen by the MRPBA.

Completion of the Supervised Practice Program is required before you can apply for full registration through the MRPBA.
Program structure

Year 1
You’ll study a general introduction to the practice and physical principles of clinical nuclear medicine, radiation therapy and medical imaging. Common courses include anatomy, physiology and the technology and physics of medical radiations. Introduction to research and to the professional streams of medical radiations practice are also taught.

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Compulsory courses
University elective

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