Introduction
The Image Evaluation pathway of the Postgraduate Certificate in Health Sciences (Medical Imaging) provides an opportunity for Medical Imaging Technologists/radiographers to extend their professional knowledge of radiographic image evaluation enabling them to adapt to, and contribute confidently within, a rapidly changing health care environment.

Programme Overview
The specialisations in the Postgraduate Certificate in Health Sciences consist of 60 points of taught coursework (four 15-point courses) and can be completed in up to two years of part-time study. Students will be expected to spend approximately 150 hours of study for each 15-point course. All courses will be delivered fully online.

Each student is required to complete four 15-point courses all of which are compulsory; 30 points (two courses: MEDIMAGE 701 and MEDIMAGE 702) being common to all Medical Imaging specialisations and 30 points (two courses) selected from the Image Evaluation area of specialisation.

Schedule of courses: Postgraduate Certificate in Health Sciences in Medical Imaging (Image Evaluation pathway)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>MEDIMAGE 701</td>
<td>Imaging Anatomy and Pathology</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>MEDIMAGE 702</td>
<td>Professional Issues in Medical Imaging</td>
<td>✓</td>
<td>✓</td>
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<td>MEDIMAGE 711</td>
<td>MSK Trauma Image Evaluation*</td>
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<td>MEDIMAGE 712</td>
<td>MSK Pathology Image Evaluation*</td>
<td>✓</td>
<td>✓</td>
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<td>MEDIMAGE 718</td>
<td>Acute Chest Image Evaluation*</td>
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<td>MEDIMAGE 719</td>
<td>Paediatric Image Evaluation*</td>
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<td>✓</td>
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*These courses are offered once every two years on a rotating basis and are subject to sufficient number of student enrolments

Course Outlines

MEDIMAGE 701: Imaging Anatomy and Pathology 15 Points
Students will develop an integrated understanding of anatomy and pathology as it applies to Medical Imaging in the clinical context. The course introduces the principles of medical science at whole body, organ, tissue, cellular and sub cellular levels and includes the fundamentals of anatomy, physiology and pathophysiology of the major systems of the human body in relation to specific regions and pathologies.

Objectives of the course
This course aims to enhance the student’s clinical reasoning skills and to enable them to evaluate the use of a variety of imaging modalities in patient diagnosis and management. It will extend students’ overall professional competence through an academically applied level of understanding of clinical science. Anatomical knowledge of various systems and associated pathological processes will be developed, linked to their functional and clinical relevance.
**Learning outcomes**

1. Demonstrate a comprehensive understanding of normal anatomy and selected pathological processes by explaining the clinical course of a disease/injury using supporting images from a range of imaging modalities.
2. Evaluate the advantages and limitations of a range of imaging modalities when applied to the investigation of specific pathologies.
3. Critically examine strategies for the selection of appropriate imaging modalities as part of the diagnostic, management and/or treatment pathway.

**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 including role development and advanced practice. The course will provide students with the knowledge to interact with individuals from a variety of backgrounds both ethically and with respect for their beliefs and values. The course also addresses medico-legal issues, decision-making and effective communication within the clinical setting.

**Objectives of the course**

This course aims to provide students with the ability to respond to the wide variety of professional, ethical, medico-legal and clinical workplace issues generated in a rapidly changing environment. Students will develop an awareness of personal, professional and interpersonal expertise thereby enabling them to reflect on their own clinical practice related to these issues in the context of fitness to practise.

**Learning outcomes**

1. Critically evaluate the development and evolvement of Medical Imaging as a profession and its place within the healthcare system.
2. Examine how communication, interpersonal and inter-professional dynamics impact on your role as a Medical Imaging practitioner.
3. Reflect on the role of critical thinking and reflective practice in the context of your clinical practice.
4. Critically examine a broad range of ethical and medico-legal issues relevant to professional and cultural competence within Medical Imaging practice.
5. Analyse the processes of clinical decision making and professional judgement, including the concept of autonomous practice.
6. Compare and contrast Medical Imaging role development in New Zealand and the progression of advanced practice within Medical Imaging and other healthcare professions.
7. Define fitness to practise in Medical Imaging by critically reflecting on each of the above topics within your clinical practice.

**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.

**Objectives of the course**

This course aims to provide students with the knowledge to evaluate musculoskeletal images in the clinical setting. The student will develop the ability to apply this knowledge using a systematic approach of image interrogation. This course will also look critically at imaging
technique and its relationship to providing accurate image evaluation. The focus is on common findings in musculoskeletal trauma.

Learning outcomes
1. Critically discuss principles of musculoskeletal trauma image evaluation.
2. Critically analyse and integrate anatomy, physiology and pathology with radiological presentations to reach accurate diagnoses.
3. Evaluate the impact of radiographic technique on interpreting musculoskeletal trauma images.
4. Understand the role of various imaging modalities in patient diagnosis and management.
5. Critically evaluate musculoskeletal trauma radiographs and be capable of forming a radiological opinion.

MEDIMAGE 712: Musculoskeletal Pathology Image Evaluation

Provides students with the knowledge to evaluate radiographs of common musculoskeletal pathologies 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 pathology radiographs.

Objectives of the course
This course aims to provide students with the knowledge to evaluate musculoskeletal images in the clinical setting. The student will develop the ability to apply this knowledge using a systematic approach of image interrogation. This course will also look critically at imaging technique and its relationship to providing accurate image evaluation. The focus is on common findings in musculoskeletal pathology.

Learning outcomes
1. Critically discuss principles of musculoskeletal pathology image evaluation.
2. Critically analyse and integrate anatomy, physiology and pathology with radiological presentations to reach accurate diagnoses.
3. Evaluate the impact of radiographic technique on interpreting musculoskeletal pathology images.
4. Understand the role of various imaging modalities in patient diagnosis and management.
5. Critically evaluate musculoskeletal pathology radiographs and be capable of forming a radiological opinion.

MEDIMAGE 718: Acute Chest Image Evaluation

Provides students with the knowledge to evaluate acute chest radiographs 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 acute chest radiographs.

Objectives of the course
This course aims to provide students with the knowledge to evaluate acute chest radiographs in the clinical setting. The student will develop the ability to apply this knowledge using a systematic approach of image interrogation. This course will also look critically at imaging technique and its relationship to providing accurate image evaluation. The focus is on common findings in acute chest radiography.

Learning outcomes
1. Critically discuss principles of acute chest image evaluation.
2. Critically analyse and integrate anatomy, physiology and pathology with radiological presentations to reach accurate diagnoses.
3. Evaluate the impact of radiographic technique on interpreting acute chest images.
4. Understand the role of various imaging modalities in patient diagnosis and management.
5. Critically evaluate acute chest radiographs and be capable of forming a radiological opinion.

MEDIMAGE 719: Paediatric Image Evaluation

Provides students with the knowledge to evaluate radiographs of common paediatric trauma and pathologies 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 paediatric radiographs.

Objectives of the course

This course aims to provide students with the knowledge to evaluate paediatric radiographs in the clinical setting. The student will develop the ability to apply this knowledge using a systematic approach of image interrogation. This course will also look critically at imaging technique and its relationship to providing accurate image evaluation. The focus is on common findings on paediatric radiographs.

Learning outcomes

1. Critically discuss principles of paediatric image evaluation.
2. Critically analyse and integrate anatomy, physiology and pathology with radiological presentations to reach accurate diagnoses.
3. Evaluate the impact of radiographic technique on interpreting paediatric images.
4. Understand the role of various imaging modalities in patient diagnosis and management.
5. Critically evaluate paediatric radiographs and be capable of forming a radiological opinion.

Conclusion

Learning and teaching at the University of Auckland is informed by education theories and research-led. Students are encouraged to learn collaboratively, learning with and from their peers and the academic teaching team. The focus is not just on acquiring new knowledge. While the acquisition of new knowledge is seen as an essential part of postgraduate education, equally important is the development of critical thinking and reflective learning; essential attributes for modern healthcare practitioners.

Disclaimer: Although every reasonable effort is made to ensure accuracy, the information in this document is provided as a general guide only and is subject to alteration.