Master of Applied Science (Medical Ultrasound) (PH80)

Year offered: 2010
Admissions: Yes
CRICOS code: 043548G
Course duration (part-time): 6 semesters (3 years)
Domestic fees (indicative): 2010: CSP $3,150 (indicative) per semester; Full tuition fee $7,250 (indicative) per semester
Domestic Entry: February. Applications are to be made by 1 December in the preceding year.
Total credit points: 144
Domestic Entry: February. Applications are to be made by 1 December in the preceding year.
Standard credit points per full-time semester: 48
Standard credit points per part-time semester: 24
Course coordinator: Chandeep Bakshi
Discipline coordinator: Mr. Chandeep Bakshi
Campus: Gardens Point

Other Majors
See also the separate entry for the following major in this course: Master of Applied Science (Medical Physics).

Entry Requirements
Students will normally be qualified diagnostic radiographers or medical imaging technologists at degree or diploma level, or degree qualified nurses, and have at least two years of experience in a clinical practice. Students must give written proof of access to suitable clinical experience for the duration of the course.

Professional Recognition
This course is accredited with the Australasian Sonographer Accreditation Registry (ASAR).

Course Design
This degree consists of two stages. Stage 1 (Graduate Diploma - PH71) takes four semesters of part-time study to complete. Students must show that they have access to suitable clinical experience for the duration of Stage 1 before beginning the degree. Lectures are conducted in intensive four to five week blocks in each semester. Students undertake clinical experience throughout the semester.

Stage 2 (Master of Applied Science - PH80) involves completion of a research project and submission of a thesis. Students can undertake this project externally under QUT staff supervision on appointment of a suitable external supervisor. This stage takes two semesters part-time to complete after successful completion of Stage 1.

Overview
The Master of Applied Science (PH80) course offers studies in medical ultrasound. Students are given the scientific basis for understanding, using and evaluating relevant equipment and techniques. The course particularly suits radiographers, medical imaging technologists and nuclear medicine technologists who are interested in an in-depth study of this rapidly developing area.

Further Information
For further information about this course, please contact:
Chandeep Bakshi
Phone: +61 7 3138 2782
Email: enquiry.scitech@qut.edu.au

Course structure - First Semester Entry - Part-time Course

STAGE 1: Students must complete the units listed below, totalling 96 credit points:

Year 1, Semester 1
- PCN159 Ultrasonic Examination 1
- PCN162 Principles of Medical Ultrasound
- PCN197-1 Clinical Attachment 1

Year 1, Semester 2
- PCN197-2 Clinical Attachment 1
- PCN356 Ultrasonic Examination 2
- PCN357 Advanced Ultrasound Topics

Year 2, Semester 1
- PCN297-1 Clinical Attachment 2
- PCN355 Vascular Ultrasound
- PCN218 Research Methodology and Professional Studies

Year 2, Semester 2
- PCN297-2 Clinical Attachment 2
- PCN520 Project (Full-time)

NOTES
- The Clinical Ultrasound units PCN197 and PCN297 are 2 semester units.
- Each clinical attachment unit (ie PCN197 and PCN297) involves clinical experience in the order of 3 days per week or equivalent.

STAGE 2:

Project over One Semester or Summer Program:
PCN520 Project (Full-time)
Project over Two Semesters:

PCN540-1  Project (Part-time)
PCN540-2  Project (Part-time)

NOTE  A student may request an extension of time in which to submit the project report for assessment. A request for an extension of time up to a maximum of six months shall be made in writing through the Head of School to the Dean. Any request for a further extension, or any request for an extension to a date later than six months after the original due date, shall be made in writing to the Academic Board. The Academic Board may grant the extension under such conditions as it may consider appropriate, or may award the student a “Fail” result in the project unit. A student who has received a “Fail” result in the project unit may re-enrol in the unit only in exceptional circumstances and with the express permission of the Academic Board.

Potential Careers:
Sonographer.

UNIT SYNOPSISES

PCN197 CLINICAL ATTACHMENT 1
This is a supervised practical program carried out in an approved medical imaging department. Students are required to undertake specified clinical practice as applicable to their area of specialisation and meet minimum requirements of clinical hours and case scope and numbers. (12 credit points achieved at completion of PCN197-1 and PCN197-2.)
Corequisites: PCN159 and PCN162  Credit points: 6
Campus: Gardens Point  Teaching period: 2010 SEM-1

PCN197 CLINICAL ATTACHMENT 2
This is a supervised practical program carried out in an approved medical imaging department. Students are required to undertake specified clinical practice as applicable to their area of specialisation and meet minimum requirements of clinical hours and case scope and numbers. (12 credit points achieved at completion of PCN197-1 and PCN197-2.)
Corequisites: PCN159 and PCN162  Credit points: 6
Campus: Gardens Point  Teaching period: 2010 SEM-1

PCN218 RESEARCH METHODOLOGY AND PROFESSIONAL STUDIES
In the rapidly changing technological environment of medical physics and medical ultrasound it is essential that students develop basic research skills, data interpretation skills and written communication skills. Topics include the research process, data collection and analysis techniques, and writing and evaluating research reports. Students also require knowledge of the professional, basic management, legal and ethical issues involved in their particular speciality area. Topics include the role and purpose of professional bodies, professional communication, legal and ethical issues, and basic professional management techniques and issues.
Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

PCN159 ULTRASONIC EXAMINATION 1
The unit addresses the normal and abnormal anatomy and functions related to gynaecology and obstetrics, the ultrasonic techniques used and the appearance of related images. It includes a study of the technique used in the ultrasonic examination of the abdomen including the appearance on the ultrasound image of normal abdominal anatomy and its alteration by pathological processes.
Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

PCN162 PRINCIPLES OF MEDICAL ULTRASOUND
This unit is designed to provide students with a thorough understanding of the physical processes involved in producing an ultrasound image, the features of ultrasound equipment and the role and responsibilities of the sonographer in producing a diagnostic examination. Topics include general scanning principles and considerations, care of equipment, physics of ultrasound, ultrasound equipment features, image production and processing, artefacts, image recording methods, quality control, biological hazards and safety issues, principles of Doppler ultrasound, care of the patient and communication issues.
Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

PCN297 CLINICAL ATTACHMENT 1
This unit includes a period of additional supervised clinical practice designed to expand and refine skills acquired in PCN197. (12 credit points achieved at completion of PCN297-1 and PCN297-2.)
Prerequisites: PCN159, PCN197-1, PCN197-2 and PCN356  Credit points: 6
Campus: Gardens Point  Teaching period: 2010 SEM-1 and 2010 SEM-2

PCN297 CLINICAL ATTACHMENT 2
This unit includes a period of additional supervised clinical practice designed to expand and refine skills acquired in PCN197. (12 credit points achieved at completion of PCN297-1 and PCN297-2.)
Prerequisites: PCN159, PCN197-1, PCN197-2 and PCN356  Credit points: 6
Campus: Gardens Point  Teaching period: 2010 SEM-1 and 2010 SEM-2
PCN356   **Credit points:** 6   **Campus:** Gardens Point
**Teaching period:** 2010 SEM-1 and 2010 SEM-2

PCN355 VASCULAR ULTRASOUND
This unit includes the principles and equipment requirements of ultrasound applications in the cardiovascular system. It also includes the clinical techniques and diagnostic criteria of such applications, in particular those of the peripheral arterial and venous systems.

**Credit points:** 12   **Contact hours:** 4 per week   **Campus:** Gardens Point   **Teaching period:** 2010 SEM-1 and 2010 SEM-2

PCN356 ULTRASONIC EXAMINATION 2
This unit includes the ultrasound techniques used to examine the head, neck and peripheral organs and the ultrasonic appearance of normal and abnormal anatomy and pathology. It also includes ultrasound techniques in advanced obstetrics and gynaecology and in the abdomen.

**Prerequisites:** PCN159 and PCN162   **Credit points:** 12   **Contact hours:** 3 per week   **Campus:** Gardens Point   **Teaching period:** 2010 SEM-2

PCN357 ADVANCED ULTRASOUND TOPICS
This unit builds on content of PCN159 and PCN356 providing more advanced applications of ultrasound in obstetrics. This unit also provides a study of the applications of ultrasound techniques in paediatrics.

**Credit points:** 12   **Contact hours:** 4 per week   **Campus:** Gardens Point   **Teaching period:** 2010 SEM-2

PCN520 PROJECT (FULL-TIME)
The project may take the form of research development, a design, a feasibility study, or the collation of scattered information on a given topic. The project can be undertaken externally under QUT supervision. Time spent on projects is one semester for full-time and two semesters for part-time students. (48 credit points achieved at completion of PCN540-1 and PCN540-2.)

**Credit points:** 48   **Contact hours:** 18 per week   **Campus:** Gardens Point   **Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM

PCN540 PROJECT (PART-TIME)
The project may take the form of research development, a design, a feasibility study, or the collation of scattered information on a given topic. The project can be undertaken externally under QUT supervision. Time spent on projects is one semester for full-time and two semesters for part-time students. (48 credit points achieved at completion of PCN540-1 and PCN540-2.)

**Credit points:** 24   **Contact hours:** 9 per week   **Campus:** Gardens Point   **Teaching period:** 2010 SEM-1, 2010 SEM-2 and 2010 SUM