# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>WELCOME LETTER FROM DEAN OF FACULTY</td>
<td>3</td>
</tr>
<tr>
<td>PROF CHRIS COOK</td>
<td>3</td>
</tr>
<tr>
<td>WHAT YOU SHOULD DO WHEN YOU ARRIVE</td>
<td>4</td>
</tr>
<tr>
<td>LIST OF CONTACT NAMES AND NUMBERS</td>
<td>4</td>
</tr>
<tr>
<td>RESEARCH ACTIVITIES</td>
<td>6</td>
</tr>
<tr>
<td>STAFF RESEARCH INTERESTS</td>
<td>6</td>
</tr>
<tr>
<td>MAJOR RESEARCH EQUIPMENT AND FACILITIES</td>
<td>12</td>
</tr>
<tr>
<td>POSTGRADUATE STUDENT ENTITLEMENTS</td>
<td>16</td>
</tr>
<tr>
<td>INFRASTRUCTURE</td>
<td>16</td>
</tr>
<tr>
<td>Postgraduate Resource Centre (Hut)</td>
<td>16</td>
</tr>
<tr>
<td>Access and Office Space</td>
<td>16</td>
</tr>
<tr>
<td>Computing Facilities</td>
<td>17</td>
</tr>
<tr>
<td>Student Email and Internet Access</td>
<td>17</td>
</tr>
<tr>
<td>Mail</td>
<td>18</td>
</tr>
<tr>
<td>Telephones</td>
<td>18</td>
</tr>
<tr>
<td>Facsimile Machine</td>
<td>18</td>
</tr>
<tr>
<td>Photocopying</td>
<td>18</td>
</tr>
<tr>
<td>Library Resources</td>
<td>18</td>
</tr>
<tr>
<td>Equipment</td>
<td>19</td>
</tr>
<tr>
<td>Thesis Preparation</td>
<td>19</td>
</tr>
<tr>
<td>Conference Funds</td>
<td>20</td>
</tr>
<tr>
<td>TUTORING AND DEMONSTRATING</td>
<td>20</td>
</tr>
<tr>
<td>RESEARCH SUPERVISION</td>
<td>20</td>
</tr>
<tr>
<td>APPOINTMENT OF SUPERVISORS</td>
<td>20</td>
</tr>
<tr>
<td>RESEARCH MEETINGS</td>
<td>21</td>
</tr>
<tr>
<td>FACULTY SEMINARS</td>
<td>21</td>
</tr>
<tr>
<td>HDR STUDENT DAY</td>
<td>21</td>
</tr>
<tr>
<td>STUDENT REPRESENTATION</td>
<td>21</td>
</tr>
<tr>
<td>STUDENT GRIEVANCES</td>
<td>21</td>
</tr>
<tr>
<td>RESPONSIBILITIES OF POSTGRADUATE STUDENTS</td>
<td>21</td>
</tr>
<tr>
<td>GENERAL RESPONSIBILITIES</td>
<td>21</td>
</tr>
<tr>
<td>SECURITY</td>
<td>22</td>
</tr>
<tr>
<td>SAFETY</td>
<td>22</td>
</tr>
<tr>
<td>WORKSHOP/LABORATORY REQUESTS</td>
<td>22</td>
</tr>
<tr>
<td>HUMAN RESEARCH ETHICS</td>
<td>22</td>
</tr>
<tr>
<td>EVALUATION OF POSTGRADUATE STUDENTS</td>
<td>24</td>
</tr>
<tr>
<td>CHANGING YOUR STATUS OR DEGREE</td>
<td>24</td>
</tr>
<tr>
<td>GUIDELINES FOR PROGRESS OF RESEARCH</td>
<td>25</td>
</tr>
<tr>
<td>SUBMISSION OF THESIS</td>
<td>25</td>
</tr>
<tr>
<td>PUBLICATIONS</td>
<td>25</td>
</tr>
<tr>
<td>GUIDELINES FOR ORAL RESEARCH PRESENTATIONS</td>
<td>25</td>
</tr>
<tr>
<td>OVERCOMING EIGHT PRIMARY SPEAKING FAULTS</td>
<td>26</td>
</tr>
<tr>
<td>MAKING QUALITY OVERHEADS</td>
<td>27</td>
</tr>
<tr>
<td>PRESENTATION DIRECTLY FROM COMPUTER</td>
<td>27</td>
</tr>
<tr>
<td>STUDENT SOCIETIES AND PROFESSIONAL ORGANISATIONS</td>
<td>27</td>
</tr>
<tr>
<td>INTERNATIONAL STUDENT ASSOCIATION</td>
<td>27</td>
</tr>
<tr>
<td>WOLLONGONG UNIVERSITY POSTGRADUATE ASSOCIATION (WUPA)</td>
<td>27</td>
</tr>
<tr>
<td>WOMEN IN ENGINEERING NETWORK</td>
<td>28</td>
</tr>
<tr>
<td>INSTITUTION OF ENGINEERS, AUSTRALIA</td>
<td>28</td>
</tr>
<tr>
<td>APPENDIX 1</td>
<td>29</td>
</tr>
<tr>
<td>EXAMPLE OF A FULL-TIME PHD SCHEDULE</td>
<td>29</td>
</tr>
<tr>
<td>APPENDIX 2</td>
<td>31</td>
</tr>
<tr>
<td>EXAMPLE OF A FULL-TIME ME(HONS) BY RESEARCH SCHEDULE</td>
<td>31</td>
</tr>
<tr>
<td>APPENDIX 3</td>
<td>32</td>
</tr>
<tr>
<td>CHECK LIST FOR STUDENTS WHO HAVE COMPLETED</td>
<td>32</td>
</tr>
</tbody>
</table>
WELCOME LETTER FROM DEAN OF FACULTY

On behalf of all members of the Faculty of Engineering, I extend a cordial welcome to our postgraduate students. We hope that your time here is enjoyable and productive and that you complete your studies successfully.

On arrival one of your important tasks is to become familiar with the learning environments within the Faculty, and the University. You should talk to your nominated supervisor about your study plans and ask for guidance concerning the available facilities. You should also get to know other academic and technical staff. In particular your supervisor will introduce you to those technical staff whose assistance you will require in carrying out laboratory work and other activities related to study and research. The School’s Head, Postgraduate Studies (Research) will always be pleased to give you guidance and advice on enrolment and associated matters.

Please read this book to learn about details of the basic facilities, entitlements and responsibilities. I strongly recommend that you also read Codes of Practice for “Students”, “Teaching”, “Research” and “Supervision”. These are included in the University's Postgraduate Handbook, found on the web at http://www.uow.edu.au/student/handbook/. Reading this material will help you to understand fully your role and responsibilities as a postgraduate student.

You should also become aware of safety issues. Part of your responsibility as a research student and potential engineer is to formally identify all safety hazards associated with your work (eg any test rigs you design, build and use) and to ensure safe operating procedures and conditions at all times. If you need additional information or if you have doubts or reservations on any matter, please consult the technical staff concerned with the particular laboratory. You may also consult your supervisor and the Laboratory Coordinator on any safety issue at any time.

You must plan your studies and research to make the best of your time here for academic achievement and personal development. Try to be regular with your work. Plan and monitor your progress from the very beginning. Make sure you organise regular meetings with your supervisor to ensure he/she is informed about your work and how you are coping with your studies and university life in general.

I hope you will be able to take advantage of the entertainments and facilities provided by the Union, the Recreation and Sports Association and by the various student societies on campus.

Research students are a fundamental part of research activity world-wide and I again extend to you a warm welcome on behalf of all of us in the Faculty.

Prof Chris Cook
WHAT YOU SHOULD DO WHEN YOU ARRIVE

Some important things that you should do upon your arrival include:

• Formally enrol in your course. If you miss the formal enrolment day, go to the Research Student Centre (Building 20);
• Meet the School’s Head, Postgraduate Studies (Research) (see below);
• Make initial contact with your supervisor;
• Contact the Administrative Assistant in the Engineering Enquiries Centre (EEC) about the allocation of office space and application for keys;
• Your supervisor will introduce you to the relevant Laboratory Coordinator and Technical staff.

If you arrive during Orientation Week in late February, there will be a day set aside to welcome and introduce you to the University. This will include an inspection of the Faculty of Engineering.

A Library Orientation session will also be arranged early in the Autumn Session in conjunction with final year undergraduate thesis students. The library contact person is listed below.

LIST OF CONTACT NAMES AND NUMBERS

<table>
<thead>
<tr>
<th>Within the Faculty</th>
<th>Coordinator/Contact</th>
<th>Name</th>
<th>Phone</th>
<th>Bldg/Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Engineering</td>
<td>Prof. Chris Cook</td>
<td>4221 3062</td>
<td>4:109</td>
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</tr>
<tr>
<td>School of Civil, Mining &amp; Environmental Head of Postgraduate Studies (Research)</td>
<td>Prof Buddhima Indraratna</td>
<td>4221 3046</td>
<td>4:133</td>
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<tr>
<td>School of Mechanical, Materials &amp; Mechatronics Head of Postgraduate Studies (Research)</td>
<td>Prof. Rian Dippenaar</td>
<td>4221 4498</td>
<td>2:114</td>
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<tr>
<td>School of Engineering Physics Head of Postgraduate Studies (Research)</td>
<td>Prof. Chao Zhang</td>
<td>4221 3458</td>
<td>4:117</td>
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<tr>
<td>Director of Studies Postgraduate Coursework</td>
<td>A/Professor Peter Gibson</td>
<td>4221 5968</td>
<td>8:106</td>
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</tr>
<tr>
<td>Administration Manager</td>
<td>Ms Julie Romanowski</td>
<td>4221 4171</td>
<td>4:109</td>
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</tr>
<tr>
<td>Dean's Assistant</td>
<td>Ms Roma Hamlet</td>
<td>4221 3062</td>
<td>4:109</td>
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</tr>
<tr>
<td>Engineering Enquiries Centre (EEC)</td>
<td>Ms Stacey Smith Ms Carmelle Scott Ms Marina Evans Ms. Lorelle Pollard</td>
<td>4221 3491</td>
<td>4:G12</td>
<td></td>
</tr>
<tr>
<td>HDR Student Coordinator</td>
<td>Ms Stacey Smith Ms Carmelle Scott Ms Marina Evans Ms. Lorelle Pollard</td>
<td>42214247</td>
<td>2:114</td>
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<tr>
<td>IT Support</td>
<td>Mr Des Jamieson Mr. Peter Turner Ms. Leonie McIntyre</td>
<td>42214463</td>
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<td></td>
</tr>
</tbody>
</table>

Updated January 2005
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<thead>
<tr>
<th>Within the University</th>
<th>Name</th>
<th>Phone</th>
<th>Bldg/Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager Student Research Centre</td>
<td>Ms. Kim Roser</td>
<td>42215452</td>
<td>20</td>
</tr>
<tr>
<td>Enrolment Officer</td>
<td>Ms. June Toussis</td>
<td>42215453</td>
<td>20</td>
</tr>
<tr>
<td>Thesis Officer</td>
<td>Ms. Julie King</td>
<td>42214323</td>
<td>20</td>
</tr>
<tr>
<td>Scholarships Officer</td>
<td>Mr Tim McDonald</td>
<td>42214323</td>
<td>20</td>
</tr>
<tr>
<td>Faculty Librarian</td>
<td>Ms Lucia Tome</td>
<td>42213066</td>
<td>16 Ground Floor</td>
</tr>
<tr>
<td>Security</td>
<td>Campus Security</td>
<td>42214555</td>
<td>11 (Union)</td>
</tr>
</tbody>
</table>
RESEARCH ACTIVITIES

STAFF RESEARCH INTERESTS

CIVIL ENGINEERING

Professor Brian Uy
- Composite steel-concrete structures
- Steel structures
- Structural design
- Structural stability

Professor Tim McCathy
Structural steel
- Design of curved steel beams
- Steel beams with large web openings
- Applications of Artificial Intelligence to structural steelwork
- Comparison of Eurocode and Australian code for steel buildings
- Automatical design of structural shapes

Information management in construction
- Intelligent design systems
- Information modeling for building projects
- Knowledge management in construction projects
- Commissioning and qualification of pharmaceutical facilities

Professor Buddhima Indraratna
- Ground improvement techniques
- Soft clay engineering and constitutive modelling
- Stability of foundations and embankments
- Jointed rock engineering
- Environmental geotechnology, including acid sulphate soils
- Railway Geomechanics
- Aspects of dam engineering

Associate Professor Denis Montgomery
- Concrete technology
- Engineering use of industrial by-products
- Supplementary cementitious materials
- Construction materials
- Recycled materials

Dr Phil Flentje
- Landslides
- Risk and Reliability

Associate Professor Muhammad Hadi
- Computer aided structural design
- FRP in RC structures
- Reinforced concrete structures
- Recycled pavements

Dr Hadi Khabbaz
- Unsaturated soil mechanics
- Railway geomechanics
- Numerical modelling in geomechanics

Dr Samanthika Liyanapathirana
• Numerical modelling in geomechanics
• Foundation engineering
• Soil-structure interaction

Dr Alexandra Golab
• Acid sulphate soils remediation
• Ground improvement
• Environmental geotechnics

Dr Brett Lemass
• Risk Management
• Expert Systems/Design Optimisation
• Concrete Remediation
• Project Management Software
• Engineering Education

Dr Alex Remennikov
• Finite element modelling of steel and concrete structures.
• Modelling inelastic behaviour of steel and concrete structural elements.
• Plastic analysis and design of beams and slabs.
• Earthquake engineering, seismic analysis of 3-D buildings.
• Blast-resistant design of steel and concrete structures
• Railway dynamics

ENVIRONMENTAL ENGINEERING

Associate Professor Michael Boyd
• Urban stormwater management
• Water yield of catchments

Associate Professor M (Siva) Sivakumar
• Water quality modelling, monitoring and management of catchments, rivers and reservoirs
• Sediment transport, deposition and erosional processes
• Water and wastewater treatment including bubbleless aeration and greywater re-use
• Reuse of solid wastes and Biofly process
• Waste disposal in remote areas

Dr HB (Dharma) Dharmappa
• Onsite waste treatment and disposal systems
• Pollutant migration through soil
• Wastewater reuse technologies
• Industrial waste management
• Agricultural waste management

Dr Andrea Schäfer
• Removal of trace contaminants (such as endocrine disrupters)
• Remote community water supplies
• Membrane technology
• Water recycling
• Interdisciplinary research (socio-cultural interface of engineering)
MINING ENGINEERING

Associate Professor Naj Aziz
- Dust control in mines
- Mine gases and outburst
- Rock mechanics and ground control - strata control in coal mines, directional mining and mine subsidence
- Rockcutting and drilling

Associate Professor Ernest Baafi
- Operations Research techniques in mine planning/design
- Ore reserve estimation
- Mining computing

Associate Professor Ian Porter
- Strata control in (underground) coal mines
- Rock mechanics
- Mine environmental engineering

MECHANICAL AND MECHATRONICS ENGINEERING

Professor Kiet Tieu
- Tribology (friction, lubrication and wear)
- Vibration of rotating machinery
- Dynamics of machinery
- Rolling technology
- Laser doppler velocimetry
- Computational mechanics
- Condition monitoring
- Fluid power
- Finite element analysis.

Professor Chris Cook
- Kinematics, dynamics and control of manipulator arms
- Power engineering, particularly electric industrial drives
- Precision motion control of servomechanisms
- Nano-actuator modelling and control

Professor Gursel Alici
- Micro/Nano robotic manipulation systems
- Mechanics, design, control and calibration of mechanisms/robot manipulators/parallel manipulators
- System dynamics and control
- Motion planning/design using shaped reference inputs
- Robotic tooling and automation
- Virtual reality and haptics in robotic surgery
- Anatomical organ modelling

Associate Professor Paul Cooper
- Dust generation and air entrainment in bulk solids
- Flow dust generation processes
- Design and optimisation of dust control systems
- Air conditioning, natural convection.
A/Prof Peter Wypych
- Pneumatic transportation (dilute-phase, dense-phase, long distance, low velocity for fragile materials, vacuum and dust extraction, ship unloading, large throughput)
- General pneumatic conveying system design

Dr Richard Dwight
- Analysis of maintenance requirements for equipment
- Auditing of maintenance organisations
- Research of techniques for determining maintenance intervals
- Roll grinding, plate levelling equipment analysis and selection.

A/Prof Peter Gibson
- Strategic Management
- Quality Management
- Supply Chain Management
- Innovation Management

Dr Oliver Kennedy
- Pneumatic conveying system analysis
- Vacuum conveying system design
- Software development for pneumatic conveying
- Determination of flow property and characteristics - bin and chute design, internal combustion engine analysis.

Dr Arnold McLean
- Bulk solid handling technology
- Bulk solid container operational safety
- Mechanical conveyor design
- Two-phase flow
- Particulate material drying

A/Prof G John Montagner
- Solar heater R&D
- Control systems and experimental methods
- Quality management.

Dr Devi Saini
- Machining and grinding procedure for precision components
- Intelligent machining operations
- Design of metal casting and forging dies and processes for ferrous and non-ferrous metals
- Weld quality monitoring systems for automated welding operations
- Use of acoustic emission and ultrasonic sensors.

MATERIALS ENGINEERING

Professor Geoff Spinks
- Mechanical properties of polymers
- Adhesion, adhesives and polymer coatings
- Artificial muscles
- Conducting polymers, carbon nanotubes and hydrogels
A/Prof Tara Chandra
- Thermomechanical processing of superconducting materials.
- Deformation behaviour of discontinuous reinforced aluminium based metal matrix composites at high temperature.
- Simulation of hot working of high strength low alloy steels using advanced and computer controlled facilities.
- Creep, superplastic deformation and fatigue of engineering materials.

Dr Andrej Calka
- Reactive ball milling.
- Phase transformations.
- Advanced materials synthesis.
- Nanostructured materials.

Dr Zhixin Chen
- Welding fume.
- Intermetallics.
- Electron microscopy and microanalysis.
- Corrosion.

Dr Sharon Nightingale
- Refractories for metallurgical processing.
- Corrosion/erosion testing of industrial ceramics.
- Microwave processing of ceramic materials.

Dr Brian Monaghan
- Reaction kinetics and thermodynamics of high temperature materials processing.
- Interfacial phenomena of liquid-solid, liquid-liquid systems at high temperatures.
- Thermo-physical properties of liquid metals and liquid oxides.

Dr David Nolan
- Welding Metallurgy
- Galvanizing Technology
- Thermal Spray Technology
- Coating Materials for Corrosion and Wear Control
- Materials Characterization

PHYSICS

A/Prof W. Zealey
- Astronomy
- Astro Physics
- Medical & Radiation Physics

Dr C. Freeth
- Lasers
- Spectroscopy for Solid State
- Solid State Materials

Dr M. Lerch
- Semiconductor Physics

Dr R. Lewis
- Semiconductors
- Solid State Physics
Dr A.D. Martin
• Solid State Physics

Dr J. Mathur
• Nuclear Physics (Reactor Engineering Physics) and Medical Physics

Prof A. Rozenfeld
• Medical & Radiation Physics

Prof P. Fisher
• Semiconductors & Solid State Physics

Dr R. Vickers
• Solid State Physics

Dr C. Zhang
• Solid State & Semiconduction

Dr P. Nulsen
• Xrays from galaxies & clusters of galaxies
• Astrophysical & gasdynamics
• Formation of galaxies and cluster of galaxies

INSTITUTE FOR SUPERCONDUCTING AND ELECTRONIC MATERIALS

Professor SX Dou
• Materials processing: kinetics and mechanisms of solid-state reaction, sintering and diffusion;
• High temperature oxide superconductors; fast ionic conductors; metal-nickel hydride alloys;
• Materials characterisation: analysis of structure and microstructure; chemical properties: stoichiometry, valence states, and chemical bonding; physical properties: thermal, electrical and magnetic measurements; thermodynamics and phase equilibria.

Professor HK Liu
• The synthesis, characterisation and application of high Tc superconductors.
• Battery research.
• Electrode processes and electrode materials.
• Correlations between properties and crystal structures and microstructures.

BLUESCOPE STEEL INSTITUTE

Professor Hugh Brown
• Adhesion of Polymers to Metals
• Adhesion between Polymers & Polymer Surfaces

Professor Rian Dippenaar
• Steelmaking
• Solidification
• Microstructural development
• Material characterisation
• Continuous casting
• Metallic coatings
• Pyrometallurgy
• Phase transformations
COOPERATIVE RESEARCH CENTRE FOR WELDED STRUCTURES

Professor John Norrish
- Arc Welding Process Control
- Metal Transfer Phenomena
- Health & Safety in Welding Operations

Dr Paul Di Pietro
- High Power Laser Processing (welding, cutting, drilling, cladding & hardening)
- Arc Welding Processes
- Remanufacture (including weld reclamation, machining & fabrication)
- Process Automation, Monitoring & Control

MAJOR RESEARCH EQUIPMENT AND FACILITIES

Mechatronics and Robotic Equipment
Contacts: Professor Chris Cook, Dr Paul DiPietro and Dr Jeff Moscrop
- Several robots of various geometries for welding, palletising and assembly
- Precision fully controlled X-Y testbed for machine tools
- Full instrumented servo controlled grinding machine
- A variety of servo controlled drives and gear trains for precision motion control research
- Force controlled mechanisms and environments for haptic control research

Geotechnical Testing Facilities
Contacts: Professor Buddhima Indraratna
The University of Wollongong currently has some of the largest and unique geotechnical testing facilities, which include:
- Large scale, dynamic cubical triaxial chamber for rockfill and ballast
- Large scale, dynamic cylindrical triaxial rig for soils
- Process simulation, soil consolidation apparatus
- High pressure rock triaxial rig
- Large scale, filtration and drainage simulation apparatus (dam engineering applications)
- Unsaturated soil testing equipment

Materials Engineering Equipment
Contacts: Dr. David Nolan, Mr. Nick Mackie, Dr. Chris Lukey
- Gleeble 3500
- Jeol 2010 Transmission Electron Microscope (TEM)
- Leica scanning electron microscope (SEM)
- Dialotometers
- Atomic force microscope (AFM)
- UMIS 2000 ultra-micro indentation system
- Optical laboratory
- Materialography laboratory
- Hardness testing section
- X-Ray diffraction suite
- Hot compression facility
BlueScope Steel Institute
Contact: Prof. Rian Dippenaar
- Instron tensile testers
- Laser scanning confocal microscope
- Differential scanning calorimeter (DSC)
- Dynamic mechanical analyser (DMA)
- JKR machine
- Various furnaces
- Contact angle goniometer
- Ellipsometer
- Gel permeation chromatograph (GPC)
- UV-ozone cleaning system
- Instron (benchtop)
- Differential thermal analyser (DTA)
- Force rig

Institute for Superconducting and Electronic Materials
Contact: Dr Josip Horvat

1. Powders
a) Equipment available for preparation of powders:
   - Labconco freeze drier (0.2 lh⁻¹); and
   - Yamoto spray drier, model GA-32 (100 gh⁻¹)
   - High-Speed Spray drier, model OPD-8 (3kgh⁻¹)
b) Equipment available for milling and forming the powders:
   - Szegvari attrition mill, model 01-HD (0 to 600 rpm);
   - Fritzch planetary mill, Pulverisette No. 5 agate, zirconia (0 to 300 rpm);
   - Rocklabs ring mill, zirconia
   - Enerpac hydraulic press (0 to 100 tons)
   - Enerpac hydraulic press (0 to 10 tons)
   - Braun glove box, auto control of protective atmosphere (pressure);
   - Labconco glove box, auto control of protective atmosphere;
   - Braun glove box, auto control of protective atmosphere (pressure and composition-O₂ sensor);
   - Glove box-SS, home made
   - Lab Mill (shaker), 25ml jars, Retch, Germany

2. Superconducting Tapes
Equipment available for fabrication of superconducting tapes:
- Providence swaging machine (1 to 15 mm diameter);
- 8 m, fixed die head drawing bench, driven by a 11.5 kW motor at speeds, 0 to 1 ms⁻¹;
- 0.2 m diameter bull block;
- Set of pinch rolls with 2 x 60mm flat and groove rollers;
- An adapted four-high telecom strip rolling mill with 2 x 25 mm large rolls
- Rolling mill, 2x100 mm
In addition, to process the tapes and powders, an assortment of more than 30 calibrated and maintained furnaces are available in both the box and tube variations, with, and without, atmospheric control, including one high temperature (1,750°C) box furnace.

3. Materials characterisation
a) Equipment available for characterising powders
   - Setaram 18-92, Differential Thermal Analyser / Thermogravimeter (DTA/TG), 20 to 1750 °C;
   - Malvern Instruments particle size analyser, range 0.05 to 900 µm;
   - BET Nova 1000, surface area for powders
   - ICP Varian Vista-MPX;
   - Pfeiffer Mass Spectrometer Prisma QMA 200, 0-100 amu
Four X-ray Diffraction (XRD) machines, (a) a picker four circle goniometer machine for single crystal analysis, (b) a Philips PW1050 powder diffractometer, (c) a Philips PW1078 for texture analysis, and (d) a Mac Sciences M18XHF, powder diffractometer, with a high temperature camera attachment (to 1400 °C), and glancing angle attachment.

PCT for H₂ absorption measurement, Hytouch, S. Korea

Physical characterisation

Magnetic characterisation equipment available:

- Quantum Design Physical Properties Measurement System (PPMS), 2 to 400 K, 0 to 9 T; AC and DC susceptibility; transport; DC magnetic moment
- Oxford Instruments Vibrating Sample Magnetometer (VSM), 2 to 400 K, 0 to 12 T; DC magnetic moment; transport measurements
- DC field superconducting magnet, 5 to 300 K, 0 to 8 T;
- Alphatec variable temperature insert superconducting magnet, 5 to 300 K, 0 to 7 T, horizontal field, 0-100A DC current probe;
- Oxford Transport measurement system, 0-9T, vertical field, 5-300K, 85mm bore size, 0-150A DC current probe; equipped with AC susceptibility and DC extraction magnetometer inserts.
- SQUID Quantum Design Magnetic Properties Measurement System (MPMS), 2 to 400 K, 0 to 5 T; DC magnetic moment
- Walker Scientific HSV-4H1, 2 T electromagnet, 100 mm pole diameter;
- GMW systems 3473-70, 2T electromagnet, 150mm pole diameter;
- Magneto optic imaging (MOI), 20-300K, 0.3T, 0-20A probe current;
- Thermal Conductivity, 20-300K;
- Danysik System 8000 magnet power supply;
- Group3 DTM-132 digital teslameter, with Hall probe;
- Magnetic Instrumentation 916 Fluxmeter;
- Hewlett Packard 34401A digital multimeter;
- Keithley 196 digital multimeter;
- Keithley 2001 digital multimeter;
- Three Keithley 2000 digital multimeters;
- 10-channel scanner for the Keithley 2000;
- Two Keithley 228A voltage/current sources;
- Hewlett Packard 6672A power supply, 0-100A;
- Hewlett Packard 6680A power supply, 0-890A;
- Xantrex XKW 40-75 power supply;
- Oxford Instruments ITC4, cryogenic temperature controller, 0 to 500 K;
- CTI Electronics 3500CP closed cycle cooler.

AC electrical characterisation equipment available:

- Oxford Instruments Vibrating Sample Magnetometer (VSM), 2 to 400 K, 0 to 12 T;
- Stanford Research single- and dual-phase lock-in amplifiers, models SR510 and SR830DSP;
- Stanford Research DS340 function generator;
- Tektronix TDS320 digital oscilloscope;
- Ballantine 1620 transconductance amplifier;
- Keithley 1801 nanovolt preamplifier;
- DeltaCom 486 PC;
- Pacific 320 AMX current / voltage source;

**Helium Liquefication Plant**

He Liquefier (Quantum Technology), 38 litres per day, helium recovery system and a liquid He storage capacity of ~250 l.
Thin Films
Thin film equipment:
Pulsed Laser Deposition:
600 mm diameter chamber, ultimate vacuum $1 \times 10^{-7}$ torr, 6 x 1” targets, 20-1,000 °C sample heater, effective deposition area 20 x 20 mm$^2$
800 mm diameter chamber, ultimate vacuum $1 \times 10^{-11}$ torr, 6 x 3” targets, 20-1,000 °C sample heater, effective deposition area 70 x 70 mm$^2$
On Order:
- Electron Beam Evaporator, 800 mm diameter chamber, ultimate vacuum $1 \times 10^{-11}$ torr, 4 x 15 cm$^3$ crucibles, 20-1,000 °C sample heater, effective deposition area 140 x 140 mm$^2$
- RF Magnetron Sputterer, 3 x 1,000 W, 3 x 3” targets
- Surface Analysis System, XPS, AES, UPS and SIMS function.
POSTGRADUATE STUDENT ENTITLEMENTS

The Faculty is responsible for providing the basic materials and resources, which you will need during your candidature. Funding within the Faculty is limited and you should endeavour to contain spending within acceptable limits and reduce unnecessary spending as much as possible.

INFRASTRUCTURE

Postgraduate Resource Centre (Hut)
The postgraduate resource centre is located in Building 9 (The Hut), which houses, a fridge, urn, photocopier. The Hut also has recreational facilities, such as table tennis and darts.

Access and Office Space
All full-time postgraduate students will have access to communal working space within the Faculty. Each space is equipped with a desk, chair and bookcase or filing cabinet as available. This space includes the Postgraduate Computer (PC) Laboratory and the various other laboratories within the Faculty. In addition, students associated with research centres have additional facilities (these may also be used by all students with permission). Space is limited and students must be prepared to work co-operatively. This may necessitate the formation of formal or informal arrangements for the sharing of equipment and space facilities within the Faculty. You should give due regard to the requirements of other students to ensure minimal disruption to other students at all times.

Pin Access Codes will be issued to all postgraduate students for access to Buildings 1, 2 and 4, and keys will be issued for relevant postgraduate study rooms and laboratories. Please contact the Engineering Enquiries Centre on your arrival to order keys. Access codes for computer laboratories can be obtained from Mr Des Jamieson (4.123a).

Space is provided for all postgraduate students for tea and coffee making. Hot water is provided for tea and coffee. You are required to provide your own crockery, tea, coffee, milk and sugar. A refrigerator and microwave oven are available for the storage and heating of meals (The Hut Building 9). It is your responsibility to keep all equipment clean. In particular, the microwave should be wiped clean after each use. Everyone is expected to keep the bench and sink area clean and tidy after use.

If you require a key for the filing cabinet located in your allocated room, you may be able to purchase a key from a Wollongong locksmith. The following are locksmiths located nearby:

- ADC Security Engineers, 32 Flinders Street, Wollongong - Tel. 4226 6644
- Mawson Lock Service, Cnr Kenny & Burelli Sts, Wollongong - Tel. 4229 2346
- Security World, 24 Auburn Street, Wollongong – Tel: 4229 4385 (discount student price of $4 per key)

The procedure is to telephone the locksmith and give them the number that is engraved on the lock, mentioning the position of the number with respect to the keyhole (above or below the keyhole or side-ways). The locksmith will then inform you when you can pick the key up. It will cost approximately $10.00.
Computing Facilities
The Faculty is unable to provide computing equipment to postgraduate students on an individual basis. All postgraduate students are entitled to have access to the common computing facilities provided by the University. In addition, the Faculty provides computing facilities by way of a serviced PC Laboratory (Room 4.123a), being equipped with both Apple Macintosh and PC computers (including printers and scanning facilities).

You should contact Mr Des Jamieson in Room 4.123a, Ext. 4463, to obtain computer password access and to discuss other computing facilities within the Faculty that you may wish to use.

The Sustainable Energy Research Centre (SERC) Computer Laboratory is available for research students in geomechanics, geoenvironmental and environmental engineering.

Engineering Physics students have access to Physics Computer Laboratories in Building 15.

Mining Engineering Research students, have access to the Mine Planning Computer Room.

Student Email and Internet Access
The University provides every student with Email and Internet Access. This is intended for academic purposes only. UNDERGRADUATE Students should be aware that internet quotas are strictly enforced and students are expected to use the free email account provided by the University.

POSTGRADUATE STUDENTS have no fixed quota; however any internet usage must be for academic purposes, and so postgraduate students must also only use the internet for academic purposes related to their research. The Faculty allows each research student a nominal usage of up to $10 per month, which under normal circumstances is more than enough for research purposes. Any usage greater than this will be queried and students will have to reimburse costs to the Faculty for any non-academic use of the Internet.

When searching databases for journal articles, students should use the LIBRARY link, as downloading articles from other sources is very expensive.


ALL students are warned that use of HotMail (and other non-UoW web mail accounts) consumes quota at a high rate. (NOTE THAT AUTOMATICALLY FORWARDING MAIL FROM HOTMAIL TO YOUR UNIVERSITY ADDRESS SUBSTANTIALLY REDUCES COSTS OF USING HOTMAIL) Quotas will not be renewed for students using their access for non-academic purposes: eg downloading music or radio, visiting entertainment or recreational sites, or accessing other mail accounts such as HotMail.


Details of the University Policy and Guidelines for Email and Internet Access are available at http://www.uow.edu.au/its/userguides/students.html under "email & internet". The Guidelines clearly explain the quota system that the University applies.
Mail
All incoming mail will be delivered to the Engineering Enquiries Centre twice daily. All postgraduate mail is available for collection from the Engineering Enquiries Centre Monday to Friday, between 9am and 5pm. All outgoing mail relative to your research work must be handed into the Engineering Enquiries Centre. Incoming personal mail should be sent to your home address and outgoing personal mail posted at the Post Office which is located on campus.

To ensure that your mail is delivered to you with minimal delay, please advise senders to address mail in the following manner:

Your name
Postgraduate Student
Faculty of Engineering + (Discipline)
University of Wollongong
Northfields Avenue
WOLLONGONG NSW 2522
AUSTRALIA

Telephones
Telephones available in the postgraduate study rooms are restricted to internal and local calls. Phones are to be used for calls specifically relating to your research activities (you should not use the phone for routine calls of a private nature). Work related STD calls (outside the local telephone area) may be made from your supervisor's phone (with permission from your supervisor).

Facsimile Machine
There is limited use of a fax machine by postgraduate students for RESEARCH PURPOSES ONLY.

If you wish to send a fax for personal reasons, it can be sent at the Australia Post Agency (Union Retail Centre) for a fee.

Photocopying
All postgraduates are entitled to photocopying by way of:

Each postgraduate student will receive 2 reams of paper at the beginning of each year for them to use with either the photocopier or printers. If more paper is needed, supervisors should be contacted for claiming through research accounts where applicable.

A photocopier is available for use by postgraduate students in Building 9 (The Hut). When you have enrolled, you will need to see the EEC to be issued with a PIN number for the photocopier in Building 9.

Library Resources
The University of Wollongong Library has many services to support postgraduate research. Start by exploring the Library's web page http://www.library.uow.edu.au. The Library provides

Services and Training:
• postgraduate classes
• workshops e.g. Endnote
• database & internet web-based tutorials
• Research Edge – postgraduate information skills (class or web-based)
• Email your Faculty Librarian: lucia tome@uow.edu.au

Facilities:
• postgraduate study room
• photocopying
• reciprocal borrowing

Resources:
• databases
• subject resources
• document delivery
• full text articles
• e-books

Stationery
All full-time postgraduate research students will receive a stationery pack at the commencement of their candidature and at the beginning of each subsequent year.

The pack will consist of:
- 3 pens
- 1 pencil
- 2 note pads
- 1 glue stick
- 1 eraser
- 1 liquid whitener
- 1 ruler
- 5 high density disks or 1 CD-RW
- 2 reams of paper
- Library photocopy card to the value of $25.00

Students do not have free access to the Faculty stationery cupboard and are not allocated stationery items during the year. Additional stationery items may be purchased at the Union Retail Centre (the Faculty will not reimburse you for any additional stationery expenses). If you need to write an official letter, email the file to an EEC staff member for printing on letterhead.

For the preparation of reports and research papers for publication, paper for printing will be made available on the recommendation of the supervisor.

Equipment
All equipment and materials necessary for experimental projects are provided as required, but only trained personnel are allowed to operate workshop and lab equipment.

Technical staff are familiar with the operation of laboratory equipment and are available to assist you with experimentation. Contact your academic supervisor if you require assistance from technical staff.

Thesis Preparation
All full-time PhD and ME(Hons) Research Scholarship students are entitled to limited reimbursement of expenses incurred in thesis preparation and binding. The amount of this reimbursement is set by the Research Office and more details can be obtained by contacting them directly. Students should keep all receipts/invoices for reimbursement.

An allowance for reimbursement of expenses incurred in thesis preparation and binding for students not on scholarships may be available upon availability of funds (students should consult their Supervisor).

Postgraduate students are permitted to print one draft and one final copy of their thesis using Faculty facilities. A list of thesis binding companies is available from the Engineering Enquiries Centre.

Also refer to the University HDR Student Handbook for more detailed information.
Conference Funds
The University Research Council may assist each postgraduate research student to participate and present a paper in one Conference during the candidature of their degree. To qualify, the student must be presenting a paper. A strong case for this expenditure must be made, including cost of travel, conference registration, accommodation etc. This should be checked by the supervisor and submitted to the Research Office. Only one conference application will be supported, therefore the conference should be chosen wisely.

Also refer to page 17 of the University HDR Student Handbook for information on the Research Student Conference Fund.

TUTORING AND DEMONSTRATING
Postgraduate students may be employed as part-time tutors, demonstrators or markers for undergraduate courses, and will be paid for this work at casual rates.

Undergraduate tutoring, demonstrating and marking are important and responsible activities. Therefore the Faculty reserves the right to select and appoint postgraduates for these duties based on their ability. Limits are specified on the amount of work that an individual postgraduate student may undertake.

RESEARCH SUPERVISION

APPOINTMENT OF SUPERVISORS
Each postgraduate student who undertakes a research project will be allocated to a suitably qualified supervisor (or joint supervisors), who will offer guidance and advice on the research activity. Supervisors are generally internal but, in some cases, one or more supervisors, internal or external to the Faculty (or University), may be appointed. All external supervisors must be approved by the School's Head, Postgraduate Studies (Research) and each student must have at least one internal supervisor.

Supervision of students is a difficult and highly specialised undertaking, which must be based on a sound working relationship and mutual trust between the student and supervisor. It is highly recommended that students and supervisors discuss carefully and extensively the proposed topic and their respective roles before formally agreeing to work together. Supervision is subject to the agreement of both parties.

ALL STUDENTS MUST READ THE CODE OF PRACTICE – SUPERVISION (UoW) and complete the check list with their supervisors during their first meeting. The Code of Practice can be found at:

Unfortunately, supervisory arrangements may sometimes break down. If this situation occurs, the School’s Head, Postgraduate Studies (Research) must be notified immediately, so that mediation of the dispute can be undertaken to attempt to resolve perceived difficulties and to reach a satisfactory solution. If necessary, alternative supervision may be arranged.

If the supervisor is to be absent from the University for a prolonged period (e.g. study leave), alternative arrangements are made for continuing supervision.
**RESEARCH MEETINGS**

Students are expected to meet with their supervisors on a regular basis to discuss research progress and any related problems. The frequency of meetings will generally be decided by mutual agreement between student and supervisor.

**FACULTY SEMINARS**

Research seminars are held on a regular basis in the Faculty throughout the year. Students are expected to attend the majority of seminars in order to increase their overall knowledge of their specialised area of research. Postgraduates are required to present seminars on their own research projects. It is expected that each PhD student will present at least two seminars on their work during their candidacy and ME(Hons) students will present at least one seminar.

**HDR STUDENT DAY**

Postgraduate Open Day is the annual University event where postgraduates are given the opportunity to present their work to a larger audience (across Campus). HDR Student Day is open to members of the public as well as members of the University. It is an important opportunity for communication, which increases the profile of postgraduate students within the University.

It is in your best interest to support this event and gain experience from a useful exercise in public relations. Monetary prizes and Conference participation prizes are awarded for outstanding presentations. Our Faculty has a history of good representation in this event and this is a situation that we would like to sustain and enhance.

**STUDENT REPRESENTATION**

Up to two representatives from the postgraduate body of students is eligible to be elected (on an annual basis) to the Faculty Committee. Elections will be held at the beginning of each year when nominations will be sought from the Postgraduate students within the Faculty. The Postgraduate representative is elected by the postgraduate student body and is required to represent the whole body of postgraduate students. If no nomination is received in a particular year, the School’s Head, Postgraduate Studies (Research) may fill the position by invitation.

**STUDENT GRIEVANCES**

Students who have grievances should first consult their supervisor. If this is unsuccessful, they should then consult the School’s Head, Postgraduate Studies (Research), who oversees the postgraduate education within the Faculty and acts as a mediator between students and supervisor if necessary.

If a satisfactory outcome cannot be achieved then the matter may be referred to the Dean and the University Postgraduate Committee if necessary.

**RESPONSIBILITIES OF POSTGRADUATE STUDENTS**

**GENERAL RESPONSIBILITIES**

The primary responsibility of any Postgraduate is to pursue his/her course of study with the utmost diligence and commitment. Postgraduates engaged in research should meet regularly with their supervisors to discuss the progress of their project.

It is expected that all Postgraduates will contribute to the academic life of the Faculty, including assisting and participating in seminars and conferences organised within the Faculty.

Attention of students is drawn to the Postgraduate Calendar of the University, which includes the following Codes of Practice:
• Code of Practice - Students
• Code of Practice - Teaching
• Code of Practice - Assessment
• Code of Practice - Supervision

Students should note their responsibilities as listed in these codes.

SECURITY
Students must be aware at all times that correct security procedures are followed in order to avoid loss of property or personal belongings. All windows and doors should be kept locked after business hours. Offices should be locked when leaving for any period of time, to reduce the risk of theft of equipment. Carelessness, which leads to theft or damage of equipment (especially computers) will disadvantage all postgraduates, as the Faculty may not have the resources to replace the equipment or delays will occur before replacement can be arranged. Personal belongings should be stored in a safe and secure place. Campus Security should be contacted as soon as a theft occurs (extension 4555) and relevant Faculty staff notified.

Note: Emergency telephones are located in the following areas:
• Ground Floor Building 4 (walkway from Building 1)
• Outside the main entrance to Buildings 2 and 8
These phones can be used at any time to contact Campus Security, Emergency Services, Wollongong Radio Cabs or NRMA.

SAFETY
The research laboratories of the Faculty contain equipment and materials that have the potential to injure persons who do not follow recommended safety procedures in their use. Details about health and safety procedures are outlined in the Faculty Safety manuals. A copy should be obtained from the Laboratory Coordinator. It is a condition that all Postgraduates who require access to Faculty laboratories and other facilities sign the form (attached to the handout) confirming their agreement to follow the specified rules concerning safety and security. Note that outside normal working hours, all students working in the building must sign the attendance register. Make sure that you sign off when leaving the buildings. Students must ask their Supervisor for the location of the Register.

It is also a Faculty condition that no-one works alone in the laboratories after normal work hours (8am-4pm) in case an accident may occur. Postgraduate students can seek permission to work alone from the Dean of Engineering.

WORKSHOP/LABORATORY REQUESTS
Before any work is to be done in the Workshop/Laboratories students should consult with the Technical Staff Coordinator, who will issue a project form for the work requested. This will assist with scheduling the work with other Workshop/Laboratory requirements.

<table>
<thead>
<tr>
<th>Technical Staff Coordinators</th>
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<tbody>
<tr>
<td><strong>Area</strong></td>
</tr>
<tr>
<td>Mechanical, Materials &amp;</td>
</tr>
<tr>
<td>Mechatronic Engineering</td>
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<tr>
<td>Civil Mining &amp; Environmental Engineering</td>
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<tr>
<td>Engineering Physics</td>
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</tbody>
</table>

HUMAN RESEARCH ETHICS
University of Wollongong/Illawarra Area Health Service Human Research Ethics Committee (HREC)

In accordance with the "National Statement on Ethical Conduct in Research Involving Humans" the HREC reviews all research involving human participants. In light of the requirements of the National Statement, the HREC has the primary aim of protecting the welfare and the rights of participants in Research and the secondary aim of facilitating research that is or will be of benefit to the researcher's community or to humankind.

Further, the HREC considers the policies and practices of the University of Wollongong and the Illawarra Area Health Service, relevant government policies (such as those of the NSW Dept of Education and NSW Health) and State and Federal legislation in the review of research proposals.

The National Statement is available electronically:

When should you apply to the Human Research Ethics Committee?
The HREC reviews all research involving human participants. Examples of the kinds of research which require HREC approval are listed below.

- Clinical trials: including multi-centre and single-centre drug trials, and clinical trials of surgical or therapeutic goods;
- The administration of any substance or agent to participants (e.g. research involving administration of approved drugs, research involving alcohol);
- The collection of body tissues or fluid samples (e.g. blood or urine samples);
- Procedures which involve risk of pain or discomfort for participants, (e.g. temperature taking, ECG, submersion of limbs in ice-water);
- Activities which involve risk of causing emotional stress, distress or disturbance to participants (e.g. in-depth interviews of survivors of sexual abuse, stimulation stressful experiences);
- Observation of, surveys of, or interviews with school children;
- Clinical behavioural research, including research comparing different treatment, training or counselling methods;
- Educational, social or behavioural research which could cause distress or disadvantage (including disadvantage in employment);
- Research undertaken through an institution or organisation involving participants who are employees of that organisation or institution;
- Research projects seeking access to private or confidential records including medical records, personnel files, or academic transcripts.

How do you apply for Human Research Ethics Approval?
Applications for HREC approval of research proposals or protocols must be submitted on Human Research Ethics Committee Application Forms available from the Ethics Officer, Office of Research (Communications Building 20) or electronically from the Office of Research website: http://www.uow.edu.au/research/ethics/ethic.html#Human

The HREC meets monthly throughout the year. Applications should be submitted two weeks prior to the meeting dates which are posted on the Web Page. In certain circumstances, some ethics applications can be processed by expedited review. Details for submitting applications are available in the Human Research Ethics Application Guidelines.

To find out more about ethical review for research at the University of Wollongong, contact Eve Steinke, Ethics Officer, on (02) 4221 4457 or email eves@uow.edu.au.

Updated January 2005
EVALUATION OF POSTGRADUATE STUDENTS

Research students are subject to an annual review of their work, which takes place in October each year. The primary aim of the annual review is to monitor progress in research work, as well as suggest ways of improving future performance.

In the review each student is asked to provide a report of his/her progress, and to state his/her goals for the following year. This report is done online, via the web, and the Research Student Centre will contact each student prior to the due date of the report. The supervisor rates the performance of each student, and indicates what steps have been taken to overcome any difficulties experienced. It is expected that the supervisor will discuss his/her comments in detail with the student.

All reports are then passed onto the School’s Head, Postgraduate Studies (Research), who makes recommendations. For scholarship recipients, the Coordinator also recommends whether payment should continue. The report is then forwarded to the Dean of Engineering, and is finally sent to the Office of Research.

This annual review procedure is considered to be a constructive means of reviewing a student's progress. However, any poor performance that is revealed may call for serious consideration at any time during the year. In extreme cases the Dean of Faculty can recommend that the student withdraw from his/her degree programme, or downgrade to a lower degree.

CHANGING YOUR STATUS OR DEGREE

ENROLMENT STATUS
You may wish to change your status from full-time to part-time or vice versa. The decision to do this will depend mainly on your circumstances, and you should give it full consideration. Meet with your supervisor and the Faculty Head of Postgraduate Studies (Research) to discuss your proposal. When you have made a firm decision notify the School’s Head, Postgraduate Studies (Research), so that the University records are amended.

DEGREE STATUS
Masters students sometimes wish to upgrade to a PhD programme. This will entail a more extended period of research and a heavier workload. This decision requires careful consideration and support of the supervisor. Any candidate aspiring to change must produce evidence of competence and commitment to a research programme of PhD standard.

*(Procedure to be confirmed with research office) A student wishing to change degree status should apply in writing to the School’s Head of Postgraduate Studies (Research). Arrangements will then be made for the candidate to give an oral presentation of his/her research before a small invited audience consisting of:

(i) the Supervisor(s)
(ii) the School’s Head, Postgraduate Studies (Research)
(iii) a Faculty representative of the University Research Committee invited external assessor, if warranted (eg industry partners).

A written proposal, including a progress report to date, is also required and this proposal, together with the written recommendation of the persons identified above, will be lodged
with the University Research Committee. A decision will then be made by this committee recommending that the student does/does not proceed to enrolment in a PhD programme.

**GUIDELINES FOR PROGRESS OF RESEARCH**

These guidelines are set out as an approximate timetable for the progress of postgraduate research students. In an extended period of study it is difficult to know just how much progress you should be making. At first, the time allowed for completion seems sufficient. However, every committed research student eventuallyrealises that the allotted span is too short to achieve complete knowledge of the research area and you will rely to a great extent on your supervisor. These guidelines are intended to supplement and advise your supervisory arrangements, not to replace them. This is especially true for the suggested schedules for progress presented in Appendix 1 and Appendix 2. There is some flexibility in the time scale and the order in which the tasks are tackled. Nevertheless, these guidelines are firm recommendations for your consideration and for gauging your performance.

Presentations are an essential part of any research programme. The format of these presentations (e.g., written or spoken) can be discussed with your supervisor. All postgraduate students undertaking research should give a presentation of their work at least once each year. In addition, postgraduates are also encouraged to attend and participate at seminars offered by research groups within the Faculty and by visiting scholars and engineers. Students are reminded that the final forum for feedback will be through publication in journals and conference proceedings and they are encouraged to work towards that end as early as possible.

**SUBMISSION OF THESES**

Prior to submission, obtain a thesis pack from the Research Student Centre (Building 20), which will provide all of the information required for thesis submission. Please also refer to the University HDR Student Handbook for further information.

Students are requested to give the Faculty Head of Postgraduate Studies (Research) two months written notice of intention to submit a thesis.

**PUBLICATIONS**

The external examiners’ reports specifically evaluate the originality and publishability of the candidate's thesis work. Therefore, all research students are encouraged to publish their important research findings with their supervisors in reputed Journals and Conference Proceedings during the course of their studies, prior to submission of thesis for external examination. Although this is not a mandatory requirement of the University, past experience has shown that such practice is highly desirable, unless potential patents are being considered.

**GUIDELINES FOR ORAL RESEARCH PRESENTATIONS**

The purpose of this section is to develop the oral presentation skills of all engineering students, particularly postgraduate students, over the course of their study.

**Points to note:**

1. It is recommended that students give their presentations a sense of professionalism and quality through proper preparation.

2. Developing oral presentation skills is a necessary and integral component of quality education, due to the importance of verbally communicating your knowledge to professional and non-professional audiences throughout your career.

3. Students are expected to apply the given guidelines as a means of presenting their research. Students are also expected to be receptive to the feedback from the
members of the audience. Such exercises are helpful for improving the quality of their research.

OVERCOMING EIGHT PRIMARY SPEAKING FAULTS

1 Reading your speech verbatim from notes
Do not do this when presenting your research. Construct an outline of your presentation. If you must read material from notes, look up to your audience and either explain or provide an example from your material. Reading directly from notes is an insult to your audience, and shows that you do not know your material.

2 An unclear purpose
What is the purpose of your study? What is the research problem?

3 Lack of a clear orientation and focus
Do not give your audience a prolonged review of literature. Offer the theoretical framework, a brief review of relevant literature that demonstrates the need for your study, your hypothesis/hypotheses, experimental work and data collection, discussion and implications of results, plus future directions of study in this area.

Try the **PEP Formula**: Point - Example - Point

4 Too much information
Be brief and make your points. Keep the listeners focussed on the purpose of your study(ies). Draw your conclusion. Be brief and clear.

5 Not enough support for your ideas
Your research should be firmly grounded in the theoretical literature and a body of previous research. You should not conduct a study only because 'no one has done this before'. Original research ideas are appreciated, and are in fact required at the doctoral level.

6 Poorly generated and/or presented overheads
Make sure that the audience can read your overheads, use the correct font, an 18pt font size usually stands out. Ensure they have been photocopied clearly, but **not** photocopied directly out of a typed page. Type face is too difficult to read from a distance. Refer to the guidelines given below about preparation of overheads.

7 Monotonous voice and sloppy speech
_Speak slowly and deliberately_ (nervousness creates rushed speech). Articulate your words properly. Presenters who mumble their words or speak very quickly are demonstrating nervousness, which may be interpreted by the listener as low-confidence, knowledge and competence about the material. _Avoid speaking in a monotone_. This is perhaps the most difficult skill to master. Speaking in a monotone will greatly reduce your audience's attention span. Try to use selective terms or concepts in which your vocal tone is raised and at other times lowered. Don't lose your audience, especially after the time you have taken to prepare for your talk.

_Maintain audience eye contact_. Do not talk to the screen/blackboard. Address your listeners, visually as well as orally.

8 Look professional
A large part of an audience's evaluation of a speaker (i.e. their knowledge and expertise) is based on visual stimuli - the presenter's appearance. As an engineer
you are a professional - therefore look the part. Poor dress and appearance shows disrespect towards your audience; the feeling will be mutual. Remember that there will be members in the audience who speak English as a second language, therefore practising the above points will ensure your presentation is easily understood by all.

**MAKING QUALITY OVERHEADS**

The following suggestions will help to create quality, professional overheads:

1. **Do not** display typed copies taken directly from books and journals. They are difficult to read, and clutter the screen with too much material. Keep overheads **bold** and **simple**.

2. **Do not** place too much writing on a single overhead. Present your information in point form.

3. Try to **avoid** handwritten material. If this is not possible, print your overheads, do not write. Leave room between lines.

4. Use computer technology to produce your overheads. Format your letters to appear large and professional.

5. Keep your overheads clean by separating each with a sheet of paper.

6. Be sure your overheads are in the correct order of viewing to avoid confusion during your presentation.

**PRESENTATION DIRECTLY FROM COMPUTER**

You can save yourself time, effort and money by using the existing computer technology for your presentations. Please contact Peter Turner (Ext. 3032) regarding the type of equipment and software available. In general the Microsoft PowerPoint and Web based software like Netscape are available for this purpose. The following care should be taken when using computer presentations.

(i) Ensure that the correct font size, colours (foreground and background) are used.

(ii) Make sure that you have a back up disk and you have a previously checked presentation in the computer and projection screen you intend to use.

(iii) You may like to distribute a brief handout on the main points of your presentation.

(iv) Try and use a variety of formats. (i.e. multimedia) rather than only text. Use pictures, voice, sound and wherever possible video clips.

(v) Always keep a few backup transparencies in case the computer presentation system fails.

**STUDENT SOCIETIES AND PROFESSIONAL ORGANISATIONS**

**INTERNATIONAL STUDENT ASSOCIATION**

International students may wish to make contact with their compatriots in the University:

**Contact:** International Student Advisors, Student Services
3rd Floor, Union Building
Extension: 3173

**WOLLONGONG UNIVERSITY POSTGRADUATE ASSOCIATION (WUPA)**

This is the student body that represents the interests of all postgraduate students. This body runs the Graduate House Support Centre, which is a University facility exclusively for postgraduate students and their families.

**Contact:** Postgraduate Resource Unit
Buildings 115 and 117  
(Houses in Northfields Avenue)  
Extension: 3326

WOMEN IN ENGINEERING NETWORK  
This group exists to provide support and interaction for women in all branches of engineering at both the undergraduate and postgraduate level. The group is actively involved in organising social and technical functions.

Contact:  
Ms Marina Evans  
Faculty of Engineering  
Extension: 4182

INSTITUTION OF ENGINEERS, AUSTRALIA  
The Illawarra Group of the Institution of Engineers Australia organises regularly (monthly) technical meetings and social functions. Meetings are open to members and guests.

Contact:  
Ms Elaine Bailey  
Institution of Engineers, Australia (Illawarra Group)  
Building 8, Room G16  
Extension: 4086
APPENDIX 1

EXAMPLE OF A FULL-TIME PhD SCHEDULE

3 YEAR PROGRAMME

YEAR 1

Overall Aim:
To prepare the research questions, conceptual model and method(s).

Specific Tasks:
• Present preliminary literature survey to supervisor (after 3 months).
• Present preliminary research questions and conceptual model to supervisor and then a wider audience through seminar presentation (session 2).
• Present detailed plans for methods and techniques, including experimental work, numerical modelling, analytical work, data collection, methodology, models to supervisor (after 8 months).
• Commence data collection (9 months).

Contact with Supervisor:
Weekly contact with your supervisor is desirable.

YEAR 2

Overall Aim:
To revise the conceptual model in the light of:

(i) data you have collected
(ii) existing literature
(iii) theoretical considerations, particularly relevant to answering the research questions identified.

Specific Tasks:
• Continue data collection.
• Analyse data.
• Write up experimental procedures and results as you complete each task.
• Continue to take advantage of opportunities to present aspects of your work to a wider audience (seminars, conferences).
• Consider the preparation of research papers for publication.

Contact with supervisor:
Continue meetings as required.
YEAR 3

Overall Aim:
To write up the research programme in the form of a thesis.

Specific Tasks:
- Revise the literature review (after 3 months).
- Complete the data collection (3 months) and analyses (6 months).
- Present the results of the research programme to as large and diverse an audience as possible for feedback.
- Revise and finalise the conceptual model in the light of the literature, data and feedback from others and answer the research questions identified in the thesis.
- Present drafts of the thesis chapters to supervisor for comment and feedback.

Contact with Supervisor:
As required.
APPENDIX 2
EXAMPLE OF A FULL-TIME ME(Hons) BY RESEARCH SCHEDULE
1 YEAR PROGRAMME

AUTUMN SESSION

Overall Aim:
To prepare the research questions, conceptual model and method(s) and
commence data collection.

Specific Tasks:
• Present preliminary literature survey to supervisor (after 1 month).
• Present preliminary research questions and conceptual model to supervisor
and then a wider audience through seminar presentation (Session 2).
• Present design, method and plans for data analysis to supervisor (3 months).
• Commence data collection at about 3 months.
• Acquire knowledge in any area that is going to be needed for the research
programme that you do not currently possess (e.g. computing, statistical
analysis techniques, etc.).

Contact with Supervisor:
As needed, probably at least every week.

SPRING SESSION

Overall Aim:
To develop a conceptual model based on the interpretation of data and write up the
research programme in the form of a thesis.

Specific Tasks:
• Revise the literature review (after 1 month).
• Continue data collection so as to clarify the conceptual model and results
obtained to date.
• Complete the data collection and analyses by 3 months.
• Present the results of the research programme to as large and diverse an
audience as possible for feedback.
• Consider the preparation of research papers for publication.
• Revise and finalise the conceptual model in the light of the literature, data
and feedback from others and answer the research questions identified in the
thesis.
• Present drafts of the thesis chapters to supervisor for comment and
feedback.

Contact with Supervisor:
As required.
APPENDIX 3

CHECK LIST FOR STUDENTS WHO HAVE COMPLETED THEIR STUDIES AND ARE LEAVING THE UNIVERSITY

- Check that library books on loan are returned to the Library, and any library loan charges are paid.
- Return your identity/library card to Personnel and Financial Services.
- Return keys on issue to you to Buildings and Grounds in Building 31.
- Return any items of equipment on issue or loan to you.
- Return any borrowed thesis to the Engineering Enquiry Centre.
- Advise the Administrative Assistants in the Engineering Enquiry Centre of a forwarding address.