

POSITION DESCRIPTION

Academic Positions

(In addition to the Position Classification Standards)

Position Title: Lecturer/Senior Lecturer in Biomechatronics or Biomechanical Engineering
Level: B / C **Faculty/Division:** Engineering **Department/Location:** School of MMM Engineering

Primary Purpose of the Position:

The appointee will play a key role in research and teaching in the School of Mechanical, Materials and Mechatronic Engineering in the field of biomechatronics or biomechanical engineering or biomedical engineering. The successful candidate will teach at all levels of the curriculum including the team-taught introductory engineering subjects and specialised subjects on bio-inspired actuators, sensors and devices, bio-inspired manufacturing, bio-instrumentation, bio-inspired mechanical design, bio-inspired modelling, and similar, depending on the expertise of a successful candidate.

The successful candidate will be expected to establish a vigorous research program that complements and enhances the extensive interdisciplinary engineering network at the University of Wollongong, particularly in the areas of soft robotics, bio-inspired robotics, advanced smart materials and structures and their applications, bionics, and innovative fabrication methodologies including nano/micro/macro manufacturing.

Position Environment:

The School of Mechanical, Materials and Mechatronic Engineering, which is one of the top 10 Engineering Schools in Australia, is committed to research and teaching excellence through its world-class undergraduate and postgraduate programs in a range of exciting technological areas.

Our teaching programs are designed to provide undergraduate and postgraduate students with up to date and high quality training in both the foundations of engineering science and the application of the latest techniques and practices used throughout industry. We pride ourselves on giving our students a comprehensive education program that is not only relevant to the needs of both industry and the engineering profession with an international focus, but also provides them with lifelong learning attributes for a wide range of careers.

One of the strengths of the School is the high number of collaborative links with industries within our local region and also nationally and internationally. As a result, we have an extremely strong track record in developing collaborative research programs with industry and in attracting competitive grants from governmental and industrial sources. The research strengths of our school received the research ranking of **"above world standard"** in the recent Australian Research Council (ARC) ERA (Excellence in Research for Australia) initiative. Our research ranking of **"well above world standard"** in "Interdisciplinary Engineering" is also worth mentioning.

Currently we have a number of significant research programs and projects associated with the Faculty of Engineering including: the Engineering Materials Institute (including the BlueScope Steel Metallurgy Centre); the Intelligent Polymer Research Institute (and associated ARC Centre of Excellence in Electromaterials Science); Institute for Superconducting and Electronic Materials (ISEM); the SMART Infrastructure Research Facility (>\$50m); the Energy Pipelines Cooperative Research Centre (EPCRC) \$17m; the Retrofitting for Resilient and Sustainable Buildings (RRSB) \$25m; the Defence Materials Research Centre (DMTC) and many other exciting fundamental, applied and commercial research projects.

Major Accountabilities/Responsibilities:

Responsibilities		Outcome	Office Use Only
1.	Teach at all levels of the curriculum including the team-taught introductory engineering subjects and specialised subjects to a high standard as assigned by the Head of School	Completion of assigned teaching duties to a high standard as assessed by peer review, student surveys and other performance review systems.	
2.	Contribute to the development of research activities and research outcomes in an appropriate area of biomechanics, biomechanical or biomedical engineering including bio-inspired actuators, sensors and devices based on novel concepts, bio-inspired manufacturing, bio-instrumentation, bio-inspired mechanical design, bio-inspired modelling, depending on the expertise of a successful candidate.	Improved UOW research outcomes and reputation. Attraction of research students to UOW to study.	
3.	Collaborate strongly with various industry partners and research centres within and outside the School.	Secure substantial national competitive grant funding and commercial research funding to support research activities.	
4.	Supervise Higher Degree Research Students	Successful completions of PhD and Masters by research students.	
6.	Administrative duties as specified by the Head of School	On-time completion of assigned tasks to an acceptable standard	
7.	Observe principles and practices of Equal Employment Opportunity	To ensure fair treatment in the workplace	
8.	Have OH&S responsibilities, accountabilities and authorities as outlined in the OHS Roles and Responsibilities Document	To ensure a safe working environment for self & others.	

Reporting Relationships:

Position Reports to:	Head of School
The position supervises the following positions:	
Other Key Contacts:	

Key Relationships:**Contact/Organisation:**

Administrative staff within and outside the faculty
 Cross-faculty relationships
 School/Faculty committees

Purpose & Frequency of contact

Course administration/Student matters/ Research support
 Liaison involving cross faculty activities generally and teaching specifically.
 Course and subject administration

Key Challenges:

- To be a world class teacher and to secure good learning outcomes for all students. This will involve delivery of subjects/programs that provide a strong link to both theory and practical application and provide students with strong motivation and interest.
- To secure national competitive grants (eg. ARC Discovery and Linkage Grants)
- To maintain a high level of research productivity with large numbers of publications in prestigious journals.
- To help maintain an enthusiastic and productive collegial environment.

SELECTION CRITERIA - Knowledge & Skills:

Essential:

- Capability to teach subjects at all levels of the curriculum including the team-taught introductory engineering subjects and specialised subjects in bio-inspired engineering.
- Ability to teach large classes.
- High quality research experience and capability in the biomechanics or biomechanical or biomedical branch; bio-inspired actuators and sensors, bio-inspired manufacturing, bio-instrumentation, bio-inspired mechanical design, bio-inspired modelling, soft robotics and similar that complement research activities in the School of Mechanical, Materials and Mechatronic Engineering, and in the interdisciplinary engineering network at the University of Wollongong.
- Ability to supervise undergraduate and postgraduate research students.
- A strong track record of publications relative to opportunity.
- Ability to win external competitive research grants (such as ARC grants).

Desirable

- Ability to research and teach in topics involving system dynamics and control, engineering mechanics, engineering analysis, advanced mechatronics, robotics, micro and nano systems, innovative fabrication methodologies
- Leadership in curriculum development.

SELECTION CRITERIA - Education & Experience:

Essential:

- PhD in an appropriate area of Mechatronic Engineering or Mechanical Engineering or Biomechatronic Engineering or Biomechanical Engineering or Biomedical Engineering or Bio-inspired Engineering.
- Demonstrated teaching and research experience.

Desirable

- Industrial experience or substantial engagement with industry (eg through academic/commercial research) in an area related to Inter-disciplinary Engineering.
- Documentary evidence (such as formal teaching evaluations) to demonstrate candidate's capability to teach to a high standard.

Personal Attributes:

Essential:

- Team player
- Excellent time management skills
- Excellent interpersonal skills
- Excellent communication skills
- Flexibility and adaptability in a wide range of teaching requirements
- Understanding of international student needs
- Capacity to develop links with professional networks and the industrial community

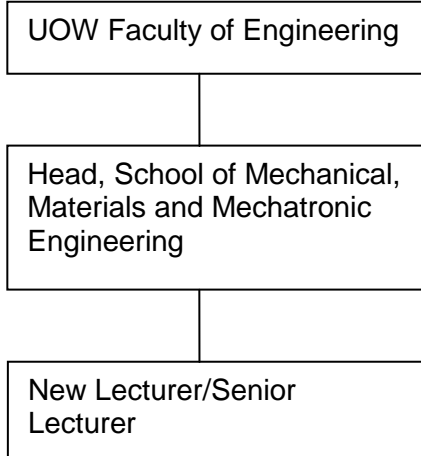
Special Job Requirements:

May be required to deliver subjects on flexible learning basis during week-ends and out of normal work hours

Possible delivery of courses on UOW satellite campuses

Attendance at international and national conferences

Organisational Chart:



Approval:

Approved by Head of Unit: _____
Date: _____

Approved by Personnel: _____
Date: _____

POSITION CLASSIFICATION STANDARD - Teaching and Research

Level: B
Title: Lecturer

Description

A position classification standard describes the broad categories of responsibility attached to academic staff at different levels. The standards are not exhaustive of all tasks in academic employment, which is by its nature multi-skilled and involves an overlap of duties between levels. **Therefore the standards should not be applied mechanistically. Quality of performance is the principal factor governing level of appointment of individuals, and a broadly-worded skill base is set out for each level.**

All levels of academic staff can expect to make a contribution to a diversity of functions within their institutions. Such functions include teaching research participation in professional activities and participation in the academic planning and governance of the institution. The balance of functions will vary according to level and position and over time.

- General Standard
- Specific Duties
- Skill Base

General Standard

A Level B academic is expected to make contributions to the teaching effort of the institution and to carry out activities to maintain and develop her/his scholarly, research and/or professional activities relevant to the profession or discipline.

Specific Duties

Specific duties required of a Level B academic may include

- The conduct of tutorials, practical classes, demonstrations, workshops, student field excursions, clinical sessions and studio sessions.
- Initiation and development of subject material.
- Acting as subject coordinators.
- The preparation and delivery of lectures and seminars.
- Supervision of the program of study of honours students or of postgraduate students engaged in course work.
- Supervision of major honours or postgraduate research projects.
- The conduct of research.
- Involvement in professional activity.
- Development of course material with appropriate advice from and support of more senior staff
- Marking and assessment.
- Consultation with students.
- A range of administrative functions the majority of which are connected with the subjects in which the academic teaches.
- Attendance at departmental and/or faculty meetings and/or membership of a number of committees.

Skill Base

A Level B academic shall have qualifications and/or experience recognised by the institution as appropriate for the relevant discipline area. In many cases a position at this level will require a doctoral or masters qualification or equivalent accreditation and standing. In determining experience relative to qualifications, regard is had to teaching experience, experience in research, experience outside tertiary education, creative achievement, professional contributions and/or to technical achievement.

POSITION CLASSIFICATION STANDARD - Teaching and Research

Level: C
Title: Senior Lecturer

Description

A position classification standard describes the broad categories of responsibility attached to academic staff at different levels. The standards are not exhaustive of all tasks in academic employment, which is by its nature multi-skilled and involves an overlap of duties between levels. **Therefore the standards should not be applied mechanistically. Quality of performance is the principal factor governing level of appointment of individuals, and a broadly-worded skill base is set out for each level.**

All levels of academic staff can expect to make a contribution to a diversity of functions within their institutions. Such functions include teaching research participation in professional activities and participation in the academic planning and governance of the institution. The balance of functions will vary according to level and position and over time.

- General Standard
- Specific Duties
- Skill Base

General Standard

A Level C academic is expected to make significant contributions to the teaching effort of a department, school, faculty or other organisational unit or an interdisciplinary area. An academic at this level is also expected to play a major role in scholarship, research and/or professional activities.

Specific Duties

Specific duties required of a Level C academic may include

- The conduct of tutorials, practical classes, demonstrations, workshops, student field excursions, clinical sessions and studio sessions.
- Initiation and development of course material.
- Course co-ordination
- The preparation and delivery of lectures and seminars.
- Supervision of major honours or postgraduate research projects.
- Supervision of the program of study of honours students and of postgraduate students engaged in course work.
- The conduct of research.
- Significant role in major research projects, including, where appropriate, leadership of a research team.
- Involvement in professional activity.
- Consultation with students.
- Broad administrative functions.
- Marking and assessment.
- Attendance at departmental and/or faculty meetings and a major role in planning or committee work.

Skill Base

A Level C academic will normally have advanced qualifications and/or recognised significant experience in the relevant discipline area. A position at this level will normally require a doctoral qualification or equivalent accreditation and standing. In determining experience relative to qualifications, regard shall be had to teaching experience, experience in research, experience outside tertiary education, creative achievement, professional contributions and/or to technical achievement. In addition a position at this level will normally require a record of demonstrable scholarly and professional achievement in the relevant discipline area.