Make it matter.

POSITION DESCRIPTION (MULTIPLE POSITIONS)

Associate Lecturer/Lecturer
Research/Teaching & Research

Position Level	A/B (fixed term/continuing)
Faculty/Division	Engineering
Position Number	ADMIN ONLY
Original document creation	12/02/ 2020

Position Summary

The Associate Lecturer/Lecturer roles in Systems Engineering will be located within the School of Systems and Computing (SYSCOM) and the Capability System Centre. The position(s) will play a crucial role in developing and enhancing the school's/centre's capabilities in digital systems engineering and mission engineering. The successful candidate will contribute effectively to the systems modelling team and foster productive relationships with University and Defence colleagues, visitors, and students. They will promote and educate the use of digital systems engineering and mission engineering in managing complex systems and systems of systems. The role will also involve leading and supporting research activities across various systems engineering disciplines to broaden and deepen the skills base in addressing current and future engineering challenges, with a particular focus on systems modelling, digital engineering, mission engineering, and advanced manufacturing. The ideal candidate will bring a strong background in these areas, along with a passion for education and research, and a commitment to advancing the field of systems engineering.

The successful candidate may develop a research focused, education focused, or balanced workload. The blend of activities may change over time with the support of the Head of School.

This position reports to Capability System Centre Director.

Accountabilities

Specific teaching accountabilities include:

- Demonstrate and continuously develop a well-defined teaching philosophy that inspires student learning.

- Conduct classes, assess student learning achievements and support students in postgraduate and undergraduate courses in line with UNSW policy.
- Design and develop learning activities and resources, and provide assessment and feedback using a range of suitable approaches and learning environments.
- Initiate the development of experimental approaches to teaching and learning with the support of more senior academics.
- Support learning progression with students as individuals (through such activities as one-to-one consultation) and as a cohort (through general course related advice) to achieve positive learning and employability outcomes for students.
- Manage course administration as Course Authority, including academic quality assurance.
- Maintain professional development in pedagogy, disciplinary knowledge and minimum professional accreditation requirements (where relevant).
- Make a positive contribution to School meetings and seminars and be a member of School/Faculty committees as required.

Specific research accountabilities include:

- Engage in individual and/or collaborative research in a manner consistent with disciplinary practice.
- Create scholarly impact which is recognised by peers in the advancement of disciplinary knowledge.
- Conduct research/scholarly activities under limited supervision, either independently or as a member of a team (as per the norms of the discipline) and design research projects.
- Contribute to the development of applications for competitive funding under the guidance of senior colleagues, including participating as co-investigator or chief investigator in competitive grant applications.
- Mentor and guide students and colleagues and develop the next generation of academics through involvement in supervision of HDRs (as per the norms of the discipline).

Other accountabilities include:

- Align with and actively demonstrate the UNSW Values in Action: Our Behaviours and the UNSW Code of Conduct
- Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others.

Skills and Experience

All roles

- A PhD in the discipline of systems science or systems engineering to the design, architecting and analysis of technical or socio-technical systems, highly preferably with a background experience in areas such as model-based systems engineering, mission engineering, digital engineering, and decision analytics that complements the breadth of expertise of the School/Centre.

- Demonstrated experience in mathematical and statistical modelling including experience in writing computer code to develop optimization algorithms and undertake statistical analysis of complex datasets.
- Demonstrated ability to use and apply systems modelling approaches, such as system dynamics, agent-based modelling and discrete-event simulation, effectively to address complex problem solving in real-life situations. Experience with a multi-method simulation software will be an advantage.
- Demonstrated ability to develop hybrid-modelling approaches and experience in coupled frameworks, e.g., simulation-optimization and simulation-machine learning will be an advantage.
- Proven commitment to proactively keeping up to date with discipline knowledge and developments.
- Demonstrated track record in research with outcomes of high quality and high impact with clear evidence of the desire and ability to continually achieve research excellence as well as the capacity for research leadership.
- High level communication skills and ability to network effectively and interact with a diverse range of students and staff.
- Demonstrated ability to work in a team, collaborate across disciplines and build effective relationships.
- Evidence of highly developed interpersonal and organisational skills.
- An understanding of and commitment to UNSW's aims, objectives and values in action, together with relevant policies and guidelines.
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training.

Teaching roles

- Demonstrated experience in teaching and learning design, development and delivery at undergraduate and/or postgraduate level.
- Experience using and/or designing with educational technologies and online delivery methods.
- Evidence of teaching effectiveness and passion for educational excellence (e.g. relevant discipline-based curriculum design and development at a variety of levels and scales).
- Evidence of ability to support and inspire students from diverse backgrounds and support student equity, diversity and inclusion initiatives.

Pre-employment checks required for this position
- Verification of qualifications