

# UNSW



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Defence White Paper Team  
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To whom it may concern,

## UNSW RESPONSE TO 2008 DEFENCE POLICY DISCUSSION WHITE PAPER

The University of New South Wales welcomes the opportunity to provide this submission on the "*Key Questions for Defence in the 21<sup>st</sup> Century*".<sup>1</sup>

### 1. Introduction

Maintaining a strong defence tertiary teaching and research program is essential. *The Defence White Paper must recognise that UNSW's research and teaching in defence and defence-related areas are critical in underpinning the future Defence workforce and infrastructure for a secure Australia.*

The discussion paper notes that 'Management of the Defence workforce, both military and civilian, requires special consideration, above and beyond any other capability dimension.' One critical element in the Defence personnel strategy must be a modern, effective and efficient approach to the education of the Australian Defence Force (ADF) personnel and civilian Defence employees.

### 2. UNSW'S Strong Relationship with Defence

UNSW is uniquely positioned to respond to the White Paper because of our continuing strong relationship with Defence primarily through UNSW@ADFA.<sup>2</sup> ADFA is a unique partnership between the Australian Defence Force (ADF) and UNSW which has been providing training and education for the future leaders of the Navy, Army and Air Force for over 40 years (since 1967), as well as some of our international allies. UNSW@ADFA currently reports annually on its performance against the contract with Defence and has regularly been assessed as performing well beyond the minimum requirements.

The military training combined with the university education students undertake, ensures Defence personnel possess the knowledge, skills, professional abilities and qualities of character appropriate to Officers in the ADF. Furthermore, as part of a critical investment in future capability, the White Paper must recognise that UNSW@ADFA plays, and must continue to play, a key role in the attraction and recruitment of high quality people, the development of their professional skills and the retention of Defence staff.

*The White Paper needs to explore fully the issue of subsidized education of serving Officers, Cadets, Midshipmen and civilian Defence employees, as a means of mitigating against the inevitable skills shortage that the ADF will experience in the future.*

<sup>1</sup> This response has been developed through consultation with UNSW staff from Kensington and UNSW@ADFA and is being made as a whole of institution response.

<sup>2</sup> See <http://www.unsw.edu.au/adfa/> for further information.

### *Undergraduate training:*

ADFA currently has over 1000 enrolled undergraduate students and produces around 40% of the officer intake for the ADF. In an increasingly competitive labor market, UNSW@ADFA works in partnership with the three services and Defence Force Recruiting to ensure that the Academy is effectively promoted to the target market, and that the benefits offered by the Academy are utilized to attract candidates of the highest quality.

***The White Paper must recognise that UNSW@ADFA provides the framework of progressive academic study at a campus of UNSW, allied with ADFA military training and skills development.***

Objective measures clearly show that UNSW is rated amongst the highest in the country for delivery of quality education, a key factor in attracting future officers.<sup>1</sup> ADFA officer cadets and midshipmen are introduced early in their career to the concept of lifelong learning which will also form part of the Officer Education and Training phases of their employment within the ADF.

### *Postgraduate training:*

ADFA has approximately 700 enrolled postgraduate coursework students and education is delivered through UNSW@ADFA to over 600 serving officers and Defence personnel every year, with over 75% studying externally. Over the last three years, this number has increased significantly, allowing Defence to highlight postgraduate education as an effective recruitment and staff retention tool.

The Service-sponsored provision of education to serving Officers and civilian employees at UNSW@ADFA achieves a number of purposes:

- Defence is seen to be an Employer of Choice, focusing on career development and providing ready access to internationally recognized academic qualifications.
- ADF personnel remain at the forefront of their profession and can also specialize in key areas such as logistics, project management or information systems.
- Civilian personnel have access to higher qualifications which enhance their promotion prospects and allow mobility within different employment streams in Defence.
- Flexible learning techniques and alternative delivery methods such as intensive and distance modes contribute to the retention of officers and civilians, attrition rates are reduced and skill shortages can be targeted.

### *Case Study*

In 2002, the RAAF Professional Development Program was introduced to fund the development of a Master of Engineering Science in Aerospace Engineering at UNSW@ADFA, as part of the Engineers Retention Scheme. Delivered by intensive mode for 40 Aerospace Engineers (and requiring no return of service obligation), students attend one week of residential school on campus and the remainder of the course is completed in distance mode. Shortly after the program was introduced, the attrition rate for RAAF Aerospace Engineers fell dramatically from 17% to approximately 5%. RAAF gained a more experienced and skilled workforce, reducing the need to train new engineers and so the benefits far outweigh the cost of the program.

<sup>1</sup> See <http://www.gooduniguide.com.au/ratings/search> for more information

### *Research & Research Training*

UNSW is ranked by the *Times Higher Education Supplement* in the top 30 technological universities in the world<sup>4</sup> and has a strong reputation in research which underpins the quality education provided to both undergraduate and postgraduate students. This has allowed our students to be inspired by and to learn first-hand from academic staff, who are involved at the frontiers of knowledge and, who can convey the intimate research discovery experience that cannot be learnt from textbooks.

Students are able to acquire the skill sets and ethical dimensions to leadership, that enable them to learn what questions to ask, how to obtain knowledge, how to synthesise information, how to push the boundary of knowledge, and therefore how to solve new problems and handle unforeseen circumstances. This is particularly important for developing future ADF leaders in this age of a rapidly evolving world and the ever expanding role of the ADF.

As a member of the Group of Eight<sup>5</sup> research-intensive universities, UNSW has identified "**Defence and Security**" as a research strength<sup>6</sup> which is underpinned by a broad range of areas including: homeland security, uninhabited aerial vehicles, hypersonics, quantum computing, detectors and sensors, materials science, interactive graphics and advanced visualisation, financial markets, law & human rights, e-security, complex systems, international politics and terrorism.

More than 50 defence-related research projects are currently being undertaken by UNSW across a wide range of Faculties including ADFA, Engineering, Science, and Arts and Social Sciences, and we receive funding for defence research from a wide base including the DSTO, Australian Research Council and the United States. Current projects range from "*Discipline, Morale and Winning Wars: Understanding the Relationships Between Discipline and Combat Performance in Low-Intensity Conflict*" which is examining discipline and morale as key factors in the combat performance of armies, particularly those engaged in Low-Intensity Conflicts, to "*Molecular Fingerprinting- Forensic Spectroscopy of Trace Gases*" which is examining ways to enhance Australia's potential aid for early detection of explosive and chemical weaponry and also in the analysis of crime scenes. These research programs will significantly improve our abilities to maintain the operational advantage of Australia's security agencies through superior capabilities in threat detection.

UNSW has developed a strong collaborative relationship with DSTO and this has directly benefited the education of ADF personnel and increased the research capability of future operations in the ADF. The ADF can only maintain a technological edge over any likely adversary by investing in UNSW and other tertiary institutions to harness the research talents and innovations in defence-related research.

***The White Paper needs to explore the possibility of harnessing the research talents of the wider scientific community to ensure that the ADF maintains a technological edge over possible adversaries.***

UNSW would welcome the opportunity to contribute further to the development of the White Paper should the Review Panel have any questions.

Yours Sincerely,

  
1/10/08  
Professor Les Field  
Deputy Vice-Chancellor (Research)

<sup>4</sup> See <http://www.topuniversities.com/worlduniversityrankings/> for further information

<sup>5</sup> See [www.g8.edu.au/](http://www.g8.edu.au/) for further information

<sup>6</sup> See [http://www.dvcresearch.unsw.edu.au/researchstrength\\_8August2008.pdf](http://www.dvcresearch.unsw.edu.au/researchstrength_8August2008.pdf) for further information