The DA-42 is used by the UNSW for multi-engine training.

paul sadler
A matter of degree

UNSW’s Flying Operations Unit offers a unique path for aspiring professional pilots

Writer: Owen Zupp

The success of the aviation industry is dependent upon the efforts of many individuals in a diverse range of roles. Pilots constitute a relatively small number of the total workforce and within their ranks even fewer undertake secondary roles in audit, operations, safety and management. At the University of New South Wales’ (UNSW) Flying Operations Unit, these specialist duties are firmly in their sights.

A higher goal

When UNSW was founded in 1949 the Tiger Moth was the primary trainer of the RAAF. A good deal has changed in the subsequent 64 years in aviation, although the advent of formal tertiary qualifications for civil pilots has only really grown in the last decade or so. In that time UNSW has been able to draw on its long-established experience in the world of higher education to develop both undergraduate and postgraduate courses through its School of Aviation.

UNSW is one of the ‘Group of Eight’ – a coalition of Australian universities intensive in research and comprehensive in general and professional education. Of the eight, it is the only university that offers a flight training option through the university. The degree of Bachelor of Aviation is offered by the Faculty of Science with input from the Faculty of Engineering. However, pilot training is only one aspect in a School of Aviation that caters for a broad range of education across the industry.

The task of training those pilots falls on the Flying Operations Unit based at Bankstown Airport. Equipped with a modern fleet of 15 aircraft and an impressive synthetic trainer, this is where the practical flight training component of the undergraduate’s studies takes place. At the unit’s head is the Director of Flight Operations, Brian Horton, an experienced check and training airline captain with a wealth of instructional experience in general aviation as well.
In conversation with Brian the theme of UNSW flight operations seems to centre on quality rather than quantity. He openly recognises the university is not looking to train thousands of pilots each year and it doesn’t align itself to compete with those that do. Instead it will graduate 30-35 pilots in a typical year. In a changing landscape where part-time student pilots are giving ground to the increasing number of airline cadet schemes and academies, UNSW retains its focus on producing aviation’s leaders and managers of tomorrow.

To achieve this higher goal, students undertake units of credit in tailored aviation subjects in a university environment. These subjects are above and beyond those required for the issue of a CASA commercial pilot’s licence and instrument rating. All students complete units in mathematics and physics in the first stage to meet mandatory recruitment requirements that many aspiring aviators have overlooked in their final year of high school. On casting an eye over the subsequent subjects on offer, it is easy to see how not solely a pilot, but a potential manager is developed over the three-year course. Statistics, airline management, aviation safety, air traffic management, aviation transport economics, the list goes on. All the while the quality of projects and submissions must be completed to the standards of the university realm, using the research, processes and formats that are standard. This undoubtedly provides a solid base for any pilot should they choose to share their flightdeck with the demands of a desk job at a later date.

On campus
Bankstown Airport is a different setting from the university’s Kensington campus. The sound of aircraft overhead filters down into the modern administration block, while classrooms and briefing facilities adjoin the apron where the fleet sits at the ready. The majority of the aircraft on the line are modern Diamond DA-40 trainers, with a DA-42 for multi-engined training. Additionally, there is a Cessna 182RG and a Piper PA-44 Seminole that are used for research projects in keeping with the philosophy of the university.

While some schools within the flight training sector are quiet there is a throb of activity at the Bankstown campus. Students with epaulettes on their shoulders and textbooks beneath their arms stride along the corridors between the classrooms. Others sit attentively in briefing rooms or draw material from the row of computers along the wall nearby.

Behind one door a large room is almost filled with a Frasca DA-40/DA-42 type synthetic trainer. It is designed and manufactured to meet the requirements of FAA Level 5 standards.
The focus on candidates possessing managing upwards traditional flying schools. and merit that is sometimes absent in candidates will undertake honours in a flight instructor rating into their offered the opportunity to incorporate based on their performances and are talented candidates are identified automatic process. Typically two trained at UNSW, but this is not an number of instructors that once standardisation is further aided by the documentation and hardware. procedural detail are evident in both the documentation and hardware. Standardisation is further aided by a number of instructors that once trained at UNSW, but this is not an automatic process. Typically two talented candidates are identified based on their performances and are offered the opportunity to incorporate a flight instructor rating into their course. Just as only two to four candidates will undertake honours in any year, there is a sense of selectivity and merit that is sometimes absent in traditional flying schools.

Managing upwards

The focus on candidates possessing a balanced approach to both flying skills, university studies and a career in aviation is carefully managed and monitored by the UNSW. A good deal of input in relation to the school’s direction stems from an industry advisory committee that comprises airline leaders and operational managers. The members include David Forsyth (chair), formerly executive general manager operations at Qantas, Capt Chris Hine, chief operating officer at Regional Express and Tom Powell, manager network operations, Virgin Australia, to name just a few.

The university also promotes guest lecturers with an emphasis on former graduates of the UNSW system. It is a process that has aided the way in which the university takes an interest in their graduates once they have moved into the industry. A recent lecture was given by a past student who is now an F/A-18 test pilot with the RAAF’s Aerospace Operational Support Group, so commercial operators are not the only employers of UNSW graduates. To date, 90 per cent of graduates are flying commercially and one would suspect gaining valuable experience to ultimately move into management.

Looking ahead, Brian Horton explains that just as the university continually reviews its academic content, it is also setting out a path to navigate the changes to Part 141 and Part 142 flight training operations. The changes are set to impact the flight training landscape in a number of ways, but significantly the ability to offer integrated training. Initiated decades ago, a small number of flight schools were granted a concession in the hours of flight training required by virtue of their approved full-time course of study. Over the years that approval has shifted from just a few organisations to a far greater number.

In December the changes will come into play and they will separate schools into either Part 141 or Part 142 operators with only the latter approved to offer an integrated syllabus. The number of integrated schools is set to drop significantly and Brian highlights that UNSW is focused on maintaining quality course content that will see it gain approval under the stringent criteria of Part 142. From the students to the syllabus to the director of flight operations, nothing at the UNSW is left to rest on its laurels.

Leaders of tomorrow

The sense of purpose that pervades the UNSW campus at Bankstown is readily seen. Staff and students alike understand that they are at a flying school, but they also recognise the significance of the more specialised training on offer. It is an environment that strives to cultivate a young pilot beyond the manipulative and management skills of the cockpit. Graduates will leave the school with a lifetime of learning still ahead of them in terms of their logbooks, but in their flightbag they will carry the skill-set to manage and organise a fleet rather than just the aircraft under their command.

Undoubtedly, the UNSW School of Aviation’s long-term philosophy is not for all applicants, but then again it doesn’t advertise itself as such. It offers a sound option to that percentage of every group of trainee pilots that ultimately aspires to assume a role beyond the flightdeck. Just as the Australian Defence Force Academy (ADFA) prepares a percentage of defence force officer recruits for senior leadership later in their careers, so too does the philosophy of the School of Aviation at UNSW. Interestingly, UNSW is also the university that schools those leaders of Defence at ADFA.

The transition of pilots into managers in times past has occasionally proven a challenge. Talented aviators sometimes struggled to grasp management principles while the naturally gifted few were able to adapt and make the new role their own.

Aviation is a competitive business and requires that its leaders of tomorrow are capable of managing safely and productively the flight departments with which they are entrusted. Through a sound academic grounding alongside a thorough syllabus of flight training, the University of New South Wales seeks to produce those leaders.