Aviation at UNSW

The Aviation Industry comprises a multi-faceted environment demanding skills in many disciplines. Students studying Aviation at UNSW are exposed to a high degree of interaction with academic staff and industry personnel.

Many staff members have wide-ranging experience in both the Australian and international aviation industries. Degrees offered by our School are uniquely international in their application, demanding a high level of cultural and political awareness.

Our School consists of a small core of permanent staff members, together with a number of affiliated academics sourced from within the aviation industry. UNSW Aviation has its own Flying Operations Unit at Bankstown Airport, where students have access to lecture rooms, a flight simulator and aeroplanes for training and research applications.

UNSW Aviation’s strength lies in our faculty/industry structure and its qualified and versatile team, which includes an ever-growing number of high calibre industry participants. School staff are in constant dialogue with regulatory authorities and a wide cross section of aviation representatives. UNSW Aviation is committed to the high standards essential to the future of the aviation industry in Australia and throughout the world.

We offer short courses for the aviation industry. Successful completion of the short courses can lead to the recognition of prior learning (RPL) towards the postgraduate degrees in aviation. Recent short courses have been held on:

– Airline Accident Investigation

Undergraduate degrees in Aviation

The Bachelor of Aviation (BAv) focuses on developing promising graduates who are skilled in every facet of the aviation profession. The degree is continuously updated to keep pace with the current developments and trends. You will graduate with attributes, skills and knowledge to facilitate advancement to positions of management and influence within the aviation industry.

There are two streams within the Bachelor of Aviation: Flying and Management.

The Flying stream offers an integrated degree consisting of the academic core alongside quality flight instruction. The flight training comprises over 60 weeks of dedicated aviation theory and practical training, including up to 240 hours of flight instruction time.

Upon graduation, successful students will hold a Bachelor of Aviation degree as well as a Commercial Pilot Licence (CPL) with Multi Engine Command Instrument Rating (ME-CIR) and Air Transport Pilot Licence (ATPL) subjects. A Grade Three Instructor Rating or one of the advanced ratings may be selected from the final year options (the above applies if you opt for the three-year flight-training program and meet all the training requirements).

The Management stream shares a common academic core with the Flying Stream. In place of flight training, this stream offers students a wide range of additional management courses such as Operations Management, Aviation Economics, Law and Regulations, Airline Marketing and Safety Management.

This stream is designed for school leavers with an ambition for a career in aviation management.

Both streams include a common academic core of science, engineering and aviation courses, many of which have been structured specifically for the Bachelor of Aviation degree.
Postgraduate Research

In addition to the Masters degree (MScTech), the School of Aviation offers a Master of Philosophy (MPhil), a Master of Science by Research (MSc) and a Doctor of Philosophy (PhD) for exceptional students at the postgraduate level in areas relating to aviation. The degree is available on a full-time basis (and by special arrangement part-time) and will take up to two years to complete. The degree requires you to focus on a major research under the supervision of one or two academic supervisors. If you wish to embark upon a Research Degree you should choose an area of study and conduct some preliminary research into the viability of the proposal. At this point, you should then approach the School, who will review the proposal and if accepted the School will nominate a supervisor. Research is normally conducted at the UNSW campus in Kensington or at our Flight Training Facility at Bankstown Airport. Research students are provided with office space and access to computer and library facilities throughout their enrolment.

Topics include

- Management of Regional and General Aviation
- Aviation Human Factors
- Aviation Research Methods
- Aviation Operations Research
- Airline Economics
- Fundamentals of Aviation
- Aviation Law and Regulations
- Simulation Applications and Air Traffic Management
- Aviation Safety and Resource Management
- Airline Marketing Strategies
- Airline Management
- Airline Resource Management
- Security and Airport Management
- Micro-economics
- Managing People
- Workplace Safety
- Aviation Financial Analysis and Decision Support
- Physics (Aviation)
- Mathematics and Applied Statistics
- Energy and Environmental Physics
- Aviation [engineering, performance and system] Technologies
- Aviation and Sustainable Tourism
Postgraduate Coursework

The Master of Science and Technology in Aviation (MScTech) and its associated degrees, the Graduate Certificate in Aviation Management and the Graduate Diploma in Aviation Management, are offered through distance education and have been specifically designed for students who are unable to attend weekly sessions at the University. The MScTech is targeted at professionals and managers who work in aviation related environments. The syllabi are designed to ensure industry relevance, drawing upon a range of current and diverse fields within the aviation industry without sacrificing academic excellence. The flexibility of the MScTech in Aviation ensures that you have the opportunity to combine core aviation courses with other disciplines, thus catering to your particular needs.

Students can tailor their program to suit their own requirements. The course materials are written by UNSW academics and industry experts, and are designed to be relevant to current and future needs. Each course has been designed to guide you in the most effective and efficient way. As new concepts are introduced, practical exercises are provided so you can develop skills that can be applied immediately in the work place. Each course has its own facilitator who is responsible for interacting with the students and enabling students to interact with one another.

The course facilitator leads discussion groups, ensures participation in web-supported activities, advises students on where to source research materials and responds to questions relating to course assignments. The facilitator also sets and assesses assignments and exams.

Assessment is an integral part of the learning process. Most courses have a combination of assignments and examination. Where possible, assignments relate to the transfer of theory to workplace situations. As such, many of the tasks undertaken at work can be for assessment purposes, therefore reinforcing theory in a practical way and benefiting both you and your employer.

For more information about the postgraduate degrees, please contact:

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Postgraduate courses offered include:

- Law and Regulations
- Aviation and Security
- Aviation Safety and Accident Prevention
- Airline Operational Management
- Airport Planning
- Airport Operational Management
- Air Traffic Management
- Airline Corporate Management
- Aviation Human Factors
- Aviation Research Project
- Aircraft Accident Investigation Techniques
- Flight Deck Operations for Advanced Transport Aircraft
- Airline Incident Investigation / Aviation Ground Safety Investigation
- Aviation Systems Safety
- Human Factors in Transportation Safety
- Aviation and Tourism: Geographic and Economic Perspectives
- SRM: Human Performance
- SRM: Physical Hazards
- Airport Economics, Management and Policy
- Quantitative Analysis in Aviation Economics
Current PhD Projects

Our School of Aviation offers a Doctor of Philosophy (PhD) for exceptional students. The degree takes four years to complete on a full-time basis, and requires you to focus on a major research project under the supervision of one or two academic supervisors.

If you wish to embark upon a Doctor of Philosophy degree should choose an area of study and conduct some preliminary research into the viability of the proposal. At this point, the student should then approach the School, which will review the proposal and nominate a supervisor. Research is normally conducted at the UNSW campus in Kensington or at our Flight Training Facility at Bankstown Airport. Research students are provided with office space and access to computer and library facilities throughout their enrolment.

Current and previous PhD Projects include:

- Cosmic rays and their effects on aircraft occupants
- Automation and air traffic control systems
- Aviation security and passenger profiling
- Does pilot attitude equate to pilot behaviour?
- Customer choice in air cargo markets
- Defect reporting cultures in Australian aviation
- Situational Awareness - A social psychological perspective
- Low cost carrier networks and effects on regional tourism
- Remote sensing instrumentation
- CASA regulatory oversight program
- Airline-airport supply relationship in tourism and non-tourism regions

Aviation in the 21st Century

The aviation industry has one of the highest and most consistent growth rates of any industry over many decades.

At present the aviation industry is experiencing a renaissance in growth unprecedented since post World War II, requiring more pilots and aviation professional to facilitate this demand.

Career Opportunities

An Aviation degree from UNSW is highly regarded within the aviation industry, as our graduates are equipped with relevant skills and exposure to the industry. As the Bachelor of Aviation degree indicates, the career opportunities are not limited to being a pilot or working for an airline. Management graduates can expect to find employment with airlines, airports, government agencies such as the Commonwealth Department of Transport, tourism authorities seeking aviation expertise, air traffic services, areas of management for the Defence Forces, management consultant organisations and air safety authorities.
Hanson So
Graduate of Bachelor of Aviation (Management)
I graduated from the Bachelor of Aviation (Management) degree, an industry-specific degree covering a wide range of aspects in the aviation industry, from airline management strategies to human research on factors that affect pilots.

My lecturers came from both academic and industrial backgrounds so there was a nice balance between theory and practical knowledge. One thing that I enjoyed the most about my degree is the ability to choose from a comprehensive list of elective courses across different faculties, such as the Faculty of Engineering and the Australian School of Business. For instance, I learnt about the day-to-day operations of airlines, which involve understanding about data management and business forecasting. One of my proudest achievements was the Qantas internship I undertook during the summer of 2008. Whilst working for Qantas Group Safety, I acquired more knowledge and experience than I thought was possible. This internship adventure assisted me personally and in terms of my career by instilling leadership and management skills. Furthermore, it opened my eyes to the real world of aviation.

I now work for Virgin Australia Airlines in their Revenue Management Department where I have utilised many of the skills that I have learnt throughout my undergraduate studies.