

# Aviation

## Studying in the Department of Aviation at UND means your degree program will prepare you for your career—and your life. . .

As a UND Aviation student, you not only receive the finest aviation education available, you're attending a highly respected university. Always at the forefront of technology, the Odegard School of Aerospace Sciences has earned national acclaim for its achievements in collegiate aviation education and atmospheric research. The School has received a steady stream of multi-million dollar research contracts and attracted students from every state and at least a dozen foreign countries.

### What you can do with a major in Aviation. . .

The future looks very good for UND Aviation student graduates. Graduates serve as flight instructors, airport management, airline and corporate pilots, aviation managers, and air traffic controllers, among other jobs.

### Program Options. . .

The Department of Aviation offers seven different majors in two degree programs. The Bachelor of Business Administration degree may be earned in either Aviation Management or Airport Management, and is granted by the College of Business and Public Administration. The Bachelor of Science in Aeronautics may be earned in Commercial Aviation, Unmanned Aircraft Systems, Flight Education, Air Traffic Control, or Aviation Technology Management and is granted by the John D. Odegard School of Aerospace Sciences.

### Unique characteristics of UND's Aviation program. . .

- Cooperative Education/internship experiences allow students to secure salaried, career-related work experiences under the supervision of both a sponsoring employer and the appropriate academic department, while at the same time receiving academic credit. Cooperative Education/Internships are available throughout the year.
- In cooperation with the US Army ROTC Scholarship Program, helicopter training in private, commercial pilot, and instrument is offered for students enrolled in four-year aviation degree programs. Three and four year Army ROTC scholarships can pay for tuition, books, and up to \$85,000 worth of flight training in the Helicopter Flight Training Program.
- The Department scholarship program features over 120 scholarships, with a total value of over \$380,000.

### Getting in. . .

- Students start as pre-aviation and need 24 semester credit hours and a 2.5 GPA in order to declare a more specific aviation major. Students may take aviation classes and initial flight courses as a pre-aviation major.
- Contact Student Services regarding flight course training requirements and costs (1-800-258-1525).

### It's A Fact. . .

- Average class size for courses in the major is 30 or less.
- 30+ faculty in the department.
- There are 1,200 students in the UND Aviation program.
- A comprehensive industry relations and career placement program is coordinated through Odegard School Student Services.
- 17 aviation-related student organizations are active on campus.
- The program was started in 1968; at that time it offered the nation's first four-year degree that combined an undergraduate business degree with an in-depth aviation education and professional flight training.
- Commercial Aviation and Air Traffic Control major programs are accredited by the Aviation Accreditation Board International. Aviation Management and Airport management major programs are accredited through The Association to Advance Collegiate Schools of Business.
- There is an Aviation-specific career fair held during Spring semester that is well attended by industry representatives.
- Students experience hands-on training: plane, ATC simulator, CRJ field training device, and Frasca Flight Training Devices (FTDs).
- UND Flight has one of the world's largest collegiate flight training fleets incorporating modern "glass flight deck" Cessna 172s, Piper Warriors, and Piper Seminoles.
- The Department fleet of over 120 aircraft includes turbine-powered airplanes, piston-powered and turbine-powered helicopters and 14 flight simulators.
- FAA Level 6 certified Canadair Regional Jet CRJ-200 regional jet FTD for training pilots in a modern, glass-cockpit regional jet provides experiences in high speed, high altitude aircraft operations that focus on crew integration with modern technology automation. Airlines have found that students who take have taken this course are very successful during their airline training.
- Flight environment – fully-instrumented airport with parallel runways; modern 90-foot ATC facility on-site; approach control by Grand Forks Air Force Base (15 miles to the west); 12 satellite airports within 40 miles available for VFR and IFR operations.
- Altitude Chamber – one of the few civilian-operated hypobaric chambers used for training purposes for aviation physiology training program.
- Helicopter flight training may be substituted for fixed-wing for all aviation majors.

Information continued on reverse. . .

**It's A Fact (continued). . .**

- Flight Simulator Lab – 14 fixed-base devices with high resolution color visuals (eight SEL FTD, four MEL FTD, one CRJ FTD, one HELO FTD) – all multi-crew simulators (specifications to simulate training fleet aircraft) including FAA Level 3, Level 6, and AATD certified devices.
- Frasca Helicopter FTD – specially designed helicopter FTD with three channel display and ground illumination to simulate both the Bell 206 Jet Ranger and the Schweitzer 300C (Hughes 300) helicopters.
- Air Traffic Control Simulation Lab – 24 seat state-of-the-art ATC simulator; teaches radar and non-radar ATC procedures and methodology; simulates enroute or terminal airspace scenario worldwide; simulates ARTS III and Stage A operations and features of AAS; 225° tower simulator has voice recognition and is integrated with eight radar stations; 360° tower with 12 radar stations.
- UND Aerospace Test Center – Delivers FAA knowledge exams plus IT exams; dedicated facility with 15 computer learning workstations (including four PC-ATD's) delivering custom in-house developed training software providing instruction in aircraft systems, procedures, instrument flight and examination tutorials; includes procedures and systems training software from Airbus A320 FMGS (flight management guidance system).
- Aerospace Network (ASN) Distance Learning Broadcast Center – Developed with \$10 million FAA Airway Science grant to equip interactive video classroom; satellite uplink to permit sharing aviation education and flight instruction materials with network of collegiate aviation programs and development of computer-based instructional tools; provides support for worldwide distance delivery to students in Space Studies and Aviation Master's programs.
- The University of North Dakota is offering more online courses and degree programs than ever before to provide you with additional flexibility. Please visit [www.distance.und.edu](http://www.distance.und.edu) for more information or call toll free at 800-342-8230 or 701-777-3044.

**In Addition. . .**

- Research conducted in the department involves both graduate and undergraduate students as research assistants. In addition many undergraduate students are utilized in the gathering of data for this research. Specific research being conducted is listed below.
  - Weather in the flight deck: to determine what weather information pilots need during different phases of flight digitally broadcast to the flight deck.
  - Helipad lighting: to determine the most effective lighting standards for the FAA to help improve safety in Emergency Medical Services (EMS) flight operations.
  - Runway friction: looks at the actual stopping distances against the runway braking action values disseminated to pilots to better communicate what listed braking values actually mean to the pilot.
  - Unmanned aircraft systems: several different studies deal with UAS operations in the National Airspace System.
  - Flight data maintaining: determine the best way to obtain, process, and disseminate various safety data to pilots and organizations to enhance overall aviation safety.

**In Addition (continued). . .**

- By definition the education of professional pilots and air traffic controllers (ATC) must include an extensive hands on learning component. Flight in actual aircraft and use of flight simulators are utilized in the professional flight degree programs. The ATC curriculum relies on extensive use of sophisticated ATC simulators. The aviation program also has several internships throughout the year that are available to the students. Several computer simulations and software are incorporated into the classroom, focusing on airline management and both basic and advanced aircraft systems. An altitude chamber (students take three rides in it to learn their symptoms of altitude and lack of oxygen) and an illusions simulator that creates 30+ vestibular and visual illusions are part of the program.
- The department has internships with many different companies in the aviation industry, including airlines, airports, corporate flight departments, fixed base operators, and aviation insurance companies and aircraft manufacturers.
- The department has high expectations of the students and faculty alike. Faculty are very approachable and are involved with the students, maintaining 10 hours/week devoted to posted open office hours for students.
- UND's Aviation program prides itself on a core strong liberal arts education surrounded by a focused, comprehensive professional education in aviation. The department's concern over the importance of a liberal arts education can be shown through the non-aviation component of the degree programs that include 15 credits of communication courses (3 writing) instead of the minimum of 9 credits. We are also one of the few departments that require a full year of a foreign language as a requirement in all of our degree programs.
- We use the most up to date aircraft (the training fleet is never older than 7 years) and simulation equipment and other equipment like the altitude chamber. We are the only aviation program with its own altitude chamber.
- We are a large department with a sizeable faculty who have a wide variety of professional background experiences including general aviation (aviation maintenance, FBO management, flight instruction, charter operations, and bush flying operations), military (pilots, training, and command), airlines (pilots and management), aviation law, aviation medicine/human factors, airport management, and air traffic control.

**For more information. . .**

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