Aerospace Sciences
PhD

The mission of the Aerospace Sciences Ph.D. program is to provide interdisciplinary teaching and research at the highest academic levels. The goal is to provide highly educated scholars and leaders with the skills necessary to mix technology and science with an understanding of the politics and economics of the aerospace fields.

1. Students will develop a thorough knowledge of the aerospace elements specifically related to the Aviation and Space Studies disciplines that will allow them to be successful leaders in the industry by applying solutions gained through theory and applied research.
2. Students will enhance their analytical, technical, research and communication skills through classroom and research activities to further develop an ability to carry out independent, original and applied research.

Students will further develop the critical skill set needed to enable them to fill leadership roles within government and research agencies, educational institutions or private aerospace and aviation sector companies.

Admission Requirements
The applicant must meet The School of Graduate Studies’ current minimum general admission requirements as published in the graduate catalog. All elements must be complete by the published application date. The additional requirements for admission to the Aerospace Sciences Ph.D. program are as follows:

1. A Master’s or graduate degree from an accredited institution with a GPA of at least 3.25/4.0
2. Submission of a statement of personal goals
3. Professional resume
4. Satisfy the School of Graduate Studies English Language Proficiency requirements as published in the graduate catalog.
5. The Graduate Record Examination (GRE) General Exam
6. Industry experience preferred

Financial Assistance
Financial aid in the form of teaching, research or service assistantships and tuition waivers are available from a variety of internal and external sources and are awarded on a competitive basis. These appointments are renewable if students are making satisfactory progress toward the degree and their work is satisfactory. Applications for funding opportunities should coincide with the program application date.

Degree Requirements
• Ninety credits beyond a baccalaureate degree. With approval of the Aerospace Sciences Ph.D. Program and the UND School of Graduate Studies, up to thirty credits from a master’s degree from an accredited institution can be applied toward the requirements of the doctoral degree.
• Successful completion of sixty semester credits beyond the master’s degree
• Successful completion of qualifying exam prior to advancement to candidacy
• Twelve to eighteen semester credits of dissertation (AVIT 999 Dissertation or SPST 999 Dissertation) and successful defense of the dissertation
• Required core courses AVIT 501 General Issues in Aviation/Aerospace, SPST 501 Survey of Space Studies I, AVIT 521 Ethics in Aerospace and AVIT 590 Aviation Seminar/SPST 590 Space Studies Colloquium
• Six to twelve semester credits of Scholarly Tools beyond the Master’s degree requirements
• Remaining coursework from Aviation/Space Studies or other UND approved Graduate Courses
• Residency requirement: as determined by student’s advisor and/or committee, at a minimum the student will be required to be on campus for one week per year.

There are four required core courses, in addition to the Scholarly Tools component. These courses may have been part of the student’s MS program and cannot be counted twice.

1. AVIT 501 General Issues in Aviation/Aerospace
2. SPST 501 Survey of Space Studies I

Apply online: http://graduateschool.und.edu
Deadlines apply. See our website for more details.

Last Updated: 6/5/2014
Email: questions@gradschool.und.edu
3. AVIT 521 Ethics in Aerospace  
4. AVIT 590 Aviation Seminar/SPST 590 Space Studies Colloquium: (2 semesters, 2-4 credits total)

The Scholarly Tools requirement is 6 to 12 semester credits, to be determined by the student's advisor and/or committee, from the courses listed below. These courses are in addition to what may transfer as part of the student’s Master's degree program. Therefore, a minimum of six credits will be required as part of the PhD program.

- AVIT 503 Statistics (or equivalent)  
- AVIT 504 Research Methods  
- SPST 504 Course SPST 504 Not Found  
- AVIT 505 Qualitative Research Methods  
- AVIT 506 Quantitative Research Methods  
- AVIT 507 Advanced Research Methods

**Aviation Faculty**  
Ernest Anderson, Associate Professor: Aviation Enforcement Law, Public Policy & Regulations and Helicopter Training  
Elizabeth Bjerke Ph.D., Associate Professor: Associate Chair; Issues in Aviation and Research Methods  
John Bridewell, Ph.D., Professor: Unmanned Aerial Systems  
Paul Drechsel, M.S., Associate Professor: Air Traffic Control  
Jim Higgins, M.S., ATP Associate Professor: Airline Labor Relations, Statistics  
Warren C. Jensen, M.D., Professor: Aerospace Medicine, Human Factors  
Kim Kenville, Ph.D., C.M., Professor and Graduate Director: Economics, Organizational Behavior, and Airport Planning  
Paul Lindseth, Ph.D., Professor and Assoc. Dean: Research Methods, Capstone  
Kent Lovelace, M.S., Professor and Chair: Education and Training  
Tom Petros, Ph.D., Professor: Psychology, Statistics  
Charles Robertson, Ph.D., Associate Professor: Information Technology, Instructional Design  
Bruce Smith, Ph.D., Dean and Professor: Instructional and Training Systems Design  
Gary Ullrich, M.S., Associate Professor: Safety Management Systems  
Brett D. Venhuizen, J.D., Associate Professor: Law  
Bill Watson J.D., Assistant Professor: Advanced Safety Management, Helicopter Training

**Space Studies Faculty**  
James G. Casler: Business and management, space commerce, quality engineering, space and planetary based manufacturing systems and new design;  
Pablo de León: Human spaceflight systems, planetary space suit research and development, history of the manned space program;  
Ron Fevig: Small spacecraft development, orbital mechanics, space mission design, high-altitude balloon and sounding rocket payload development, space communications and ground station operations;  
Michael J. Gaffey: Planetary geology; asteroids and meteorites; telescopic observations/spectroscopy; early solar system history; space resources; origins of life on Earth; dinosaurs, impacts, and extinctions;  
Paul S. Hardersen: Main-belt asteroids; visible and near-infrared astronomical spectroscopy; the early solar system; T Tauri stars; public outreach/education;  
Vadim Rygalov: Ecological biophysics; closed ecological systems; human/environment interaction; environmental design/control; low-P plant physiology; applied mathematical modeling;  
Santhosh Seelan: Remote sensing applications to environmental change detection, precision farming, groundwater targeting; global change; geospatial extension; Indian space program;  
David Whalen: Space history, space policy, space business, satellite communications, military space, orbital mechanics, relationships between technology, economic development, and public policy.

**Contact Information**  
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