Department of Aviation Graduate Program Handbook

UND School of Graduate Studies
University of North Dakota

UPDATED Fall 2022

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School of Graduate Studies Graduate Mentoring and Advising Handbook

Introduction to the Department of Aviation

The Department of Aviation is housed in the John D. Odegard School of Aerospace Sciences. The Odegard School incorporates a total of four academic departments (Aviation, Atmospheric Sciences, Space Studies, and Earth System Science and Policy), along with numerous research entities.

The Department of Aviation offers nine 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, Air Traffic Management , Unmanned Aircraft Systems, Aviation Safety and Operations, and Aviation Studies and is granted by the John D. Odegard School of Aerospace Sciences. In addition, the Aviation Department offers a Master of Science in Aviation and a Ph.D. in Aerospace Science. The Ph.D. is offered jointly with the Department of Space Studies.

The Business degree is fully accredited by the American Assembly of Collegiate Schools of Business (AACSB). The Commercial Aviation, Air Traffic Management, and Unmanned Aircraft Systems majors are accredited by the Aviation Accreditation Board International. All other degree programs fall under the Higher Learning Commission (HLC).

Program Overview

Aviation Department Mission & Goals

Working together, we will deliver the highest quality education, research, and service in aviation and related disciplines to our students, our college, and the worldwide aerospace community.

Objectives

- **Create graduates that harbor excellent aviation technical abilities:** Produce future aviation professionals that possess the greatest knowledge and technical abilities possible prior to entering the aviation community.
- **Strive for human excellence through the use of a liberal education:** Provide students with a well-rounded educational experience that enhances communication, teamwork, and leadership skills while fostering an appreciation for other cultures.
- **Instill characteristics that will fully develop our student's human potential:** By inspiring students to pursue life-long learning, it is our goal to prepare students with an understanding and acceptance to changes or challenges they may face in the aviation industry.
- **Promote a solid foundation for the continued utilization of technology:** Due to ever-changing technology demands in the aviation industry, we provide a foundation of knowledge for current technology use and future applications.
- **Provide skills to build and promote a culture of safety in the aerospace industry:** Emphasize our vitally important role in the transfer of new information and the building of a culture of safety throughout the aviation community.

Learning Outcomes

Goal 1: Develop aviation professionals who use their technical and theoretical skills to solve problems within the aviation industry.

Objective 1.1: Students will apply skills learned in statistics and research methods courses to design a research question and conduct the appropriate research in order to address a problem.

Objective 1.2: Students will apply the appropriate theories learned in their coursework to a research problem.

Objective 1.3: Students will synthesize gathered information and use there analytical skills to develop possible solutions to a particular problem.

Goal 2: Develop a student's higher-order thinking abilities and instill a quest for life-long learning.

Objective 2.1: Students will complete either a thesis or an independent study project which will demonstrate their desire and ability to increase knowledge and analyze information with a high-level of skill.

Objective 2.2: Students will realize that being a professional requires a continual drive to develop and update an individual's skill set.

Goal 3: Develop a scholarly set of skills that will allow the student to function in a professional manner.

Objective 3.1: Students will be able to write at an advanced level.

Objective 3.2: Students will be able to effectively present their ideas using a variety of media.

Objective 3.3: Students will be able to critically think, analyze and evaluate all types of information available in today's global society.

Admission & Degree Requirements

Masters of Science in Aviation Admission Requirements

Ph.D. in Aerospace Sciences Admission Requirements

Transfer Credits

Master's Students. Up to **9** credits of transfer credit may be accepted towards the degree.

Ph.D. Students. Up to **30** credits from the students Master's Degree may be accepted towards the degree. In certain cases, an additional 30 credits beyond the Master's Degree (not to exceed 60 total) may be accepted if the other institution offers Ph.D. level courses in the same discipline.

Acceptance of transfer credits is at the discretion of the Aviation Department Graduate Director, the School of Graduate Studies, and MUST meet UND Policy regarding transfer credit.

UND Policy regarding the Transfer of Graduate Credits

Timeline for Degree Completion

Masters of Science in Aviation

Students typically complete MS in Aviation 2-3 years. A student taking 9 credits is considered a full-time graduate student. Most students take 1-2 courses during the Fall and Spring, and 1 course in the Summer.

Additional information can be found on the School of Graduate Studies Website

Year	Highlights	Information
1	Complete Graduate School First Step Checklist.	First Step Checklist
	Complete Graduate School Orientation.	Graduate School Orientation
	Register for Courses in Campus Connection. At a minimum, students should take Aviation 501 in the Fall and Aviation 503 in the Spring.	Projected Course Schedule
	Form Committee and Complete your POS by the end of Spring Semester.	Graduate Student Forms Webpage
2	Take Aviation 504 - Research Methods in Fall Semester. Students will start Thesis work in Aviation 504.	
	Finish Course Work to meet degree requirements per your POS.	
	Students should review deadlines for Advancing to Candidacy and Applying for Graduation at the start of their second year of study.	Deadlines
3	Apply for Graduation and Register for Thesis Credits.	
	Complete Preliminary Approval and Notice of Defense Forms.	
	Complete Thesis or Independent Study	

	Independent Study Students MUST complete written Comprehensive Exams in addition to their Independent Study.	

Ph.D. in Aerospace Sciences Timeline

Students typically complete Ph.D. in Aerospace Sciences in 4-5 years. A student taking 9 credits is considered a full-time graduate student. Most students take 1-2 courses during the Fall and Spring, and 1 course in the Summer.

Additional information can be found on the School of Graduate Studies Website.

Year	Highlights	Information
1	Complete Graduate School First Step Checklist.	First Step Checklist
	Complete Graduate School Orientation.	Graduate School Orientation
	Register for Courses in Campus Connection. At a minimum, students should take Aviation 501 in the Fall and Aviation 503 in the Spring.	Projected Course Schedule
	POS by the end of Spring Semester. Start with finding a chair, the chair will help you complete your POS and form your committee.	Graduate Student Forms Webpage
2	Take Aviation 504 - Research Methods in Fall Semester.	
	Students should start using course assignments to explore/narrow dissertation topics.	
3	Advanced course work and independent research and readings credit.	
	Students should be making progress on narrowing their dissertation topic.	
	Towards the end of the 3rd year students should be completing all the required classes and start to focus on research and readings credit.	
4	Complete Written Comprehensive Exams.	Review Comprehensive Examination Guidelines

	Complete Oral Comprehensive Exams	Schedule directly with the Graduate Director.
	Complete Topic Proposal	Work with your Chair to schedule your proposal.
	Advance to Candidacy	MUST be approved and have submitted your Program of Study, Topic Proposal, and Doctoral Comprehensive Exam Results.
5	Complete Dissertation Credits	Register for Dissertation Credits in Campus Connection. Typically, the 15-18 credits are split across multiple semesters.
	Defend Dissertation	Arrange schedule with chair. Once set, submit Preliminary Approval and Notice of Defense Form.
	Publish Dissertation	Follow the steps on the School of Graduate Studies Website to publish your Dissertation.

Program of Study (POS)

It is recommended that ALL Graduate Students work on completing their POS by the end of their 2nd semester of course work. This will ensure a clear and concise plan is followed during the student's studies.

Prior to completing the POS, review UND Policy on POS. Completing the POS is the first step in Advancing to Candidacy.

The POS form can be completed on the School of Graduate Studies Website.

Topic Proposal

The Topic Proposal is generally completed as the student readies for Comprehensive Exams or shortly after. A key component of completing the topic proposal is seeking and obtaining IRB approval. Typically, to receive IRB approval your research project should be clearly defined, literature review complete, and the methodology written and approved by your chair and committee.

The Topic Proposal form can be completed on the School of Graduate Studies Website.

Comprehensive Examination Requirements & Procedures

Students must successfully complete a written comprehensive examination prior to advancement to candidacy and approval of the dissertation proposal. This examination must be completed before advancement to candidacy for the degree but cannot be undertaken until the scholarly tool requirements have been completed.

Students must apply for permission to take the comprehensive examination on a form available from the School of Graduate Studies and must meet the eligibility requirements to take the examination (Substantial amount of course work completed, Approved status attained, Program of Study approved, and scholarly tool requirements completed).

There will be 4 questions to be answered from the required core courses: AVIT 501- General Issues in Aviation/Aerospace; SpSt 501- Survey of Space Studies I; AVIT 521- Ethics in Aerospace and Scholarly Tools components which consist of a question comprising of elements from the following:

- AVIT 503 Statistics (or equivalent)
- AVIT 504 Research Methods
- SPST 504 Research Methods in Space Studies
- AVIT 505 Qualitative Research Methods
- AVIT 506 Quantitative Research Methods

The comprehensive exam format is a take-home online written examination. The exam will be available to the student via instructions from the proctor (BlackBoard). The exam is limited to 3 days (72 hours) to begin on an agreed-upon date and time - during the time windows listed below - by the student and the proctor.

Comprehensive Exam Time Frame	
Fall Semester	Students may schedule comprehensive exam from October 1 thru November 15. Exam results will be sent to the student by December 15.
Spring Semester	Students may schedule comprehensive exam from March 1 thru April 15. Exam results will be sent to the student by May 15.
Summer Semester	Comprehensive Exams are not permitted during the Summer Semester.

The 3 short essay question answers shall each be between 1500 words and 2000 words (about 3-4 pages, double spaced) and require at least 3 scholarly, peer-reviewed references each.

The scholarly tools question answer shall be between 2500 and 3000 words (about 5-6 pages, double spaced) and requires at least 6 scholarly, peer-reviewed references. Citations style and formatting will be the American Psychological Association (APA) 7th edition. Student must include the question at the top of the paper.

Each section (Avit 501, Avit 521, SPST 501 and Scholarly Tools question) must be saved on separate manuscripts (Microsoft® Word document or Adobe pdf) with title pages, page numbering and headers. Student must place each file document individually into the drop-box for distribution and grading.

Useful
link: https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_format.html

The exam is evaluated by several faculty members, with each question evaluated as a Pass, Low Pass, or Fail. If the student does not achieve an overall passing evaluation, he/she may re-take the exam once under the following conditions:

1) If the student fails one of the four sections (Avit 501, Spst 501, Avit 521, and Scholarly Tools) they may retake only that section of the exam. An example, if the student passes Avit 501, SpSt 501, and Scholarly Tools, yet failed the Avit 521 section, they will only need to retake the Avit 521 section.
2) If the student fails two or more sections of the exam, they must retake the entire exam.

A low pass may be earned on one of the three questions and the student will still pass the exam overall; however, if a student receives a low pass on two or more questions, the exam is an overall failure.

Once the student passes the written portion of the comprehensive examination, they will progress to an on-campus or online oral examination and formal topic proposal with their committee.

Independent Study and Field Work Courses

The Department of Aviation offers several independent studies courses and one field work course. The independent study courses are:

Aviation 591. Readings in Aviation

Aviation 593. Individual Research in Aviation

Students may take up to 6 credits of Aviation 591 and Aviation 593. Ph.D. students may take up to 12 credits of Aviation 593. The general recommendation for MS students 3 credits of Aviation 591 or 593, and Ph.D. students 6 credits. Independent study courses require instructor and departmental consent.

Students interested in enrolling in independent study courses must put together a plan on what they intend to read and/or research. The plan should include specific deliverables. ***Students then need to find a faculty member willing to supervise the independent study.*** Once a faculty member is secured, the plan, along with deliverables, should be sent to the Graduate Director. The Graduate Director will put the information in a Memorandum of Understanding and send it to both the student and supervising faculty member for signature.

Note: Aviation 591 and 593 are listed under the Graduate Director, not the supervising faculty member.

Students desiring practical experience in the aviation industry are permitted to enroll in Aviation 587, Supervised Field Work with consent from the Graduate Director. The student must present a plan that includes deliverables to the Graduate Director for approval. Once the plan is approved, the Graduate Director will put the information in a Memorandum of Understanding and send it to the student for signature.

Continuing Enrollment

Students that have completed all their coursework, independent study credits, thesis credits, and dissertation credits but have not completed their independent study, thesis, or dissertation must enroll in Aviation 996, Continuing Enrollment. Typically, the student only registers for 1 credit, however, the amount should be determined by the student's advisor.

Minimum Academic Standards

Graduate Student Academic Policies and Procedures can be found in the Academic Catalog.

Dissertation/Thesis/Independent Study Requirements

MS in Aviation

Students enrolled in the MS in Aviation degree program have the option to complete a thesis or independent study. The difference between a thesis and independent study are:

Thesis. The thesis requires the formation of a committee that includes a chair. The thesis must demonstrate sound methodology and scholarship.

Independent study. The independent study is project based that has the student investigate a specific topic in Aviation or a related area. Students choosing the independent study only need advisor guidance and approval, a committee is not formed.

Students that choose the thesis route will be required to present and defend their work in front of the committee selected. ***Students that choose the independent study are not required to defend the independent study, however, they must complete a written comprehensive exam.*** The written comprehensive exam can be scheduled by contacting the Graduate Director.

Ph.D. in Aerospace Sciences

Students enrolled in the Ph.D. in Aerospace Sciences need to complete a Dissertation to meet degree requirements.

UND.edu/academics/graduate-school/_files/docs/-handbooks/styleguide.pdf.

Advisor and Committee Selection Guidelines

Initiation and successful completion of a thesis or dissertation requires early and continued advice and oversight by a faculty advisor on behalf of the academic unit. Students accepted into the Aviation Graduate Program are assigned an initial academic advisor. This advisor doesn't need to be your chair or on your committee. It is the student's responsibility to reach out to faculty and form a committee using the following steps as guidance:

1) Find a chair for your thesis or dissertation.
2) Work with your chair to form a committee.
3) Develop and fill out a POS (DocuSign document).

MS Aviation Committee Requirements

Chair	The chair of your thesis must be a member of the UND Aviation Graduate Faculty member.
Member 1	Must be a member of the UND Graduate Faculty.
Member 2	Must be a member of the UND Graduate Faculty.

UND Graduate School Committee Policies

Ph.D. Aviation Committee Requirements

Chair	The chair of your thesis must be a member of the UND Aviation Graduate Faculty member and hold a Ph.D., J.D., or Ed.D.
Member 1	Must be a member of the UND Graduate Faculty.
Member 2	Must be a member of the UND Graduate Faculty.
Member 3 (Member-at-Large)	Must be a member of the UND Graduate Faculty and be outside the student's department.
Member 4 (Optional)	The student may select an individual outside UND to serve on their committee with Chair Approval.

UND Graduate School Committee Policies

Departmental Course Schedule

The link below will take you to the Aviation Departments projected schedule:

Projected Aviation Course Schedule

Aviation Department Graduate Faculty

Faculty Name	Rank	Link to Directory
Mark Dusenbury	Professor, Graduate Director	Learn about Professor Dusenbury
Beth Bjerke	Professor, Associate Dean	Learn about Professor Bjerke
Brett Venhuizen	Professor, Chair	Learn about Professor Venhuizen
Kim Kenville	Professor	Learn about Professor Kenville
Jim Higgins	Professor	Learn about Professor Higgins
Joe Vacek	Associate Professor	Learn about Associate Professor Vacek
Brandon Wild	Associate Professor	Learn about Associate Professor Wild
Kwasi Adjekum	Associate Professor	Learn about Associate Professor Adjekum
Shayne Daku	Associate Professor	Learn about Associate Professor Daku
Craig Carlson	Associate Professor	Learn about Associate Professor Carlson
Gary Ullrich	Associate Professor	Learn about Associate Professor Ullrich
Paul Snyder	Associate Professor	Learn about Associate Professor Snyder
Andy Leonard	Associate Professor	Learn about Associate Professor Leonard
Zach Waller	Associate Professor	Learn about Associate Professor Waller
Ryan Guthridge	Assistant Professor	Learn about Assistant Professor Guthridge