

AVIATION AND TRANSPORTATION / MASTER OF SCIENCE

Overview

The Master of Science in Aviation and Transportation is designed to offer a multifaceted approach in preparing graduates for careers in higher education, industry, professional management, government, and other agencies associated with aviation and transportation. This program will study the current transportation industry and that industry's regulation from a variety of perspectives. The student will develop an appreciation of human factors, research in decision-making, and skills in communication, human resource management, strategic planning for transportation projects, and quality management systems for aviation and transportation safety. This program incorporates the moral and ethical dimensions of decision-making and interpersonal relations in all coursework. The program will ensure that students, in their roles as leaders in this critical field, understand the importance of integrity, fairness, and respect for diverse cultural traditions.

Courses are taught in an eight-week format and are scheduled so students can take at least two courses each full semester, including summers.

Time Limitation for Completing the Program

A student must complete all graduation requirements within seven years from completion of the first graduate course taken at Lewis University.

Students remain under the requirements of the catalog in effect at the time of matriculation unless they discontinue attendance for two consecutive years or more, in which case they will follow the catalog in effect upon their return.

Capstone Experience

This program offers the student two options to fulfill the requirement of a culminating experience (AVTR 59700 Capstone Experience):

1. writing a thesis or
2. completing a practicum.

Acceptable research methods which fulfill the Thesis Option include quantitative, qualitative, experimental, quasi-experimental, and case study approaches. The graduate thesis must demonstrate a depth and breadth of knowledge of aviation and transportation studies.

Examples of an acceptable Practicum Option include: internship or job training; qualification or certification; special project, experiment, or study.

The practicum experience should be outside your normal work or school activities, it should be beneficial to your future career or interests, it should be a robust amount of work, and capable of being accomplished in 16 weeks, but it does not have to incur additional costs. To get credit for the practicum, the student will complete specific outcomes that measure the student's success in the practicum, earn the commendation of departmental and onsite supervisors, submit scheduled logs signed by

the onsite supervisor and the student, and submit a final practicum report demonstrating academic proficiency and onsite competencies.

Comprehensive Examination

A comprehensive examination is required during the Capstone Experience course, ensuring the student's understanding and application of the totality of the academic courses taken in their degree program. If the student chooses to write a thesis for their Capstone Experience, the comprehensive examination is waived.

Graduation Requirements

The Master of Science in Aviation and Transportation curriculum consists of a total of 36 credit hours, including a required nine hours of research core. To graduate with the Master of Science, the student must earn a minimum 3.0 GPA. Students must earn no more than two grades of C. No grade less than a C (2.0) will be accepted toward meeting graduation requirements.

Concentrations

Current concentrations include Management, Operations, and Safety. A student may choose not to declare a concentration.

Requirements

Degree Offered: Master of Science

Total Credit Hours: 36

Degree Requirements - No Concentration

Code	Title	Hours
Program Coursework		
Students will select 27 credit hours (nine courses) from any AVTR 50000- level course to develop their desired skill set, excluding courses required in the Research Core.		27
Research Core		
AVTR 59500	Research Methods 1	3
AVTR 59600	Research Methods 2	3
AVTR 59700	Capstone Experience or AVTR 58200 Applied Research	3
Total Hours		36

Degree Requirements - With Concentration

Code	Title	Hours
Program Coursework		
Students will select 15 credit hours (five courses) from any AVTR 50000- level course to develop their desired skill set, excluding courses required in the Research Core.		15
Research Core		
AVTR 59500	Research Methods 1	3
AVTR 59600	Research Methods 2	3
AVTR 59700	Capstone Experience or AVTR 58200 Applied Research	3
Concentration		
Select one of the following Concentrations:		12
Operations (p. 2)		

Safety (p. 2)	
Management (p. 2)	
Total Hours	36

Concentrations

Current concentrations include Management, Operations, and Safety. A student may declare a concentration in one or more specific area(s) or may select to get a degree without any specific concentration.

Management (12)

Concentration: MGMT

Students may earn the Management Concentration by completing any four (4) of the following courses:

Code	Title	Hours
AVTR 51000	Strategic Planning for Aviation and Transportation	3
AVTR 53000	Regulatory Systems for Aviation and Transportation	3
AVTR 56000	Human Resource Management and Labor Relations	3
AVTR 58400	Economics in Aviation and Transportation	3
AVTR 58700	Leadership for Aviation and Transportation	3
AVTR 58800	Technical Writing in Aviation and Transportation	3
AVTR 59100	Lean Six Sigma for Aviation and Transportation	3

Operations (12)

Concentration: OPER

Students may earn the Operations Concentration by completing any four (4) of the following courses:

Code	Title	Hours
AVTR 54500	Transportation Operations in Supply Chain and Logistics	3
AVTR 55500	Transportation Security and Operational Resilience	3
AVTR 58100	Unmanned Autonomous Systems	3
AVTR 58500	Evolution of Air Traffic Control Systems	3
AVTR 58600	Ops Resrch for Aviation & Tran	3
AVTR 59200	Sustainability for Aviation and Transportation	3
AVTR 59300	The Commercial Space Industry	3

Safety (12)

Concentration: SAFE

Students may earn the Safety Concentration by completing any four (4) of the following courses:

Code	Title	Hours
AVTR 50000	Overview of the Aviation and Transportation Industry	3
AVTR 54000	Safety Management Systems for Aviation and Transportation	3
AVTR 55000	Implementing Safety Management Systems	3
AVTR 57000	Current Practices and Future Trends	3
AVTR 58300	Fatigue Risk Management Systems	3
AVTR 58900	Human Factors and Psychology in Aviation and Transportation	3

Additional Admission Requirements Full Admission

All candidates for admission must possess a bachelor's degree in aviation from a regionally-accredited institution of higher education or in a major in a related field. Individuals who have completed a bachelor's degree in an unrelated area but have work experience in aviation and/or transportation industries may also apply. The applicant's overall undergraduate GPA must be 3.0 or higher on a 4.0 scale. In special cases, the GPA may be calculated on the most recent 60 semester hours of coursework. Additionally, applicants must submit:

1. A completed application, accompanied by a nonrefundable application fee.
2. Academic transcripts from each institution of higher education attended.
3. A one-to-two page personal statement describing the applicant's background and how the degree relates to the applicant's career goals.
4. Two letters of recommendation attesting to the applicant's likely success in the program.

Completed application materials will be reviewed by the Graduate Affairs Committee of the College of Aviation, Science, and Technology.

Provisional Admission

Under certain circumstances, students who do not meet the GPA requirement (GPA below 3.0, but above 2.5) for full admission, or students who do not possess a bachelor's degree in aviation/transportation or requisite work experience in aviation/transportation may request to be admitted to the program on a provisional basis. Provisionally admitted students must complete the first nine semester hours of graduate study with a GPA of 3.0 or higher. After nine hours of completed coursework, a provisionally-accepted student's application will be reviewed again for full admission. This decision will be made by the Aviation and Transportation Department's Graduate Program Director in consultation with the College of Aviation, Science, and Technology Graduate Affairs Committee.

Student-at-Large

A student-at-large is not a degree candidate. In order to be admitted as a student-at-large, the applicant must submit official documentation of a baccalaureate degree from a regionally-accredited institution of higher education and complete a modified application form. The decision to admit an at-large student to graduate courses belongs to the Graduate Program Director, whose decision is based on an evaluation of the applicant's undergraduate coursework and an interview. However, should the student decide to apply for full admission status at a later time, but within five years of course completion, only a maximum of nine semester hours of graduate coursework completed as a student-at-large at Lewis University can be applied toward an advanced degree, and only courses with grades of B or better will count toward the degree.

Transfer of Graduate Credit

1. A maximum of six semester hours of graduate level work earned at a regionally-accredited institution of higher education will be accepted toward a Master of Science degree in Aviation and Transportation. Only courses in which the student received a grade of B or higher will transfer to Lewis University. Prior coursework should have been completed within the last five years.

2. All transfer credits must be documented and approved before full admission into the program will be granted. In approving a request to transfer credit from another institution, the Graduate Program Director may, at their discretion, require that the student pass a proficiency examination for the corresponding Lewis University course.
3. Courses from outside the United States will be considered if they are evaluated as graduate level by the Office of Admission or the Commission on Accreditation of the American Council on Education.
4. Credit for prior learning may be awarded for graduate courses, after approval from the School of Graduate, Professional, and Continuing Education.

International Students

International students are required to meet all the admission requirements for full or provisional admission and also the admission requirements specified in the Admission Policies section (<https://catalog.lewisu.edu/graduate/general-information/admission-policies/>) of this Catalog entitled "Entering International Students."