

KENT STATE UNIVERSITY

CERTIFICATION OF CURRICULUM PROPOSAL

Preparation Date **13-Nov-17** Curriculum Bulletin _____
 Effective Date **Fall 2018** Approved by EPC _____

Department **AERN**
 College **AR - Aeronautics and Engineering**
 Degree **MS - Master of Science**
 Program Name **Aviation Logistics and Management** Program Banner Code _____
 Concentration(s) **None** Concentration(s) Banner Code(s) _____
 Proposal **Establish program**

Description of proposal:

Establish an Aeronautics specific Logistics and Management MS to support the growing need for logisticians in NE Ohio and nationally.

Does proposed revision change program's total credit hours? Yes No

Current total credit hours: **33** Proposed total credit hours _____

Describe impact on other programs, policies or procedures (e.g., duplication issues; enrollment and staffing considerations; need; audience; prerequisites; teacher education licensure):

The program combines Aeronautics unique management education with existing MIS courses through the COB. There are no duplication conflicts. Staffing will include the eventual need for faculty as enrollment grows and some online education support. This will be provided by a vendor or internally. The Bureau of Labor Statistics projects a 7% growth in logisticians through 2025 and most of that growth is due to transportation of goods and people. The audience is working aeronautics professionals wishing to advance their career and current undergraduate AERN students. Prerequisites are standard as set by Graduate Studies. Faculty experience will be graduate faculty qualified AERN faculty and some industry professional adjuncts; initially until faculty hiring.

Units consulted (other departments, programs or campuses affected by this proposal):

College of Business, MIS, Dr. Pratim Datta, consulted for inclusion of some MIS courses in the program.

REQUIRED ENDORSEMENTS

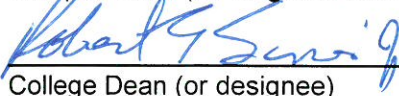


Department Chair / School Director

11 / 14 / 17

 Campus Dean (for Regional Campuses proposals)

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College Dean (or designee)

11 / 14 / 2017

 Dean of Graduate Studies (for graduate proposals)

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Senior Vice President for Academic Affairs and Provost (or designee)

New Graduate Degree Program Development Plan Masters of Science Aviation Logistics and Management

This document should be no more than five pages.

1. Designation of the new degree program, rationale for that designation, definition of the focus of the program and a brief description of its disciplinary purpose and significance.

Presently there are no M.S. degrees in existence within the College of Aeronautics and Engineering (CAE) at Kent State University. This proposal seeks approval for a new Master of Science (M.S.) in Aviation Logistics and Management. The M.S. designation is the most appropriate as it directly compliments the existing Bachelor of Science in Aeronautics degree offered by CAE.

Currently CAE offers a Master of Technology degree with 15 different areas of emphasis; only one of those areas is in aeronautics. Furthermore, while there are six courses within the MTEC program unique to aeronautics, they are neither contiguously arranged nor sufficiently cohesive to provide a distinct focus in the discipline. Current aeronautics student enrollment in the MTEC program is low. Only four students pursuing the degree in FY 16/17.

Globalization has dramatically changed the way people and things are transported from one location to another. The proposed M.S. in Aviation Logistics and Management will prepare students to become an integral part of operations management and logistics teams at any number of commercial air operators. This includes typical passenger carrying entities operating under Federal Aviation Regulations part 121 scheduled air service (commercial airlines), cargo operations, and smaller private entities. Examples of companies operating with a focus in aviation management and logistics are Boeing, Federal Express, Amazon, UPS, the U.S. Postal Service, Sterling Global Aviation, DHL Express, Airbus, Boeing, Embraer, Bombardier, Lockheed Martin, Northrup Grumman, Network Global Logistics, SEKO Logistics, and all U.S. Airlines/Charter companies.

While not an integral part of the curriculum, the program of study will provide an excellent foundation for additional certification as a Certified Professional Logistician (CPL) through the International Society of Logistics. Minimal additional work will be necessary for students wanting to achieve this designation.

2. Description of the proposed curriculum.

The proposed curriculum contains both thesis and non-thesis options. Each option requires 33 total credit hours: ten (10) credit hours of aeronautics, six (6) credit hours of business, and nine (9) credit hours of technology. Additionally, students may choose one two (2) hour elective. The thesis / non-thesis options encompass the remaining six (6) credit hours.

All courses will be delivered online. After conversations with the College of Business, and in consideration of its existing and successful online MBA program, all new courses

developed for the proposed masters will similarly be held to two credit hours delivered over an 8-week timeframe.

Standard Kent State Graduate Admissions will apply with respect to 3.0 GPA for Unconditional Admission, plus, a GRE of 285 and an English proficiency score for International Students of 6.0 on IELTS or 525 on TOEFL or equivalent. The Admissions Committee will consist of elected Aeronautics faculty with Graduate Faculty status and the Graduate Coordinator.

Programmatic layout is shown in Table X. An asterisk denotes new courses.

Masters of Science in Aviation Management and Logistics		
Technology Core (9): All courses required		
Course Number	Course Name	Credit Hours
TECH 60001	Quantitative Methods in Technology	(3)
TECH 60003	Six-Sigma	(3)
TECH 60078	Research Methods in Technology	(3)
Aeronautics Core (10): All courses required		
AERN 55100*	Logistical Strategies in Aviation Management	(2)
AERN 55200*	Aviation Economics and Fiscal Management	(2)
AERN 55300*	Aviation Industry Contract Management	(2)
AERN 65150*	Legal and Ethical Issues for Aviation Logistics Management	(2)
AERN 65250*	Systems Engineering for Logistics	(2)
Business Core (6): All courses required		
MIS 64005	Analytics for Decision Making	(2)
MIS 64041	Operations, Service and Supply Chain Management	(2)
MIS 64042	Globalization and Technology Strategy	(2)
Thesis Option (6): All courses required		
AERN 65199*	Aeronautics Thesis I	(3)
AERN 65299*	Aeronautics Thesis II	(3)
Non-Thesis Option / Elective Courses (2-8):		
<ul style="list-style-type: none"> • Students pursuing the Thesis Option must select at elective worth at least two (2) credit hours. • Students pursuing the Non-Thesis Option may choose any combination of credit hours adding up to at least six (6) credit hours. 		
AERN 55235	Human Error Analysis in Aviation (for non-thesis)	(3)
AERN 65092	Aeronautics Practicum or Internship (for non-thesis)	(1 – 6)

AERN 65240	Aviation Safety Management Systems	(3)
AERN 65300	Airline Transportation Operations	(3)
AERN 65496	Individual Investigation in Aeronautics (repeatable for a maximum of 9 credit hours)	(1-4)
AERN 65200*	Legal and Regulatory Issues for Aviation Logistics Management	(2)
MKTG 65051	Marketing Management	(2)
MIS 64158	Leadership and Managerial Assessment	(2)
MIS 64271	Human Resource Management	(2)

3. Administrative arrangements for the proposed program: department and school or college involved.

The program will be housed in the College of Aeronautics and Engineering (CAE). A meeting was held with the College of Business Administration's graduate coordinator in February 2017 at which time COB expressed support for the new degree and provided insight and recommendations regarding the structure of course delivery.

4. Evidence of need for the new degree program, including the opportunities for employment of graduates. This section should also address other similar programs in the state addressing this need and potential duplication of programs in the state and region.

Although the Bureau of Labor Statistics predicts employment of logisticians is will grow 7 percent from 2016 to 2026, about as fast as the average for all occupations. It does note that this growth will be “driven by the need for logistics in the transportation of goods in the global economy”. (emphasis added).

The performance of the logistical and supply chain process is an important factor in a company's profitability. Companies rely on logisticians to manage the movement of their products and supplies. Supply and distribution systems have become increasingly complex as they continue to try to gain more efficiencies at minimal cost. Employment is expected to grow as companies need more logisticians to move products more efficiently, solve problems, and identify areas for improvement. However, this growth may be limited by mergers of third-party logistics companies.

Overall job opportunities should be good because of employment growth and the need to replace the logisticians who are expected to retire or otherwise leave the occupation.

In 2014 Airlines for America (A4A) reported that the United States attributed more than \$1.5 trillion to commercial-aviation goods and services. Furthermore, U.S. airlines in particular transported over 50 tons of cargo per day. Globally, the tonnage of world airfreight carried has only increased since the 1950s. The Boeing Company predicts that air cargo traffic will more than double over the next 20 years, fueled by an annual increase of 4.2% growth per year. Globalization and demand for transporting people and

things has in turn created tremendous growth in air transportation. As such, companies must manage the logistics of equipment, parts, and people while updating processes and diversifying services to effectively meet the needs of aviation logistics. The domestic and international need for graduates with these skill sets is a demand that needs to be met. The proposed degree in Aviation Management and Logistics degree will fill this requirement. (See the Bureau of Labor Statistics excerpt next page).

Locally, there is tremendous job placement opportunity for graduates, as well as a significant source of potential students. The Dayton Business Journal has reported Ohio to be the largest original equipment manufacturer supplier in the United States for both Airbus and Boeing. Cleveland Plus reports that over 500 Ohio firms directly support or contribute to the aerospace and aviation industry.

The proposed masters in Aviation Logistic and Management will be unique to Ohio. While Ohio State University offers hybrid masters degrees through its Colleges of Business and Engineering, none are specific to aviation or aviation logistics. Neither Bowling Green nor Ohio University have aviation or aeronautics master's degrees and although the University of Cincinnati has a master's level aerospace degree, it is engineering focused and not on logistic operations and management as per this proposal. There are only two other such programs regionally; one found in Florida as offered by Embry-Riddle Aeronautical University and the other offered by Southeastern Oklahoma State University.

5. Prospective enrollment.

Enrollment in the new MS degree will come from several sources. First, the existing pool of undergraduate Aeronautics students that has over 550 students. In particular, the new degree will be attractive for aviation management and air traffic control students, of which there are 168. Second, because the program is to be delivered online, the large pool of aeronautics alumni may wish to pursue an advanced degree. Third, because over 500 Ohio firms directly supporting the aerospace and aviation industry, and because the proposed degree will be the only such offering in the state, there is a large pool of employees working in the industry who may wish to seek an advance degree. Finally, also given that the proposed degree is unique among Ohio aviation-degree granting institutions, aviation and aeronautics students at those institutions may find this degree attractive.

6. Special efforts to enroll and retain underrepresented groups in the given discipline.

Cleveland, Ohio and surrounding communities are culturally diverse and other major population centers in Ohio are as well. The major employers in aerospace in the area reflect that diversity. Special marketing efforts to attract underrepresented groups will be made within Ohio and regionally.

The Division of Aeronautics is a member of the Women in Aviation (WAI) organization and the Organization of Black Aerospace Professionals. Faculty attend the conferences of each. In addition, the Division has two summer camps dedicated specifically to females. And while targeted at middle and high school students we are building a pipeline for the future. The Division also has its undergraduate programs accredited by

the Aviation Accreditation Board International (AABI); which also accredits master's level programs. We will seek said accreditation and through the international resources of AABI, work with current and emerging accredited programs for sourcing of underrepresent student populations. The College of Aeronautics and Engineering has dedicated marketing personnel. And in conjunction with university level resources available through the Division of Diversity, Equity and Inclusion will market our MS accordingly.

7. Availability and adequacy of the faculty and facilities available for the new degree program.

There are nine aeronautics personnel with graduate faculty status. In particular, one holds a master's degree in business administration while having 12+ years' experience in logistics while another holds a master's degree in aviation logistics. As such, there is sufficient expertise within the faculty to teach the courses. Given current faculty load, it is expected that at least one new faculty member will need to be hired to serve the needs of the overall aeronautics program. Part-time faculty members will also be employed as needed.

8. Need for additional facilities and staff and the plans to meet this need.

No additional facilities or staff are required to support the new program. The college's current graduate coordinator will assume the role of program coordinator; the currently dedicated graduate administrative assistant will also be employed with the new degree program.

9. Projected additional costs associated with the program and evidence of institutional commitment and capacity to meet these costs.

There will be minimal additional costs associated with marketing of the new program. The CAE has a full-time marketing specialist with training in graduate programs. The Graduate Coordinator has also received marketing training. The Division of Aeronautics is already has presence at many industry functions for purposes of program promotion. The MS degree will be added to those efforts. Recent President and Provost level commitment to fund raising for a building extension and a new academic building at the Kent State airport indicate strong institutional commitment to Aeronautics in general. The President's initiative to increase research at the university fits well into this proposed degree.