



# South Carolina Commission on Higher Education

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Agenda Item 3.b

Dr. Garrison Walters, Executive Director

April 2, 2009

## MEMORANDUM

**TO:** Dr. Bettie Rose Horne, Chair, and Members, Committee on Academic Affairs and Licensing

**FROM:** Dr. Gail M. Morrison, Director, Academic Affairs and Licensing

**Consideration of Request for Amendment of Existing License to Add New Site:**  
**A.S., Aviation Maintenance; A.S., Professional Aeronautics; and A.S., Technical Management; B.S., Aviation Maintenance; B.S., Professional Aeronautics; and B.S., Technical Management; Master of Aeronautical Science; M.S., Management; M.S., Project Management; and M.S., Technical Management; Embry-Riddle Aeronautical University, Daytona Beach, FL, at Rock Hill**

## Summary

Embry-Riddle Aeronautical University <[www.erau.edu](http://www.erau.edu)> requests approval of an amendment to offer programs leading to Associate of Science degrees in (1) Professional Aeronautics, (2) Technical Management, and (3) Aviation Maintenance; Bachelor of Science degrees in (1) Aviation Maintenance Management, (2) Professional Aeronautics, and (3) Technical Management; Master of Aeronautical Science; and Master of Science degrees in (1) Management, (2) Project Management, and (3) Technical Management, to be offered at a new site in Rock Hill. With the approval of the Commission on Higher Education and sufficient enrollments, classes will begin in August 2009. The programs will be delivered on-ground.

Embry-Riddle is a non-profit, private university offering programs leading to associate, bachelor, and masters degrees. With a student body of more than 30,000 from all 50 states and more than 100 nations, Embry-Riddle offers programs at residential campuses in Daytona Beach, Florida, and Prescott, Arizona, and more than 130 Worldwide Campus teaching centers in the United States and Europe or through distance learning. The primary mission of the Worldwide Campus is to offer educational opportunities to adult learners. In 2006, the Commission approved initial licensure for

Embry-Riddle to offer programs at a site in Greenville. Embry-Riddle also offers programs, exempt from the oversight of CHE, under authority of the commanding officers of the military bases at Beaufort Marine Corps Air Station, Charleston Air Force Base, and Shaw Air Force Base.

The Southern Association of Colleges and Schools (SACS) accredits Embry-Riddle. The Council on Higher Education Accreditation (CHEA) recognizes the Aviation Accreditation Board International (AABI) as the specialized accrediting agency for non-engineering aviation programs at the associate, baccalaureate, and graduate levels. AABI accredits Embry-Riddle's programs leading to the associate and bachelor degrees in Aviation Maintenance.

The following information from the U.S. Department of Education (USDE) shows student loan default rates at Embry-Riddle.

OPE ID	School	Type	Control	PRGMS		FY2006	FY2005	FY2004
001479	Embry-Riddle Aeronautical University 600 South Clyde Morris Boulevard Daytona Beach FL 32114- 3900	Master's Degree or Doctor's Degree	Private	Federal Family Education Loans (FFEL)/Federal Direct Loan (FDL)	Default Rate %	2.9	2.2	2.3
					No. in Default	87	56	50
					No. in Repay	2994	2452	2130

The USDE sanctions a school when the school's three most recent cohort default rates are 25 percent or higher or if a school's current default rate is greater than 40 percent. Except in the event of a successful adjustment or appeal, such a school will lose Federal Family Education Loan, Direct Loan, and Federal Pell Grant program eligibility for the remainder of the fiscal year in which the school is notified of its sanction and for the following two fiscal years. Embry-Riddle's default rates are far below this standard.

The Hunt Memorial Library is designed to be the primary information provider to all Embry-Riddle students and has concentrated especially on outreach to students who do not have access to the residential campus. Library resources at Worldwide Campuses are comparable to the physical library located at Daytona Beach. Any member of the Embry-Riddle community has access to the library's circulated materials, reference books, technological assistance, inter-library loan system, and library orientation/bibliographical instruction. Hunt Memorial Library has inter-lending agreements with institutions such as National Oceanic and Atmospheric Administration (NOAA) libraries, the NASA Ames Research Center Library, the NASA Johnson Space Center Library, and the U.S. Coast Guard Academy Library. The Library also has an agreement with the Independent

College and Universities of Florida to share the costs of library products and services as well as agreements to provide library services with a number of organizations such as the Southeastern Library Network, the Central Florida Library Cooperative, and the Florida Distance Learning Library Initiative.

The Rock Hill Municipal Airport has agreed to host the programs in its main terminal building. The Rock Hill site will be an extended-training classroom of the Greenville location.

Faculty who teach in the undergraduate programs must meet the Commission's licensing requirements that an appropriate number of undergraduate faculty members hold terminal degrees, usually an earned doctorate; that all others must hold master's degrees with at least 18 graduate semester hours in the teaching discipline, or a master's degree with a major in the teaching discipline; and that the highest earned degree presented as the credential qualifying the faculty member to teach is from an institution accredited by an accrediting body recognized by the USDE or CHEA. Embry-Riddle requires that at least 25 percent of the discipline course hours in each undergraduate major are taught by faculty members holding the terminal degree. Commission requirements also state that graduate faculty members must hold a terminal degree, usually an earned doctorate, in the field in which they teach and that students must have sufficient access to faculty members at all levels to provide meaningful interaction.

To be admitted to an undergraduate program through the Worldwide Campus, applicants must possess a high school diploma or a GED. For admission into a graduate degree program, applicants must have earned a baccalaureate degree from an accredited institution with a cumulative GPA of 2.5 or higher.

Transfer credit may be granted for courses with a grade of "C" or higher earned at degree-granting institutions accredited by an accrediting agency recognized by CHEA or USDE. Undergraduate advanced standing credit may be awarded for prior learning in postsecondary education, work, or training experience such as military learning experiences, credit by examination according to recommendations by the American Council on Education (ACE), and Federal Aviation Administration (FAA) certifications. After completion of a course in self-assessment and portfolio preparation, undergraduate students who believe that their knowledge and prior learning experience qualify them for credit for a specific Embry-Riddle course may compile a portfolio for evaluation. Twenty-five percent of the undergraduate program's credit hours must be earned at Embry-Riddle and a minimum of 50 percent of the program's credit hours must be on a senior college level.

Graduate applicants may transfer courses in which they earned a grade of “B” or better for a maximum of six credit hours into the program leading to the M.S. degree in Technical Management, or 12 credit hours into other master’s level programs. Credit is accepted for courses that were completed within seven years immediately preceding the date Embry-Riddle receives the admissions application. All requirements for an Embry-Riddle master’s degree must be completed within seven years from the date of initial enrollment.

Courses will be offered in five nine-week terms per academic year (July 1 to June 30). Tuition at the undergraduate level will be \$705 for each three-semester-hour course. Tuition at the graduate level will be \$1,170 for each three-semester-hour course. Embry-Riddle officials project that 40 students will enroll in the first year at the Rock Hill site. Curricula descriptions and shown in the following tables.

<b>Professional Aeronautics</b>		
Associate of Science Bachelor of Science		
These technical aviation degrees provide a foundation of knowledge, understanding and experience needed for jobs with the airlines, aircraft manufacturers, aviation/aerospace related companies, airports, corporate aviation, the Federal Aviation Administration (FAA), or the National Transportation Safety Board.		
	AS	BS
<b>Aviation Area of Concentration</b>	9-15	18-30
<b>Communication Theory &amp; Skills:</b> ENGL 123	3	3
ENGL 122, *ENGL 143, or ENGL 221, or SPCH 219 (* Satisfies CT&S or HU elective)	6	6
<b>Humanities/Social Sciences:</b> Lower level Humanities or Social Sciences elective	3	3
Upper level Humanities or Social Science elective	3	3
<b>Computer Science:</b> CSCI 109 Introduction to Computers	3	3
<b>Mathematics:</b> College Algebra or Higher	3	6
<b>Physical Sciences:</b> PHYS 102 Exploration in Physics	3	3
WEAX 201 Meteorology I		3
<b>Economics:</b> ECON 210 Microeconomics	3	3
ECON 211 Macroeconomics		3
<b>Program Support:</b> ASCI 254 Aviation Legislation	3	3
ASCI 405 Aviation Law	3	3
MGMT 201 Principles of Management		3
MGMT 210 Financial Accounting	3	3
MATH 222 Business Statistics		3
AMGT 202 Aeronautical Science for Management	3	3
MGMT 221 Advanced Computer Based Systems		3
<b>Professional Development Core:</b> ASCI 309 Basic Aerodynamics or ASCI 310 Basic Aircraft Performance		3
MGMT 406 Management of Technical Operations		3
SFTY 409 Aviation Safety		3
ASCI 490 Aeronautical Science Capstone Course		3
<b>Professional Development Electives:</b> Select from Upper-level courses available in Aeronautical Science, Air Traffic Control, Management, Economics, and Safety		21
<b>Upper-Division Electives</b>		12
<b>Open Electives</b> (any discipline)	6-12	0-12
<b>Total Degree Requirements</b>	60	120

## Technical Management

Associate of Science

Bachelor of Science

Working adults with a background in a technical specialty are looking for opportunities to move into management/supervisory positions. While Technical Management degrees are naturally attractive to students with an aviation and/or technical background, individuals without aviation experience find these programs to be stepping-stones for entering the fields of aviation or aerospace. Technical Management students gain valuable skills, learning how to organize, plan, staff and coordinate the resources of any organization toward its goals and objectives.

	AS	BS
<b>Technical Specialty or Minor</b>	<b>9</b>	<b>15</b>
<b>Communication Theory &amp; Skills:</b> ENGL 123 ENGL 122, *ENGL 143, or ENGL 221, or SPCH 219 (* Satisfies CT&S or HU elective)	3 6	3 6
<b>Humanities/Social Sciences:</b> Lower Level Humanities or Social Sciences Upper Level Humanities or Social Science elective	3 3	3 3
<b>Mathematics:</b> College Algebra or Higher	3	6
<b>Computer Science:</b> CSCI 109 Introduction to Computers	3	3
<b>Physical and Life Sciences:</b>	6	6
<b>Economics:</b> ECON 210 Microeconomics ECON 211 Macroeconomics	3 3	3 3
<b>Total General Education Credits</b>	<b>33</b>	<b>36</b>
<b>Program Support:</b> MGMT 201 Principles of Management MGMT 210 Financial Accounting MATH 222 Business Statistics AMGT 202 Aeronautical Science for Management MGMT 221 Advanced Computer Based Systems	<b>15</b>	<b>15</b>
<b>Business Core:</b> MGMT 311 Marketing MGMT 312 Managerial Accounting MGMT 314 Human Resource Management MGMT 317 Organizational Behavior MGMT 320 Business Information Systems MGMT 325 Social Responsibility and Ethics in Management MGMT 335 International Business MGMT 390 Business Law MGMT 371 Leadership MGMT 436 Strategic Management		<b>30</b>
<b>Management Electives:</b> 300-400 Upper Level Management Courses	<b>0</b>	<b>9</b>
<b>Open Electives (Lower Level):</b>	<b>3</b>	<b>15</b>
<b>Total Degree Requirements</b>	<b>60</b>	<b>120</b>

## Aviation Maintenance Management

Bachelor of Science

Students who have AA Airframe and Powerplant Maintenance Certificate gain a comprehensive business foundation and the management skills needed to effectively manage aviation maintenance. Although the program is geared toward aviation and aerospace, the curriculum prepares graduates for success with companies in any industry.

<b>Core Courses:</b> FAA Airframe & Powerplant Maintenance Certificate <b>- OR -</b> Type 65 Aviation Maintenance Technology Course Work AMNT 240 General Aeronautics and Applications AMNT 271 Airframe Systems and Applications AMNT 260 Aircraft Electrical Systems Theory AMNT 280 Powerplant Theory and Applications AMNT 270 Airframe Structures/Applications AMNT 281 Aircraft Propulsion Systems/Applications <b>Electives:</b> Aviation Maintenance, Aeronautical Science, or Management	<b>30</b>
<b>Communication Theory &amp; Skills</b> ENGL 123 English Composition	3
ENGL 122, *ENGL 143, SPCH 219, ENGL 221 (* Satisfies CT&S or HU elective)	6
<b>Humanities/Social Sciences</b>	9
<b>Mathematics:</b> College Algebra or Higher	6
<b>Computer Science:</b> CSCI 109 Introduction to Computers	3
<b>Economics:</b> ECON 210 Microeconomics, ECON 211 Macroeconomics	6
<b>Physical and Life Sciences:</b>	3
<b>Program Support:</b> MATH 222 Business Statistics, PHYS 102 Exploration in Physics	6
<b>Total General Education Credits</b>	<b>42</b>
<b>Program Core:</b> MGMT 201 Principles of Management	3
AMGT 202 Aeronautical Science for Management	3
MGMT 210 Financial Accounting	3
MGMT 221 Advanced Computer Based Systems	3
MGMT 311 Marketing	3
MGMT 314 Human Resources Management OR MGMT 317 Organizational Behavior	3
MGMT 324 Aviation Labor Relations	3
MGMT 325 Social Responsibility and Ethics in Management	3
MGMT 406 Strategic Management of Technical Operations	3
ASCI 419 or MGMT 419 Aviation Maintenance Management	3
<b>Program Specialization (Management)</b> MGMT 411 Logistics	3
MGMT 420 Management of Production and Operations	3
MGMT 422 Life Cycle Analysis for Systems and Programs in Aviation/Aerospace	3
MGMT 424 Project Management	3
UL MGMT Electives-OR-	6
<b>Program Specialization (Safety)</b> SFTY 320 Human Factors in Aviation Safety	3
SFTY 335 Mechanical and Structural Factors in Aviation Safety	3
SFTY 440 System Safety Management	3
SFTY 409 Aviation Safety	3
UL SFTY Electives	6
<b>Total Degree Requirements</b>	<b>120</b>

## Master of Aeronautical Science

This program enables aviation/aerospace professionals to study the application of concepts, methods, and tools used in the development, manufacture, and operations of aircraft and spacecraft, as well as the public and business infrastructure that support them. The curriculum gives air traffic control personnel, aviation educators, flight crewmembers, flight operations specialists, and industry technical representatives an opportunity to enhance their knowledge.

Course	Title	Credits
ASCI 602	The Air Transportation System	3
ASCI 603	Aircraft and Spacecraft Development	3
ASCI 604	Human Factors in the Aviation/Aerospace Industry	3
GCPP 605	Methods and Procedures for the Graduate Capstone Project	3
ASCI 690	Graduate Capstone Project	3
ASCI / MGMT	Electives (500-600 level)	9
	Choose at least one 12-credit-hour specialization. Master of Aeronautical Science (MAS) students may complete courses leading to multiple specializations. Students wishing to complete multiple specializations must have 12 unduplicated credits in each of the specializations. Students must submit an evaluation request form to declare the desired specializations. For Specialization 1-7, the degree requirements are 36 semester hours. For Dual Specialization or Specialization 8, the degree requirements are 39 semester hours. Specialization 1 Aeronautics Specialization 2 Aviation/Aerospace Education Technology Specialization 3 Aviation/Aerospace Management Specialization 4 Aviation/Aerospace Operations Specialization 5 Aviation/Aerospace Safety Systems Specialization 6 Human Factors in Aviation Systems Specialization 7 Space Studies Specialization 8 Space Operations Management	12
<b>Total Degree Requirements</b>		<b>36-39</b>

## Master of Science in Management

The target for this degree is students who need and desire a focused management degree but are looking for a degree with a more operational approach than the traditional MBA. The curriculum is designed to develop leadership, project management skills, supervisory skills, creativity, strategic planning skills, global industry knowledge, critical thinking, and analytical skills.

Course	Title	Credits
MGMT 524	Management Science	3
MGMT 532	Philosophy, Principles, and Practices in Management of Quality	3
MGMT 533	Legal, Ethical, and Regulatory Bases of Management Practices	3
MGMT 534	Anatomy of Work Organizations	3
MGMT 535	Theory and Application of Managerial Communications	3
MGMT 605	Methods and Procedures for the Graduate Capstone Project	3
MGMT 633	Principles and Practices of Financial Accounting and Control for Managers	3
MGMT 690	Graduate Capstone Project	3
	Areas of Specialization: -Air Transportation Management -Aviation/Aerospace Industrial Management -Aviation Enterprises in the Global Environment -Management of Integrated Logistics -General Management Option	12
<b>Total Degree requirements</b>		<b>36</b>

## Master of Science in Project Management

The program is designed to teach working professionals master's level knowledge and experience in planning and executing complex projects to enable them to undertake leadership and management of projects. It incorporates practical application and use of project management software tools. The program is designed to prepare graduates for the Project Management Institute-Project Management Professional (PMI-PMP) and the American Society for Quality (ASQ) Certified Manager of Quality/Organizational Excellence (CMQ/OE) examinations.

Course	Title	Credits
MGMT 524	Management Science	3
MGMT 533	Legal, Ethical, and Regulatory Bases of Management Practices	3
MGMT 532	Philosophy, Principles, and Practices in Management of Quality	3
MGMT 633	Principles and Practices of Financial Accounting and Control for Managers	3
MGMT 672	Planning and Execution of Strategy	3
PMGT 501	Fundamentals of Project Management	3
PMGT 502	Effective Communication for Managing Projects	3
PMGT 611	Anatomy of Project Organization	3
PMGT 612	Leading Projects Across Cultural, Corporate, and Internal Boundaries	3
PMGT 613	Assessing and Managing Project risk	3
PMGT 614	Planning, Directing, and Controlling Projects	3
PMGT 690	Project Management Capstone	3
	<b>Total Degree Requirements</b>	<b>36</b>

## **Master of Science in Technical Management**

The MSTM program is designed to prepare technically-trained employees for advancement within their companies and for larger managerial responsibilities. The program builds on three foundation courses that teach students how to use computers as decision-making tools, communicate conclusions concisely and persuasively, and use quantitative methods to make business decisions.

<b>Course</b>	<b>Title</b>	<b>Credits</b>
TMGT 503*	Quantitative Methods and Statistics	3
TMGT 535	Business Communication Skills for Managers	3
TMGT 605	Organization Theory in a Technical Environment	3
TMGT 616	Production Operations Management	3
TMGT 621	Regulations, Ethics, and the Legal System	3
TMGT 630	Technical Management Information Systems	3
TMGT 635	Financial and Managerial Accounting and Control for Technical Managers	3
TMGT 641	Project Management: Concepts and Practices	3
TMGT 646	Operations Research and Management Science	3
TMGT 651	Quality Management and Quality Control	3
TMGT 661	Project Development Techniques	3
TMGT 690	Technical Management Capstone Project	3
<b>TOTAL DEGREE REQUIREMENTS</b>		<b>36</b>

Greenville and Trident Technical Colleges offer programs leading to the Associate in Industrial Technology in Aircraft Maintenance Technology. Bob Jones University offers programs leading to the A.A.S. degree and the B.S. degree in Aircraft Maintenance and the B.S. degree in Aircraft Maintenance, Aviation Management, and Business and Commercial Aviation.

### **Recommendation**

The staff recommends that the Committee on Academic Affairs and Licensing commend favorably to the Commission an amendment to the license of Embry-Riddle Aeronautical University to offer in Rock Hill programs leading to the A.S., Aviation Maintenance; A.S., Professional Aeronautics; and A.S., Technical Management; B.S., Aviation Maintenance; B.S., Professional Aeronautics; and B.S., Technical Management; Master of Aeronautical Science; M.S., Management; M.S., Project Management; and M.S., Technical Management to be implemented in August 2009.