To: UGCC members
From: Victoria Dunbar, College of Aeronautics
Re: Adding a new course and adding a new curriculum
Date: February 21, 2014

The college of Aeronautics is requesting Undergraduate Curriculum Committee approval to introduce a new course for non-flight students and a new online aviation management curriculum.

1. **AVM 1000 – Introduction to Aviation:** Currently, all College of Aeronautics students are required to take AVT 1001 Aeronautics 1 as part of their curriculum, whether they are flight or non-flight. AVT 1001 is really designed for pilots. We’d like to get AVM 1000 approved, then replace AVT 1001 in out non-flight curriculums.

2. **Add a new major to the curriculum:** One of our strategic objectives is to establish a four-year online degree program in Aviation Management. The COA has the necessary expertise in fields such as aviation management, aviation safety, and airport design that would set us apart from other universities. Globalization has been aided by the aviation industry and continues to grow particularly in developing countries and will need up to date airport and airline managers. The undergraduate non-traditional students served by Florida Tech University Online would be well served by increasing opportunities for new careers in aviation fields.
This course is available for student registration only after the approval process has been completed.

SUBJECT A V M COURSE NO. 1 0 0 0 CREDIT HOURS 3 TERM TO BE ADDED TO THE FILE Fall 2014

*Justify level if 1000-level+ and no co-or prerequisites, Introductory class for incoming freshmen

CLASS HOURS 45/semester LECTURE HOURS 45/semester LAB HOURS CONTACT HOURS (CEU ONLY)

DEPARTMENT Aeronautics/Academic SCHEDULE TYPE Lecture (A)

☐ COLLEGE OF AERONAUTICS - 23 ☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS - 25
☐ NATHAN M. BISK COLLEGE OF BUSINESS - 24 ☐ COLLEGE OF SCIENCE - 26
☐ COLLEGE OF ENGINEERING - 1 ☐ EXTENDED STUDIES / NATHAN M. BISK COLLEGE OF BUSINESS - 90

COMPUTER TITLE Restricted to 25 characters, including spaces Intro to Aviation Dual-Pe, Bi-Level, Full-Load? ☐ Yes ☐ No

CATALOG TITLE Introduction to Aviation

CATALOG DESCRIPTION OF COURSE. Restricted to 350 characters, including spaces

Provides students with foundational knowledge of aviation. Includes aircraft components, basic aerodynamics, airports, air traffic control, airspace, regulations, performance, weight and balance, aeronautical factors, aviation weather and air navigation.

This description has been approved by the catalog office.

Catalog Director 2/21/14

In addition, please attach a course syllabus and/or more detailed description.

REQUIREMENTS ☐ Prerequisite Course Number ☐ Corequisite Course Number ☐ and or
☐ Prerequisite Course Number ☐ Corequisite Course Number ☐ and or
☐ Prerequisite Course Number ☐ Corequisite Course Number ☐ and or

GRADES TO BE ISSUED ☐ A, B, C, D, F ☐ A, B, C, D, F, CE/audit
☐ CEU ☐ S, U
☐ P, F ☐ Other

ADDITIONAL RESTRICTION (e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT Alpha Prefix (e.g. CSE) COURSE NO. (e.g. 1301) TERM TO INACTIVATE

☐ Yes ☐ No Will this course be used to measure program-level student learning outcomes? If yes, review and signature required.**

☐ Yes ☐ No Will this course be used to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.

APPROVALS: On completion of description and course number verification, affix appropriate signatures as indicated, and submit completed form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval.

Original Victoria Ambar 2/21/14

Department Head/Program Chair Victoria Ambar 2/21/14

Dean or Associate Dean

Catalog Director

REGRISTRAR'S USE ONLY

SCARSE __________ SCADTL __________ SCAPREQ __________ SCABASE __________

SCARES __________ Operator Init. __________ Date __________

DISTRIBUTION

Original — Registrar
Copy — Academic Unit

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150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827 800-821-1010
Florida Institute of Technology
College of Aeronautics

AVM 1000 Introduction to Aviation

Instructor: Timothy Rosser, ext. 7471, e-mail trosser@fit.edu

Course Description:

Provides students with foundational knowledge of aviation. Includes aircraft components, basic aerodynamics, airports, air traffic control, airspace, regulations, performance, weight and balance, aeronautical factors, aviation weather, and air navigation.

Objectives:

Upon completion of this course the student should be able to:
1. Demonstrate an understanding of the aviation career opportunities.
2. Identify the parts of an airplane and understand the operating principles of aircraft powerplants, systems and flight instruments.
3. Demonstrate an understanding of basic aerodynamics.
4. Understand safety of flight issues, airports, aeronautical charts and airspace.
5. Discuss Air Traffic Control services, radio procedures and sources of flight information.
6. Demonstrate an understanding of basic weather theory, weather patterns and weather hazards.
7. Read and interpret printed aviation weather reports and forecasts, graphic weather products, and other sources of weather information.
8. Summarize pertinent Federal Aviation Regulations
10. Discuss aviation navigation, VOR navigation, ADF navigation and advanced navigation systems.
11. Summarize aviation physiology, and aeronautical decision-making.

Required Text and Materials:

Pilot’s Handbook of Aeronautical Knowledge FAA-H-8083-25A

Credits: Three (3)

Grading:
The course grade will be determined as follows:

- Class participation: 5%
- Quizzes and homework: 10%
- Exam 1: 20%
- Exam 2: 20%
- Exam 3: 20%
- University Final Exam: 25%

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<td>B</td>
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<td>F</td>
<td>59 or below</td>
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<td><strong>Topic of Lesson</strong></td>
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</tr>
<tr>
<td>1</td>
<td>Introduction to flying History of Flight, FAA, Aircraft Types and Categories</td>
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<tr>
<td>2</td>
<td>Airplane Structures/Components</td>
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<td>3</td>
<td>Principles of Flight Structure of the Atmosphere, Theories in the Production of Lift</td>
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<td>Aerodynamics of Flight 4 Forces/Aerodynamics <strong>EXAM 1</strong></td>
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<td>Flight Controls Primary and Secondary Flight Controls</td>
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<td>6</td>
<td>Aircraft Systems</td>
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<td>7</td>
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<td>8</td>
<td>Flight Manuals and Other Documents <strong>EXAM 2</strong></td>
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<td>9</td>
<td>Weight and Balance</td>
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<tr>
<td>10</td>
<td>Aircraft Performance Performance Charts</td>
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<td>11</td>
<td>Weather Theory</td>
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<td>12</td>
<td>Weather Reports, Forecasts, and Charts <strong>EXAM 3</strong></td>
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<td>13</td>
<td>Airports, Markings, Data Sources, Lighting Radio Communications</td>
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<td>14</td>
<td>Airspace Federal Aviation Regulations</td>
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<td>15</td>
<td>Navigation</td>
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<td>16</td>
<td>Aeromedical Factors Aeronautical Decision Making</td>
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<td>University Final:</td>
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Florida Institute of Technology

ADDING A NEW MAJOR OR MINOR TO THE CURRICULUM

Please provide the following information when requesting a new major or minor (program or option) to be added to the curriculum. Only new majors, minors and options are assigned a new code and print on the diploma. The code will be assigned by the Office of the Registrar and information emailed to all appropriate personnel.

Aeronautics

DEPARTMENT: Aeronautics

ONLINE: (classroom, online)

COLLEGE: 

DELIVERY MODE(S): 

CAMPUS/SITE(S): 

PROGRAM TO BE ADDED

☐ Major ☐ Minor ☐ Option for __________________________ (existing degree program)

NOTE: Only Majors, Minors and Options receive new codes and print on the diploma; use Option for new program name to appear with existing degree name.

☐ Associate of Arts (A.A.)  ☐ Master of Business Administration (M.B.A.)  ☐ Educational Specialist (Ed.S.)

☐ Associate of Science (A.S.)  ☐ Master of Education (M.Ed.)  ☐ Doctor of Business Administration (DBA)

☐ Bachelor of Arts (B.A.)  ☐ Master of Public Administration (M.P.A.)  ☐ Doctor of Philosophy (Ph.D.)

☐ Bachelor of Science (B.S.)  ☐ Master of Science (M.S.)  ☐ Doctor of Psychology (Psy.D.)

☐ Master of Arts (M.A.)  ☐ Master of Science in Aviation (M.S.A.)  ☐ Graduate Certificate

☐ Master of Arts in Teaching (M.A.T.)

OTHER ADDITION TO THE CURRICULUM (Note: Only Majors, Minors and Options receive new codes and print on the diploma; use Concentration or Specialization if the new program represents less than a full degree curriculum.)

☐ Concentration or ☐ Specialization for __________________________ (existing degree program)

PROGRAM TITLE: Restricted to 30 characters, including spaces

Aviation Management

Fall 2014

TERM TO BE INITIATED __________________________ ADVISOR FOR NEW PROGRAM __________________________

(End program to be initiated must be no sooner than the next term for which registration has not begun)

ROUTING APPROVALS: 1) Department head/program chair and college dean approve and sign form. 2) The associate vice president for institutional compliance reviews and signs form. 3) The executive vice president or his designee approves business plan of the program in terms of financial viability and impact on the university mission and signs form. 4) Undergraduate Curriculum Committee or Graduate Council approves academics and signs form.

1) __________________________ 2/20/2014

2) __________________________ 2/20/2014

3) __________________________ 2/20/2014

4) __________________________ 2/20/2014

Chair, Graduate Council

OR

Chair, Undergraduate Curriculum Committee

5) __________________________

Executive Vice President

REGISTRAR'S USE ONLY

FSA ATLAS: __________________________ SOAXREF: __________________________ SMAPRL: __________________________

STVMAJR: __________________________ SOACURR: __________________________ Major Code Assigned: __________________________

GWWSAOX: __________________________ CIPC Code: __________________________ Operator Initials/Date: __________________________

Florida Institute of Technology * Office of the Registrar

150 West University Boulevard, Melbourne, FL 32901-6975 * (321) 674-1 ext. * Fax (321) 674-7827

General Information — ext. 8115, Graduation — ext. 8116, Records and Transcripts — ext. 8117, Registration — ext. 8118

R09-103-003
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<tr>
<th>B.A.</th>
<th>Aviation Management</th>
<th>Online Degree</th>
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<tr>
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<td>X</td>
<td>CIS 1130 PC Applications</td>
<td>COM 1101 Composition and Rhetoric</td>
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<td>PSY 1411 Intro to Psychology</td>
<td>HSC 1000 Introduction to Homeland Security</td>
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<td>COM 1102 Writing about Literature</td>
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<td>AVM 1000 Introduction to Aviation</td>
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<td>PSY 2510 Research and Computer Literacy</td>
<td>EEC 2303 Introduction to Macroeconomics</td>
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<td>EAC 2211 Prin. Accounting</td>
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<td>Free Elective</td>
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<td>EMK 3601 Marketing</td>
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<td>AVM 3201 Aviation Planning</td>
<td>EDS 1022 Biological Science or SCI Elective</td>
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<td>AVM 3202 Airport Design</td>
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<td>EMG 3327 Management Information Systems</td>
<td>EMG 3331 Management of Human Resources</td>
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<td>EMG 3225 Finance for Managers</td>
<td>AVM 4302 Aviation Law</td>
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<td>AHF 3101 Introduction to Human Factors</td>
<td>AVM 4501 Air Transportation Management</td>
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<td>AVT 4301 Aviation Safety</td>
<td>AVM 4303 General Aviation Operations</td>
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<td>AVM 4502 Aviation Business Simulation (Q)</td>
<td>EMG 3398 or PSY 3541 Org. Theory or Psychology of Leadership</td>
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<td>AVM 4701 Airport Management</td>
<td>Humanities elective</td>
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## Assessment Map

### 711X Aviation Management, B.A.

<table>
<thead>
<tr>
<th>Program-Level Student Learning Outcomes (PLO's)</th>
<th>AVS 2102 Aerodynamics</th>
<th>AVM 4302 Aviation Law</th>
<th>AVM 4501 Air Transportation Mgmt</th>
<th>AVT 4301 Aviation Safety</th>
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<tbody>
<tr>
<td>Ability to apply mathematics, science, and applied sciences to aviation-related disciplines</td>
<td>X</td>
<td></td>
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<tr>
<td>Ability to analyze and interpret data</td>
<td>X</td>
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<tr>
<td>Ability to work effectively on multi-disciplinary and diverse teams</td>
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<td>X</td>
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<td></td>
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<tr>
<td>Ability to make professional and ethical decisions</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Ability to communicate effectively, using both written and oral communication skills</td>
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<td>X</td>
<td></td>
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<tr>
<td>Ability to engage in and recognize the need for life-long learning</td>
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<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Ability to assess contemporary issues</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Ability to use the techniques, skills, and modern technology necessary for professional practice</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Ability to assess the national and international aviation environment</td>
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<td></td>
<td></td>
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<tr>
<td>Ability to apply pertinent knowledge in identifying and solving problems</td>
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<td>X</td>
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</table>
Measurement Statements

711X Aviation Business Management, B.S.

Outcome 1: Ability to apply mathematics, science, and applied sciences to aviation-related disciplines

Measure 1.1: 75% of the students enrolled in AVS2102 Aerodynamics, should demonstrate proficiency by correctly answering the following exam question: Calculate the stall speed in a 45 degree bank level turn if the 1G stall speed is 50 knots.

Measure 1.2: 75% of the students enrolled in AVS2102 Aerodynamics, should demonstrate proficiency by correctly answering the following exam question: Induced drag varies inversely with the square of velocity. If an airplane has 100 pounds of induced drag at 150 KCAS, how much induced drag will be present at 75 KCAS? At 300 KCAS?

Outcome 2: Ability to analyze and interpret data

Measure 2.1: 75% of the students enrolled in AVS2102 Aerodynamics, should demonstrate proficiency by correctly answering the following exam question: Draw an accurate depiction of a total drag vs. velocity curve. Label the axis with the correct names and units. Identify the minimum drag, D_min point and areas where induced drag dominants and areas where parasite drag dominants.

Measure 2.2: 75% of the students enrolled in AVS2102 Aerodynamics, should demonstrate proficiency by correctly answering the following exam question: Draw a graph depicting the lift coefficient, CL vs. the angle of attack, AOA for a cambered airfoil. Label the x and y-axis with typical values. Identify the maximum lift coefficient, CL Max and the stall angle of attack on the appropriate axis.

Measure 3.1 75% of the students enrolled in AVT4301 Aviation Safety, should demonstrate proficiency by correctly answering an embedded question on the final examination referencing development of a Civil Aircraft Accident Plan.

Measure 3.2 75% of the students enrolled in AVT4301 Aviation Safety, should demonstrate proficiency by correctly answering an embedded question on the final examination referencing performing an Organizational Analysis.

Outcome 4: Ability to make professional and ethical decisions

Measure 4.1: 75% of the students enrolled in AVT4301 Aviation Safety, should demonstrate proficiency by correctly answering an embedded question on the final examination referencing actions required after inadvertent penetration of an ADIZ.
Measure 4.2: 75% of the students enrolled in AVT4301 Aviation Safety, should demonstrate proficiency by correctly answering an embedded question on the final examination referencing sources of safety authority.

Outcome 5: Ability to communicate effectively, using both written and oral communication skills.

Measure 5.1: 75% of the students enrolled in AVM4302 Aviation Law, should demonstrate proficiency by successful completion, as determined using a grading rubric, of the Current Issue Paper and oral presentation.

Outcome 6: Ability to engage in and recognize the need for life-long learning

Measure 6.1: 75% of the students enrolled in AVM 4302 Aviation Law, should demonstrate proficiency by successful completion, as determined using a grading rubric, of the Current Issue Paper.

Measure 6.2: 75% of the students enrolled in AVM4302 Aviation Law, should demonstrate proficiency by correctly answering question number 28 on examination number 3 referencing recognition of the importance of current court decisions.

Outcome 7: Ability to assess contemporary issues

Measure 7.1: 75% of the students enrolled in AVM4501 Air Transportation Management, should demonstrate proficiency by correctly answering question number 4 on the final examination referencing recent airline mergers in the global airline industry.

Measure 7.2: 75% of the students enrolled in AVM4501 Air Transportation Management, should demonstrate proficiency by correctly answering question number 29 on the second examination referencing availability of used aircraft in the second-hand market.

Outcome 8: Ability to use the techniques, skills, and modern technology necessary for professional practice

Measure 8.1: 75% of the students enrolled in AVT4301 Aviation Safety, should demonstrate proficiency by correctly answering an embedded question on the final examination referencing methods for data collection as a safety program development director.
**Measure 8.2:** 75% of the students enrolled in AVT4301 Aviation Safety, should demonstrate proficiency by correctly answering an embedded question on the final examination referencing guidelines contained in a Civil Aircraft Accident Plan.

**Outcome 9:** Ability to assess the national and international aviation environment

**Measure 9.1:** 75% of the students enrolled in AVM4501 Air Transportation Management, should demonstrate proficiency by correctly answering question number 49 on the final examination referencing cabotage rights between countries of the USA and EU.

**Measure 9.2:** 75% of the students enrolled in AVM4501 Air Transportation Management, should demonstrate proficiency by successful completion, as determined using a grading rubric, of the term paper analyzing the national and international aviation environment.

**Outcome 10:** Ability to apply pertinent knowledge in identifying and solving problems

**Measure 10.1:** 75% of the students enrolled in AVM4302 Aviation Law, should demonstrate proficiency by correctly answering question number 24 on examination 2.

**Measure 10.2:** 75% of the students enrolled in AVM4302 Aviation Law, should demonstrate proficiency by correctly answering question number 48 on examination 3.